COOPERATIVE FORMATIONS IN THE SYSTEM OF REGIONAL PROVIDING LOGISTICS OF AGribusiness

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The terms "specialized agrilogistics cooperative society" and "cooperative society with attendant agrilogistics activity" have been introduced and defined. The particular features of regional development of cooperative logistics in agribusiness of Ukraine and Dnipropetrovsk region have been studied. The forming factors of the cooperative model of providing agrilogistics in the system of stockpiling and distribution of primary milk products have been defined by the example of a particular region and classified by means of the SWOT-model. Priority directions of developing agribusiness logistics providing in a region through the system of serving cooperation have been generalized. The strategy of fiscal stimulation of development in alternative export-oriented cooperative logistics in agriculture of Ukrainian regions has been suggested.

Keywords: cooperative societies, logistics, agribusiness, region, SWOT-factors, development, priorities, corporations, alternative.
Аграрная логистика как и все другие виды бизнеса имеет рационалистический и предоставляет характер или их интегрированные проявления [1]. Предоставление агрологистики непосредственно направлено на исследование различных логистических формаций (организаций, объектов, каналов, цепей, сетей и так далее), связанных с определенными логистическими операциями (процессами), которые формируют необходимые условия для движения по направлению бизнеса в сфере аграрии (согласовывание поступления и реализации сельскохозяйственной продукции). Отличительной особенностью является то, что они контролируются через демократическое управление и многопользовательское соединяющее предпринимательство на некоммерческой основе. Целью исследования является максимизировать корпоративные финансовые результаты, принесенные при создании логистических услуг и улучшить доходы для владельцев (членов) кооперативной организации [2].

Исследование процесса формирования и развития кооперативной логистики, направленной на развитие агрисорта, является актуальной и важной научной проблемой сегодня.

Исследованием различных типов логистики является предмет многих исследований, проведённых на основе данных научных работ. Развитие этого поля включает в себя работы А. Гаджинского [3], J. S. Johnson, Y. Krikavskiy, M. Christopher, R. Larina, T. Lepeyko, M. Ocklahander, V. Ponomarenko, V. Sergeyev, K. Tankov, O. Trydik, A. Harrison, N. Chukhryaev and others.

Возникновение и развитие кооперативной логистики в агросекторе украинской экономики является актуальным и важным научным вопросом.

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Факторы формирования кооперативной логистики в агробизнесе и развитие кооперативной логистики в агробизнесе и другие важные проблемы, которые связаны с аграрной логистикой, изучены и систематизированы по SWOT-модели. Обобщены приоритетные направления развития логистического обеспечения агробизнеса региона через систему обслуживающей кооперации. Предложена стратегия фискального стимулирования развития альтернативной экспортно-ориентированной кооперативной логистики в АПК регионов Украины.

Ключевые слова: кооперативы, логистика, агробизнес, регион, SWOT-факторы, развитие, приоритеты, корпорации, альтернатива.
In Ukraine nowadays the agricultural lands are owned by those people who gained the ownership as members of collective agricultural enterprises and social workers of villages or heirs to owners of shares. Their total number is almost 7 million people [8]. Among them only 21.5 thousand landowners, that is only 0.3 % are the members of serving cooperative societies. Meanwhile in most economically developed countries cooperative model of running a business is dominant. The profit received from activity in agriculture is considered to be an important source of existence by only 12 % of villagers. The exception is only AR Crimea where this index is almost two times higher [9]. To a certain extent such exception is connected with the rural cooperative movement. Thus calculations based on the data by Agrarian Ministry [10] testify that the volume of share fund in the Crimean serving cooperative societies is 77 % of its total number in Ukraine. Besides compared with general Ukrainian indices ASCS of the AR Crimea takes the first place by the amount of stockpiled and sold fruit-vegetable production (25.4 %) and the number of occupied workers (16.7 %), and the second place by its share of basic assets (9.5 %).

On the 1st of January, 2013 in Ukraine there were only 885 agrarian serving cooperative societies [11]. Meanwhile, the development of a cooperative movement in Ukrainian village remains problematic that implies the presence of a major share of economically inactive ASCS.

The most dynamic type concerning cooperation societies is dairy agrilogistics. Cooperative societies with such specialization exist in almost all regions of Ukraine. Moreover in one third of regions the cooperative rural movement is connected with exclusively dairy business. In 48 % regions cooperative societies are also involved in logistics of gathering and distribution of grains, and in 36 % in fruit-vegetable production. The research shows that the important place in strengthening the economy of ASCS is occupied by a number the members which use its services. Hence, in Ukraine on average in case of increasing of share fund of agricultural serving cooperative society by 1.0 UAH the amount of logistics services increases only by 25.3 UAH, but with the usage of additional member of cooperative society this index increases by 2,074.0 UAH.

The development of logistics within the system of serving cooperation in Dnipropetrovsk region has certain features.

The sphere of the working cooperative agrilogistics here is mainly represented by specialized logistical cooperative societies (stockpiling-distributing, separate multifunctional and service and other cooperative societies) (Fig. 1).

**Fig. 1. Structure of number of agricultural serving cooperative societies in Dnipropetrovsk**

(author’s calculations according to the data of the Steppe Survey of the Scientific Research Center of productivity in agrarian complex)

Specific weight of such cooperative societies among ASCS is about 80 %. Meanwhile the survey of 323 heads of rural and village councils in the region in 2012 (generalized by the Steppe Survey of the Scientific Research Center of productivity in agrarian complex) testified the prospect of development exactly in the agricultural serving cooperative societies with specialized or attendant logistical activity. In the studied by the leaders of local communities the desired number of serving cooperative societies the share reaches over 90 %. Meantime there is the significant increase in specialized logistical cooperative societies (suppliers – from 0 up to 9 % and stockpiling-distribution – from 27 up to 39 %).

Furthermore, the pace of development in the regional cooperative movement is connected with the fact that economically active ASCS remains only in Pokrovskyi and Apostolvskyi regions, in 10 more regions logistical cooperative societies are registered but in fact they don’t work, in the other 10 regions they are completely absent.

The contemporary logistical activity of serving cooperative societies in Dnipropetrovsk region is mainly connected with stockpiling and distribution of initial dairy materials.

The research defined and classified the main SWOT factors in development of cooperative dairy logistics which are the most developed in the region (Fig. 2).
### Fig. 2. Analytical SWOT-model of the regional development in cooperative logistics in the system of stockpiling and distribution of initial milk materials (by the example of Dnipropetrovsk region) (author’s development)

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<tr>
<th>OPPORTUNITIES</th>
<th>STRENGTHS</th>
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<td>low probability of receiving a high portion of added value in the manufacturing logistical chain with cooperation;</td>
<td>a part of the Complex strategy of regional development;</td>
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<tr>
<td>formation of logistical processing mini-clusters of a cooperative type;</td>
<td>experience of creating cooperative societies in systems of logistics in stockpiling and distribution of milk;</td>
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<tr>
<td>presence and action of state and regional programs of supporting cooperation;</td>
<td>experience of co-work with international and domestic organizations which support the development of Ukrainian cooperative movement;</td>
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<tr>
<td>vastness of most enterprises of the region from huge processing markets of milk distribution;</td>
<td>presence of cooperative mini-farm of a family type in the region;</td>
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<td>necessity for realization of SWOT requirements concerning the ban of selling not gathered milk to a customer;</td>
<td>high level of dairy competitiveness of members of cooperative societies by indices of quality and ecology;</td>
</tr>
<tr>
<td>informational and consulting support for development of cooperation in the region and so on</td>
<td>presence of regional cooperative association of small dairy producers and so on</td>
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<th>WEAKNESSES</th>
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<tr>
<td>a small number of economically active cooperative societies in the field of logistics system in stockpiling and distribution of milk;</td>
<td>limited abilities concerning external financial support for development of logistics in the system of stockpiling and distribution of milk;</td>
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<td>a low part of milk sold by population of the region through cooperative societies;</td>
<td>difficulties in providing the reliability in stockpiling and supply of contract amounts of initial milk materials for the processing factory;</td>
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<tr>
<td>economical in expediency of creating dairy cooperative societies on separate rural territories;</td>
<td>difficulties in engaging profitable number of cooperative members for stockpiling and distribution of milk on certain rural areas of the region;</td>
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<tr>
<td>huge money consumption of cooperative logistical processing miniclusters;</td>
<td>spreading the psychology of sole ownership and high level of distrust to cooperation on the region territory;</td>
</tr>
<tr>
<td>limited availability to investment and cheap credit resources;</td>
<td>widespread identification of cooperative societies with former collective farms and so on</td>
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<tr>
<td>absence of credit agrarian cooperation in the region;</td>
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<tr>
<td>low level of team-building in activity of the members of logistical cooperative societies;</td>
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<td>difficulties in cooperative management and so on</td>
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To a large extent the development of dairy cooperative societies in Pokrovskyi and Apostolivskyi regions was supported by a certain financial assistance from international donor organizations and funds of state and regional budgets.

The factor is surely important hence the results of survey identify the main limitation factor of development of cooperation in the region as lack of funds for creating and activity of cooperative societies, especially for purchasing of equipment and techniques as well as imperfect credit-fiscal politics towards ASCS. But an important problem in this case is absence of effective leaders and information about the advantages of cooperative activity.

Moreover, one of the most important factors in development of dairy cooperation in rural areas in Pokrovskyi and Apostolivskyi regions is uncomfortable logistics due to large remoteness from big processing markets of milk distribution compared to many other suburban areas of the region.

Nowadays retail markets of big cities provide the most favorable price conditions for selling dairy produce. Along with that Ukraine undertook a responsibility till 2015 before World Trade Organization concerning the ban to household beef cattle and sale of not gathered dairy products to customer and so on. Hence, in the near future this factor can stimulate active development of dairy and other cooperation and suburban areas of Dnipropetrovsk region.

Moreover the demand for initial dairy produce which is distributed through cooperative societies begins to increase also among processing factories of the region. Due to the features of forage base of rural enterprises their milk is more competitive by ecological indices than many big agricultural enterprises’ one. All these factors as well as local surveys state the grounding of formation of local regional strategy in priority development of cooperative societies in the system of logistical stockpiling and distribution of initial dairy materials (Fig. 3).

The first steps in this direction are being made now. In such a way in 2012 in Pokrovskyi area of Dnipropetrovsk region the opening of the first in Ukraine Cooperative Educational Farm in the context of the project "Cooperative Educational Farm and Services" took place.

It is also prospective to form logistical processing miniclusters of a cooperative type in dairy cattle breeding. Furthermore, real preconditions for it are formed in neighboring Apostolivskyi and Kryvorizkyi areas.

![Diagram](https://example.com/diagram.png)

**Fig. 3. Priority directions in activity of ASCS in Dnipropetrovsk region** (author’s calculations according to the data from the Steppe Zonal Scientific Research Center of productivity in agrarian complex)

Prospective development of corporate food agrilogistics in the region requires government support in building and transformation through operative or financial leasing of cooperative logistical fruit-vegetable powers.

Nowadays Dnipropetrovsk region has the largest number of logistical elevator objects in the Steppe zone (2 – 3 elevators in each rural area) [12]. At the same time the development of cooperative establishments within the system of export-focused logistics of stockpiling and distribution of grains, due to shortage of powerful investment and limitation of the government support and high competitiveness of the private-corporate sector is still difficult though it is a rather prospective way of forming a cooperative-logistical model of agribusiness in the region.

The widespread interregional corporative establishments in the contemporary agricultural complex are agriholdings. In these organizations powerful massive agricultural production takes place as well as processing of initial agricultural materials owing to that they receive economical effect from the production scale and control over the logistical chain (storage, transportation, distribution and so on).

The enlargement of agrarian manufacturing to a large extent is caused by the attempts to use the advantages of effect from its scale. In practice it concerns both private-corporative and farmer-cooperative models of agribusiness. Along with that the real manifestation of such an effect is either debatable or limited due to disproportional increase of inputs for management, control, transportation and so on.

However, the decrease of level of constant expenses per unit of finished product is not the only and often not the main advantage of scale effect in agribusiness.

So, today middle levels of agricultural enterprises in Ukraine are among the highest in Europe and the rest of the world. But the main purpose of such enlargements is not achieving the larger economic effectiveness from a unit of agricultural product or limited resource (ha, unit and so on), but receiving the bigger amount of net profit and increase in abilities to use powerful investment resources.

Furthermore, main investments into agrarian sector of economy are made at the level of big agricultural holdings. Big
agrarian companies in the search for relatively cheap and powerful investment resources have the opportunity to enter the global financial markets and receive funding not only through issuing and selling own securities but also through bank crediting. In Ukrainian banks interest rate on such credits is twice or thrice overstated.

According to the American researcher B. Johnson corporative agrarian business more likely strengthens rural economy than weakens. But the ability of corporative rural enterprises to increase the effectiveness of agrarian economy without depopulation of rural local and degradation of village communities is doubtful [13].

Both small and middle-level farm-cooperative manufacturing and high private corporate agribusiness have the right to exist. However they must perform different functions. Owing to the former it is necessary to develop labor-consuming agribusiness, be the economical base for village communities, employ rural population, and support agricultural landscapes and so on. The task of the latter is to invest into export-focused big-scale production in plant growing and cattle breeding. Thus there can be correspondingly different regimes of taxation, export, government support [14].

Meanwhile the world experience upholds the need for developing both alternative system of export of agricultural produce which is based on cooperative measures.

Taking the above-mentioned into account it is necessary to work on the fiscal strategy which would create the conditions for reasonable involvement by a corporative business in the system of agrarian export logistics of numerous cooperative joint ventures.

One of the most priority directions of the flexible tax regulation may become foreign trade operations with grains. Meantime carrying out agritrading activity with the help of logistical objects (elevators, transportation organizations and so on) which in the defined limits will be upon control of joint cooperative establishments, the government and traders must receive certain exemptions.

Such conditions will partly stimulate private-corporative businesses to investment participation in development of alternative export grain logistics in regions of Ukraine.

In theory of agricultural cooperation and providing logistics it is reasonable to use the terms "specialized agrilogistics cooperative society" and "cooperative society with attendant agrilogistics activity". Their essence is worth connecting with measure of focusing on logistical provision of main activity for users of cooperative services. Moreover such agricultural serving cooperative societies are reasonable to be considered as a type of providers on the basic level of outside logistics.

The experience in ASCS functioning in Ukraine confirms direct relation of volume of logistical services and indirect relation of their price and number of members of a cooperative society which uses these services.

The strategic analysis of regional development within a cooperative model of agrilogistics providing is reasonable to be carried out using the SWOT-model. Meanwhile the study has defined that nowadays in Dnipropetrovsk region there are serious threats which increase the probability of manifesting weak factors and withhold development of cooperative dairy logistics in the region. Furthermore there are numerous strengths which to a certain extent uphold the existing prospective opportunities of forming the cooperative model of stockpiling and distribution of initial dairy materials.

At present stage priority approaches of regional development should be dairy and fruit-vegetable food logistics. In the long-term prospect development of export-focused grain cooperative logistics based on forming mixed agrilogistics providers is also necessary and actual.

Stimulation in development of alternative export-focused cooperative logistics of the regional agrarian complex of regions in Ukraine should to be carried out through flexible application of special fiscal instruments in the system of agritrading activity.

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