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# **AN ANALYSIS OF INTEGRATION IN THE AGRICULTURE IN UKRAINE**

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**Summary:** In modern times the integration processes in the economy are becoming more and more developed. Economic integration occurs at the level of national economies of entire countries and between companies, firms, and corporations. It manifests itself in the broadening and deepening of industrial and technological relations, resource sharing, union funds, the mutual removing of barriers and creating a favorable environment for other economic activities. The article highlights various forms of integration and their advantages and disadvantages. The international experience of the voluntary association of businesses and the development of integration processes in the agricultural sector of economy in Ukraine have been analysed.

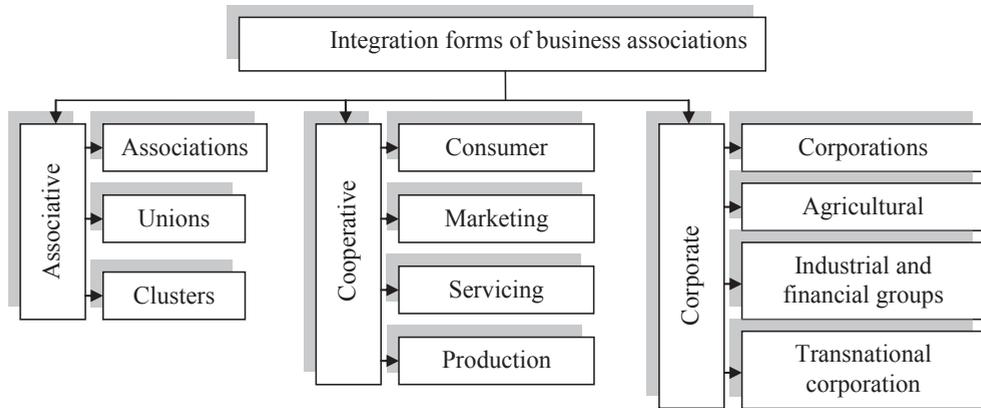
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## **1. Introduction**

Integrated economic structures in agriculture are being created with agricultural producers, processors, trade and other businesses and individuals, some of them foreign. Traditionally, integration is divided into vertical and horizontal one. Each of these forms has its own types and features. Taken together the experience of the formation and operation of the integrated structures in the agricultural sector shows that the composition of the participants, ownership and management, the depth of their organizational and economic relations between them and the integrators (investors) in the production process, as well as the degree of economic and legal independence of business, and the level of socialization of property in Ukraine, are characterized by their great variety.

Such associations are integrated in the production, processing, storage and sales, the service function in the form of associations, unions, industrial, consumer and service cooperatives, agricultural, agro-industrial units (agricultural companies, agricultural formations, agricultural holdings, agricultural industrial and financial groups) (Figure 1).



**Fig. 1.** Forms of integration of business associations in Ukraine

The existing associations of an associative type of agri-food sector of Ukraine are divided into cross-industry, industry, food and professional. In a broad sense, any union and association is an association created to achieve a certain goal – the production and (or) consumption of goods. The subjects associations can be individuals and enterprises, creating groups, associations, consuming tangible and intangible benefits.

According to the statute of associations, they exist on membership fees and represent the interests of its members in the exercise of the state regulation of industry, non-governmental, international and foreign organizations and at international seminars, conferences etc.

Thus the association Union of Poultry Breeders of Ukraine is an association of companies operating in the domestic poultry industry. The founders have 78 poultry companies producing 83% of broiler meat and 78% of eggs in Ukraine. For example, a joint statement of support for the signing of an agreement on a free trade zone between Ukraine and the EU, signed by 16 associations will result in substantial benefits for Ukraine. The number of different associative groups in Ukraine is around 900, most of which operate as a type of club.

Agricultural service cooperatives (ASC) producers have the ability to carry out joint processing products and their marketing, joint purchase and use of capital goods, construction and operation of storage facilities and warehouses, to form a large batch of products and reduce the transportation costs of a separate management of its implementation, to meet the needs of consumers on product quality. Members of the

ASC, agricultural producers, receive a portion of profit involving, in the absence of Cooperatives, numerous intermediaries.

## 2. The main material

Ukraine has already developed a system of cooperative groups. According to their goals, objectives and nature, cooperatives are divided into manufacturing, service and multi-consumer credit. The number of existing agricultural production cooperatives was 1373 (July 1, 2006), 952 (2010), and 905 (2011) [*Ukraine in figures...* 2012]. In recent years there have been reducing in number. However, the number of enterprises of consumer cooperatives and agricultural service cooperatives is growing (Table 1).

In Ukraine there are 851 agricultural service cooperatives (September 1, 2012). 118 out of these (13.9%) are engaged in tillage and harvesting, 193 (22.7%) – milk production, 21 (2.5%) – meat production, 54 (6.3%) – fruit and vegetables, 26 (3.1%) – cereals, 200 (23.5%) of them provide other services. Cooperative members number 21.5 thousand. Cooperatives provide services to the value of 3.5 billion [*Agricultural economics*, 2012]. 5 million USD was directed to support the service cooperatives in rural areas in 2012.

**Table 1.** The number of cooperative groups in organizational and legal forms of management in Ukraine, *beginning of year*

Subjects	2006	2008	2009	2010	2011	2012
Enterprises of Consumer Cooperatives	860	1167	1234	1291	1349	1349
Farm cooperatives	1324	1404	1418	1401	1355	1307
Farm service cooperatives	372	468	503	759	838	920

The share of agricultural production cooperatives (APC) in relation to farms in 2011 by the number of households was 5.3 %, with the average number of workers employed in agriculture – 5.8 %; the area of agricultural land – 4.3 % [*Basic economic...* 2012, p. 11]. In 2011 64.4 % of APC were profitable and the rest (35.6 %) were operating at a loss. The effectiveness of the APC is lower compared to farms in general. The profitability of the main agricultural products is presented in Table 2.

In 2013 in Ukraine there were 953 agricultural service cooperatives (ASC), consisting of small and medium farmers, including nearly 100 service cooperatives which emerged in the framework of "Native village". However, there are only 618 cooperatives existing now. The rest, about a third, still cannot expand their activities.

The formation of cooperation in the market conditions of Ukraine is too slow. The cooperative movement has not reached sufficient quality of growth and development. Members of the cooperative movement are not yet a powerful, self-organized and self-sustaining force, able to protect and lobby for their own interests.

**Table 2.** Levels of profitability (loss) of main agricultural produce in Ukraine, %

Index	2008		2011	
	farms	in cooperatives	farms	in cooperatives
Plant products	19.6	27.3	32.3	30.0
including crops	16.4	23.6	26.1	22.2
sunflower seeds	18.4	27.1	57.0	63.5
sugar beet (factory)	7.1	-9.7	36.5	5.5
open ground vegetables	11.1	26.6	9.9	5.1
Livestock products	0.1	-8.7	13.0	-8.6
including milk	4.1	8.3	18.5	15.6
Cattle for meat	-24.1	-26.6	-24.8	-27.9
pork	0.3	-8.8	-3.7	-27.6
poultry meat	-11.3	-27.2	-16.8	-18.4
eggs	13.0	-1.4	38.8	-13.8
Agricultural activity	13.1	12.1	26.4	15.5
including agricultural production	13.4	12.6	27.0	15.9

Owners of farms and farmers do not see the benefits of this form of management. The cooperative formation cannot compete with large agricultural holdings and commercial enterprises without adequate support at different levels (district, regional and state). In Lithuania, for example, the state of each of the cooperatives in the first three years of operation qualified for the maintenance manager compensation.

In determining the areas of cooperative associations, first, traditional villages with specific activities and the needs of farmers are considered. ASC can also affect to some extent the revival and further development of rural areas.

Today, livestock production is concentrated on lowcost produce sector farms. Modern cooperative processes in this field remain underdeveloped. The relationship between producers and consumers mainly involves intermediaries. Now they sell 63% of cattle from private owners. Certainly, when purchasing directly from the producers, cattle brokers avoid the problems associated with product sales (working hours, health certificate animals, market fees, transportation costs, slaughter, etc.). However, like all monopolies, they are trying to get the maximum benefit from the operations of harvesting and marketing, deliberately ignoring the interests of the producers. Imperfect legislation allows them to receive a grant from the processing plants for providing young cattle of high categories. The question of the demonopolization of the market is solved by launching into this arena other players, namely agricultural service cooperatives.

The organizational forms of cooperation occur in different economic structure, and the depth of change affects even the policy of the state. This can cover both medium

and large farms. The most common forms of service cooperatives in livestock are those with horizontal process for individual products completion and vertical (new products and services). The basis of their specialization and intra-industry is a clear division of labor between producers who are members of the cooperative.

In dairy farming, a cooperative association may specialize in the breeding, feeding and rearing of young cattle, breeding heifers, production processing, maintenance, manufacturing of feed for fattening enterprises and so on. Typically, the creation of institutional structures precedes the integration processes that determine the readiness of businesses to create a cooperative.

The development of cooperatives and the market share of dairy and meat products in the advanced cooperative sector are shown in Table 3.

Cooperation has been and remains the only way to preserve the agricultural workers in terms of globalization, the aggressive attack of transcontinental companies, large national private businesses, food and social security, and the economic arrangement for the sustainable development of rural areas which form the foundation of a national market.

**Table 3.** The share of cooperatives in agricultural markets and services in the countries of the EU and Canada in%

Country	Product		Country	Product	
	milk	meat		milk	meat
Belgium	50	20-30	Luxembourg	80	15
Denmark	93	66-93	Netherlands	92	25-30
Germany	55-60	30	Austria	90	35
Greece	20	5-30	Portugal	83-90	50
Spain	35	20	Finland	94	68
France	49	27-88	Sweden	99	79-81
Ireland	100	30-70	UK	98	2
Italy	38	10	Canada	63	10

Source: [Pacov 2007].

The importance of cooperation in addressing the urgent issues of modern life for millions of people is the fact that 2012 was proclaimed the «International Year of Cooperatives» and involved nearly 800 million members of the International Cooperative Alliance. European countries, through cooperative formation in agriculture, realize over 60% of all farm produced products, and in Scandinavian countries even more than 80%. Cooperatives in China and Japan are engaged in domestic and foreign markets, where more than 90% of agricultural products are produced by its members.

In France there operate 3500 agricultural cooperatives, processing and marketing activities, with 13300 farmers and cooperatives sharing technology. Cooperative

members of different kinds represent 9 out of 10 farmers. They employ about 520,000 people, and the cooperatives annual turnover is on average 77-80 billion euros. For the sales from 58000 grain farmers of central and western departments of France there are 70 cooperative elevators. But it is more profitable to sell grain on the border, in the port of La Rochelle a cooperative basis was built with a powerful elevator (given irrevocable state subsidy). As a result, farmers receive at the French border 75% of the price.

U.S. farmers process 86% of their milk for the cooperative factories. If they sold it in its raw form, it would cost much less and it would be unprofitable to produce [Moldovan].

In world-wide practice, voluntary associations of producers engaged in livestock production, have emerged in the form of cooperative wholesale markets, which could serve as a model for developing similar structures in Ukraine. In the U.S. 40% of all wholesale market are cooperatives, in the Netherlands mostly in the forms of cooperative markets with specific characteristics. They are based on producers, contributing to the creation of a specialized competitive environment, form and structure the volume of production, guaranteeing transparent civilized processes of its realization, providing state control over the quality of goods sold, services provided at a cost of sales of products.

With the ban to slaughter animals (1<sup>st</sup> January 2015), there is a need for cooperatives to create mini slaughterhouses. There will be created up to 10,000 (2020), on average one co-op at 2-3 localities, which will mean a 50,000 increase in the number of jobs in rural areas, amounting to 32 billion USD, providing services to agricultural producers and implementating the domestic agricultural market through cooperatives, with at least 20% of total turnover. Due to new businesses there is an increase in competition in the agricultural market to stabilize domestic food security and raise the living standards of the rural population. However, the created agricultural cooperatives in Ukraine are mainly driven by international funds, projects and programs, and the international charitable organization Community Wellbeing project USAID AgroInvest (Table 4).

**Table 4.** Creation of agricultural cooperatives in Ukraine international organizations

Investor	Project	Estimate
International Charitable Organization Community Wellbeing (Heifer-Ukraine)	The development of dairy producing milkproducing cooperatives (20)	1.1 million euros
	Development of strawberry cooperatives	1.9 million euros

Danone Ukraine with the international charitable organization "Community Wellbeing" (Heifer International Ukraine), and supported by Danone Ecosystem Fund (France) and the Department of Foreign Affairs, Trade and Development CIDA / SOCODEVI (Canada) is implementing the project "Cooperative Dairy Farm and services" and "Development of milk cooperatives".

The amount of investment in the private sector in Ukraine – family farms (5-10 cattle) and mini-farms (10-20 cattle) that produce milk, and cooperatives in the project 2010-2011 was 1.1 million euros. Areas of investment are presented in Table 5.

**Table 5.** Investment company Danone in Ukrainian Village

№ п/п	Direction investment
1	Rigging equipment for effective cooperative milk collection, evaluation of its quality and safety
2	Establishment of cooperatives, items of artificial insemination of cows, providing equipment for forage (hay), consultation and provision of resources to improve public grassland
3	The mechanism of «passing on the gift», implemented by ICF «Community Wellbeing» Individual members of the cooperative were given to heifers. Under the terms of the mechanism of «passing on the gift» recipient heifers further themselves act as a donor – in terms of the gift transfer to other members of the cooperative heifers from his cows
4	Micro-lending and consulting support for those wishing to create/expand the family dairy farm
5	Grants in the form of equipment for dairy family farms
6	Learning effective techniques and principles of milk cooperatives
7	Construction of the demonstration and training farm with 60 cows (with plans to expand to 120) in the Dnipropetrovsk region
8	Providing feed in winter for abandoned milk and awards for the quality of milk
9	Provision of social grants to improve the quality of life for rural residents

Thus dairy producers have created 20 cooperatives that combine more than 1,200 owners of private farms. At the Danone-Dnipro (Kherson), nearly 600 tons of milk was delivered worth more than 1.5 million. The share of raw milk that comes in factory of established cooperatives with their own points of milk receiving companies exceeded 40%. The increase of this index was a major strategic priority for the company.

Cooperative members have the opportunity to buy profitable cows, equipment and food. It provides them with a stable income and development of infrastructure in rural areas and a manufacturing company, thus providing better quality of material that meets the requirements and standards of food safety.

The UN declared 2014 the year of family farming in the world. In most countries these are based on family farms and cooperatives that serve them as a necessary chain to create value-added products, which allowed them occupy a key position in the production of animal products. This form of the self-employment economy can change not only the family but also the community and the country as a whole.

The family farm is understood not only in terms of production, but also the social unit as family farmers – not simply a form of economic activity, and a special way of life in rural areas. The basis of a family farm is the family, so all production activities are subordinated to the needs of families.

In Ukraine, the term «family farm» is not defined by applicable law, no matter how determined their legal status. This raises many questions about the order of their establishment, registration of legal form, relations with the tax authorities, the possibility of participation in the state program of support, and cooperation with international technical assistance projects.

In 2012, in the Ternopil region the project "Development of strawberry cooperatives" was launched, financed by the partners: Danone Ecosystem companies Dansors, Danone Ukraine and the international charity organization Welfare of the Community. Implementation of the first phase of the project was targeted at 2014 and provides funding for a total of about 1.9 million.

The project aims to assist at least 500 owners of private farms to increase their profits by combining them with agricultural service cooperatives for the production of strawberries based on modern technology and wholesale sales through the cooperative. In 2013, strawberries were planted on 10 hectares of fields, 150 tons of fruit were collected, working in a co-op of 65 persons. Now direct investment is in a gradual increase in the planting area up to 50 hectares.

### 3. Conclusion

The main reasons for the containment of service cooperatives in the agricultural sector of Ukraine is the inadequacy and the inconsistency of the existing legislation, the lack of understanding of the essence of the cooperative idea, the lack of effective state support for cooperatives, the lack of awareness of rural residents, the general distrust of the public in such associations, and the inadequate practical help of the authorities. Although the Law of Ukraine, On Agricultural Cooperation, from 17<sup>th</sup> July 1997, № 469/97-BP with the addition of 19<sup>th</sup> January 2013, consolidated under ASC non-profit status, under current tax legislation in the cooperative association leads to a decrease in income of peasant farms that are part of their composition. One reason was the inability to apply ASC Agent special VAT regime and keep the amount of VAT obligations at their disposal and, therefore, it was impossible to obtain VAT subsidies for the refineries.

So, by law, there was discriminatory taxation of VAT revenue established from sales through official channels output generated by individuals – owners of private farms. Individual farmers had difficulty competing with agricultural enterprises, and only association in service cooperatives and the appropriate solution to the question of lifting the tax discrimination of products can make them competitive in the market.

There is a need for the legal regulation of the establishment and activities of family farms by developing a special law of Ukraine, "On family farms", or making appropriate additions and amendments to some laws of Ukraine, which should resolve these issues. This entails the need to address a number of related issues. It is important to develop the Model Farm Project family type and get approval of the draft Decree of the Ministry of Agrarian Policy and Food of Ukraine on the facilitation of the

design and construction of facilities such as farms or the reconstruction of the existing facilities at the family type farm.

## References

- Ukraine in figures in 2011: Statistical Yearbook*, State Statistics Service of Ukraine, edited O. Osaulenko, Kyiv, 2012.
- Agricultural economics locomotive*, Native Village, 2012, № 30 (022) 14 nov.
- Basic economic indicators of agricultural production in agricultural enterprises in 2011*, Stat. Newsletter, State Statistics Service of Ukraine, Kyiv, 2012.
- Pacov A., *The development agricultural cooperation in the Evropean Union*, Economy of agriculture of Russia, 2007, № 3.
- Moldovan L., *Ukrainian village will not exist, unless in cooperation* [electronic resource] L. Moldovan, access: <http://www.zerno.org.ua/articles/coop/257>.

## ANALIZA KONSOLIDACJI SEKTORA ROLNICZEGO NA UKRAINIE

**Streszczenie:** procesy konsolidacyjne odgrywają coraz większą rolę w gospodarkach narodowych. Procesy te są utożsamiane z rozszerzaniem i pogłębianiem relacji technologicznych, zasobowych, finansowych. W artykule przedstawiono różne formy konsolidacji gospodarstw rolnych wraz ze wskazaniem ich wad i zalet.

**Słowa kluczowe:** procesy konsolidacyjne, kooperacja, gospodarstwa rolne.