



## Development of the Rice Farming Network Based on Cooperative Relations

Safarova Dilfuza <sup>1</sup>, Muminova Mokhigul <sup>2</sup>

<sup>1</sup> Researcher, Tashkent branch of Samarkand state university of veterinary medicine, livestock and biotechnologies

<sup>2</sup> Master student, Tashkent branch of Samarkand state university of veterinary medicine, livestock and biotechnologies

**Abstract:** We present a literature review of the role played by agricultural cooperatives in influencing farm sustainability. We first focus on the theoretical literature to highlight the various economic behaviours of cooperatives. Then we investigate all three dimensions of sustainability in developing and developed countries. We aim at linking the empirical findings to the theoretical understanding of cooperatives, in particular members' heterogeneity. This paper shows that cooperatives play a non-negligible role in farm economic sustainability and in the adoption of environmentally friendly practices, suggesting that both public policies and private initiatives in cooperatives may be complementary. As regards social sustainability, there are only a few studies existing on the role of agricultural cooperatives. The trade-off between economic and environmental sustainability in cooperatives would need to be further investigate.

**Keywords:** Agricultural cooperatives, semi-finished products, efficiency, capital, farms, digital agricultural, social factors, advantages of cooperations, create new markets.

Today, most of the developing countries are liberalizing their economies by managing their economies based on market principles. At the same time, agriculture, like all sectors, is being liberalized, and the agrarian sector is not only a producer of raw materials, but also specialized in the production of finished and semi-finished products. The peculiarity of agricultural production is that ensuring the food security of the country directly depends on the policy. For this reason, most countries support more investments in the agricultural sector.

Even during the stage of agricultural development of our republic, the agrarian sector was under full state control, but after independence, private ownership in the sector developed widely. Currently, more than 98 percent of agricultural products are produced by private producers and farmers. Privatization of production through the organization of peasants and farms provides high efficiency, but their capabilities are limited in solving problems related to production intensification, attracting investments, as well as creating additional jobs. Solving these problems largely depends on financial opportunities, and it is possible to achieve the use of internal opportunities by joining farms into cooperatives.

A number of scholars have given their opinions on agricultural cooperation, including: According to Barton, agricultural cooperation is "a voluntary association of several producers and the equal distribution of the profit among all participants". It is also established that the farmers who joined the cooperative will receive a dividend equal to their contribution from the profit obtained through the production and sale of finished or semi-finished products. At the same time, the National

Cooperative Business Association of the United States has provided several ideas for establishing a cooperative and conducting business:

- Cooperatives are formed not by foreign investors, but as a result of voluntary pooling of the capital of local producers. All members have equal rights and elect the head of the cooperative through voting, and also all members have equal rights in the election of the leader, each person has one vote;
- cooperatives are mutual associations of small-scale producers of the same type of products, attracting investments in expanded repetitive production in order to develop the industry;
- by forming a cooperative in agriculture, turning cheaply sold raw materials into finished products is to ensure high profits in the end. In short, cooperatives are organized to serve their members and specialize in more processing and services.

According to researches, agricultural cooperatives in the People's Republic of China were mainly formed in the 1950s, during which land reforms were carried out in China. Also, it was from this period that the first cooperatives operated in Chinese agriculture. Initially, cooperatives were formed by uniting state farms, but by the 1980s, the work was carried out to include households in cooperatives. As a result of the extensive reforms carried out in the People's Republic of China in 1978, as a result of the abolition of public farms in the agrarian sector, as a result of the implementation of new reforms in the agrarian sector, the income of farmers increased by 6.7% in 1978-1990. At the same time, as a result of the reforms carried out in 1980-1990, the activity of private cooperatives in the agricultural sector expanded, and the need for guaranteed sources of supply for farmers grew<sup>1</sup>.

According to research carried out by the US National Association of Cooperatives, the main purpose of organizing cooperatives is, first, to reduce the losses of producers as a result of sudden changes in prices in raw materials markets. The second is to reduce farmers selling their produce at relatively low prices at harvest time<sup>2</sup>.

According to the research conducted by R. Gropp and G. Ingalsbelar, cooperatives formed in agriculture ensure efficiency by establishing more marketing services, that is, these cooperatives mainly provide farms with resources (seeds, fertilizers, agricultural machinery, etc.) specializes in providing services such as product storage and transportation. According to American researcher Barton, although cooperatives were formed in the last century, they achieved high efficiency only in European and North American countries. The active development of agricultural cooperatives in the People's Republic of China is primarily due to the fact that the government provides land to farmers on a long-term contract basis, and on the other hand, due to the growing needs of farmers for additional services, the initiative was taken by them.

At the beginning of the 19th century, agricultural cooperatives were formed in European countries and created the basis for the industrialization of agricultural production. As a result of the rapid development of cooperatives in the agricultural sector, all countries of the world entered agriculture. American scientist A. Hoyt analyzed the activities of agricultural cooperatives during his research. According to him, agricultural cooperatives are initially aimed at meeting the primary needs of the members of the cooperative, and then they are aimed at expanding production and services<sup>3</sup>.

In our opinion, through the development of agricultural cooperatives, on the one hand, the manager in the agrarian field will be relieved, and on the other hand, it will allow to control the quality of the produced products. Therefore, in the following years, agricultural cooperatives began to develop rapidly in most foreign countries. In most cases, the role of the state in the development of agricultural cooperatives is important, because the speed of production and turnover of goods in agriculture is relatively low. In this, the role of the state, that is, its subsidies, is important in the

<sup>1</sup> Stone, B. (1988) Developments in agricultural technology. *China Quarterly*, 116: 767-882

<sup>2</sup> **NCFC (2005)**. <http://www.ncfc.org/> (accessed on August 5, 2005).

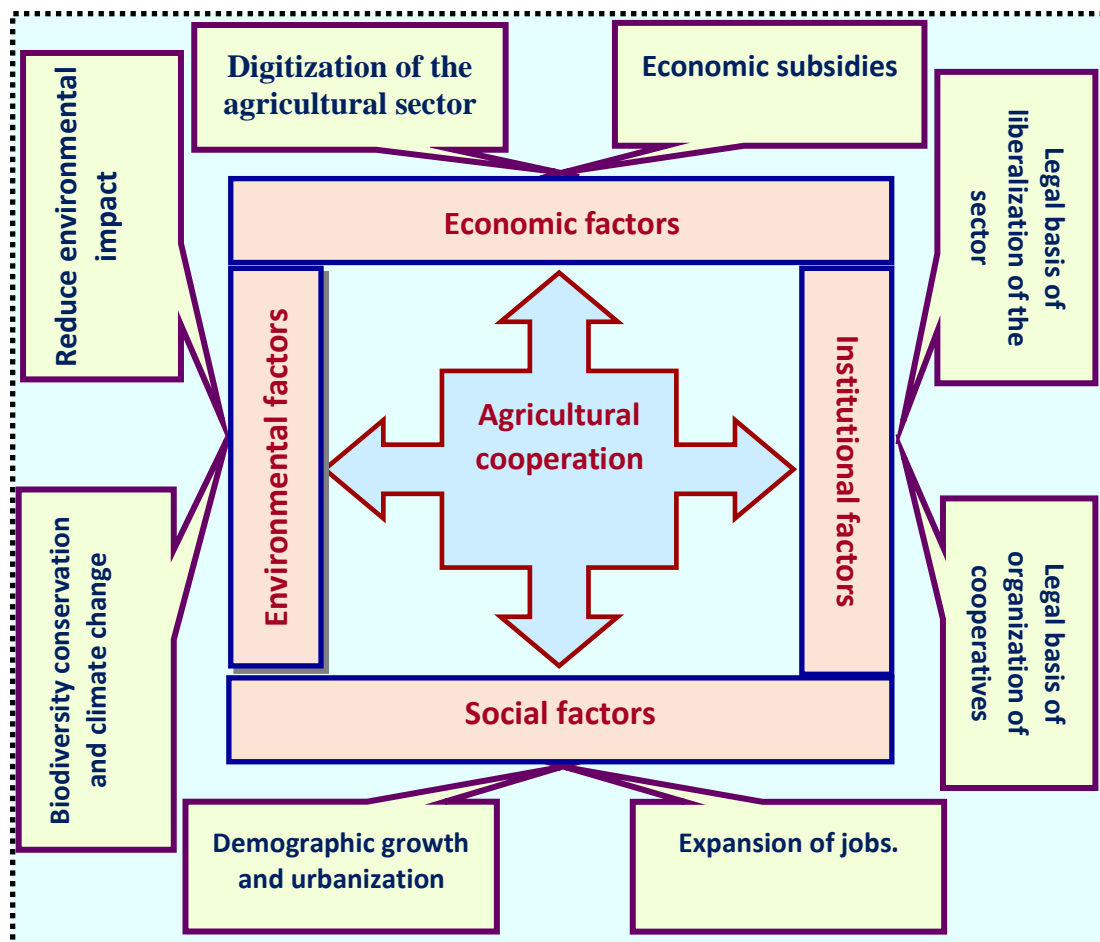
<sup>3</sup> **Hoyt A (1989)**. Cooperatives in other countries. In *Cooperatives in agriculture*, ed. D. Cobia, 81-97. New Jersey, USA: Prentice-Hall, Inc.

development of cooperatives. at the same time, such factors as the geographical location of the region, soil fertility, natural climatic conditions and the degree of mechanization of agriculture also affect the development of cooperatives.

Agricultural cooperatives become more specialized depending on the type of farm production. That is, farmers producing one type of agricultural products are included in the cooperative. The main activities of cooperatives are defined depending on the type of produced products.

Rice cultivation is important in agriculture, and it also plays an important role in ensuring the food security of the country. Therefore, it is possible to achieve intensification of production by forming cooperative relations in the field. In the research conducted on agricultural cooperatives, more attention is paid to their organizational aspects, but the mechanisms of cooperative development, institutional foundations and economic indicators are not sufficiently studied.

According to research, agricultural cooperatives bring together several farmers located in a certain area, systematically study their existing problems, and develop alternative solutions to these problems. Because the correct distribution of resources among farmers in the region, increasing productivity, reducing losses during harvesting, and alternative transport costs require a high level of organization and management. Today, agricultural cooperatives must ensure the harmony of economic, social, ecological and institutional factors. Fig. 1.



**Figure 1. Factors affecting agricultural cooperatives.**

In our opinion, the organization of cooperatives in rice production is not only economically efficient, but also socially and ecologically significant. Because, in the 21st century, the level of urbanization in the world is increasing sharply. Of course, there will be problems in this area, such as providing the population with safe food products and creating new jobs.

The formation of rice cooperatives, along with reducing manual labor in agriculture, creates the basis for the entry of small industries into the field. It also forms new economic entities serving

agricultural cooperatives. Because the cooperative is not only a producer of raw materials, but an economic entity that actively participates in the processes of supplying production with resources, purchasing, transporting, storing and selling the entire crop.

In fact, the government has several objectives for the development of cooperatives. First, in a free economy, market prices are highly volatile. This is always dangerous for small farms producing products in small quantities. Because problems such as sharp drop in prices, problems in resource supply, and losses in the process of harvesting are eliminated by cooperatives. Secondly, in the secondary implementation of the land areas under the poverty alleviation program of the government, the possibility of full monitoring of the crop cultivation processes is very low, therefore it is advisable to use cooperatives for the cultivation of certain types of crops through agricultural cooperatives, as well as for full monitoring during the vegetation period. Thirdly, cooperatives have a great role in solving environmental problems such as improving land reclamation and reducing soil erosion.

If we look at the statistical analysis of our republic, about 49.4% of the population lives in rural areas, the share of agriculture in GDP is 22%, and the share of agricultural products in the volume of exports is significant, which indicates the need to increase the volume of production of finished and semi-finished products from the production of raw materials. brings about.

Today, in our republic, rice is mainly planted in two different ways, that is, as a repeat crop, in the form of seedlings on fields free from grain, and in the form of seeds as the first crop. In fact, planting rice in the form of seedlings is relatively effective, because, firstly, the cultivation of rice by the seedling method allows you to save an average of 100-120 kg of seeds per hectare, and secondly, it allows you to start work 20-25 days earlier in special rice seedling centers. This ensures early ripening of the crop and increases productivity by 20-25%. Thirdly, it allows to save the water resources used during rice growth. It also creates grounds for shortening the vegetation period of rice planted as a repeated crop.

In our opinion, the establishment of cooperative relations in rice cultivation will allow the cultivation of rice in the form of complete seedlings, the full provision of resources to rice farmers and the timely harvesting of the cultivated crop without losses. Today, most rice farms prefer to grow crops relatively independently. On the one hand, this allows for full self-management of one's activities, and on the other hand, it leads to high production costs due to the relatively low level of supply of resources and purchasing of manufactured products.

In our opinion, there are several positive and negative aspects in the analysis of the organization of rice cooperatives and their activity. Accordingly, in the organization of agricultural cooperatives, it is desirable for the participants to fully study its advantages and disadvantages Table 1.

**1 table. Advantages of rice cooperatives and problems in the field.**

| Advantages of cooperatives   | Existing problems  |
|--|--|
| <ul style="list-style-type: none"> <li>* *The property rights of cooperative members are inviolable and all members have equal rights;</li> <li>* applying strong governance, aligning the objectives of all members;</li> <li>* in the management of cooperatives, along with the use of modern scientific achievements, the use of traditional years of experience;</li> <li>* development of cooperation strategy, taking into account the interests of all members;</li> <li>* taking into account the opinion of all</li> </ul> | <ul style="list-style-type: none"> <li>* situations that may arise in the process of buying and selling property rights;</li> <li>* change the traditions formed over the years in agriculture;</li> <li>* entering new markets, studying their requirements;</li> <li>* formation of a strong competitive environment in attracting cooperative members;</li> <li>* creation of strong service services in provision of resources;</li> <li>* ensuring equality in determining the</li> </ul> |



|   |   |
|---|---|
| participants when making a decision;<br>* optimal use of resources in production and processing processes, as well as reducing the impact on the environment. | obligations and tasks of the members of the cooperative;<br>* Attracting strong managers to field management. |
|---|---|

We can see from the table that the participation of agricultural producers in cooperatives increases the need for mature managers in the management of the sector, but also creates a strong competitive environment in the sector. Of course, it should not be forgotten that most producers prefer to sell their products in cash, which has a negative impact on the cooperative's activities.

In our opinion, the formation of cooperatives in agriculture allows to quickly and qualitatively release the produced products to the consumer markets. Because the release of products grown in cooperatives to consumer channels through large retail outlets reduces sales costs, and allows supermarkets to purchase regular products.

In conclusion, we can say that the important aspect of cooperation in the system of the Agrosanosat complex is that it improves the system of production relations between the branches of the complex and creates an opportunity to use production potential more effectively. Because the agro-industrial complex includes industries that occupy leading positions in our national economy. Therefore, the final goal of the agro-industrial complex networks is to more fully satisfy the population's demand for consumer goods obtained as a result of the production and processing of food and agricultural products. Also, there are great opportunities to increase production efficiency and product quality, increase product production volumes, increase labor productivity and reduce product costs in the context of integration of agro-industrial complex networks, development of specialization of agricultural production. In order to develop market relations in agriculture in the conditions of modernization and diversification of the economy, it is necessary to theoretically better understand its prospective changes. To avoid mistakes in this area, it is necessary to properly organize and implement economic reforms in relation to cooperative forms. Due to the lack of an economic mechanism that connects the producers of agricultural products, including agro-industrial companies, who grow, transport, process, sort, pack, and sell each other, the economic efficiency of product-growing farms is negatively affected, while processing enterprises are unable to produce their own production. 40-50 percent of its capacity, and in some cases this figure is 30-35 percent. The imperfection of mutual legal, organizational and economic relations between agrofirms, their farms, enterprises and organizations engaged in the preparation, storage, processing, sale and provision of services for fruit, vegetable and grape products, the development of the processes of liberalization and modernization of the activities of agrofirms and their activities has a negative effect on increasing efficiency.

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