

INTERSECTORAL ECONOMIC RELATIONS IN THE FIELD
OF STORAGE OF GRAIN AND GRAIN PRODUCTS

АСТЫҚ ЖӘНЕ АСТЫҚ ӨНІМДЕРІН САҚТАУ САЛАСЫНДАҒЫ
САЛААРАЛЫҚ ЭКОНОМИКАЛЫҚ ҚАТЫНАСТАР

МЕЖОТРАСЛЕВЫЕ ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ В СФЕРЕ ХРАНЕНИЯ
ЗЕРНА И ЗЕРНОПРОДУКТОВ

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Abstract. The problems of improving intersectoral economic relations in the current conditions of economic development of Kazakhstan are determined by market forms of selling grain and grain products. *The goal* – one of the main tasks to be solved - to provide a set of measures to overcome the imbalance in the relationship between agricultural and processing enterprises, since the organizational and economic relations between them are one of the bottlenecks in the grain product subcomplex. *Methods* – comparative analysis, statistical and economic, system analysis, logical generalization. *Results* – an increase in grain production requires the expansion of the capacities of enterprises in the elevator industry, mainly through new construction. Enterprises in modern conditions are characterized with increased capacity and more modern equipment in comparison with elevators in the territory of the CIS countries. As the main type of intersectoral interaction, the economic relations of agriculture and the elevator industry for the sale of grain are singled out. *Conclusions* – in any form of ownership, the expensive fixed assets of elevators created over decades should be used rationally, in the interests of the entire food system of the country. In addition to the types of services, such as exchange operations, assistance in the preparation of varietal seeds of grain crops, elevators and grain-receiving enterprises should form commodity lots of grain for its producers, carry out commercial transactions on market on their behalf, and also engage in mortgage transactions. In conditions of limited material and financial resources for commodity producers, joint use of the capacities of large elevators, grain-receiving and processing enterprises acquires importance. Elevators and

Аннотация. Проблемы совершенствования межотраслевых экономических отношений в современных условиях развития экономики Казахстана определяется рыночными формами реализации зерна и зернопродуктов. *Цель* – одна из основных задач, которую предстоит решить – обеспечение комплекса мер по преодолению разбалансированности взаимосвязей между сельскохозяйственными и перерабатывающими предприятиями, поскольку организационно-экономические отношения между ними – одно из узких мест в зернопродуктовом подкомплексе. *Методы* – сравнительный анализ, статистико-экономический, системный анализ, логическое обобщение. *Результаты* – увеличение производства зерна требует расширения мощностей предприятий элеваторной промышленности преимущественно за счет нового строительства. Предприятия в современных условиях характеризуются, по сравнению с элеваторами на территории стран СНГ, повышенной емкостью и более современным оборудованием. В качестве основного вида межотраслевого взаимодействия выделены экономические отношения сельского хозяйства и элеваторной промышленности по реализации зерна. *Выводы* – при любой форме собственности созданные десятилетиями дорогостоящие основные фонды элеваторов должны использоваться рационально, в интересах всей продовольственной системы страны. Помимо видов услуг, как проведение обменных операций, помощь в подготовке сортовых семян зерновых культур, элеваторы и хлебоприемные предприятия должны формировать товарные партии зерна для его производителей, осуществлять по их поручению коммерческие сделки на рынке, а также заниматься залоговыми операциями. В условиях ограниченности материальных и финансовых средств у товаропроизводителей значение приобретает совместное использование емкостей крупных элеваторов, хлебоприемных и перерабатывающих предприятий. Элеваторы и другие хлебоприемные предприятия, являясь основными участниками зернового рынка РК, призваны обеспечивать продвижение зерна от товаропроизводителей до переработчиков и непосредственно потребителей, основная задача этих предприятий придать зерну товарный вид, для максимального удовлетворения потребительского спроса.

Түйінді сөздер: астық және астық өнімдерін өндіру, астық қабылдау кәсіпорындары, қоймалар, сыйымдылықтар, қайта өңдеу, элеваторлар, салааралық өзара іс-қимыл, ауыл тауар өндірушілері, өткізу нарығы.

Ключевые слова: производство зерна и зернопродуктов, хлебоприемные предприятия, хранилища, емкости, переработка, элеваторы, межотраслевое взаимодействие, сельские товаропроизводители, рынок сбыта.

Material and methods of research. In the conditions when the centralized (organized by the state almost simultaneously with harvesting) removal of grain from the barns to GRE was abolished, agricultural producers faced the problem of safety of not only commercial, but also of seed and fodder grain. It is proposed to solve this problem by bringing the capacities of granaries in accordance with the volume of gross grain harvest.

Under any form of ownership the expensive fixed assets of elevators, created during decades, should be used rationally, for the benefit of the whole food system of

the country. In addition to such traditional services as exchange operations, assistance in preparation of variety seeds of crops, elevators and grain receiving enterprises should form commodity batches of grain for its producers, carry out on their behalf commercial transactions in the market, as well as engage in collateral transactions.

One of the main tasks to be solved in the near future is to provide a set of measures to overcome the imbalance in the relationship between agricultural and processing enterprises, since the organizational and economic relations between them are one of the bottlenecks in the grain product subcomplex [4].

In this regard, at the present stage of development of grain product subcomplex of the country it is important to take into account various factors of organizational-economic nature in order to prevent disruption of the single technological process in the process of production, processing and sale of grain, to avoid significant losses of products and, ultimately, to meet the needs of consumers.

At the same time, economic relations of enterprises should be based only on mutually beneficial conditions, which exclude all elements of diktat on the part of both state and monopolist enterprises, which consume agricultural products and produce material and technical resources. As in any reproduction process, full cycle of grain production ends with its postharvest processing, harvesting, storage and processing. Interests of increasing the quality of grain and, accordingly, income from its sale require from commodity producers to carry out in a short time the whole complex of technological operations: to clean, dry, correctly, according to qualitative characteristics and grade composition to form a commercial batch of grain and put it in storage for subsequent sale.

However, there are practically no grain and seed storage facilities with complex mechanization of technological processes in farms, storage capacities have decreased from 5.9 to 2 million tons over the last 10 years, and of the remaining only 70% are adapted for long-term storage, as a result, grain, including commercial grain, is often stored in unsuitable and unequipped rooms.

The size of losses during storage can be judged by the norms of natural loss, which depend on the method of storage and type of containers. So, if during storage in elevators, for example, for wheat, rye and barley it makes 0,05%, during

storage in storehouses - 0,07, and on unequipped sites - 0,12%. When storing grain from 3 to 6 months, natural loss norms increase by about 40%, and from 6 months to a year - by another 40%. Losses in unsuitable premises of grain producers are much higher.

Grain cleaning and drying equipment of current farms is low-productive, physically and morally obsolete, many of them do not function. Almost all current farms do not have laboratory equipment for the preliminary assessment of the quality of grain in the fields and after harvesting before being sent to elevators [5].

As a result, there is sanitization (mixing) of batches of grain of different technological merit and the transition of a large amount of strong and valuable wheat into the category of ordinary or waste, the increase of grain losses and the probability of infection by pests of grain stocks, which ultimately leads to the depreciation of the value of grain, reducing the efficiency of its production and sales.

Such situation negatively affects quality of grain, which tends to decrease lately. Wheat of the first and second classes is practically not purchased, the share of ordinary wheat of the fourth and fifth classes in the total volume of the delivered grain to bakery enterprises of the regions increased and amounts in different years from 5 to 35%.

As the result the grain producers face a serious problem: either to take the grain to the elevator for safe storage, or to sell or give it for processing to the processing company on a give and take basis, or to keep it for storage and, depending on the favorable market situation, gradually sell it to consumers [6].

It is too expensive for the producer to sell the grain to the elevator under the current rates for storage, drying and processing, as well as high tariffs for transportation. As calculations show if a commodity producer stores 100 tons of grain at elevator for six months the volume of grain left for storage services at current prices can make up from 6 to 10 tons. Natural deductions (refactation) in volume of 18 tons should be added to it which may be formed in case of delivery of grain in excess of basic condition, let us suppose, 8% moisture and 10% weediness, which is quite real for regional conditions. Besides, commodity producers bear losses in the form of fees charged by the elevator for services for drying and processing, i.e. bring-

ing the quality of grain to the appropriate standards in the amount of 60 thousand tons, or in terms of physical volume 8,0 tons, as well as transportation costs for transporting wet and clogged grain in kind (with an average transportation radius of 50 km) - 3,0 tons.

Thus, total volume of grain left by the elevator for the services rendered to commodity producers for processing, drying and storage, taking into account transportation costs can be 35-39 tons.

The situation is aggravated by the fact that the owner of grain, not being able to carry out quality analysis in his own farm, is forced to rely entirely on the objectivity of grain quality assessment by the laboratory of the GRE. Central problem of perfecting economic cooperation of producing and procuring enterprises is working out economic mechanism of mutual interest in providing necessary assortment and elevated grain quality.

In conditions of predominance of wheat in grain production in Kazakhstan it is necessary with the help of prices to stimulate production of other food, cereals and fodder crops as well, which are decisive condition of production effectiveness for grain products subcomplex.

In the mechanism of economic interaction between grain producing and bakery enterprises the primary importance belongs to the adequate accounting of technological qualities of grain in the purchasing price, which are reflected in the prices of realization of grain products to consumers.

Sharp changes of high quality wheat share in general volume of grain purchasing in conditions when in Kazakhstan annually up to 90% of area were occupied by strong and hard sorts are directly connected with imperfection of economical relations between grain producers and its purchasers.

Changing of standards requirements combined with improving of pricing contributes to significant improvement of purchased wheat structure, and increase of its quality - to the growth of effective using of grain inside the Republic and profitability growth of its export. However, a number of standards requirements clearly does not correspond to the terms of interaction between producers, suppliers and consumers of grain.

Coming of Kazakhstan high-protein and very competitive grain to international market, makes necessary to correct acting standards according to international standards system, which from one side strictly regulate qualitative characteristics of grain, from the other side limit with minimal parameters in limits of

requirements of manufacturers and consumers of final production. Exporting countries, as a rule, conclude long-term agreements for grain delivery to this or that country to preserve and expand world market of grain, at the same time giving various discounts, privileges or long-term credits to importers.

In exporting countries special importance is given to issues of storage and transportation of grain. Grain storage and warehousing is an integral part of the grain subcomplex. This farm can be part of large agro-industrial associations, on a cooperative basis. Grain storage capacity in major exporting countries exceeds the volume of grain production by 1.5 times.

The main enterprises involved in the sale of grain in major exporting countries are elevators owned by private transnational corporations, cooperatives, as well as the state (CCC - commodity credit corporation). These organizations purchase and transport grain [7].

For example, the United States is considered an exemplary state in the organization of storage, processing of grain and its subsequent sale, the main elements of this system are elevators, exchanges, banks and roads [8]. The American grain trading system began to take shape in the middle of the nineteenth century. Thus itinerant grain merchants, with their large capital, began to displace the then dominant system of buying grain by private small buyers. At the same time local merchants' associations and large companies began to form, which invested huge sums in the grain trade and built a network of line elevators along the railroads.

Terminal elevators, the largest in terms of turnover and capacity, began to appear in grain centers. Besides linear and terminal elevators, there were also small local elevators with small capacities that were used mostly for storing grain and purchasing it from producers. Local elevators were located near mills and not always near the railroad. Local elevators were owned by large companies, individuals, and farmers' cooperatives. Of the 10,000 local elevators, 47% were owned by companies, 28% by individuals, and 25% by farmer cooperatives, with the main operations of the local elevators involving grain handling, buying and transferring grain, and transferring it to wagons or other vehicles for shipment to a terminal elevator. Local grain elevators made no loans, making a profit of 2 to 3 cents per bushel.

Large trading companies played an important role in selling grain, both domestically and internationally in the United States. Five, six multinational companies control about 90% of national exports.

The main channel for marketing grain is grain elevators owned by private trading companies, cooperatives, and the government. These organizations buy and transport grain, and cooperatives account for about 40% of grain and leguminous crops sold. They operate in all regions of the country, but more than 80% are concentrated in the major grain-producing regions of the Great Plains, Corn Belt, and Lakeside states. With no more than 60 million tons of grain storage capacity, they sell more than 120 million tons a year. Cooperatives transport the bulk of their grain by road (53%) and by rail (43%). Of the total profits (\$15.7 billion) attributable to U.S. grain cooperatives, the Corn Belt accounts for 42.5%, the Great Plains for 27.2%, and the Lakeside States for 13.5%.

There were about 500 terminal elevators in the U.S. owned by several large companies. Some of the cities in which these elevators are located are also major mill centers. The owners of terminal elevators and large mills are usually members of grain exchanges and participate in the buying and selling of grain. Terminal elevators are subdivided into regular and irregular classification, which still exists in modern economic conditions of elevator economy development. Regular terminal elevators are supervised by grain exchanges, non-regular ones are not.

This difference leads to an important consequence: acceptance certificates of regular elevators at grain exchanges replaced the delivery of grain, irregular ones did not have this advantage. Also terminal elevators are divided into public and private. The activity of the first ones is regulated by the government, obliging them to accept grain for storage and processing from all producers who wished to hand it over, with obligatory state inspection. Private elevators accept grain at their discretion, but with the conclusion of the same state inspection. If the owner of the grain was dissatisfied with the inspection, he complained to the Board of Appeals, which made the final inspection. The members of the board were appointed by the governor of the state. Terminal elevators purchase grain both directly from farmers and from local elevators, and the fees for storage and handling of grain are set by the elevators no higher than the maximum established by law within a particular state.

According to the form of ownership the majority of US grain farms are family farms (86%). About 11% of farms are organized as partnerships and 3% as joint stock companies.

The state of grain production and the situation on the grain market in the world eco-

nomics policy is considered as one of the main indicators of the world food security.

Grain elevators and other grain-receiving enterprises, being the main participants of the grain market of Kazakhstan, are designed to ensure the promotion of grain from producers to processors and directly to consumers, the main task of these enterprises is to give grain a marketable form, for maximum satisfaction of consumer demand [9]. Storage of grain at elevators is profitable for grain owners not only because it guarantees full high-quality safety of grain, but also because, if the grain owner wishes, the elevators can issue a warehouse certificate, the collateral part of which is recognized by banks to issue loans for the period of storage of this grain at the elevator. This mechanism is practiced in all grain-producing countries [10].

Currently, "Urozhay" LLP (Akmola region) consists of 3 elevators with capacity of 196 000, 50 000 and 25 000 tons, 3 mills, capable of processing 520 tons of grain a day. Flour from Zhaksyn grain of high quality, is in high demand both within the country and abroad. LLP "Urozhay" ships more than 300 railcars with flour to the regions of the republic, to neighboring and far abroad countries. The products of the new plant opened on the basis of LLP "Harvest" in Zhaksyn district - cereals and instant flakes are in great demand, their advantage is the absence of food additives, the use of natural raw materials, multi-level production control at all stages of production, the availability of its own certified and accredited laboratories. Urozhay LLP of Zhaksyn district is part of Agrofirma TNK group of companies. It is one of the largest enterprises in the region, which is engaged in reception, storage and deep processing of grain.

Currently, it owns four elevators, mills, a feed mill, and in 2019 a plant for the production of cereals and cereal flakes with a processing capacity of up to 60 tons per day was put into operation. The main crops coming to the elevator are soft and hard wheat, barley and oats, and flour of the highest, first and second grades is produced. The volume of simultaneous storage of elevators is 300 thousand tons of grain. The main part of wheat is processed into flour by mills with a total daily capacity of 1200 tons, established a full production cycle on the principle of "from village to table", has a bakery, a day baked up to three tons of bakery products, which are sold to employees and the local population.

There is a feed mill with a daily capacity of 240 tons, "Agrofirma TNK" livestock is provided with its own high-energy feed. Providing livestock with balanced feed contributes to

more intensive weight gain and increased milk yield. The plant produces the following types of mixed fodder: for fattening cattle; for calves; for dairy cows.

The enterprise has a bran pelletizing workshop, which is in high demand in the region and imported to neighboring and far abroad (Russia, Iran, Turkey, China). Grain from Kazakhstan can be transported through the "Alashankou" checkpoint along the economic corridor "China-Pakistan", through Pakistan's port Gwadar to supply countries in South Asia and Africa. The creation of the "grain corridor" will help to cover grain shortages in China and promote cooperation in the field of production capacity between the countries.

Conclusions

1. Under any form of ownership the expensive fixed assets of elevators created by decades should be used rationally, in the interests of the whole food system of the country.

2. Besides such services as carrying out exchange operations, assistance in preparing variety all seeds of grain crops, elevators and grain-receiving enterprises should form commodity batches of grain for its producers, carry out commercial transactions in the market on their behalf, as well as engage in collateral operations.

3. Under the conditions of limited material and financial resources of commodity producers, the joint use of capacities of large grain elevators, grain receiving and processing enterprises becomes important.

4. Elevators and other grain receiving enterprises, being the main participants of the grain market of Kazakhstan, are aimed to provide promotion of grain from producers to processors and directly to consumers, the main task of these enterprises is to give grain a marketable form for maximum satisfaction of consumer demand.

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