

The possibility of using the PPP mechanism (public-private partnership) in the construction of logistics centers for processing and marketing of agricultural products

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Abstract. The article deals with topical issues of the possibility of using the mechanism of public private partnership in the construction of logistics centers for processing and marketing of agricultural products. The development of the agro-industrial complex creates a favorable atmosphere for cooperation between the state and private business. The use of this mechanism allows both parties to obtain the maximum benefit from such an Alliance. It is necessary to consider the possibility, prospects and economic efficiency as a result of the construction of logistics complexes for agricultural products. The favorable outcome will be the opportunity for farmers and the local population to sell their products, an increase in the number of jobs and an increase in the reserves of the raw material base. The article presents the prospects for the use of the PPP mechanism in the construction of logistics centers of the agro-industrial complex. The authors of the article analyze the effectiveness of this mechanism in modern conditions and put forward proposals to optimize the process.

1. Introduction

Considering the development of the agro-industrial complex of the Russian Federation, it is necessary to note the high potential in the construction of logistics centers. The trend in the request for the construction of such industrial facilities should be due to several factors: these projects should enable producers, and in the current case, farmers, to receive a large profit from investing in the cultivation of crops and any species of plants. Such result will lead to achievement of reduction of expenses for storage and transportation of goods on long distances, and also to elimination of a problem of search of timely buyers for production. Due to the fact that the subject, whose task is exclusively agriculture, in the model of public-private production can also appear the farmer, the investor and the state itself. It should be noted that, adhering to such a strategy, each of the parties realizes its interests. On the part of the state they can be such as:

- task statement in modernization of state and municipal sectors of economy
- obtaining material about the plans and direction of private business
- saving of stocks of budgetary funds
- synergy in the implementation of the need for the existence of strategically important facilities in the event of a dangerous situation in the country

The construction industry in this case acts as a tool in the specified activity, as it is an integral milestone that provides space for the sale of agricultural products placed in the erected logistics centers.



2. Relevance

The relevance of the use of various types of public-private partnership (PPP) in the construction of logistics centers is due to the fact that PPP is successful in many countries. It occupies an important niche in bringing the public and private sectors, and not least to underline the importance that this technique allows to compensate the budget deficit and solve strategically important tasks [1] for the development of the economic component. Earlier at manifestation of such processes, they had character only of cooperation, but now they are more formal which are regulated by the Federal law of 13.07.2015 N 224-FZ (edition of 26.07.2019) "About public-private partnership, municipal-private partnership in the Russian Federation and modification of separate legislative acts of the Russian Federation" [2].

Also, at present, the construction industry is dominated by the private sector (up to 89 %). However, the tasks that are carried out by such a predominant percentage of enterprises of this nature fall into the sphere of state interests, since they determine how stable the socio-political component of the country is, economically and financially stable, attractive in terms of investments, and at the same time affect the energy and environmental security of the country.

For businesses in any affected area, achieving and maintaining competitiveness [3] and leadership advantage remains an important factor, as the boundaries of the companies involved are not limited to selection exclusively within Russia, which increases competition in the market [4]. For example, it is possible to find developers among foreign countries, as well as entrepreneurs whose sphere of activity is connected with the supply of agricultural products. Contrary to such arguments, public-private partnerships are integrated structures in the space that combine elements of mono-integrated structures and allow to achieve a synergistic effect from its work.

All of the above determines the relevance of the selected topic.

3. Problem statement

The purpose of this article is to study the possibility of using the mechanism of public-private partnership (PPP) in the construction of logistics centers for the sale and processing of agricultural products. The purpose of this article is to study the possibility of using the mechanism of public-private partnership (PPP) in the construction of logistics centers for the sale and processing of agricultural products.

4. Tasks

In accordance with the subject of the article certain tasks are intended:

- collection of information on the functional purpose of the logistics center for the sale and processing of agricultural products
- analysis of the most optimal way to use public-private partnership in the construction of logistics centers
- selection of characteristics of the most favorable land plot necessary for the placement of the object
- analysis of design features of construction of buildings of the logistics center
- preparation of a description of the possible technological process, as well as possible alternatives
- selection of the most favorable climate for the location of the facility, as products intended for long-term or short-term storage in the logistics center, needs certain parameters of its environment and the boundaries of sanitary protection zones
- in connection with the above-mentioned purpose, it implies further considered, or rather the need to collect information on the need to connect gas, water and electric routes to the logistics center being built
- equally important is the rationale for the raw material base

5. Task solutions

The logistics center is a complex of facilities, which refers to agricultural enterprises "for processing and storage of agricultural products." Its functional purpose is to create a platform for the sale of goods of agricultural producers. Food policy at all times played a huge role for the economy of the state. Agriculture has always been an extremely important key in the formation of the state budget. In modern conditions, in connection with the current situation, which consists in the imposition of sanctions on the Russian Federation, and its transition to import substitution, it is important to note the huge potential in the development of the agro-industrial complex [9]. Figure 1 shows the trend of growth in the development of agricultural products at current prices. The construction of logistics complexes for agricultural products will allow to launch investment processes, which, in turn, will contribute to stable growth of domestic products.

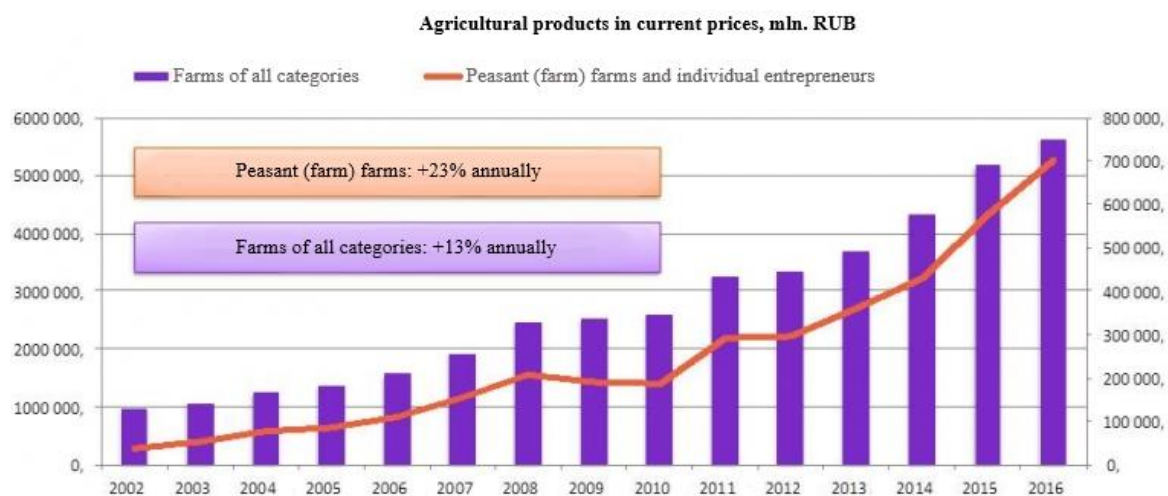


Figure 1. Agricultural products in current prices, mln. RUB.

In parallel, it is possible to store and process not only food products, but also technical crops. A project of this kind should give impetus to the growth of profits and productivity of farmers. In addition, it is necessary to provide access to the logistics center to the rural population, which has land for the cultivation of grocery, vegetable products and has the ability to supply raw materials from the dairy range to such points. This opportunity will be an incentive for residents to cultivate land, and will generate greater demand for products of decent quality. In addition, the supplied volumes in the future can provoke a change in price policy on the food market both in the direction of selling them at an acceptable price, and in the direction of purchasing such goods at an adequate cost. The composition of the logistics center may vary depending on many factors, but it is advisable to identify common links that it is desirable to take into account when constructing such facilities [5]. These are: a shed for agricultural machinery, which may not be part of the capital structure, but makes it possible to cultivate the land in the surrounding area, if this is permissible; a trading pavilion; a household room; a sorting building, which already needs to be considered as a capital structure, since the conditions of construction to this room will be different from the previous ones, and it is intended for sorting and processing of agricultural products; the administrative building is designed to manage the facility and accommodate employees, people who will visit the complex and probably for renting out certain areas.

In this case, it should be noted that the construction of buildings and structures of the logistics center (capital construction projects) are built at a relatively high estimated cost. In this case, the possibility of using public-private partnership will relieve the financial burden on producers and organizers of sales for the construction of a logistics center for the sale of agricultural products and solve a number of organizational and economic problems. The reason for this influence is the interest of the state in the joint implementation of targeted projects together with private investors, as in the

way of such interaction, the burden on the budgets of all levels is reduced by reducing the volume of state or municipal costs.

The land plot, which will be chosen for the placement of the capital construction object, should be a free territory adjacent to the city infrastructure, engineering and transport networks. It is also worth noting that it is important to pay attention to the terrain where the construction will be arranged, since the more complex and significant the slope, the process of soil development increases in price in a tangible amount [6]. Near it is desirable to lay the Federal highway for easy transportation of products from one point to another, from which it is necessary to pave the exit directly to the logistics center, as well as the passage of the emergency exit from the object. The General plan of the territory should be developed taking into account requirements to structure and areas of elements of a site. The location of the projected complex should be located on the territory not flooded by flood waters, outside landslide areas, as well as outside the areas of mineral deposits and medical sources.

To optimize the technological process, the General plan of the site should provide for functional zoning with a separate flow of trucks, employees of the logistics center, administrative workers, visitors to the complex, traffic flows of employees' cars and official vehicles. The logistics complex may include areas for the production of agricultural products for novice producers. In accordance with the construction requirements for buildings of this type, it is necessary to take into account the design of spaces for the placement of household premises, rooms for eating, as well as the control room and the room intended for cleaning equipment.

It should be noted that important factors in the construction of logistics complexes are reliability, efficiency, transport accessibility. One of the possibilities to achieve the most profitable construction process can be using modular buildings, buildings of metal frame and enclosing structures of sandwich panels, and it is also possible to consider the building tent type. In the modern world, the popularity of their application is growing rapidly, as it is prefabricated buildings they are multifunctional and easy to erect.

Also, to ensure the safety of the territory and control over the movement of vehicles at the entrance to the territory, checkpoints are placed, where a security point is organized. In order to make the most profitable use of the logistics center, vacant premises should be used rationally for renting.

In turn, one of the most important factors influencing the choice of building materials for the construction of a fixed object is a collection of information about the climatic state of the area which is produced in accordance with the requirements established set of rules 131.13330.2012 "Construction climatology" indicating the climatic parameters [5], which are required in the design of buildings and structures, the planning and building of urban and rural settlements. Such characteristics are the mean annual air temperature; the average temperature of the warmest month; the absolute maximum temperature; mean monthly (max, min) air temperatures by months; the start time of freeze-up; drifts; the frostless period with stable snow cover, depth of soil freezing; humidity; rate of clear, cloudy and cloudy days per year; rainfall; wind rose. According to the above parameters, a conclusion is drawn about how favorable the area for construction is the selected territory.

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Since the logistics center is being built for the purpose of logistics of food products, it is necessary to justify the boundaries of sanitary protection zones of the capital construction object within the selected land plot. This operation is performed in accordance with the requirements of the Federal law "On sanitary and epidemiological welfare of population", where you should verify that the proposed facility does not pose a threat to sanitary-and-epidemiologic situation did not constitute sources of environmental pollution and carries no potential danger to humans. But this aspect of construction is not the only one, as the state is one of the largest direct customers of products, works and services. At

the moment, procurement [7] according to state needs is one of the directions of economic activity of public authorities, the purpose of which is to ensure the effective functioning of these bodies and the state with business entities of goods, works and services [8]. It is worth paying special attention to this factor because of the assessment of the impact of the model of public-private production not only on these areas, but moreover on a larger benchmark. There is an opportunity to reveal such orientation in a key of development of system of placement of the state order as rendering appreciable influence on economic potential of regions and their abilities to self-development.

During the construction of the logistics complex (figure 2), in parallel with the development of a full package of project documentation, technical conditions for connection to engineering networks [9] are mandatory. The project also provides for domestic water supply-connection to the pipeline passing to the treatment facilities, the device of electricity supply from existing networks, a heating system is installed, for example, electric convectors of the wall type.



Figure 2. Visualization of the logistics center.

It should be noted that the construction of logistics centers allows to optimize the production and processing of agricultural products. These processes provide a comprehensive development of raw materials, which has a positive impact on the economy. Suppliers of raw materials can be agricultural cooperatives, rural population, local farmers, representatives of the business incubator of the territory [10]. In addition, it is necessary to emphasize the mention of the activities of specialized organizations, which provide for the disposal of production waste with the conclusion of a contract. Synergy of this kind is aimed at improving the system of planning and forecasting of procurement volumes, but the most important thing for citizens living in countries where the model of public-private production is successfully implemented is to monitor the efficiency of audits and publish their results.

6. Results

The result of solving the tasks and possible ways of settlement, which are given above, is the conclusion that the activities associated with the construction of a logistics center for processing and marketing of agricultural products, does not need a single project implementation, but with the use of public-private production, so

- the project of the logistics center includes important sectors for the basic economy: food industry; processing of raw materials for light industry; construction, trade, services - these areas directly affect the welfare of the national economy;
- the specified strategy allows to come nearer to elimination of need for reduction of insufficient financing of agro-industrial complex from the state that can be realized by means of implementation of model of public-private production;
- the analysis of the characteristics of the required land plot and design features of the construction of buildings of the logistics center;
- the need to maintain a dialogue between rural entrepreneurs and major figures on economic issues in market conditions;
- PPP provides an effective way to implement agricultural facilities that justify investments with the prospect of profitable profits.

7. Conclusion

Having analyzed the organization and construction of logistics centers, we can talk about the convenience and benefits of implementing a mechanism that provides mutually beneficial cooperation for both sides of such an Alliance. Producers (farmers) receive a large profit from growing and putting the crop, increasing the number of jobs in the regions. The result will lead to the achievement of reducing the cost of storage and transportation of goods over long distances, as well as to eliminate the problem of finding timely buyers for products. The state benefits from saving reserves of budget funds and creates a safety cushion in case of crisis and dangerous situation in the country.

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