The foresight technologies as a tool for strategic planning of sustainable rural development

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Abstract. The article substantiates the need for the use of foresight technologies in the Russian practice of planning and forecasting sustainable development of rural municipalities. It shows the foresight methodology, which is used as a system tool for the formation and implementation of the development strategy of rural territories. The algorithm of strategic planning of social and economic development of rural territory of the region based on foresight technologies and the mechanism for its implementation at the municipal level are considered. It is shown that the nature of the municipal foresight is determined, on the one hand, by the need of taking into account the interests of key entities of regional development and, on the other hand, due to the obligatory interconnection of strategic priorities for the development of rural territories in long term. According to the results of the foresight study, the main directions of the introduction of digital technologies in rural areas and in the rural region are identified. The necessity of using foresight technologies for the development of a roadmap and the strategy for the development of rural territories of the Republic of Bashkortostan.

1. Introduction

Today, the interest to the scientific community in the problems of sustainable development in rural areas, the ability of agro-organizations to survive and adapt to changes in the external environment, taking into account the high degree of uncertainty and the reduction of the regulatory role of the state, is growing in the Russian Federation. The new paradigm of sustainable development of rural areas of the Russian Federation determines the rational use of natural resources, increasing the efficiency of production and economic activities of agricultural organizations, solving the problem of increasing employment and a significant increase in incomes of the population [1, 2]. In the context of the difficult social and economic situation in this country and the imposition of sanctions by the United States and its allies, the transition of rural areas to the path of sustainable development is an important and relevant area of modern scientific research.

There is an active discussion on fundamental issues and the conditions for the transition of rural areas to the vector of sustainable development among domestic scientists. At the same time, there is no unified position on the assessment of progress towards the concept of strategic development of rural areas. Polar methodological approaches to the development of social and economic programs for rural development exist, a contrast assessment of their alternatives and the viability of the compiled agricultural development projects is given [3, 4]. The problematic of sustainable development of rural
areas is determined by the versatility and dynamism of various scientific approaches to its solution. In our opinion, the new paradigm of sustainable development of rural areas should be based on a concept that would widely use a systematic approach and modern foresight technologies.

Today, foresight, its heuristic, organizational and managerial potential are actively used in economically developed countries as an effective tool for strategic planning at the regional and municipal levels [5-7]. Unlike classical planning methods that are more «guessing» oriented, the result of foresight research is a map of the future that visualizes the economic space and allows to consider alternative methods and ways to achieve the desired result [8, 9]. However, despite the growing interest of the scientific community to the problems of using foresight and with a number of domestic foresight studies, many methodological issues of the foresight remain unresolved, are controversial, insufficiently studied, and determine the scientific study of the research topic.

2. Results and discussion
The Republic of Bashkortostan belongs to the regions in the Russian Federation with a developed network in rural territories, includes 54 municipal districts, 818 rural settlements and 4,532 rural settlements in its territorial structure [10]. Rural areas are the most important part of the national economic complex in the republic and their sustainable development is a main task.

The region has a great natural and resource potential, which, with effective use, can ensure sustainable development of rural areas [11, 12]. The predominant part of the territory under consideration possesses enough bioclimatic and soil resources that make it possible to form stable prerequisites for the development of agricultural production sectors and a high degree of food security for urban and rural residents. The leading areas of specialization of the agricultural sector of rural areas are the following: grain farming, production of vegetables, potatoes and other crops, dairy and meat cattle breeding.

In 2018, the Republic of Bashkortostan took the second place by the volume of gross agricultural output among the regions of the Volga Federal District, and the seventh place among all regions of the Russian Federation. At the same time, according to statistical data, the share of the agrarian sector of the region in the total output of agricultural production in the country amounted to 2.9% for grains, 2.6% for sunflower, 3.3% for sugar beets, for vegetables - 2.3%, potatoes - 3.4%, milk - 5.9%, meat - 2.9%, eggs - 2.2%, honey - 8.8% [13]. During the same period of time the region took the fifteenth place in terms of the gross volume of sunflower production, the twelfth place for vegetable production, the fifth place for the production of potatoes, the nineteenth place for the production of fruits and berries comparing with other territorial entities of the Russian Federation.

In 2018 the Republic of Bashkortostan took the first place among the territorial entities of the Russian Federation for cattle, the thirteenth place - for pigs, the third place for the number of horses, the ninth place for sheep and goats. For the comparative period the Republic took the first place in terms of the gross production of milk and honey among all the territorial entities of the Russian Federation, the ninth place for meat production, the twentieth place for eggs production, and the seventh place for wool production [13]. The problem of achieving sustainable development in rural areas of the Republic has an integral character, as it accumulates the key aspects in the development of the agricultural sector economy, food production and agricultural raw materials, the development of the social sphere and rural infrastructure. The designing strategy for sustainable development in rural areas of the region determines the use of foresight technologies.

In our opinion, it is necessary to consider multifunctional processes occurring in rural areas when forming this strategy. The multifunctional nature of sustainable rural development is determined primarily by a significant increase in the level of economic efficiency of agroformation production activities, the creation of new jobs in agricultural organizations, growth in the production of basic types of food, and ultimately it affects the increase in income of agricultural producers. As a result of improving the economy of rural areas, a multiplier effect is formed, which will manifest itself in the sustainable development of the social component of rural areas, improving the level and quality of life
of rural residents. An algorithm for strategic planning of rural territories based on foresight technologies presented in figure 1 has been developed.

**Figure 1.** The algorithm for strategic planning of rural territories in the region based on foresight technologies.

It is important to emphasize that during the foresight study of the economic development in rural areas, the special attention was paid to the functioning of agricultural industries in the formation of innovative and digital economy. The foresight technology research of economic development in rural areas of the region includes the following components:

- The assessment of the current economic condition in rural areas and identification of the strategic vision of their future sustainable development.
- The monitoring the application of innovative and digital technologies and assessing the needs of their use in rural areas and future economic development.
• The planning and implementation of innovative and digital technologies in the practice of management in rural development of the Republic.

In the implementation of this stage, the scenario options for the development of agriculture are formed on the basis of expert evaluation of the introduction of promising innovative and digital technologies. For example, as a result of the foresight study, promising areas of digital technologies implementation in agriculture and rural areas in the Republic of Bashkortostan were identified (figure 2).

The mechanism of strategic planning of sustainable development in rural areas on the basis of foresight technologies in the process of its implementation procedures is based on the coordination of the interests of all stakeholders (representatives of municipal authorities, the public and business). Strategic planning of rural development based on foresight technologies helps to identify unique activities for specific rural municipalities as «poles of growth» and create a brand of municipalities. The nature of the municipal foresight is determined, on the one hand, by the need to take into account the interests of key entities of regional development and, on the other hand, due to the obligatory interconnection of strategic priorities for the development of rural territories in the long-term perspective.

3. Conclusion
The key indicators of foresight in the system of strategic planning of sustainable development in rural areas will be an imperative of scientific justification of measures of implementation of economic and social policy of municipalities. Applying foresight in the practice of strategic planning for the development of rural territories will help to bring rural municipalities to a qualitatively new level of sustainable development. The use of foresight technologies will enable local authorities to assess the potential and reserves of rural territories, taking into account unique features, to shape their future image and develop practical measures to achieve this image. From the point of view of the image component, due to the development strategy and the calculated future, the image of the rural territories will improve, which, in turn, will directly affect their investment attractiveness. The introduction of foresight research technology in the practice of management of rural areas determines the possibility of «Desk» diagnostics and improves the effectiveness and quality of the process of municipal management of rural development.

The results of the study help to form the outline of the "road map" for the implementation of the policy of sustainable development in rural municipalities in the region in the context of the formation of the digital economy. Proposed in the present paper methodological approaches to the use of foresight technology in the design of strategies for sustainable development in rural territories of the Republic of Bashkortostan can be used for the development of strategic programs for the sustainable development of other regions of the Russian Federation.

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