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## **Regional planning of land resources uses and conservation in the Russian Federation**

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### **Abstract**

The purpose of the research is to study the potential of regional planning schemes use as an organizational basis for the rational use and conservation of all lands via the statistical data characterizing qualitative and quantitative indicators of the research object. As a result, according to the developed schemes which we analyzed, there is

an unreasonable decrease in rural areas. In conclusion, in the future, a significant reduction in the area of agricultural land is expected as they will be used for housing, industrial needs, transport and recreation purposes.

**Keywords:** Regional, Planning, Area, Land, Scheme.

## Planificación regional de usos y conservación de recursos de tierras en la Federación Rusa

### Resumen

El propósito de la investigación es estudiar el potencial del uso de esquemas de planificación regional como base organizativa para el uso racional y la conservación de todas las tierras a través de los datos estadísticos que caracterizan los indicadores cualitativos y cuantitativos del objeto de investigación. Como resultado, de acuerdo con los esquemas desarrollados que analizamos, hay una disminución irrazonable en las áreas rurales. En conclusión, en el futuro, se espera una reducción significativa en el área de tierras agrícolas, ya que se utilizarán para fines de vivienda, necesidades industriales, transporte y recreación.

**Palabras clave:** Regional, Planificación, Área, Terreno, Esquema.

### 1. INTRODUCTION

Russia has solid experience in the development of economic sectors planning, territories and activities on organizing the use of natural resources. Up to 1990 plans had to be carried out, as they were part of state programs. The main organizational form of plan implementation were regional planning schemes and land management plans for administrative unites general development plans for cities,

and planning projects for rural settlements (KLEIN, DEKKER & VAN ZANDEN, 2017).

In the early-to-mid-20th-century land use and conservation planning on the basis of regional projects planning got a lot of play in Russia as well as in many foreign countries (IANBUKHTIN & STAFIICHUK, 2018; AKBULUT, OZCEVIK, & CARTON, 2018). During socio-economic reforms initiated in Russia in 1990 planned development of national economic sectors was replaced by market relations. At that time there were adopted the law on State forecasting of social and economic development of the Russian Federation Federal Law No. 115 of 20.07 1995, and the law on Strategic planning of the Russian Federation Federal Law No. 172 of 20.06 2014. Instead of state planning the laws warranted socio-economic development forecasts and concepts working out. Order of the Russian Government No. 1662-R of 17.11, 2008 approves the first concept of long-term social and economic development of the Russian Federation for the period up to 2020 (LOIKO, 2000).

The order of development and content of land management schemes is determined by the Federal Law No. 78 of 18.06 2001 on land management. The City Planning Code in its turn determines regional planning schemes. In order to realize the City Planning Code, several subordinate laws were drafted, and investments in regional planning schemes development were made (MUSTAFIN, RYZHKOV, SULTANOVA, KHABIROV, KHASANOVA, ZAGITOVA,

ASYLBAEV, KUTLIAROV, ZUBAIROV & RAJANOVA, 2018).

The land is the material basis for all activity areas and even for human being. In this regard, when using land resources especially those of agricultural purposes, the problems of regional planning are relevant at the present stage of social development. Thus, the aim of the research is to determine the current state and prospects for regional planning development of land resources of the Russian Federation, their use and protection. To solve these tasks complex approach should be applied taking into consideration current state and land use prospects. At the same time, industrial needs and the interests of agriculture, as well as social and demographic aspects are of great importance too (KIM, BURNETT & GHIMIRE, 2017: MATANDARE, 2018).

## **2. METHODOLOGY**

Regional planning schemes of municipalities as a whole across the Republic of Bashkortostan, and also the statistical data characterizing qualitative and quantitative indicators of the research object were used to make the analysis. The analysis of regional planning schemes was carried out on the basis of the following criteria:

- The level of interrelation between land and food resources;

- The degree of scientific ideas development by reference to territorial planning;
- Legal and information framework for regional planning;
- Content of territorial planning schemes at the regional and municipal levels of government;
- The interrelation between regional planning schemes and schemes of land management at different levels of government.

The following methods were used during the research: logical analysis; the statistical and economic method for the analysis and processing of statistical indicators; modeling method.

- The schemes have been developed on the basis of the following initial data:
- There are 54 municipal districts and 9 city districts in the republic.
- The total area of the republic is 14,294.7 hectares;

As of January 1, 2014, the population is 4,069.7 people, of which 2,499.9 people are (61.4%) considered urban population, and 1,569.8 people (39.6%) are considered rural population;

The planning structure of the land use planning scheme is based on the development of settlements radially directed from Ufa and located along the main transportation lines and the largest waterways (Figure 2).

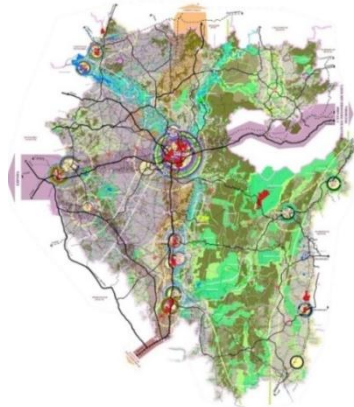


Figure 2: Project plan of the regional planning scheme

Perspective development indicators for the agro-industrial complex (AIC) in the republic are determined based on the projected population size for the estimated period and by reference to scientifically based nutrition standards per capita, taking into account the needs of domestic and foreign markets.

### **3. RESULTS AND DISCUSSION**

The regional planning scheme of the Republic of Bashkortostan



for the period up to 2020 was developed for the first time in 2005 by the Leningradskii Promstroii proekt Private Limited Company (St. Petersburg). The scheme was approved by the Order of the Government of the Republic of Bashkortostan No. - 130-R. of 27.02, 2006. The analysis of the main scheme indicators and statistical data showed that the projected indicators of the development of industry, agriculture and population were below the achieved level. At the same time, the number of people engaged in the economy, housing and utilities, as well as the length of railways and roads, the number of students in schools was lower than the projected indicators. That made it necessary to apply the change in the scheme.

Greater emphasize for the agro-industrial complex development in the republic was placed on the growth of large agricultural holdings and agricultural firms. At the same, time peasant farms, personal subsidiary farms, as well as entrepreneurs' farms, should be also kept. The total volume of new construction projects in the republic by the target date is calculated on the basis of the population size and the norm of average housing supply which is 28. 5M<sup>2</sup> per person. The annual construction area to be built should be 3.8 million m<sup>2</sup>.

The following housing construction structure has been proposed: - 30% of density housing, and 70% of a private housing building. Design construction density: 6,000 -11,000 sq m/ha for density housing, 1,200-1,500 sq m/ha for private housing building. 21-22 thousand hectares of land are required to implement the planned

volumes of new housing supply, which is not illustrative of careful attitude to land. It is appropriate to increase building-up density and the number of stores in buildings.

The recommended proportion of housing types by comfort is - 30% of special standard housing, up to 60% and higher of better-quality housing, and 10% of highly comfortable housing. The European standards of residential penetration (32-35 square meters of total area per person) are expected to be achieved by 2025-2030.

Current City-Planning standards determine the need for educational, upbringing, healthcare, cultural, physical training and sports facilities, as well as for the institutes of people's social protection taking into account the planned population size of the republic. The need for pre-school educational institutions is 165-200 thousand places while childcare facilities can receive 70-85% of city children and 50-65% of rural children. The need for educational institutions makes up 465 thousand places.

Considerable attention in the regional planning scheme is paid to environmental issues. Pollutants of more than 4 thousand industrial enterprises and organizations in the republic are discharged into the atmosphere. Water in the rivers of the republic is characterized as dirty and very dirty as its quality was formed under the influence of wastewater of enterprises of metallurgical, oil refining, petrochemical, chemical, energy, machine-building industries, agricultural enterprises,

cities, and towns. There are more than 1 billion tons of metal mining waste in the republic which requires further processing (KHISAMOV, FARKHUTDINOV, IUMAGUZHIN, ISHBULATOV, MUSTAFIN, GALEEV, KUTLIAROV & RAKHMATULLIN, 2018).

The problem of population waste collection and treatment has not still been solved, especially the recycling of mercury-containing fluorescent lamps. The existing system of solid waste management (SWM) in the Republic of Bashkortostan is the disposal of such waste in municipal dumping or waste disposal sites. There are 2,428 undeveloped municipal dumpings for SWM on the territory of the Republic of Bashkortostan occupying the area of more than 1,800 hectares. The systems of waste collection, transportation and disposal do not work in many rural districts of the republic. 43 waste disposal sites have been put into operation in order to ensure safe disposal of waste in the republic.

An improved regional planning scheme was approved by the Government Order of the Bashkortostan Republic No. 289 of August 5, 2015. It is a comprehensive document of the urban development of the republic. The absence of a unified integrated scheme of regional planning of Russia, especially in regards to placing linear infrastructure facilities (federal roads, oil and gas pipelines) had a significant impact on the quality of the regional planning scheme development of the republic. Legal framework, the quality state, and land use influence greatly on the regional planning schemes content.

However, these issues were not adequately reflected in the regional planning scheme. At the same time, land management schemes of regions and rural districts, which can be applied for new forms of land management, have not been developed (KHAMALETDINOV, GABITOV, MUDARISOV, FARKHUTDINOV, & SHIROKOV, 2018).

Materials of regional planning schemes are presented as text and graphic schemes. The text scheme is an economic study of design solutions. The graphic scheme (diagram) demonstrates the location of the designed objects and activities on the territory of the republic. The scheme is appended with annexes. The text scheme contains the following sections:

- General characteristics of the republic as an object of regional planning (historical features of the territory, place in the system of the Russian Federation and the Federal district);
  
- Analysis and assessment of natural, environmental and socio-economic conditions, infrastructure and trends in the territorial development;
  
- Design decisions and their justification based on the development of the transport system and engineering infrastructure, nature protection, prevention of emergency

situations of natural and technogenic character, preservation of objects of historical heritage;

- Priority investment projects. Main technical and economic indicators of the project.

Many subsections are detailed. Thus, for example, characteristics of the landscape, climate, hydrological and hydrographical conditions are given in subsection 2.1 Natural conditions. Transport infrastructure has been analyzing. Based on the analysis, we have formulated proposals for the development of the transport system, which include rail, road, air, inland water, and pipeline transport, as well as logistics service.

In a similar way, proposals to improve engineering infrastructure have been formulated: power supply, heat supply, water supply, and sanitation, waste disposal and recycling. At the end of text scheme there is a feasibility study of design solutions. Graphic materials are made at a scale of 1 in 200,000 and 1 in 500,000, and contain the maps as follows:

- A map of the current territorial use;
- Natural resources potential map of the territory;
- A map of the areas with special territorial use conditions;

A map of planned changes in the boundaries of municipalities, agricultural lands and specially protected natural areas of regional significance;

- A map of the zones of planned capital construction facilities;
- A map of engineering infrastructure development.

The results of the research forcefully prove that the basic principles of the regional planning scheme of the Republic of Bashkortostan are realized in various target programs. Eight investment projects are to be completed in our republic in 2019. Their total cost is 8.7 billion rubles. The largest project is the construction of a livestock complex for 2,800 cows with an annual production volume of 26.7 thousand tons of milk. The building works are carried out by EkiNiva agricultural holding. Nine more projects with an investment of 23 billion rubles will begin in 2020.

Another national project Affordable and comfortable housing for Russian citizens is being successfully implemented in the republic. Within this project scheme implementing tasks should be solved. The program Development of health care in the Republic of Bashkortostan for 2013-2020 has been adopted. The total amount of the program budgeting is 647,188,257.9 thousand rubles. The objectives of the program are to reduce mortality, increase life expectancy to 74.2 years, which is also consistent with the basic provisions of the regional

planning scheme of the Republic of Bashkortostan.

The research results were reported at International and All-Russian scientific conferences (Moscow 2014, 2019; Ufa 2014, 2015, 2016, 2019; Saratov 2014, 2016; Voronezh 2016; Tula 2016; Penza 2016; Belgorod 2019; Yekaterinburg 2019) and published in the proceedings of the conferences. The research we made provides the basis for the following conclusions and proposals.

#### **4. CONCLUSIONS**

The City Planning Code defined the content and procedure for developing, coordination and implementation of regional planning schemes (RPS) at the federal, regional and local levels of government. The Government of the Russian Federation in its turn determined technical requirements for regional planning scheme and allocated funds for the implementation of these works. But the procedure of the use and protection of rural lands and forestry fund lands is not determined by the Civil Code of the Russian Federation. These lands constitute 2/3 of the territory of most subjects of the Russian Federation. They should be definitely taken into account. Otherwise, it will be impossible to ensure sustainable development of the territory. Prospective use and protection of agricultural land are defined in the schemes of land management of the Russian Federation, its subjects and municipalities. The content and procedure for the development of

land management schemes are defined by Federal Law No. 78 of 18.06, 2001 of the Russian Federation on land management but the norms of these laws are not agreed. The works on land management schemes development stopped in 1993. The law itself is being amended.

The analysis of the regional planning schemes of the Republic of Bashkortostan and of municipal districts show that in the future a significant reduction in the area of agricultural land is expected as they will be used for housing, industrial needs, transport and recreation purposes. Such a situation is difficult to justify. Lands should not be completely used for those purposes, and it is necessary to find ways to reduce the seizure of fertile land for that purpose. All the schemes should be adjusted in order to conserve agricultural land.

Throughout the land reform initiated in 1990, large agricultural enterprises (collective and state farms) were reorganized into smaller land business patterns such as peasant farms, cooperatives, partnerships, and companies. However, the land they own as the main means of production is not organized for rational use and protection. As a result, the volume of agricultural production has been significantly reduced compared the original volume of 1990. There is an urgent need to resume work on the survey and organization of agricultural land use and protection.

The regional planning scheme of the Republic of Bashkortostan



has been developed based on extensive and reliable information on the status and use of natural and labor resources, plans and programs for socio-economic development of sectors of the economy. It served as a good organizational basis for the development of regional planning schemes of municipal districts and general plans of rural areas, as well as for developing student training manuals.

During the research, we have revealed the need to apply changes to the schemes of regional planning and to restart the works on the land management schemes development.

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