

# Comprehensive approach to assessing resource potential of rural territories (on the materials of the Ishim district of the Tyumen region)

Elena Evtushkova\*, and Ekaterina Lesnichaya

State Agrarian University of the Northern Trans-Urals, Tyumen, Russia

**Abstract.** The article is devoted to the topical problem of rational and efficient use of rural areas. The development of rural areas depends on many factors: natural and climatic, socio-economic, environmental pollution, anthropogenic factors, etc. An integrated approach will determine the integral potential of the municipal district. Today, a comprehensive methodology is widely used in order to cover as many indicators as possible for a more detailed study of the current situation. The point score does not always reflect the required level of detail of the feature. Under the score, information is encoded that characterizes the feature to one degree or another. When using a point scale, components identical in characteristics are formed into one group. The methodology of an integrated approach to the assessment of rural areas has not been sufficiently studied, and it is also necessary to develop a set of measures to increase investment attractiveness, which will make it possible to make the right organizational and managerial decisions at the regional and local levels.

## 1 Introduction

Planning and organizing the rational use of rural areas is a relevant current topic, since the potential of rural areas needs to be developed and new investment sites must be for the development of the municipal district. Therefore, it is necessary to develop an integrated approach to the assessment of rural areas in order to make sound organizational and managerial decisions at the municipal level [1].

*Purpose of research:* organization's analysis of the rural areas' use of the Ishim region.

*Object of research:* the Ishim district territory of the Tyumen region.

*Subject of research:* an integrated approach to the assessment of rural areas.

The assessment of the resource potential in a particular municipal district is determined by natural and climatic, socio-economic, land resources, environmental pollution, anthropogenic load and many other factors that affect the prospects for the further development of territories.

In modern conditions, the investment potential development of municipal districts takes one of the leading places. Territorial development depends on the potential of the territory. With federal investment support of the constituent entities of the Russian Federation and

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\* Corresponding author: [Elena.evtushkova17@yandex.ru](mailto:Elena.evtushkova17@yandex.ru)

municipalities, the investment activity and attractiveness of the region increases [2].

The work uses an integrated approach to assessing rural areas at the municipal level. This method will reveal the potential not only of the entire municipal district, but also of each rural settlement.

To solve environmental problems in the AIC, it is necessary to combine the use of natural resources with environmental protection measures. Environmental protection in agriculture should be one of the priority components. [3].

Sustainable development of the territory is based on environmental, social, economic and urban planning criteria. A comprehensive assessment makes it possible to fully assess the influence of all factors and form the concept of sustainable rural development [4, 5].

The task was to analyze natural and climatic, socio-economic and land resources, as well as to reveal the potential of the given region.

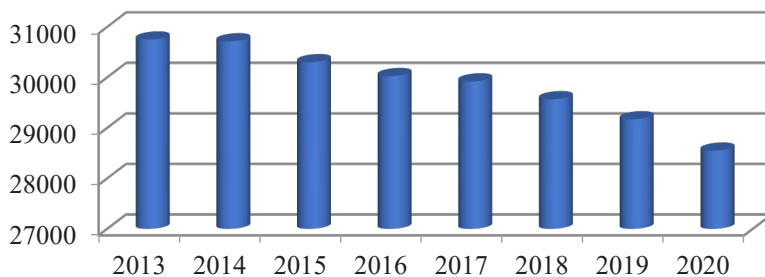
In addition, an integrated approach will make it possible to determine the agricultural sector's specialization of the municipality and use the results for management decisions at the regional and local levels.

## 2 Materials and methods

Ishimsky district is an administrative-territorial unit and a municipal formation in the Tyumen region.

It is located in the south of the region on the left bank of the river in the forest-steppe zone of Western Siberia, 290 km southeast of Tyumen. It is located at the intersection of the Trans-Siberian railway and the federal highways West-East and North-South [6,7].

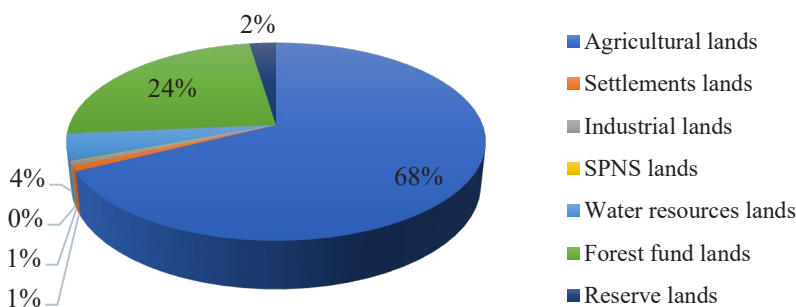
According to the Federal State Statistics Service, the average number of employees in the organizations of the Ishim municipal district as of 01.01.2020 was 2.8550 thousand people [7].



**Fig. 1.** Dynamics of the population of the Ishim region.

In the Ishim region, there is a systematic decrease in the population due to the outflow of the population and natural decline.

The area of the Ishim district's territory as of 01.01.2020 is 544 390 hectares, the population density is 5.24 people/km<sup>2</sup> [8].



**Fig. 2.** Land fund of Ishim district by land category.

Within the framework of the proposed methodology, a comprehensive assessment of the natural-climatic, socio-economic and land resources of rural settlements of the Ishim region was carried out.

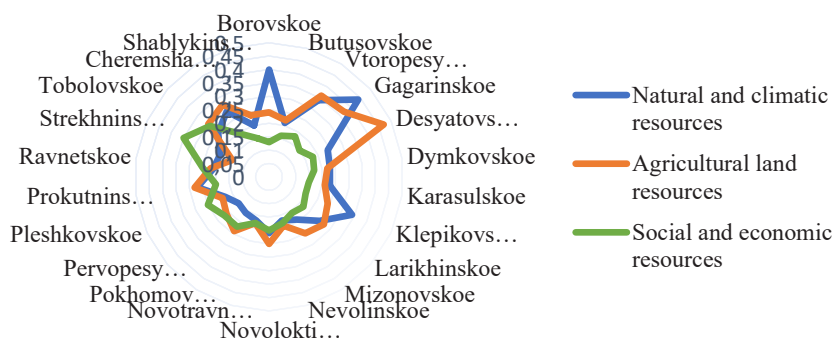
In the course of the research, twenty-two rural settlements of the Ishim region were analyzed.

### 3 Results and discussion

Considering the potential of the natural and climatic resources of the rural settlements of the Ishim region, Borovskoe, Gagarinskoe, Klepikovskoe rural settlements have the highest rating (0.45-0.35). Butusovskoe, Mizonovskoe, etc. showed low potential (0.1-0.2) (Figure 3).

Analyzing the calculated potential data of socio-economic resources of Ishim region's rural settlements, it is clear that the highest potential (0.35-0.25) is shown by Strehninskoe, Tobolovskoe, Ravnenskoe, Pleshkovskoe. Low potential (0.1-0.2) accounts for 81.8% of rural settlements, which suggests that these territories need to provide for a set of measures for these territories' development.

The resource potential of agricultural land is led by Desyatovskoe and Voropesyanovskoe villages, while 91% are occupied by rural settlements with low potential.



**Fig. 3.** Resource potential of rural settlements of the Ishim region.

Comparing the values of all potentials, the integral indicators of rural settlements of the Ishim region show a significant difference in the estimates. When using this technique, it is clearly visible which rural settlements are promising and which do not have the necessary infrastructure, transport accessibility, etc.

The results obtained in the process of a comprehensive assessment were used to assess the rating of rural institutions in terms of integral potential (Table 1).

Calculation of the integral potential of the Ishim region for the development of agricultural lands amounts to 0.69, which says that the level of potential of the Ishim region is above average. It can be concluded that this area is promising for the development of agriculture.

In addition, no rural settlements with very low potential have been identified.

**Table 1.** Grouping of rural settlements by potential levels.

Potential level	Name of the rural settlement
High	Borovskoe, Vtoropesyanovskoe, Gagarinskoe, Desyatovskoe, Prokutninskoe, Tobolovskoe, Chermshanskoe
Above average	Dymkovskoe, Klepikovskoe, Larikhinskoe, Mizonovskoe, Novoloktinskoe, Pokhomovskoe, Pleshkovskoe, Ravnetskoe, Strechninskoe
Average	Butusovskoe, Karasulskoe, Nevolinskoe, Novotravninskoe, Pervopesyanovskoe, Shablykinskoe
Below average	-
Low	-

## 4 Conclusion

According to the results of a comprehensive assessment, it is clear that this area is promising; it is necessary to pay special attention when making decisions regarding the development of rural areas. It is necessary to provide for state support, investment proposals, etc.

The formation of a high resource potential, mechanisms of state support for the territory of the district is a prerequisite for the rational use of land resources and rural areas.

Rural settlements with high socio-economic potential in which the infrastructure is well developed does not require large investments for the development of the territory. Therefore, it is primarily necessary to pay attention to these rural settlements developing investment potential, which will allow using the organizational and economic mechanisms for the development of the Ishim region's territory.

Thus, a comprehensive assessment will allow to identify the most attractive territories. By combining one level of resource potential, it is possible to group rural settlements and thereby strengthen the capabilities of the municipal district.

The results of the comprehensive assessment will make it possible to give recommendations for the further development of rural areas and the region as a whole (to compare the values of the resource potential of rural settlements of the Ishim region.)

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