The economic and geographical analysis of the spatial organization of economic activity of the Soyots (indigenous people) on the Eastern Sayan territory

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Abstract. The Soyots (indigenous minorities) live in a remote mountainous area of the Baikal region within the limits of the Okinsky District, the Republic of Buryatia. The main type of economic activities of the soyots is the traditional use of natural resources. In this study, we have carried out economic and geographical analysis of the spatial organization of economic activity of the Soyots on the Eastern Sayan territory. Some researchers consider that the traditional use of natural resources by indigenous people is a vulnerable social and economic system, which requires state support and cautious attitude. Traditional farming and traditional lifestyle are the indispensable living conditions for indigenous people. The possibility of their survival and development in modern conditions is an important problem to be addressed. The study of the current form of the traditional use of natural resources is a priority and needs to be analysed, considering modern social and economic conditions. In a time of industrialization, large-scale development of natural resources of the Eastern Sayan resulted in disturbance of such territories. The Government of the Republic of Buryatia and administration of the Okinsky District have important tasks to preserve the unique area, where the Buryat and Soyot ethnic groups live and create conditions for rational use of natural resources. Unique climatic conditions in the Okinsky District are suitable for both reindeer breeding and cattle farming. The analysis of ethno-economic systems has revealed the areas characterized by the traditional use of natural resources and its spatial-temporal aspects on the Eastern Sayan territory.

1. Introduction
Under the Decree of the Government of the Russian Federation No. 255 “On the Unified List of Indigenous Minorities of the Russian Federation” of March 24, 2000, the Soyots, constituting 60.2% of the population of the Okinsky District, were recognized as an indigenous minority [1]. By order of the Government of the Russian Federation No. 536-p of April 17, 2006, the Soyot people were included in the List of Indigenous Minorities of the North, Siberia and the Far East of the Russian Federation [2].

Traditional forms of nature management of indigenous peoples have recently been considered as fragile relict socio-ecological systems that need state support and solicitous attitude from society. The preservation of the traditional fishing industry and the traditional lifestyle of indigenous peoples is a necessary condition for their existence. The possibility of their survival and development in modern conditions is an important scientific and social issue, which is still far from being resolved [3].
2. Models and methods
The study is aimed:
To conduct an economic and geographical analysis of the territorial organization of the Soyot economy in the Eastern Sayan.
To explore contemporary forms of traditional nature and highlight areas of the development degree and potential.
To reveal the spatial and temporal aspects of the traditional nature management of the Eastern Sayan Mountains on the example of the Soyots.

3. Results and discussion
The study of the preserved form of traditional nature management is an urgent task and requires a comprehensive analysis under modern conditions of socioeconomic transformation.

The history of the development of the Soyot economy can be divided into four stages:
1. The period before the Russian reclamation: in the middle of the first millennium B.C. Turkic-speaking cattle-breeding tribes appeared in Central Asia; they pushed some of the Samoyeds to the north-west, and the remaining population was assimilated. The Soyots are still native speakers of the Turkic language [4].
2. The period of the Russian Empire: approximately 300-400 years ago, they moved with their herds of deer, first to Tunka, and then, to Oka from Mongolia, from the vicinity of Lake Khovsgol, where they lived in the Darkhad somons of Khankh and Uuri. Most of the Soyots who had domestic reindeer moved to the ridges along the upper reaches of the Oka and Irkut rivers since there were more suitable conditions for reindeer husbandry and hunting as traditional Soyot occupations. A part of the Soyots remained in Tunka and took up farming and cattle breeding [5-7].
3. Soviet period: the greatest damage to the Soyots associated with the destruction of their traditional culture was the elimination of reindeer husbandry in the area as an unprofitable and unpromising industry and the transfer of hunting activities to state farm. Over the years, the Oka Soyots, having absorbed the culture of the two ethnic groups, developed highland cattle-breeding: yak breeding and taiga reindeer herding, and were engaged in hunting. With the elimination of reindeer herding and the transfer of hunting to the state farm, the symbiosis of the two cultures was destroyed and the vast territory of the district, the so-called taiga and locust zone, the traditional places of residence of the Soyots, was withdrawn from economic circulation [8].
4. Post-Soviet period to the present: reindeer herding and hunting lifestyle has practically disappeared and remained only in the memory of the older generation of the Soyots [9].

3.1. Perspective directions of the economic activity of the Soyot people
The Okinsky District is characterized by difficult climatic conditions, a variety of minerals and forest resources. A feature of the East Sayan is the rare mountainous terrain, high seismicity, severity of climatic conditions with sharp temperature drops during the day, almost universal distribution of permafrost, which has a decisive influence on farming, especially in rural areas.

In the era of industrialization, the territories of traditional nature management begin to collapse due to the large-scale development of the natural resources in the East Sayan. The Government of the Republic of Buryatia and the administration of the Okinsky District face important tasks not only to preserve the unique territory where the Soyot and Buryat ethnic groups live but also ensure conditions for rational nature management. The creation of ethnoecological territories or territories of traditional nature management may serve as some of the measures.

As a result of the analysis of ethno-economic systems, we have identified areas of traditional nature management according to the degree of development and potential development areas.

The rural settlement Soyotskoe (occupies the highest southeastern part of the central plateau of the Eastern Sayan Mountains) corresponds to the traditional territory of the Soyots. Its territory covers the
The rural settlement Burungolskoye has a mountain pasture type of livestock: it is a valley surrounded by mountains. It covers an area of 273 sq. km in the northern part of the Eastern Sayan Mountains. The settlement is characterized by harsh conditions and inaccessibility.

The rural settlement Sayanskooye has a mountain pasture type of livestock farming and it develops natural and recreational potential; its settlement area is 241 sq. km. Approximately 80% of the land is woodland. A large area of woodland is in pristine condition. The use of forest resources for production purposes is inefficient; the estimated cutting area decreases every year. There is a clay deposit in the area of Shasnur, which is located in 25 km from the center of the settlement. The territory of the settlement is rich in water resources. There are a number of therapeutic mud, mineral springs and historical monuments, such as Topographers’ Peak, Volcano Valley, hardened lava, etc. On top of Mount Khan-Uul, there is a suburgan, in the valley Sintsyn Tala there is a totem sign of Khongodors tribe, which became a place of pilgrimage for the inhabitants of the area [10].

Next, we consider two promising directions of economic organization of the Soyots: reindeer breeding and the use of the recreational potential of the Eastern Sayan territory.

Reindeer husbandry. Now that the Soyots have gained every opportunity to revive as an independent ethnic group with their type of economy and culture, interest in reindeer husbandry has rapidly increased. However, since the tradition of reindeer herding has been artificially interrupted and has been missing for a long time, reindeer breeding had to revive with the help of neighboring Tofalars, who in 1994 had purchased the deer and who still engage in reindeer husbandry, cattle breeding (yak breeding) and hunting. Until today, they have maintained and developed the traditional lifestyle of the people.

On the territory of the rural settlement Orlikskoye, traditional nature management with livestock breeding plays the leading role. The territory is a mountainous area, a significant part of which is occupied by woodland (approximately 5800-5900 sq. km or 39% of the settlement). Significant areas of agricultural land, forest fund, the developed hydrographic network and mineral resource base represent natural resources.

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The Soyots, despite the great influence of the Buryat culture, have kept reindeer husbandry as the basis of their economy. Being in this territory, the Soyots for the first time laid the foundation for the formation of reindeer herding culture in North Asia. On the territory of the Okinsky District over three centuries, a symbiosis of two economic and cultural types formed: pastoralists and herders of mountain taiga zones; each of them occupied its landscape niche, which caused the peaceful coexistence of the two ethnic groups.

The remoteness and isolation of the district helped to preserve the original culture of the indigenous people. Being nomads, the Soyots move across the region from two to ten times a year, depending on the condition of the food supply of deer, yaks and cattle. This nomadic way of housekeeping left its mark on the entire life of the Soyots [12].

The unique natural and climatic conditions of the Okinsky District suitable for hunting and reindeer herding and livestock farming make them clearly defined. The Irkits, Soyots and Haasuts, being hunters and reindeer herders, are concentrated in the highest part of the region, that are traditional for reindeer husbandry upper reaches of the Oka, Irkut, Belaya and Urik, which they occupied in 17th century [13].

Recreation and tourism. The territory of the Sayanskooye settlement has the opportunity to develop tourism activities. Currently, tourists visit the mineral springs of Khooyo-Gol, Zhoygan, Halun-Ugun, Valley of volcanoes, mountain Khara-Shulun, Handagay Shulun waterfall, Zhombolok waterfall, Lake Khara-Nur, and Lake Tulata Nur [14].

Currently, Oka plateau becomes a zone of attraction for many tourists. An important task is the development of ecological tourism, which is essentially a scientific basis for the rational use of natural
resources, and it brings together many scientific fields: geographical, geo-ecological, biological, archaeological, ethnographic, socioeconomic, and others. Overall, generalization of information and assessment of the current ecological state in the region, taking into account anthropogenic pressures and the transformation of geosystems, will ultimately bring a positive result [15].

Scientists and public figures are developing the idea of creating a state national park. Within the framework of the environmental regime, the park can contribute to the development of ecological tourism and solicitous attitude to the unique natural environment of the East Sayan.

The National Park within the limits of its competence can solve the following tasks, among others:
- Development of an optimal regime and norms for the economic and recreational use of natural complexes;
- Restoration of disturbed natural landscapes associated with the development and mining of minerals;
- Preservation of traditional nature management;
- Organization of environmental education of the population as well as the promotion of environmental and regional knowledge.

At the same time, the national park is obliged to promote the protection of forests from fires, the conservation and reproduction of terrestrial and aquatic fauna, and reforestation. No less important is the obligation of the natural park to implement the functions of rational use of mineral springs [16].

The main tasks for the effective use of the recreational potential of the territory may include the following activities: the creation of a tourist center and guest houses; organization and arrangement of recreation places near mineral springs; information support of tourism development.

It is advisable to allocate territories for a mass recreation of the population subject to the following conditions:
- organization of temporary places of stay for tourists in compliance with fire safety rules;
- centralized collection and disposal of waste;
- organization of transport infrastructure;
- sustainable development of the territory with a caring attitude to unique environmental conditions;
- organization of environmental monitoring (state of forests, waters and coastal areas) [17].

4. Conclusion
As a result of the analysis of ethno-economic systems, we have identified areas of traditional nature management that differ in the development degree and potential. Using the example of the Soyots, we have revealed the spatial and temporal aspects of the traditional nature management of the Eastern Sayans. We have also determined the main stages of transformation of ethno-economic systems of traditional nature management of the Soyots.

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