

Ways to Increase the Efficiency of Using the Natural and Economic Potential of the Regions

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Abstract

The article discusses and gives detailed description to the competitive advantages and ways of the strategic development of the region. In particular, the agro-climatic conditions, desertification processes, water resources, land resources, fixed assets, industrial and social infrastructures, geographical location as well as issues of natural potential of strategic importance for the Republic of Karakalpakstan were discussed.

Keywords: *Competitive advantages, efficiency, natural economic potential, strategy, index, production infrastructure, water resources, land resources, assets, mineral raw material stock, labour resources, geographical location, international transit, raw materials, finished products, export.*

The region's competitive advantages and strategic development paths are primarily based on its natural and economic potential. The existing relative competitive advantages serve as a strong basis for the sustainable development of the region in the future. It should be noted that relative advantages, that is, some types of natural and economic potential, can have both positive and negative effects on strategic socio-economic development. This situation should be taken into account when developing scenarios and options for the development strategy. The natural and economic potential of the Republic of Karakalpakstan is distinguished by its own characteristics. The President of the Republic of Uzbekistan Sh.M. Mirziyoev stated that the negative impact of the coronavirus pandemic on the economy and people's lives, which has been occurring in the world in recent years, and its elimination in the conditions of Uzbekistan, are the most important tasks that must be carried out "to implement the tasks defined in the Development Strategy of New Uzbekistan"¹. From this point of view, special attention is paid to "Development of human capital, employment of the population, and further strengthening of social support of the population living in the Aral Sea region" (Table 1).

The Republic of Karakalpakstan has low potential compared to other regions in terms of water and land resources, fixed assets, production and social infrastructure. But meanwhile, the region is distinguished by the wealth of mineral resources, which are its relative advantages, and provides with high competitiveness.

¹ Decree No. PF-60 of the President of the Republic of Uzbekistan on the Development Strategy of New Uzbekistan for 2022-2026. 28.01.2022.

Table 1. Relative assessment of the natural and economic potential of the Republic of Karakalpakstan (index)

№	Types of competence	Republic of Karakalpakstan, (Uzbekistan - 1,000)	Interregional ranking
1.	Production infrastructure	0,618	14
2.	Social infrastructure	0,977	7
3.	Water reserves	0,330	14
4.	Land reserves	0,300	14
5.	Fixed assets	0,462	11
6.	Reserves of mineral raw materials	1,415	3
7.	Labor reserves	0,917	9

Source: Calculated based on data from the Institute of Forecasting and Macroeconomic Research.

Strategically important natural potentials of the Republic of Karakalpakstan are discussed below.

Agroclimatic conditions. The Republic of Karakalpakstan is located mostly in northern part of Uzbekistan, and the amount of solar radiation and thermal resources is relatively less compared to other regions of the country. Moreover, the region is favorable for cold air flows entering from the north. The region is adapted for conditions of a dry subtropical climate (Table 2).

Table 2. Opportunities of agro-climatic conditions in the Republic of Karakalpakstan (SWOT-analysis)²

Strengths	Weaknesses
Thermal resources are suitable for cotton, grain, rice, vegetables, fruits, fodder crops and medicinal plants.	Lack of water for irrigation and deterioration of its quality, salinity of lands, negative impact of desertification process on agro-climate, low productivity and efficiency in agriculture and lead drought.
Opportunities	Threats
Land reserves, Hot weather.	Rapid climate change, increasing desertification, the Aral Sea is disappearing beyond the letter.

Availability of thermal resources is relatively favorable (especially in southern zones) for heat-loving agricultural products such as cotton, grain, rice, sugarcane, fruit and fodder crops.

The process of desertification remains the main factor in the formation of the nature of the Republic of Karakalpakstan (Table 3). This situation is determined by the high air temperature in the atmosphere, low amount of precipitation, low underground water reserves. More than 90% of the area of the region is located in the desert zone. The main reason for the increase in desertification is the extremely decrease of the water level of the Aral Sea.

² SWOT-analysis is a widely used method in international practice, which reflects the positive and negative aspects of existing processes.

Table 3. System of indicators of desertification in the Republic of Karakalpakstan
(as of 2021)

Districts and cities	The number of days when the air temperature in the atmosphere is higher than +35° (more than 50 days)- security level	The number of days of sandstorms per year (more than 30) is the level of safety	Annual rainfall (less than 150 mm)- security level	Land groundwater reserves at least 0.045 m ³ /day per 1 person - safety level
Districts:				
Amudaryya	-	-	105	0,001
Beruni	51	-	104	-
Kanlikol	-	-	97	0,001
Korauzek	-	-	94	0,001
Kegeyli	-	31	94	-
Kungirat	-	-	121	0,001
Muynak	-	35	134	0,001
Nukus	51	-	101	-
Takhtakopir	50	-	101	-
Tortkul	51	-	105	-
Takhiyatash	-	-	106	-
Xodjeli	51	-	101	0,01
Shimbay	-	-	101	-
Shumanay	51	-	110	0,01
Ellikqala	-	-	108	-
City:				
Nukus	51	-	101	0,01

Source: calculated by the author based on the information of the State Committee for Ecology and Environmental Protection of the Republic of Uzbekistan.

Desert zones have their own flora and fauna, and their effective use still remains an urgent issue (Table 4).

Table 4. Opportunities of desertification conditions in the Republic of Karakalpakstan
(SWOT-analysis)

Strengths	Weaknesses
Development of animal husbandry adapted to desert conditions, including increasing the number of black sheep, camels, gazelles, and saigas.	Lack of water, low efficiency of pasture use, lack of special programs.
Opportunities	Threats
There are opportunities to plant crops which need little water, as well as to use desert plants used in the pharmaceutical and food industries. Export to foreign countries.	Rapid climate change, increasing desertification.

Cattle breeding and camel breeding develop only in desert conditions. Products based on them (cow hide, meat and dairy products) are in high demand not only in the domestic market, but also in the foreign market.

Certain desert plants (licorice root, konrak) are widely used in food, pharmaceutical, and perfume industries. In general, the effective use of the unique potential of the desert has a positive effect on the strategic development of the region.

Geographical location. The formation of competitive advantages in the region also depends on its geographical location. Unlike other regions of Uzbekistan, transport-geographic location is important for the Republic of Karakalpakstan.

Table 5. Opportunities of transport and geographical location of the Republic of Karakalpakstan (SWOT-analysis)

Strengths	Weaknesses
It directly borders on foreign countries (Kazakhstan, Turkmenistan) and has a high possibility of developing foreign economic relations with them. Among the regions of Uzbekistan, it is convenient and close to form economic relations with the European countries, including the regions of Russia.	The existing transport infrastructure and logistics are not good enough, there are many roads in need of repair and modernization.
Opportunities	Threats
Nukus International Airport is located nearby, and it has the potential to become a transit center connecting European and Asian countries	Very high prices of transport logistics. Non-compliance with world standards.

First of all, the region borders on the territories of Turkmenistan and Kazakhstan, and is characterized by convenient access to European countries, including Russia, and low transport costs.

Increasing the efficiency of using the Nukus-Kungirat-Beyneu-Astrakhan-Moscow railway, making good use of the potential of the Nukus-Kungirat-Beyneu strategic highway, and the high potential of the Nukus International Airport will pave the way for increasing the export potential through transit services in the future.

Transit competitive advantage creates favorable conditions for the use of cost-recovery features of transport-geographical location. In a certain sense, in the future, it is possible to carry out large-scale export-import operations for the delivery of goods from Europe to Asia (China, India, Pakistan, the Great Silk Road, etc.), including the Indian Ocean.

In general, the advantages of the transport-geographic location of the Republic of Karakalpakstan can be used in the strategic plan in the following directions:

- sharp increase of export potential of the region in terms of raw materials, semi-finished and finished products;
- expanding the scope of international transit cargo transportation;
- expansion of a number of new production capacities in order to reduce transport costs.

All this creates a clear opportunity to increase the competitiveness and strategic development of the region.

Reserves of mineral raw materials. The currently formed structure of the region's economy is disproportionate to the potential of rich mineral raw materials. Only 23 of the identified 62 mineral deposits (01.01.2021) are being used. If we take into account deposits of natural gas condensate, oil, iron, salt and sulfate salts in the region, the potential of existing mineral raw materials is high and has certain competitive advantages. The region also has deposits of precious stones, vermiculite, cement raw materials, agro-ore, and about 40 construction materials (limestone, gypsum, expanded clay, silicate brick raw materials) takes places.

In the future, the development of fuel energy industries in the country is largely related to the discovery and extraction of gas fields on the Ustyurt plateau and the Aral Sea basin. Ustyurt region has a very high chance of becoming the center of the largest gas and chemical complex in Uzbekistan. Currently, about 30 gas and gas condensate fields have been opened here. The largest of them are Karajambas, Northern Buzachi, Kalamkas, Lower Surgul and others.

A program for the development of geological prospecting for oil and gas has been developed in our country. According to this program, more than half of the gas reserves fall on the territory of Ustyurt. By the decision of the Cabinet of Ministers of the Republic of Uzbekistan, the program of carrying out geological exploration works in Ustyurt was approved. According to this program, it is planned to carry out deep drilling in more than 100 objects and they are allocated for foreign investors.

The main geological exploration works are being carried out in Akcholak, Kuanish, Farbiy Urgin, Aktumsuk, Nasambek, Shakhpakht investment blocks. The construction of the largest and only gas-chemical complex in Central Asia, worth 4.0 billion dollars, was completed and put into operation in Ustyurt. The capacity of the complex is designed to produce 400,000 tons of polyethylene and 100,000 tons of polypropylene per year. High ethane gas from the Surgul mine is being processed here. In accordance with the government's decisions, 700 million cubic meters of natural gas are planned to be produced in Orta Kuanish and Akcholak investment blocks by 2030. More than 1.0 billion dollars of investments are planned in order to further expand geological exploration works and increase gas production in the Ustyurt region.

Among the mineral deposits in the region, iron ores, copper and sulfate salts, and talc minerals that meet domestic and foreign demand are efficiently exploited. It is also planned to implement large investment projects in the field of metallurgy and implement 16 investment projects worth 1.6 billion US dollars.

In particular, attracting a foreign bank loan of 486.0 million dollars within the framework of 13 investment projects by the end of 2022 is planned. Development and approval of the "Road map"³ for the implementation of large investment projects in order to industrialize the existing iron (Tebinbulok, Syurenota) and tungsten (Southbay, Ingichka) mines and establish metallurgical enterprises in the Republic.

The amount of iron in the Tebinbulaq iron ore deposit (Korauzek district) corresponds to 16-18%, its forecast reserves are more than 1.1 billion tons. By using efficient technology, high quality steel can be produced from this mine. Currently, a development program for this mine has been developed. According to it, development of the mine will be carried out in two stages. This investment project with a total cost of 1.5 billion dollars is expected to be completed in 2024.

³ Decree No. PF-60 of the President of the Republic of Uzbekistan on the Development Strategy of New Uzbekistan for 2022-2026. 28.01.2022.

Annual ore production is 33 million tons (65% iron), 1.5 million tons of iron, 900 thousand tons of fittings, 375 thousand tons of steel is produced. The enterprise employs 2,000 people, 3.5% of the production is exported.

It is important to develop the rich mineral raw material reserves located mainly in the north of the region and to develop the social infrastructure facilities proportionately. It is also desirable to organize residential areas, to turn Kungirotdistrict, which is the center of mineral reserves, into a center of economic development and growth. There is every possibility to add it to the category of medium cities.

Among the competitive advantages of the Republic of Karakalpakstan can be included the existing recreational (leisure and tourism) potential. There are opportunities to develop historical architectural monuments related to world civilization, ecotourism, health-oriented mud treatment and other types of tourism services.

According to estimates, the rate of population growth in recent years (113.0%) almost corresponds to the country's indicators (115.0%), and by 2030 it is predicted to increase by 248,000 people. In the future, it is expected that the share of young people under the age of 0-15 will decrease slightly and the share of pensioners will increase.

In general, in the future, the Republic of Karakalpakstan will maintain a high demographic potential, and this situation will serve as an important strategic factor in sustainable social and economic development.

Taking into account the rapid development of industrial sectors in the future, maintaining the balance of demand and supply in the labor market, ensuring employment of the population should be an important direction of the development strategy. The increasing demand for highly qualified personnel makes it clear that the main attention should be paid to the education system. Special attention should be paid to ensuring the demographic safety of the population.

In general, the strengths (advantages) of the region's natural and economic potential serve as the main impetus for the scientific justification of the development strategy, the provision of high economic growth rates, and the further improvement of the population's standard of living.

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