



Available Online at EScience Press Journals

International Journal of Agricultural Extension

ISSN: 2311-6110 (Online), 2311-8547 (Print)

<http://www.esciencepress.net/IJAE>

NATURAL RESOURCE POTENTIAL OF INDUSTRIAL DEVELOPMENT OF THE TASHKENT ECONOMIC DISTRICT

^aMamatkodir I. Nazarov*, ^aBekzod B. Rakhmanov, ^aSergey L. Yanchuk, ^aShuxrat B. Kurbanov, ^aSaida K. Tashtayeva, ^bZulhumor T. Abdalova

^aNational University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Republic of Uzbekistan.

^bTashkent State Pedagogical University named after Nizami, Tashkent, Republic of Uzbekistan.

ARTICLE INFO

Article History

Received: April 21, 2021

Revised: July 1, 2021

Accepted: July 30, 2021

Keywords

Sectoral structure
Factors of production
location
Minerals
Mineral material
Raw material potential
Production infrastructure

ABSTRACT

The key factors in the production development and location, including industrial production, in any region, are the territorial structure of natural resources and the level of production infrastructure development. At present, the industry is one of the leading sectors of the developed countries' economy. Therefore, the Government of Uzbekistan, from the first days of state independence, prioritises the industry development, its modernisation and diversification when reforming the national economy. Due to this, over the past ten years, the industrial production share in the country's GDP has grown significantly and amounts to almost 1/3 of it. However, the participation of regions in gross industrial output is very uneven, and a number of them, in the presence of high natural resource potential, still retain agricultural specialisation. The paper presents an economic and geographical analysis of natural resources as a factor of industrial development in the Tashkent economic district. The general characteristic of mineral and raw material balance of the Tashkent region in the context of administrative districts (rural areas) is given. The paper describes the current development state of the territorial and sectoral structure of the Tashkent region and Tashkent city. The study analyses reserves and the involvement level of mineral resources in the context of administrative districts. The authors of this paper considered the issues and prospects of territorial and sectoral structure establishment and development in Tashkent economic district industry.

Corresponding Author: Mamatkodir I. Nazarov

Email: nazarov7513-1@murdoch.in

© The Author(s) 2021.

INTRODUCTION

The main strategic areas of the Uzbekistan reform include the economy restructuring (Abdalova *et al.*, 2020). Therewith, the priority area of economic reforms carried out by the state since the first years of independence is the modernisation and increase of the country's industrial potential. The decree of the President of the Republic of Uzbekistan "On the Strategy of Actions on the Further Development of Uzbekistan in 2017-2021" (2017) mainly focuses on ensuring the

balance and stability of the national economy, an increase in its structure industry share, service industry, small business, and conducting active investment policy aimed at modernisation, technical and technological production renovation, projects implementation in production, transportation and communication, and social infrastructure (Republic of Uzbekistan, 2017).

The economic and geographical position (EGP) plays an important role in the Tashkent region development. The location of the Ferghana Valley and the oases of the

Hungry Steppe (Mirzachul Economic District), the Zarafshan Valley, at the intersection of major highways and railways connecting the cotton-growing regions of Uzbekistan with the European part of Russia, Kazakhstan and Siberia, turned the region under study into the most important economic pole of Central Asia (Rakhmanov and Yanchuk., 2019).

The economy development, and in particular, the industry development of the Tashkent economic district, was facilitated by the presence of a unique mineral and hydroelectric and agro-climatic resources combination on its territory. In addition, the specialisation of the region's economy and, indirectly, the development of its industry cannot but be influenced by the concentration of considerable recreational resources primarily in the mountain zone, as well as – this factor will play a role in the near future – wind and solar energy resources. The most important of the minerals are brown coal of the Angren basin, copper, lead-zinc ores and construction raw materials. There are also iron ore deposits in the Tashkent economic district, which makes it possible, in combination with delivered natural gas via gas pipelines, to complete the Uzbek Metallurgical Combine technological chain of the pyrometallurgical ferrous metals cycle using direct reduction metallurgy.

The infrastructure plays a special role in the development and location of the region's industry. Infrastructure is a set of facilities, buildings, systems, and services located on a certain territory that are necessary for the functioning and development of material production and ensuring subsistence services for the population (Gorkin, 2013). E. B. Alaev defines infrastructure as “a combination of existing facilities, buildings, networks, and systems that are not directly related to the production of the material goods but are necessary for both the production (production infrastructure – transport, communications, electricity supply chains, water supply, etc.) and for ensuring subsistence services for the population (social infrastructure – health, education, cultural, consumer services enterprises)” (Alayev, 1983).

Modernisation and diversification are important factors in supporting high growth rates and the integrated industries development. Successful implementation of industrial development programmes requires a combination of industrial policy with a regional strategy, taking into account the specific features of each region of the country in order to modernise regional economic systems. For the development of appropriate sectoral,

territorial, and targeted modernisation programmes, a comprehensive study of the prerequisites and factors for the development of industry in the regions is relevant. Therewith, a special place is given to the Tashkent economic district, which is an important link in the territorial national economy structure of the republic.

MATERIALS AND METHODS

This study paid attention primarily to the examination of economic and geographical aspects of the development and location of industry in one of the economically leading regions of the Republic of Uzbekistan – the Tashkent Economic region, the geographical analysis of its natural resource potential as a factor in the development and improvement of the territorial and sectoral structure of the economy.

In Uzbekistan, the geographical rational use aspects of the raw natural resource potential of the regions administrated were studied by the Council for the Study of Productive Forces (CSPF) of the Academy of Sciences of the Geology Ministry (Badalov, 1976). Thus, in the course of the study, the CSPF identified, evaluated, and presented the reserves of coal, kaolin, copper, gold and other minerals in a two-volume monograph "Mineral and raw material resources of Uzbekistan" of 1976-1977 (Badalov, 1977). Thus, in the course of the study, the CSPF identified, evaluated, and presented the reserves of coal, kaolin, copper, gold and other minerals in a two-volume monograph "Mineral and raw material resources of Uzbekistan" of 1976-1977 (Badalov, 1977). It is particularly worth noting the work of A. G. Batygin “Complex development of the Angren-Almalyk mining district” (Batygin, 1967). The main purpose of this study is an economic and geographical assessment of mineral resource potential impact on the development and location of industry in the Tashkent economic district. In accordance with this purpose, the following main tasks are defined and completed:

- definition of the natural resource potential;
- identification, analysis, and evaluation of the natural resource prerequisites for the industry development in the Tashkent region;
- general characteristics of the territorial structure of minerals;
- the branch and territorial structure development factors' characteristics of the industry in the region;

- study of the economic and geographical location (EGL) role of the territory under consideration in the industry development;
- identification of issues and promising areas for improving the territorial and industrial structure of the economic district industry.

RESULTS AND DISCUSSION

The presence and level of region provision with natural resource potential, especially mineral resources, play a leading role among the establishment and development factors of industrial production (Xia *et al.*, 2018). In the literature, their role and importance, composition and structure are covered in different ways. The region's natural resource potential refers to the part of the reserves that can be involved in the production proceeding from the technical and technological capabilities and feasibility assessment (Lopes *et al.*, 2018).

The Tashkent economic district under study is better equipped than other regions of the country with resources for the development of such industries as fuel, electric power, and metallurgy. This district is also quite well-provided with water resources and fertile irrigated land – the basis for the development of agriculture, light, and food industries.

Administratively, the Tashkent economic district includes the capital of the republic – Tashkent city, and the capital Tashkent region. This region accounts for 1/6 of the country's population and a quarter of its gross domestic product. Due to the presence of leading factors and prerequisites – raw materials, energy and consumer, the number of the Tashkent region industries include, in particular, energy and non-ferrous metallurgy (Table 1). Along with raw materials and energy, the Tashkent economic region is provided with highly qualified labour forces, which contributes to the development of labour-intensive areas of industrial production, in particular.

Table 1. Sectoral structure of the Tashkent region industrial production (in %).

Industrial sectors	2006	2011	2015	2018
Total:	100.0	100.0	100.0	100.0
<i>Including:</i>				
fuel and energy industry	11.8	14.6	13.2	12.8
metallurgy	52.3	36.5	25.3	39.1
chemical and petrochemical industry	8.5	8.8	8.0	9.3
mechanical engineering and metalworking industries	3.7	5.7	6.2	11.7
construction materials industry	7.3	6.6	7.5	8.2
light industry	7.2	9.3	8.5	6.1
food industry	6.9	15.8	25.9	9.9
other industries	2.3	2.7	3.6	1.0

Source: The table is compiled by the authors based on data from Goskomstat (2018).

In the Tashkent economic district, there are more than 200 deposits of mineral resources, divided into five groups, allocated by the State Committee of Geology and Minerals of the Republic of Uzbekistan. At present, the territory of the economic district is highlighted according to its reserves: the sands for construction and silicate products – 236,578.1 thousand m³, building blocks – 1,003.5 thousand m³, natural facing stones – 1,982.4 thousand m³, cement raw materials – 145,982.4 thousand tonnes, gypsum – 25,449.3 thousand tonnes, sand-gravel materials – 95,603.5 thousand m³, the raw material for the dam construction – 10,523.3 thousand metres³, brick-tile raw materials – 55,682.1 thousand m³, expanded clay raw materials – 97,582.9 thousand m³. Table 2 demonstrates the territorial structure of mineral deposits in the Tashkent region. In total, there

are 226 deposits, only 75 of which are currently being developed by industry. Of all the deposits, 198 deposits, i.e., 87.6%, including 64 in development, are related to construction materials (in particular, glass raw materials, cement raw materials, natural stone veneers and building blocks, brick and tile raw materials, expanded clay raw materials, etc.). However, the deposits of construction materials are located in all rural areas of the Tashkent region, except for Bukin, Tashkent and Zangiata. In terms of the amount and volume of construction raw materials deposits, the Akhangaran district is the leader with a total of 54 deposits, 26 of which are involved in industrial production. It is followed by the Yukorichirchik (24/8), Yangiyul (24/7) and Piskent (23/10) districts. As for the number of deposits, the ore minerals rank second after building

materials (17 deposits, 3 of which are being developed), the third, fourth, and fifth, respectively, are gemstone, mining and chemical, and fuel and energy raw materials. Ore deposits are represented by high-alumina raw materials, fluorspar, limestones, kaolin, wollastonites,

etc. Among 15 regional rural areas, 5 have deposits of mining raw materials. Therewith, Akhangaran district is in the leading position, accounting for 11 ore deposits, 3 of which are located in the Parkent district (3), and the Kibrai and Bostanlyk districts having one each.

Table 2. Territorial structure of mineral deposits of the Tashkent region in units (as of 01.01.2019).

Rural areas	Ore deposits	Mining and chemical raw materials	Raw gemstones	Construction materials	Fuel and energy raw materials	Total
Akkurgansk	-	-	-	5 (*3)	-	5 (*3)
Ahangaran	11 (*2)	1	5 (*4)	54 (*26)	2	71 (*32)
Bekabad	-	-	-	5 (*4)	-	5 (*4)
Bostanlyks	1	1 (*1)	-	14 (*5)	-	16 (*6)
Bukinsk	-	-	-	-	-	-
Zangiatinsk	-	-	-	1	-	1
Kibraisk	1 (*1)	-	-	15 (*6)	-	16 (*7)
Kuyichirchik	-	-	-	7 (*2)	-	7 (*2)
Parkentsk	3	1	3 (*3)	12 (*2)	-	19 (*5)
Piskent	1	-	-	23 (*10)	-	24 (*10)
Tashkent	-	-	-	-	-	-
Urtachirchik	-	-	-	4 (*4)	-	4 (*4)
Chinazsk	-	-	-	9 (*5)	-	9 (*5)
Ukorichirchiksk	-	-	-	24 (*8)	-	24 (*8)
Yangiyulsk	-	-	-	24 (*7)	-	24 (*7)
Total:	17 (*3)	3 (*1)	8 (*7)	198 (*64)	2	226 (*75)

Note: *The number of deposits involved in industrial production.

Source: The table is compiled by the authors based on data from Goskomstat (2018).

There are only 8 gemstone raw materials deposits in the region, yet all of them are concentrated in 2 rural areas only – Akhangaran and Parkent. 3 rural districts – Akhangaran (1), Bostanlyk (1/1) and Parkent (1) – have mining and chemical raw materials – for the production of mineral paints, agronomical ore, as well as raw materials for feeding animals and birds. The only large deposit of fuel minerals in the Tashkent region is the Angren brown coal basin, with more than 2 billion tonnes of total reserves. Tashkent economic district is the most economically developed region of Uzbekistan, including industrial sector. In 2019, there were 126,355 enterprises and organisations in the district, including 84,072 in the Tashkent city and 42,283 in the Tashkent region. Out of all 126,355 enterprises and organisations in this economic district, 23,497, i.e., 18.6%, are industrial enterprises. This accounts for 15,196 (18.1%) in Tashkent city, and 8,301 (19.6%) in the Tashkent region. Table 3 demonstrates that 64.7% of all industrial enterprises of the Tashkent economic region are concentrated in the capital of Uzbekistan.

If Tashkent, as the capital, a million-person city, and a major economic centre, attracts industrial production by

cost-saving due to the agglomeration factor, along with the ability to sell consumer and related industries' products, then the Tashkent region has advantages in providing resources for renewable energy, mineral raw materials and fuel, and the ability to supply food and light industry enterprises with agricultural raw materials (Pavlova et al., 2019). As of 01.01.2019, the gross industrial output of the Tashkent Economic District amounted to 68511654 billion (Table 4). Therewith, the industrial potential of Tashkent city is 1.7 times greater than the Tashkent region. In the region, in terms of industrial production, Angren and Chirchik cities are distinguished (Table 5). In the sectoral structure of the Tashkent region with a 26.4% share, ferrous metallurgy is in the lead, followed by mechanical engineering and metalworking (14.1%), food industry (12.8%), electric power (12.7%), construction materials industry (10.4%). The share of other industries is less than 10%. In the sectoral structure of Tashkent city, the food industry leads in terms of gross industrial output (16.3%), and the chemistry, petrochemistry and gas chemistry industries rank second (13.1%). Other industries have a share of less than 10%.

Table 3. Industry structure of enterprises and organisations of the Tashkent Economic District in 2019

	Number of enterprises in economic sectors									Total
	Industry	Agriculture, forestry and fisheries	Construction	Trade	Transportation and storage	Public catering	Information and communication	Health care and social services	Other industries	
Tashkent economic district	23,497	5,432	10,058	30,772	4,879	9,421	3,797	2,190	36,309	126,355
	<i>Including:</i>									
Tashkent region	8,301	4,592	3,370	10,445	1,479	3,317	590	653	9,536	42,283
%	35.3	84.5	33.5	33.9	30.3	35.2	15.5	29.8	26.2	33.5
Tashkent city	15,196	840	6,688	20,327	3,400	6,104	3,207	1,537	26,773	84,072
%	64.7	15.5	66.5	66.1	69.7	64.8	84.5	70.2	73.8	66.5

Source: The table is compiled by the authors based on data from Goskomstat (2018).

The territorial structure development of the population settlement and Tashkent economic district is influenced by the terrain, the hydro-graphic network configuration, the mineral resource potential, the economic and geographical location, transport communications and the Tashkent's presence within the region. Consequently, the division of the region according to the features of the terrain - into plains, foothills and mountain areas, in turn, determines the territorial configuration (restrictions) of its economy. The hydrographic network is represented by the Chirchik, Akhangaran and Syrdarya rivers.

Bekabad, Buki, Akkurgan, Chinaz, Piskent, Kuyichirchik, Yangiyul, and Zangiata districts are located in the plain areas of western and south-western parts of the region, while Akhangaran and Bostanlyk districts are located in mountainous areas. Kibraysk, Parkentsk, Verkhnechirchiksk and Srednechirchiksk districts are located in the foothills.

The sectoral structure of the plain districts' economy is dominated by irrigated agriculture (Quiroz and Vieira, 2018), except for some areas where the share of the processing industry is high. On the contrary, the Akhangaran region, which covers most of the Akhangaran River basin and has a huge mineral resource potential, has a huge industrial and production potential (Biswas *et al.*, 2018). The Tashkent economic district is most saturated with industrial infrastructure in comparison with other regions of the country (Soliyev, 2014). The infrastructure factor attracts new production facilities to the region. However, upon contributing to the production concentration in existing industrial hubs and centres, the infrastructure factor has similar

tendencies to the conservative factor, restraining the movement of production to the agricultural periphery of the district (Abdimomynova, 2018).

CONCLUSIONS

The industry development of the Tashkent economic district was most affected by economic and geographical location, raw materials, energy, labour forces and infrastructure. The successful development of the region's industry is also conditioned by the location of the state's capital - Tashkent city, which, on the one hand, creates demand for manufactured goods and services, and on the other hand, reduces production costs due to the effect of agglomeration, and, finally, concentrates leading educational and research institutions, with locating large enterprises evacuated during the Second World War from the western regions of the former Union in the city, and the influx of many qualified specialists from Russia and other republics in the 20th century. The authors of this study believe that in the near future the modernisation of the sectoral, technological, and territorial industries of the Tashkent region will rapidly grow in high-tech machine-building industries, the development of full-cycle ferrous metallurgy, the industrialisation of rural areas with creating new enterprises, of mainly light and food industries, the solar and wind power plants' construction, including the mountainous area of the capital region, the merger of the Tashkent and Angren-Almalyk agglomerations and Tashkent's super-agglomeration development, the organisation of new industrial productions in free economic zones.

Table 4. Participation of rural areas and cities of regional subordination in the sectoral structure development of the Tashkent region as of 01.01.2019 (gross industrial output, in millions).

Cities and districts	Industrial sectors										
	Fuel industry	Electric power industry	Chemistry, petrochemistry and gas chemistry	Ferrous metallurgy	Non-ferrous metallurgy	Mechanical engineering and metalworking	Light, woodworking, and pulp and paper	Construction materials industry	Light	Food industry	Other industries
Almalyk city	-	-	-	-	-	-	-	-	-	-	-
Angren city	591,419.4	1,283,943.9	66,920.1	87,215.3	237,175.8	83,565.8	13,111.7	116,382.2	79,058.7	143,839.4	64,172.7
Ahangaran city	-	-	67,356.4	1,562,959.0	-	32,725.4	9,243.2	865,048.2	62,639.2	172,767.2	763.1
Bekabad city	-	-	38,598.7	4,993,073.0	-	91,123.1	1,738.7	510,889.2	4,180.6	14,990.0	1,278.7
Nurafshan city	-	422,900.8	139.6	-	-	6,705.7	2,470.2	3,427.6	16,658.9	10,086.4	18,947.9
Chirchik city	-	159,794.5	1,087,189.3	25,377.4	1,595.3	924,916.8	2,445.7	46,493.6	606,510.1	116,353.0	6,733.6
Yangiyul city	-	69.2	119,034.9	-	-	945.6	9,517.4	7,652.5	30,881.9	267,657.9	14,170.5
	<i>districts:</i>										
Akkurgansk	-	-	151.4	86.1	-	1,386.6	287.9	2,114.7	46,499.5	6,424.3	-
Ahangaran	-	912.0	7,534.8	10,399.7	-	1,941.1	-	131,591.0	11.7	6,577.5	1,041.7
Bekabad	-	-	191.2	-	-	3,592.4	86.9	14,162.2	133,731.0	5,925.4	-
Bostanlyks	-	446,852.0	34,902.1	-	-	3,831.8	3,388.9	57,921.2	27,857.8	230,191.4	5,186.1
Bukinsk	-	-	356.7	610.1	-	4,373.1	3,354.5	15,842.3	100,784.5	7,405.1	37,906.8
Zangiatsinsk	-	-	405,389.9	-	-	180,163.8	92,044.1	87,446.1	109,878.8	540,195.2	8,828.7
Kibraisk	-	889,087.4	80,122.8	-	-	175,591.4	4,591.5	167,732.6	51,255.1	701,985.1	12,260.2
Kuyichirchik	-	-	791.4	-	-	2,955.1	2,685.3	34,645.6	109,182.0	8,858.5	-
Parkentsk	-	-	4,260.5	-	-	2,051.9	483.2	19,228.9	19,061.9	92,262.2	-
Piskent	-	-	113.1	-	-	266.6	960.3	14,901.4	137,799.2	103,093.5	-
Tashkent	-	-	111,781.1	-	-	115,421.1	160,330.4	16,254.6	78,335.5	387,308.6	10,296.9
Urtachirchik	-	-	44,282.4	-	-	31,033.2	23,799.7	32,537.4	138,884.3	70,355.6	4,713.6
Chinazsk	106,268.5	-	4,901.3	346.7	-	9,291.5	4,825.1	47,904.2	60,616.0	122,944.0	-
Ukorichirchiksk	-	-	104,398.3	-	-	266,731.8	71,535.5	223,915.8	119,738.9	49,756.6	60.7
Yangiyulsk	-	18,287.0	68,149.1	-	-	6,285.9	183,124.3	214,524.2	31,376.6	168,807.6	789.8
<i>Total:</i>	697,687.9	3,221,846.8	2,246,565.1	6,680,067.3	238,771.1	356,6375.7	590,024.5	263,0615.5	1,964,942.2	3,227,784.5	174,890.8
<i>%</i>	2.7	12.7	8.9	26.4	0.9	14.1	2.3	10.4	7.8	12.8	0.7

Source: The table is compiled by the authors based on data from Goskomstat (2018)

Table 5. Participation of Tashkent city districts in the development of the sectoral industry structure as of 01.01.2019 (gross industrial output, in millions)

Districts:	Industrial sectors										
	Fuel industry	Electric power industry	Chemistry, petrochemistry and gas chemistry	Ferrous metallurgy	Non-ferrous metallurgy	Mechanical engineering and metalworking	Light, woodworking, and pulp and paper	Construction materials industry	Light	Food industry	Other industries
Almazarsk	30,734.1	-	848,023.4	168,208.8	-	1,275,604.0	406,200.9	174,709.6	683,391.6	830,349.5	46,249.3
Bektemirsk	48,707.5	-	405,469.6	18,867.9	-	1,660,409.5	80,805.6	446,931.4	212,869.1	1,374,889.1	15,549.6
Mirabad	769,005.5	321,587.5	144,209.8	60,620.3	-	2,069,068.2	108,591.9	60,403.8	87,157.8	195,095.9	443,112.9
Mirzo-Ulugbek	6,354.5	467,354.6	653,058.8	105,456.0	-	2,589,422.5	109,671.6	135,380.6	253,542.7	200,123.8	59,833.5
Sergelisk	49,747.3	-	513,438.0	532,675.0	-	277,538.0	371,761.9	296,426.7	380,822.5	1,156,451.3	519,874.0
Uchtepinsk	10,943.8	-	365,337.3	195,320.3	-	867,194.5	158,876.6	59,772.6	356,272.6	452,306.2	114,931.7
Chilanzarsk	29,481.3	-	1,014,927.3	129,558.3	-	386,074.4	319,997.0	214,047.5	287,699.0	650,097.3	65,099.3
Shaikhantakhursk	-	483,406.7	417,510.5	1,685,742.9	-	886,287.8	185,618.6	277,564.1	230,324.4	330,691.6	189,233.5
Yunusabad	14,650.9	14,586.8	737,817.1	110,508.2	-	948,482.3	606,007.6	297,264.5	212,229.8	353,342.6	387,852.9
Yakkasaraysk	2.7	112,582.2	247,522.4	43,459.7	-	837,679.8	92,770.1	98,968.4	682,938.9	122,234.6	81,243.3
Yashnabad	1,252.5	268,359.0	344,535.6	387,171.7	-	1,904,835.9	73,294.8	335,264.3	436,709.5	1,396,037.6	92,403.6
Total:	960,880.1	1,667,876.8	5,691,850	3,437,589	-	13,702,596	2,513,596.6	2,396,733.5	3,823,957.9	7,061,619.5	2,015,383.6
%	2.2	3.8	13.1	7.9	-	3.1	5.8	5.5	8.8	16.3	4.6

Source: The table is compiled by the authors based on data from Goskomstat (2018).

REFERENCES

- Abdalova, Z. T., S. L. Yanchuk, N. K. Kamilova, S. B. Kurbanov and M. I. Nazarov. 2020. Issues on improvement of the territorial structure of the economy of Uzbekistan. In Proceedings of the XXII International Scientific and Practical Conference International Trends in Science and Technology. RS Global, Warsaw, pp. 51-56.
- Abdimomynova, A. 2018. Development factors of export potential of the region: capabilities in minerals and infrastructure sector. Academy of Strategic Management Journal, 17: 1-11.
- Alayev, E. B. 1983. Socio-economic geography. Mysl, Moscow.
- Badalov, S. T. 1976. Mineral resources of Uzbekistan (volume 1). FAN, Tashkent.
- Badalov, S. T. 1977. Mineral resources of Uzbekistan (volume 2). FAN, Tashkent.
- Batygin, A. G. 1967. Integrated development of the Angren-Almalyk mining region. Gosizdat UzSSR, Tashkent.
- Biswas, P. K., S. S. Ahmed, M. I. Pownceby, N. Haque, S. Alam, M. N. Zaman and M. A. Rahman. 2018. Heavy mineral resource potential of Tista river sands, Northern Bangladesh. Applied Earth Science: Transactions of the Institute of Mining and Metallurgy, 127: 94-105.
- Gorkin, A. P. 2013. Socio-economic geography: concepts and terms. Oikumena, Smolensk.
- Goskomstat. 2018. <https://www.stat.uz/ru/press-tsentr/novosti-goskomstata/9214-o>

zbekiston-hududlarining-yillik-statistik-to-plami-6.

Lopes, C., V. Lisboa, J. Carvalho, A. Mateus and L. Martins. 2018. Challenges to access and safeguard mineral resources for society: A case study of kaolin in Portugal. *Land Use Policy*, 79: 263-284.

Rakhmanov, B. B. and S. L. Yanchuk. 2019. Some issues of improving the territorial structure of the industry of the Tashkent economic region. *Actual Issues on Humanities and Natural Sciences*, 6: 99-104.

Republic of Uzbekistan. 2017. Decree of the President of the Republic of Uzbekistan No. UP-4947 "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan in 2017-2021". 2017. <https://lex.uz/docs/3107042>.

Soliyev, A. 2014. *Geography of Uzbekistan*. Universitet, Toshkent.

Xia, Q., X. Wang, Z. Liu, T. Li and L. Feng. 2018. Tungsten metallogenic and geological features and mineral resource potential in China. *Earth Science Frontiers*, 25: 50-58.

Publisher's note: EScience Press remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made. The images or other third-party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.