

Residence Formation and Development in the Desert and Low-Desert Regions of Uzbekistan

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Abstract:

This article is about the causes of deserts in Central Asia, including Uzbekistan, the nature of deserts and steppes, and the study of such areas by scientists, the natural resources of deserts and their development. On this basis, the main features of the formation and development of settlements, the composition of settlements in Uzbekistan in 2000 and 2020, the distribution of the number of settlements in the desert, mountain and foothill areas, and proposals and recommendations for the future.

Key words: Arid climate, deserts and semi-deserts, natural-geographical conditions, complex research, natural resources, development, settlements, development characteristics of settlements, economic development.

INTRODUCTION. The formation and development of deserts have been linked to the zoning of the planet's crust. Zoning is the product of the uneven distribution of heat and moisture on the Earth's surface. Some scientists also believe that factors such as orographic barriers, the dominance of high atmospheric pressure throughout the year in subtropical latitudes, and the impact of cold sea currents on mainland coasts also play a leading role in desert formation [2]. According to climatic data, deserts and semi-deserts now cover 4.7 billion hectares and cover about 1/3 of the world's land area, home to 15% of the world's population [4].

According to desert scientists A.G.Babaev and Z.G.Freikin, the desert is a natural area with a very dry and hot climate, extremely low rainfall and relatively sparse vegetation. In such areas, low atmospheric precipitation (up to 250 mm) and their uneven distribution over the seasons, as well as several times higher evaporation due to precipitation, and the formation of constant runoff [3]. A natural zone with such climatic features occupies a large part of Uzbekistan. It is known that 78.7% of the territory of Uzbekistan consists of plains, mainly characterized by desert-type landscapes.

The nature of these areas, natural resources, mineral resources have been studied by scientists. The use of deserts from an agricultural point of view and the use of mineral resources have led to the emergence and development of settlements in deserts and semi-deserts.

The main part. The territory of the Republic, especially the desert zones, began to be studied extensively in the second half of the XIX century and the beginning of the XX century. The aim was to develop cotton growing, the main economic sector in the periphery of Tsarist Russia, and to form other sectors of the economy that supplied raw materials. Because of this need, the content of research and its purpose have changed. As a result, more comprehensive and systematic research has been conducted on the basis of a specialized scientific program. These studies suggest the need to improve attitudes towards deserts in the future and to explore these areas. If the future development of coastal countries is directly related to the oceans, it is related to the development of deserts in the desert zone. In this regard, the study of deserts is very important for inland countries, including

Uzbekistan. This is because the desert zone is a "reserve" of the future of Uzbekistan, an area of development and expansion [17].

At present, the Republic of Uzbekistan pays great attention to the development of settlements, and every city and village is on the path of development and prosperity. In all regions, especially in the desert, you will encounter large-scale reforms, creative, construction sites in all spheres of social life. This was stated by President Sh.M. This is confirmed by the views expressed by Mirziyoyev in his address to the Oliy Majlis on January 24, 2020. Large-scale construction and beautification works have been carried out in 479 settlements and 116 urban mahallas within the framework of the "Obod Qishloq" and "Obod Mahalla" programs. 6.1 trillion soums or 1.5 trillion soums more than last year were spent on these works. In rural areas - 17,100, in urban areas - 17,600, a total of 34,700 cheap and comfortable houses were built [1]. As a result, the appearance of settlements in the desert and semi-desert areas has changed and acquired a modern look [18].

The great scientists DNKashkarov and EP Korovin, who conducted complex research in the deserts of Central Asia, including Uzbekistan in the 20-30s of the XX century, understood the deserts as a unique natural complex and studied them in a complex way. stressed the need for an approach, ie the study of the natural-geographical conditions of the desert and the impact of these conditions on life in the desert [7].

Indeed, any natural condition plays an important role in the formation of its climate, water, soil, flora and fauna. At the same time, natural conditions play an important role in improving the appearance of people and their way of life, the economic sectors of the place (industry, agriculture, transport), the appearance of landscapes (landscaping and beautification). In particular, the role of the natural environment in the location and development of productive forces is incomparable. In arid areas, the "economic landscape" is uneven, with dense oases and sparse deserts. If we look at the economic map of Uzbekistan, in Khorezm, Bukhara, Navoi, Jizzakh oases the productive forces and settlements are dense, Ustyurt, Kyzylkum, Mirzachul, Karnob desert, Central Fergana, Malik desert, Karshi In areas such as the Sherabad Desert, they are much rarer [19].

Factors influencing the location and development of settlements can be divided into several groups. They are natural, economic, social and political factors. Among these factors, the role of natural factors is unique. Its micro-geographical location is one of the reasons why settlements appear here. If the natural conditions of the region - the surface structure (relief), climate, water and other components are favorable, it will continue to develop. Due to the fact that most of the Republic of Uzbekistan is located in the desert region, the level of territorial concentration of the population in the settlements is not high [20]. In the desert and semi-desert areas, the majority of settlements are formed in the form of small towns (population up to 20 thousand people). This is one of the features of Uzbekistan's "desert". Currently, there are 1190 urban settlements in the country, including 119 cities and 1071 towns (2020).

There are also big differences in population. If the population density is high in the oases that are suitable for human habitation, the vaccine is low in the desert-pasture areas. The average population density in Uzbekistan is one square meter. km. 77 people (July 2021), while in the deserts this figure is only one person [21].

The formation of settlements in the desert regions of Uzbekistan is also unique. Despite their unfavorable natural conditions, these areas have played an important role in human history. Especially in the desert regions of Khiva, Bukhara, Termez, Samarkand, the region has a history of several thousand years. At the same time, these settlements serve as a unique economic, social, cultural, scientific center of the desert, a historical foundation, a center of values [22].

International trade caravans, including the Great Silk Road, have had a positive impact on the

development of settlements in the desert zone. It is necessary to take into account the natural environment in the construction, infrastructure, landscaping, beautification of settlements with such conditions, in the words of Yu.G. Saushkin, to pay attention to the development in harmony with the desert [8]. Or V.B. As Sochava points out, there must be creative collaboration in the relationship between nature and society [9]. Unfortunately, during the former Soviet Union, not enough attention was paid to the desert characteristics of the region in the development of settlements [23].

Settlements are very sparse in the desert. Extreme desert climate and lack of fresh water have a negative impact on the formation and development of human settlements. In such places, settlements are formed mainly on the basis of extraction and processing of natural resources. The Republic of Karakalpakstan is a leader in Uzbekistan in terms of the number of settlements (cities) in the desert. There is also a relatively large number of settlements (cities) in the desert zone of Navoi and Bukhara regions. Zarafshan is the largest city in the desert region of Uzbekistan. The city, one of the main centers of non-ferrous metallurgy in the country, has a population of more than 65,000. The future of all settlements in the desert depends on the mineral resources here.

The peculiarity of settlements in Uzbekistan is the large number of small settlements (cities). In this regard, in small towns it is possible to distinguish another class, that is, the category of small settlements (cities) with a population of up to 10 thousand. Because small towns make up more than 4/5 of the country's cities. In accordance with the Resolution of the Cabinet of Ministers of March 13, 2009 "On additional measures to improve the administrative-territorial structure of the Republic of Uzbekistan" and March 14, 2011 No 71, 971 settlements (villages) were given the status of cities. Since then, the country's urban population has quadrupled. As 932 of the cities created as a result of the new urban policy were small towns, the share of this category of cities reached 78.3% (Table 1).

The composition of the population of Uzbekistan in 2000 and 2020

(Table 1)

Categories of settlements (cities and towns)	2000 year				2020 year			
	quantity		population		quantity		population	
	number	%	thousand people	%	number	%	thousand people	%
Total city addresses	233	100,0	9165,5	100,0	1190	100,0	16532,7	100,0
Of which: residents								
10 thousand each	76	32,6	446,2	4,7	932	78,3	4170	25,2
10-20 thousand each	72	30,9	1000,4	11,0	142	11,9	1955,1	11,8
20-50 thousand each	54	23,2	1540,2	16,8	78	6,6	2333,9	14,1
50-100 thousand each	14	6,0	866,4	9,5	20	1,7	1388,6	8,4
100-250 thousand each	13	5,5	2095,0	22,9	10	0,8	1597,7	9,7
250-500 thousand each	3	1,3	1081,6	11,8	5	0,4	1527,5	9,2
500-1 million each	-	-	-	-	2	0,2	1102,0	6,7
1 million and more	1	0,5	2135,5	23,3	1	0,1	2457,9	14,9

The table is based on data from the State Statistics Committee of the Republic of Uzbekistan.

It should be noted that in recent years, the anthropogenic burden on desert landscapes has been increasing year by year. If for several thousand years the deserts were used mainly for livestock purposes, from the second half of the twentieth century with the discovery of oil and gas and non-ferrous metal deposits, the development of protected areas accelerated the "anthropogenization" of deserts. and is leading to an increase in the number and development of settlements in desert areas.

At present, desert resources in Uzbekistan are being used not only in industry or agriculture, but also in intangible sectors such as tourism, recreation and health. It is well known that the mountain zone is famous for its fresh air, medicinal water and medicinal plants. It should be noted that the climatic conditions of the deserts also play an important role in restoring the health of the population. Even in the deserts, long-lasting dry and hot climates and humidity of no more than 15-20% are effective in the treatment of kidney disease [5]. It is also possible to establish health facilities around the hot sands of the desert, healing mud, salt mud, mineralized wells and salt lakes. These facilities can treat more bone diseases, as well as radiculitis, brucellosis and some diseases of the nervous system. The launch of such intangible industries will lead to the emergence and development of settlements.

In 2020, there were 932 small towns with a population of 25.2% of the country's population (Table 1). In areas with favorable natural conditions, well-supplied with mineral resources, high level of industrial specialization and concentration, the composition, type and system of settlements are formed almost uniformly. On the contrary, the main part of the territory is desert, and the formation and development of settlements in areas with unfavorable natural conditions and underdeveloped resources is not very developed.

It should be noted that ensuring road independence also plays a worthy role in the regional policy of our country. In particular, a number of measures have been taken to create a single railway system, and several new railway lines have been launched. In particular, in 2001 the Uchkuduk-Sultan Uvays-Nukus [11], in 2007 the Tashguzar-Baysun-Kumkurgan, in 2016 the Angren-Pop, in 2017 the Bukhara-Miskin railways were launched. This is one of the factors determining the emergence of many new settlements between the railways and the future development of these settlements.

The regions of Uzbekistan differ significantly in the density of urban settlements. Every thousand square kilometers across the country. An average of 2.65 cities per hectare. There are 30.5 urban settlements in Fergana region, 20.9 in Andijan and 16.5 in Namangan. The density of cities is also higher in Khorezm (9.8) and Tashkent regions (7.3). In contrast, cities are sparsely populated in areas with large economies. For example, there are 2.3 cities in Jizzakh region, 2.0 in Bukhara, 0.5 in Navoi, and only 0.2 in the Republic of Karakalpakstan [12]. The density of cities in these areas is much lower. This indicates that these administrative units are located in the desert, and a large part of their economy has recently been developed [10].

In 2020, there were 434 urban settlements (including 47 cities and 387 settlements) in the desert zone of Uzbekistan, which accounted for 36.5% of the country's urban network (Table 2). The analysis of the figures shows that the number of cities and towns in the desert zone, which occupies more than 70% of the territory of the Republic, is 2 times less than in the mountains and foothills. This is primarily due to the unfavorable climatic conditions of the deserts and the low regional concentration of the population.

Distribution of the number of settlements in the desert and mountainous and foothill zones of the Republic of Uzbekistan.

Table 2

T/r	Regions	2008							2020						
		Total	In the desert zone			Mountain and foothill zone			Total	In the desert zone			Mountain and foothill zone		
			Total	From them		Total	From them			Total	From them		Total	From them	
				City	Town		City	Town			City	Town		City	Town
1	The Republic of Karakalpakstan	27	27	12	15	-	-	-	38	38	12	26	-	-	-
2	Andijon	16	-	-	-	16	11	5	90	1	-	1	89	11	78
3	Buxoro	13	13	11	2	-	-	-	80	80	11	69	-	-	-
4	Jizzax	15	8	3	5	7	3	4	48	19	3	16	29	3	26
5	Navoi	14	10	4	6	4	2	2	53	35	4	31	18	2	16
6	Namangan	19	1	-	1	18	8	10	123	6	-	6	117	8	109
7	Samarkand	23	1	1	-	22	10	12	99	2	1	1	97	10	87
8	Sirdaryo	10	10	5	5	-	-	-	30	30	5	25	-	-	-
9	Surxondaryo	15	5	2	3	10	6	4	122	50	2	48	72	6	66
10	Tashkent	34	-	-	-	34	16	18	111	-	-	-	111	16	95
11	Fergana	19	3	1	2	16	8	8	206	58	1	57	148	8	140
12	Khorezm	10	10	3	7	-	-	-	59	59	3	56	-	-	-
13	Kashkadarya	16	5	5	-	11	7	4	129	56	5	51	73	7	66
14	Tashkent city	2	-	-	-	2	1	1	2	-	-	-	2	1	1
15	Republic of Uzbekistan	233	93	47	46	140	72	68	1190	434	47	387	756	72	684

The table is calculated on the basis of data from the State Statistics Committee of the Republic of Uzbekistan.

100% of the cities of the Republic of Karakalpakstan, Bukhara, Khorezm and Syrdarya regions are located in the desert zone. In desert conditions, there are two distinct patterns in the location of settlements [13]. That is, in the oases the population is very dense, and in the deserts it is scattered. In the deserts, settlements are formed mainly on the basis of natural resources. Examples are Mubarek, Gazli, Karavulbozor, Uchkuduk, Zarafshan and other similar settlements.

The network of cities in the desert zone is underdeveloped and consists mainly of small towns, and "Millionaire" cities have not yet been formed in the deserts of Uzbekistan. The deserts are also home to settlements due to convenient transportation, geographical location, new land acquisition, military, religious and other factors.

It is known that the search for new natural resources and their use in various sectors of the economy is a key factor in determining the future development of the population network [14]. The deserts are rich in oil, gas, non-ferrous metals, chemical raw materials and construction materials. This suggests that in the future, deserts will play an important role in the country's economy. The growth of the regional economy is primarily through the settlements (cities).

CONCLUSION. The following main features of the formation and development of settlements in the desert zone can be distinguished:

- In the deserts, there is a sharp contrast in the location of settlements, including cities. In extensive areas, settlements are rough, sparse, and small towns, while in densely populated areas, which do

not occupy large areas, they are densely populated and form complex territorial structures;

- Functional types of settlements in the desert are not developed. The industry is narrowly specialized, mainly agroindustrial;
- Due to the natural conditions of the desert region, agriculture (farming) is not well developed around the settlements;
- Architecture of settlements, their appearance (appearance), formed according to the climatic conditions of the place (elongated or dotted);
- The "burden" of desert settlements will be stronger than in well-developed valleys and densely populated areas. The cities here, especially the district centers, also serve for remote settlements. Because they have a hospital, a market, a college and similar facilities that serve the whole district. In valleys and oases, this function can also be performed by larger villages.

“Efficient use of available water resources is important for the development of settlements in the desert and semi-desert regions of Uzbekistan. That is why the problem of drinking and irrigation water in these areas is one of the tasks of the state. One of the ways to alleviate this problem is, first of all, the efficient use of local water resources in the desert zone, as well as the accumulation and storage of water resources generated by atmospheric precipitation in winter and spring, and its use in summer. there are also opportunities to partially solve the problem of water supply to the population [14]. According to the data, 50-44% of precipitation in the deserts falls in spring, 38-40% in winter and 10-13% in autumn. Summers are dry and hot, with almost no precipitation.

The high economic potential of the region is evidenced by the fact that more than 70% of the territory of Uzbekistan consists of deserts and semi-deserts, and these regions have large reserves of mineral resources. With the development of these resources, settlements will appear in these areas [15]. Settlements play an important role in boosting the country's economy.

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