

**NATURAL GEOGRAPHIC CONDITIONS OF KYZYLQUM AND SOME  
HALOPHYTIC PLANTS IN IT**

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**ANNOTATION:** Qizilqum is the second largest desert in Central Asia after the Karakum desert. It is extremely complex in terms of its natural climatic environment, with sand dunes of various shapes and sizes, flat mountain ranges, plains, low depressions, shorkhok, is a geographical area consisting of a complex of gypsum fields. Geomorphologically, Kyzylkum has a very complex structure. There are hills of the Paleozoic era, which are composed of limestones, slats, and sands of various forms. The terrain characteristic of Kyzylkum is the priority of sandy areas. Saline deserts are another ecological environment characteristic of Kyzylkum, in which there are different levels of salinity and non-uniformly distributed sedimentary areas. Common grassland species occur in all soil conditions and ecological environments; Plants such as white saxovol, black saxovol, black Circassian, chogon, kandym, and izen are found in sandy deserts.

**Key words:** Kyzylkum, sand dunes, flat mountain ranges, plain, low depressions, saline areas, gypsum areas, livestock area, natural conditions, relief, soil layer, plant cover, herbaceous plants, white saxophone, black saxophone, black Circassian, Chogon, Kandym, Izen.

Qizilqum is the second largest desert in Central Asia after the Karakum desert. It is extremely complex in terms of its natural climatic environment, with sand dunes of various shapes and sizes, flat mountain ranges, plains, low depressions, shorkhok. , is a geographical area consisting of a complex of gypsum fields.

At the current level of development of production forces, the Kyzylkum desert is one of the largest cattle-breeding areas of Uzbekistan. The borders of Kyzylkum are the Aral Sea and the lower basin of the Syrdarya from the north, the middle stream of the Syrdarya from the east, Pistali mountain, the end of the Nurota mountain range from the south, the middle stream of Zarafshan and the lower Amudarya oasis from the Farob settlement, and the middle of the Amudarya from the west. is the current.

If we look at the area of our republic from the point of view of agricultural zoning, this large region is divided into the independent Kyzylkum natural district, and it is the largest pasture cattle-breeding region economically and ecologically. In it, the pastures intended for use throughout the year are a priority and make up about 80% of the total land area.

Geomorphologically, Kyzylkum has a very complex structure. There are hills of the Paleozoic era, which are composed of limestones, slats, and sands of various forms. The terrain characteristic of Kyzylkum is the priority of sandy areas.

It is worth noting that sandy hills usually alternate with lowlands or plains. In general, depending on the terrain, Kyzylkum can be called a land of hilly sands, plains between hills, depressions, flat mountains, plains with fine soil.

It can also be divided into sandy and non-sandy regions from the point of view of ease of use. In particular, in scientific and popular literature, the sandy part is called "Kyzil" and the non-sandy areas are called "desert" or South-Western Kyzylkum.

Non-sandy areas are also extremely complex, non-uniform, complex nature areas, their total area is more than 3.2 million hectares, and in most sources it is known as South-Western Kyzylkum. Although its difference from sandy areas is not sharp, it has many specific and different characteristics.

The natural conditions, topography and soil layer of the sandy areas of Qizilgum are not the same; including compacted and flattened sand fields, as well as various forms of indented and deep sand ridges that have just begun to compact, or easily mobile and insufficiently compacted sand fields.

At the same time, the terrain is extremely uneven and side by side with sand hills of different sizes, and the existence of areas with a higher yield of hay is a typical landscape of a sandy desert. Another characteristic feature of the sandy desert is the alternation of large and small sand piles and sandy areas mixed with barren or varying degrees of saline pastures.

Climatic indicators differ little from other deserts. However, it differs in terms of some climatic indicators, summer is very hot and dry. Winter is relatively cold and harsh. The annual air temperature in the north of Kyzylkum is 11-120 C, in the south it is 15-170 C. In summer, the average temperature is 32-340 C, and the highest (absolute) temperature is 47-480 C.

The amount of annual precipitation is 80-90 mm in the north and in the central part Above 110 - 130 mm. Precipitation occurs mainly in the late winter and early spring seasons. The basis of the plant cover is bushes and grasses. Hashakbop is rich and diverse in terms of the number of plant species compared to other deserts. It is also important that the plant cover includes living forms - bushes, white and black saxovuli, sugarcane, cherkez, red, rabbit bone, semi-shrubs (wormwood, singren, boyalich, teresken); there are annual and perennial grasses (ilok, konkirbosh, chitr, etc.). The plant cover also includes monocarpic (seeds only once in a lifetime) species, annual shuras (watermelon), coarse-stemmed ones (selines, kavark, yantak).

The area of the Gypsum desert is second only to sandy deserts in Kyzylkum. They consist of Tertiary-Cretaceous rocks, plains and low mountains (Kuljuktov, Tomditov, Bukantov, Muruntov, Kokchatov).

Gypsum deserts have a similar climate and soil characteristics to sandy deserts. The climate is very dry continental, the soil cover consists of gypsum areas with very unfavorable physical characteristics. The average annual rainfall here is 79-110 mm, while in very dry years it is 58-65 mm, and in very favorable years it varies around 150-230 mm. Precipitation - the main (75-80%) fall falls on the autumn-early precipitation period. Winter is cold, summer is hot. The minimum temperature in winter is 28 - 310C, the highest temperature in summer is -46-480C, the average wind speed is 5-6 m/s, usually its blowing becomes stronger in spring and autumn and reaches 7-8 m/s. The main types of grasslands of gypsum deserts are semi-shrub and barra grasslands. The annual feed reserve of gypsum desert

pastures varies over the years and does not exceed 0.5-2.5 centners per hectare. In the summer season, due to the abundance of ephemeral and ephemeroïd plants in such pastures, livestock feed the amount of reserves will be low.

Saline deserts are another ecological environment characteristic of Kyzylkum, in which there are different levels of salinity and non-uniformly distributed sedimentary areas.

Usually, these areas are located relatively deep from the surrounding plains and are distinguished by their unique landscape. Examples of such areas are the sinkholes such as Ayaok ogitma, Kara Khotun, Ming bulak, besh bulak, and Mullali. Vegetation consists of very sparse saline halophytes, psammophyte species predominate due to shifting sands.

Nutrient yield of shorkhok pastures depends on the hydrometric regime of the year and is around 0.3-2.5 centners per hectare.

Common grassland species occur in all soil conditions and ecological environments; Plants such as white saxovol, black saxovol, black Circassian, chogon, kandym, and izen are found in sandy deserts.

White saxophone (*Haloxylon persicum*) is a woody shrub, 3-4 meters tall. They eat sheep, goats, and camels. It blooms in March-April, and the seeds ripen in October. White saxovol is a promising phytomeliorant for the improvement and restoration of sandy desert pastures and elimination of sand drifts.

Black saxovol - (*Haloxylon aphyllum*) is a tree-like shrub belonging to the family of saltworts, 3-4 meters tall, 5-6 meters in favorable conditions. soils, groundwater is distributed in places close to the soil surface. Nowadays, the area of natural saxes is decreasing sharply due to the brutal hunting by humans. Black saxes are an important fodder for sheep, goats and camels in the autumn and winter seasons. Its branches and seeds are satisfactory food. Black saxophone feed contains 10-12% protein, 2.2-2.7% fat, 21-38% ash, 35-35% nitrogen-free extracts and 14.9% fiber.

Cherkez (*Salsola pichteri Karel.*) is a shrub 1-2.5 meters tall, belonging to the family of sorghums. Distributed in dense areas, it has a strong and deeply developed root system. It blooms in early spring and gives seeds in November. Forage for sheep and goats is a good digestible feed in autumn and winter. Cherkasy is a promising plant used to improve sandy desert pastures and strengthen sandy areas.

Chagon (*Aellenia subaphylla (CAM) Aellen*) is a representative of the family of sorghums, a small shrub 40-180 cm tall. The leaves are pencil-shaped, serete, 10-50 cm long, turn blue in April, and the branches are thick. It is gnarly, fragile, has a flowing color, it blooms in May-June. Livestock eat it well throughout the year, especially in autumn and winter, it is a good source of feed for sheep, goats, and camels.

Juzgun (*Kandim*) is a family of the Toron family. There are about 90 species in Central Asia. *Calligonum aphyllum*, *Calligonum eriopodum*, *Calligonum junceum*, *Calligonum caput-medusae* and other species grow in Kyzylkum. Height from 50 cm to 3 m. The fruit is dry, 4-8 wings, 12-18 anthers. The leaves are located in a row, they fall quickly. Also, this type

of plant is invisible, 5-7 mm long, ribbon-like. Flowers are bisexual, white, small, fragrant. The wood is hard. Sedges are planted mainly to stop shifting sands. Some species contain additives and alkaloids. Juzgunni is eaten by livestock. It is also used as fuel - firewood in the national economy.

Izen (*Kochia prostrata* (L) schrenk) is a semi-shrub belonging to the kochia family, the height of the plant is 30-75 cm. It grows in Kyzylkum fields. Izen is divided into 3 ecotypes: sandy, gravelly and loamy. The body of the sand izen is covered with pale colored feathers. The stems and leaves of gravelly izen are greener and hairy. Cultivated hayfields and pastures in deserts and hills

It is a valuable plant for establishing agrophytocenoses. A promising plant for increasing the productivity of pastures and establishing hayfields. Aksariat consists of branches that partially extend to the surface of the earth, and the upper part of the body is covered with curly hairs; the leaves are located in the axils of the branches, they are lanceolate-stripped. Flower-bush-spiky-furrow. The seeds are round-oval, in the center they are compressed on both sides; the seeds are brown when ripe.

Izen is eaten by sheep, goats, camels and other animals with great appetite in all seasons of the year. Its branches, leaves and seeds are a source of food.

Since the 1960s and 1970s, in order to dramatically improve the condition of desert and hill pastures and to increase their productivity, it has been necessary to search for important, fertile, high-yielding species that are naturally distributed in these regions, in arid crop conditions. Scientific researches in the direction of development of agro-technical measures of testing and culturalization have risen to a new level and been greatly revived.

Currently, more than 350 species of shrubs, semi-shrubs, annual and perennial nutritious herbaceous species have been tested in various environmental conditions, and about 25-30 of them have been found to be highly effective in improving the condition of desert and hill pastures, and are used in desert pastures. is being done.

Kyzylkum is a geographical area consisting of a complex of sand dunes, flat mountain ranges, plains, depressions, salt marshes, and gypsum fields with a complex, diverse form, genetics, in terms of its natural climate and environment.

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