
Directions of Sustainable Development of Forestry in the Bukhara Region

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Abstract: The article talks about the role of forestry in the Bukhara region. The damage caused by the desert winds to the local economy and the measures taken by the rulers of the state and the protection of food products from wind damage are described. activities have been stopped. The climate of Bukhara city causes destruction when the winds are dusty and strong, but also act as a catalyst to ensure air cleanliness. Let's talk about saxophone fields.

Keywords: Saksaul, Bukhara Forestry, Qizilqum Desert Wind, Sand migration, Olot, Karakul, Peshku.

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Introduction. Uzbekistan is located in the central part of the Eurasian continent, far from the seas and oceans. It is surrounded by high mountains to the south and East. In summer, under the influence of strong sunlight, a tropical dust air mass forms over the heated deserts. The average air temperature is 30 degrees atrophy, while the highest is more than 50 degrees. At the moment, the pastures, which are subject to radical improvement, are worth about 10 million rubles. in hectares, migratory Sands cover 1 million hectares, of which 200,000 hectares have appeared in recent times around irrigated areas.

The decree of the president of the Republic of Uzbekistan dated October 30, 2019 approved the concept of Environmental Protection of the Republic of Uzbekistan for the period up to 2030. The concept places particular emphasis on reducing desertification and degradation levels of land, and restoring the quality and productivity of land areas. As part of the implementation of the decision of the head of state signed on October 6, 2020 "on approval of the concept of development of the forestry system in the Republic of Uzbekistan until 2030", measures to prevent desertification, to combat erosion during 2021 were carried out in the forest fund's lands on a total area of more than 620 thousand hectares.(Narshari and etc)

Including, in the dry region of the Aral Sea, these activities were carried out in 458 thousand hectares, in the regions of Khorezm, Bukhara and Navoi regions, which are part of the Aral Sea region, in 148.5 thousand hectares. Pine tree plantations were also established on a total of 9.6 thousand hectares in the mountain and mountain areas of the Forest Foundation.

Materials and methods.



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The importance of cultivating saxaul and other desert plants is extremely important in preventing land from becoming desert. According to experts and scientists in the field, sand migration under the influence of wind in the 2-year-old saxaulzor, built on the territory of the Aral Sea, is completely stopped by 20 percent, in the 5-year-old saxaulzor by 80 percent, and in the 7-year-old saxaulzor by 7 percent. As a result, the climate in the insular region becomes temperate, the airlift of sand-dust decreases. For human survival, the stability of the socio-economic environment was ensured. Innovative idea-based projects are also being implemented in the fight against desertification and drought in forest farms. With the help of small aviation (An-2 aircraft and deltaplan) in the construction of forests on Hususan, Barkhan and flat sands, the planting of saxaul seeds by wing-dropping and wing-dropping seeds by making them granule-shaped with biostimulants is among such projects. When planted with Deltaplan, the area in which the seed was scattered became 20-30 meters wide and the distance between them was 50-70 meters. Seeds should not be allowed to fly around. The advantage of this method over traditional forest creation is in the high productivity of work. If 40-50 hectares of seeds are planted per day with a tractor, with a small aviation, this work can be carried out at 1000-1500 hectares. This method was initially tested in 2014 on 300 hectares of land in the Shofirkon State Forestry, with the germination of seeds planted in 2018 being greater than 50% and reaching a height of 1.5-2 meters. Another new method of innovation in the creation of forest consists in obtaining furrows that collect sand at a depth of 40 cm on the dry bottom of the island sea, and then deepening again with a special device. If these works are carried out in the fall, the furrows will be filled with sand in 2-3 months. Then it is possible to plant sprouts of 1-year-old saxaul and other desert plants in it. Materials and methods. (I.K.Nazarov, I.Sh.Allayorov)

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Ongoing research:



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According to the experience carried out by scientists from the scientific research institute of Forestry, the germination of sprouts planted after the sand was filled with sand was 85 percent in the second year. But it was 12 percent when planted on flat ground without opening a ditch. This is due to the fact that in the ditches that accumulate sand, moisture is kept in abundance in comparison with flat lands. In this way, afforestation is very common in desert areas. Taking into account the effectiveness of this method, in the drier regions of the Aral Sea, in 2019, work was carried out to prepare ditches that collect sand in 1126 thousand hectares, in 2020-166 thousand hectares, and in 2020-2021, step-by-step planting and sowing events were carried out.

Work on this will continue in 2022 and beyond. In order to protect agricultural irrigated land from wind and water erosion, 2.5 thousand hectares of ihota groves were built. Also, a “green belt” was established at a total distance of 30 kilometers in order to prevent sand migration around the cities of Nukus, Khiva, Urganch and Bukhara, to eliminate the negative consequences of sandstorms.

In addition, on November 2 of this year, at a video recorder meeting held by the head of state, the implementation of the nationwide project “green space” and the planting of 200 million bush and tree seedlings per year was established within the framework of this project. The goal of this is to bring the area of green spaces in our cities from the current 8 percent to 30 percent. On this issue⁵, the Cabinet Decree No. 694-F of November 15 was adopted. According to this order, in the fall of 2021, planting 75 million Bush seedlings was established, in practice the task was fully completed. Planting events will continue in the spring season of 2022. In order to organize the above-mentioned forest-building events and nurseries, over 2021 a total of more than 2.1 thousand tons of seeds of ornamental, fruit tree-shrubs of various types were prepared by forest farms. A total of more than 100 million bushes of sprouts and seedlings were provided in the nurseries.

Another of the innovative ideas being implemented at this point is the idea of creating intensive nurseries in each forest farm with the aim of providing the necessary seedlings for the needs of greenery on the lands of the Forest Foundation and the surroundings of the residential areas. In this case, the seeds of trees and shrubs are used to dig up the ground in several small-small plots of a special size of 1 x 5 meters so that there is drainage stone, followed by washing river sand, soil and humus mixed by sprinkling seeds with intensive flooring i.e. foiling from the technology of germinating sprouts in a lysimeter method⁶.

Fight desertification and drought.

International organizations for combating desertification and drought (UNITED, YUNEP, FAO, JB, GEJ, YeIB, etc.) as well as countries such as Turkey, South Korea, Kazakhstan, China, Israel to establish interoperability¹².



Of the total area of 576 thousand, of which 65% is covered with Forest, 375 thousand ha is covered with Forest, and in 2020, 21 thousand ha of land were laid out new forest areas.

Indicators for the preparation of seeds of trees and shrubs in 2020 and forecast 2024

| | 2020-y | 2021-y | 2022-y | 2023-y | 2024-y |
|---|--------|--------|--------|--------|--------|
| Bukhara region | 133000 | 139650 | 143640 | 146300 | 151620 |
| Bukhara | 13500 | 14175 | 14580 | 14850 | 15390 |
| Jondor | 13500 | 14175 | 14580 | 14850 | 15390 |
| Olot | 9500 | 9975 | 10260 | 10450 | 10830 |
| karakul | 14000 | 14700 | 15120 | 15400 | 15960 |
| kyzylkum | 8000 | 8400 | 8640 | 8800 | 9120 |
| Neftchi | 8500 | 8925 | 9180 | 9350 | 9690 |
| Shofircon | 11000 | 11550 | 11880 | 12100 | 12540 |
| Korovulbazar | 10000 | 10500 | 10800 | 11000 | 11400 |
| Gijduvan | 11000 | 11550 | 11880 | 12100 | 12540 |
| Karakul specializes in | 24000 | 25200 | 25920 | 26400 | 27360 |
| Karakul forest -hunting | 7500 | 7875 | 8100 | 8250 | 8550 |
| Bukhara scientific and experimental station | 2500 | 2625 | 2700 | 2750 | 2850 |

Indicators of forest development by region on the lands of the forest foundation in 2020 and forecast 2024.

| T/r | Area name | Year | Forest building | | | Ja included | | | |
|-----|----------------|------|-----------------|---------------|-----------|-------------|------------|----|---------------------|
| | | | Total | Desert plants | | Of which | Nut fruits | | other tree species. |
| | | | | Nut | pistachio | | Almonds | | |
| | | | | | | | | | |
| 1. | Bukhara region | 2020 | 8676 | 8660 | | | | 16 | |
| | | 2021 | 8876 | 8840 | | | | 36 | |
| | | 2022 | 10722 | 9260 | | | | 47 | |
| | | 2023 | 9364 | 9315 | | | | 49 | |
| | | 2024 | 9652 | 9600 | | | | 52 | |



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| | | | | | | | | | | |
|-------|--------------|--------|-------|--------|------|-------|------|-------|-----|------|
| 2. | navoi region | 2020 | 10381 | 8450 | 1895 | | 1880 | 15 | 136 | |
| | | 2021 | 10565 | 8590 | 1898 | | 1880 | 18 | 177 | |
| | | 2022 | 10722 | 8730 | 1900 | | 1880 | 20 | 192 | |
| | | 2023 | 10850 | 8810 | 1950 | | 1930 | 20 | 210 | |
| | | 2024 | 10867 | 8810 | 1982 | | 1960 | 22 | 225 | |
| Total | 2020 | 19057 | 17110 | 1895 | 0 | | 1880 | 15 | 152 | |
| | 2021 | 19441 | 17430 | 1898 | 0 | | 1880 | 18 | 213 | |
| | 2022 | 139173 | | 123605 | | 13418 | 0 | 13290 | 128 | 1505 |
| | 2023 | 20214 | 18125 | 1950 | 0 | | 1930 | 20 | 259 | |
| | 2024 | 20519 | 18410 | 1982 | 0 | | 1960 | 22 | 277 | |

Considering that the sharp-continental climatic conditions and soils of the Bukhara region are saline to varying degrees, it is recommended to apply the following measures for the scientific-based establishment and maintenance of Forestry:

1. When establishing a forest area, it is recommended to take soil samples from the soil layer of the forest area being built and apply appropriate agroparvariation measures, analyzing data on its agrochemical properties and level of salinity; (<https://regulation.gov.uz/uz/document/9413>)
2. In the development of Forestry in the region, there are fast-growing, woody and ornamental, beautiful flowering in regions with water supply, Pavlovnia, Japanese safflower, local thick-coolant gujum, ornamental Mulberry, Russian Acacia , etc., which is fodder for livestock and does not choose land.k. planting trees such as;
3. When establishing forest farms on the extreme soils of the region, it is recommended to plant such as local naamatak, jiyda, Hawthorn, which are resistant to drought and salinity;
4. Organization of Seed Farms of black and white saxaul, cherkez-like shrubs and Wormwood ephemeral plants growing in a desert area;
5. Areas near the settlements to establish new pasture areas consisting of tin, izen, Wormwood, teresken;
6. Organization of the cultivation of low-edible, poisonous species such as lamb, oqquray, adraspon, burgan as plant cover among the saxaul Groves growing in the steppe-pastures;
7. Conducting scientifically based work on Desertification prevention and degraded land reclamation;
8. In desert, lalmikor regions, in order to prevent the migration of sand and salts, it is advisable to plant different varieties of saxaul, as well as in the Prevention of wind erosion and sand migration, planting fruit and ornamental trees resistant to various scorching heat;



9. In our areas where cultural irrigation is farmed, in cheles-the development of eclipses;
10. In the Bukhara region, it is necessary to establish Forester farms on the two edges of the roads, based on climatic conditions, to establish the cultivation of porcelain gujums in them;
11. In cooperation with the regional forestry department, it is necessary to establish training, retraining and professional development of specialists with secondary special and higher education in the direction of Forestry;
12. In cooperation with the regional forestry department, it is necessary to establish the training of personnel in the direction of Forestry;
13. 5410800 under the Faculty of agronomy and biotechnology of Bukhara State University, taking into account the scarcity of specialists in the territory of the Bukhara region, 5410800—direction of undergraduate education in the direction of Forestry and greening of settlements and 5a411201-greening of settlements and landscape design, 5a410801-opening directions of Master's education in the directions of Forestry;
14. Strict accounting of the forest fund , flora and fauna of the Bukhara region;
15. Reproduction of resistant trees and shrubs on saline soils, as well as on the Prevention of salinity
16. Introduction of scientific achievements and advanced experiments into the practice of Forestry Management;
17. Protection of the forestry-owned fund from fires, diseases and pests, illegal logging;
18. Ending the use of pala-partish from pastures in the desert zone, increasing control over users in pastures;
19. Great attention to the road system in the desert area, growing trees growing in the desert area around the road;
20. Environmental elimination by establishing a recreation zone within the saxaulzors;
21. Establishment of clusters of cultivation of seedlings and seeds of ornamental plants in the region;
22. Further development of ecological tourism in desert forestry through international grant programs; [Niyazov A.B., Hasanov I.Kh]

Conclusion.

In conclusion, from this year, in cooperation with the UNDP (UNDP), the Global Environmental Fund and the Davergeodezkadastr committee, work began to establish a New Forest in the Bukhara region. As a result, 1,000 hectares are planted in the Karakol18 state forestry area of Karakol district, and 300 hectares in the Karakol specialized state forestry area, in total, 1,300 hectares are planted together with the seeds of the black saksavul sprout kandim and cherkez plants.

Our aim is to test sustainable methods of managing land resources by identifying plant species that provide economic benefits in deserts and semi-deserts, to ensure ecosystem stability by further increasing the population's5 rational use of pastures. Of course these works will be through knowledge. For this reason, we need to further develop science. Nothing can be done at risk. Without science, there will also be no development so we have to work in collaboration with



scientists from scientific research institutes. Taking each direction together with science, we can achieve the goals set before us.

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