FUNDAMENTALS OF EFFICIENT USE OF LAND AND WATER RESOURCES

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Abstract: This article describes the current state of irrigated land reclamation in Bukhara region, the causes of its origin and measures to eliminate them. It also reflects the work done to implement the decisions taken by the government.
Keywords: climate, landscape, relief, soil, geological, hydrogeological.
It is known that in our country it is necessary to create the necessary conditions for more sustainable development of the agricultural sector, improving the reclamation of lands, increasing their productivity and thus increasing the productivity of agricultural crops. The following key priorities have been identified to radically improve the reclamation of irrigated lands;
-formation of programs to improve the reclamation of irrigated lands and radically change approaches to its implementation;
- Ensuring a reliable mechanism for financing the work to improve the reclamation of irrigated lands:
-strengthening the material and technical base of water management organizations and water consumers' associations through the widespread introduction of leasing operations, renovation of the Palace of reclamation equipment.
As a result of the measures taken, the groundwater level of 1,200,000 hectares of irrigated land has been reduced to an optimal level in 2017-2020. Also, irrigated lands with groundwater level up to 2 meters were reduced to 364.6 thousand hectares, 81.2 thousand hectares in high and medium salinity areas were reduced to low salinity and non-salinity levels. According to the observations, the yield of cotton grown on irrigated lands, where measures were taken to improve the reclamation condition, increased by 2-2.5 ts / ha, and grain - by 2, 5-3ts / ha. As a result of measures taken in the past, the reclamation of 1.7 million hectares of irrigated land has improved. The State Program was adopted on the basis of the decision to use measures to improve the reclamation of irrigated lands rationally and economically, on the basis of which to ensure the sustainable operation of agricultural production, increase land productivity and increase crop yields. According to him, 1.1 mln. improving the reclamation of irrigated lands, as well as reducing the area of strong and moderately saline lands by 87 thousand hectares or 12% and improving the technical condition of reclamation facilities (82 thousand km) and ensuring a guaranteed flow of collector-drainage water on 255 thousand hectares. The Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, The Ministry of Economy, the Ministry of Finance, the State Committee for Geodesy and Cadastre together with the Council of Ministers of the Republic of Karakalpakstan and regional administrations approved a state program to improve the reclamation of irrigated lands and rational use of water resources. The program focused on improving irrigation and reclamation of irrigated lands. Irrigation is the use of artificial humidification or water supply to lands with insufficient natural moisture to increase soil fertility. In all natural areas except tundra, lands are irrigated. But lands are irrigated for different purposes and each irrigation has its own characteristics. The climate of the arid regions of the country is hot and dry, with little precipitation. Uzbekistan is located in the northern hemisphere, away from the seas and oceans, in the middle part of the Eurasian continent, in the subtropical region. 80% of its area is desert and semi-desert. The main climate-forming factor is the flow of solar radiation. In summer, this value is 800-1000 Mj / m2. Tropical Turanian air dominates the hot desert in summer. Solar radiation, general air exchange and relief have led Uzbekistan to a sharply changing, subtropical climate.
Irrigation is a well-developed network of land reclamation, in which humanity grows guaranteed agricultural products. Most of the crops (80-90%) grown in the past and still in our country are obtained from irrigated

lands. Therefore, irrigation plays an important role in the national economy of the Republic of Uzbekistan. Looking at the history of irrigation, archeological excavations in Central Asia have uncovered land near Ashgabat. avv. Irrigation was also used in the 3250s. On the planet, irrigation has a history of 5-6 thousand years, and its roots go back to countries such as China, India and Egypt. Currently, irrigation is carried out in more than 120 countries on an area of 265-270 million hectares, in China - 74 million ha, in India 42.1 mln. ha, 26 million in the United States. ha, 7.963 million in Central Asia. ha, of which 4.3 mln. The area is irrigated In the Republic of Uzbekistan alone, 4.3 mln. About 900 irrigation systems have been created for the irrigation area. According to the Ministry of Agriculture and Water Resources, the total length of irrigation networks in Uzbekistan is 200,000 km, and the total length of drainage networks is 139,000 km. 17 billion cubic meters of water are stored in reservoirs every year. m3 of water is collected. The specific irrigated area per capita of the republic was 0.35 ha in 1965, now it is 0.17 ha, and this downward trend continues. However, most of them fall during the growth of plants. Due to low rainfall or groundwater near the surface, the lands in our country are saline to varying degrees. As a result of salinization, crop yields decrease. In order to improve the condition of lands, reclamation of saline lands is carried out. Saline land reclamation is the process of removing excess water-soluble harmful (toxic) salts from the root zone of the soil, which reduces the yield and quality of agricultural crops. Reclamation of saline lands is of great importance in irrigated agricultural areas, as about 60-65% of agricultural lands are saline to some extent (in Uzbekistan alone, the area of saline lands of different levels is more than 2.4 million hectares (66.7%)). Reclamation of saline lands is carried out through a set of hydrotechnical reclamation and agro-technical measures. A set of reclamation measures should provide the highest efficiency in maintaining the nutrients necessary for the plant in the soil and the physical properties of the soil water suitable for their development, while using very little water in saline leaching. In order to prevent salinization in irrigated lands, special attention is paid to crop rotation, land leveling, pre-sowing and inter-row tillage. In addition, in the reclamation of saline lands it is important to establish protected forest zones along irrigated plots and land massifs, to correctly determine the optimal timing and norms of capital and preventive saline leaching according to the level of soil salinity. Due to the scarcity of natural water resources and low rainfall, desertification in Uzbekistan is very high due to the fact that the country is located in an arid zone. The Republic of Uzbekistan is making great efforts to address the problems associated with land degradation and drought. Since 2006, the Central Asian Countries Initiative for Land Management (ERBMOMT) has been implementing the UN Convention to Combat Desertification and Drought with the support of the GEF, GIS, the World Bank, UNDP, ADB and other donors. Uzbekistan is implementing the project "Update and report on the National Action Plan to Combat Desertification." Healthy soil not only ensures sustainable production of food products, but also enhances climate resilience. In the process of desertification, productivity decreases, which in turn has a negative impact on the condition of irrigated lands.

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