



ISSUES OF AGRICULTURAL SPECIALIZATION AND IMPROVEMENT OF CROPS AGROTECHNOLOGY IN THE ARAL SEA REGION

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ABSTRACT

In Karakalpakstan, water shortages quickly resumed since the 2000s, from 39-41% in 1999-2001, 50-55% in 2007-2010 and 54-58% in recent years, as a result of which the Aral Sea remained altogether without water. According to world experts, the water shortage in the future will increase by 15-17%, and the years of drought are likely to be repeated.

KEY WORDS: *Aral Sea, Karakalpakstan, water deficit, salinity, harsh climate, post office, specialization, agricultural technology, agriculture, productivity, soil fertility.*

INTRODUCTION

In recent years, water shortages in the Aral Sea region have recurred frequently, reaching 39-41% in 1999-2001, 50-55% in 2007-2010, and 54-58% in recent years, leaving the Aral Sea without water at all. According to world experts, water shortages will increase by 15-17% in the future, and years of drought are likely to recur. In this context, in the Republic of Karakalpakstan on the Aral Sea coast, it is important to address the issues of agricultural specialization, planting low-water crops instead of water-intensive crops, the use and improvement of water-saving technologies, planning the development of water-intensive livestock [3].

MAIN PART

Based on this situation, as stated in the Action Strategy for the further development of the Republic of Uzbekistan for 2017-2021, "... modernization and accelerated development of agriculture, consistent development of agricultural production, further strengthening of food security, environmentally friendly products expansion of production, significant increase in the export potential of the agricultural sector ... » important tasks to be worked out [1].

In order to prevent negative processes in the Aral Sea and the Aral Sea region, to maintain the content of active life, our Presidents addressed the 48th

session of the UN General Assembly on September 28, 1993 and the 50th session of October 24, 1995 and the 72nd session of the UN General Assembly in 2017. Representatives of the countries called on the world community to help save the Aral Sea and the Aral Sea Basin. As a result, the International Fund for Saving the Aral Sea (IFAS), established in 1996 in Uzbekistan, Kazakhstan, Tajikistan, Kyrgyzstan and Turkmenistan, was established and many useful decisions were made.

The need for specialization in agriculture in the Aral Sea region is reflected in the following: first: assistance in combating desertification in the region by providing specialization in agriculture in the Aral Sea region; second: to increase the level of meeting the population's demand for agricultural products in the Aral Sea region by providing agricultural specialization; third: Creation of new jobs for the population by providing specialization in agriculture in the Aral Sea region, etc. The necessities cited indicate how relevant the topic is [4].

Among the consequences of climate change in the Aral Sea Basin, which may also have a negative impact on agricultural development in the region, are the following:

1. An increase in air temperature of 2-3 ° C in the Aral Sea basin led to a violation of optimal planting times and irrigation regimes, resulting in a



significant decrease in crop yields.

2. During the period of plant growth (vegetation), irrigation processes were observed to increase by an average of even 10% compared to the norm.

3. Due to the increase in evaporation in the winter and autumn months, saline washing and moisture retention agro-technological measures increased irrigation by 5-10% compared to the norm.

4. In cases of high groundwater levels in the regions, the increase of salt migration through the water, which led to the activation of the processes of salt accumulation in the soil.

5. Unfavorable weather conditions (unstable snow cover, severe ground freezing, late spring and early autumn frosts, high and low temperatures, heavy rainfall, hail, garmsels, dust storms, etc.) have led to variability in crop yields.

6. The area of cultivated lands has decreased due to erosion, salinization, sand and salt migration.

7. The reduction in the area of aquatic plants has led to losses in the nutrient base.

8. A complete change in the composition of crops suitable for cultivation in agriculture is expected.

9. Due to improper specialization, losses in fishing, muskrat breeding and animal husbandry are occurring.

10. Irreversible changes in nature are taking place due to desertification of the river delta, deterioration of pastures.

Increased number of days of extreme high temperatures (above 39°C), irrigation deficit, droughts, soil degradation, increased water and wind erosion, soil salinization, reduced humus content, deterioration of the fodder base lead to a decrease in livestock productivity [2].

In order to prevent these negative factors, the agro-cluster method of agricultural production has been introduced in the country. Agriculture consists mainly of cotton, grain (rice and wheat) and livestock (meat, milk, astrakhan). In the volume of gross agricultural output, cotton accounts for 18.1%, grain crops - 22.6%, livestock products - 36.4%. In 2020, the total sown area was 259.9 thousand hectares, and a total of 9666.5 billion soums of agricultural products were grown during the year [1].

Today, more than 80 types of agricultural products grown in our country are exported to 66 countries. In 2010, cotton fiber accounted for 11.3% of exports, but by 2018 this figure will decrease to 1.6%, and instead of cotton fiber, fruits and vegetables, melons are being examined [1].

In order to eliminate these observed objective and subjective factors, it is expedient to follow the conclusions and principles of adaptation of agriculture in the Aral Sea region to climate change and mitigation of its negative consequences.

CONCLUSIONS

1. Rational use of available water resources, ensuring specialization in agriculture, use of modern cost-effective techniques and technologies in irrigation of agricultural crops;
2. Preservation of existing water resources, increasing soil fertility and diversification of new promising crops;
3. Rational use and protection of land in the context of climate change and implementation of phyto-restoration methods;
4. Reclamation of areas with difficult reclamation and creation of new intensive gardens;
5. Coordination of agricultural specialization with livestock, water supply of the region;
6. Development of modern agro-technologies;
7. Creation of new jobs for the population in the Aral Sea region, providing specialization in agriculture
8. Development of non-traditional sectors of agriculture (beekeeping, fisheries, etc.).
9. For efficient use of land resources in times of water scarcity, specialization should be based on the local water supply.
10. According to the forecasts of world experts, in the conditions of further reduction of water supply by 15-17% by 2050 in the Republic of Karakalpakstan on the Aral Sea, it is necessary to strengthen agro-cluster activities, expand water-intensive and food crops and livestock.

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