



THE INFLUENCE OF ECOLOGICAL CONDITION ON FOOD PRODUCTS IN THE REPUBLIC OF KARAKALPAKSTAN.

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ABSTRACT

The Republic of Karakalpakstan is in a difficult environmental situation associated with the Aral Sea. Climate change on a global scale creates many negative problems for this region. Therefore, the article aims to investigate the impact of ecological conditions on the food production. The results of the research depicts that the negative effect of the ecological condition on food products is increasing year by year. To solve this concerning problem the government ought to present some strategies so as to decrease the negative influence of ecological problem on food production in the Republic of Karakalpakstan.

Climatic conditions have a major impact on agriculture and hence most of the rural population of Karakalpakstan and their livelihoods are vulnerable to climate change. Climate forecasts suggest that the Republic of Karakalpakstan will be subject to:

- an increase in the average annual temperature by 1.9C-2.4C by 2050; the greatest warming in this case will occur in the winter and spring periods; largest increase in the summer season;
- a gradual increase in the predicted water shortage in the Aral Sea basin as the demand for water grows and the volume of guaranteed water withdrawal from the Amudarya and Syrdarya river basins decreases;

- predicted, according to the World Bank specialists, the water deficit will increase to 11-13 km³ by 2050;
- conditions for agricultural production will be the most difficult to predict, due to the fact that an increase in temperature will lead to an increase in the evaporation of moisture (evapotranspiration) of crops, offsetting the projected increase in precipitation and leading to drier conditions for agricultural production;
- invasions of new agricultural pests and diseases of crops and livestock due to changes in temperature and precipitation;
- an increase in the duration of the growing season, especially in the northern regions, providing opportunities for sowing new crops, increasing productivity and



changing the structure of crops.[2:112-122].

In terms of land productivity, the Republic of Karakalpakstan ranks last in Uzbekistan. This is due to both objective and subjective reasons. Among the objective reasons is a sharply continental climate: dry summers, cold winters, acute shortage of water and the negative impact of the environment on land productivity.[3].

Subjective reasons: lack of due attention to the use of new varieties and seeds in crop production - drought-resistant and tolerant of extremely low temperatures; unadapted material and technical base; non-compliance with the rules of agricultural technology; inadequate local conditions for crop placement; relatively low level of local initiative in agriculture. However, this does not apply to all areas of the region. For example, in the districts of Beruni, Ellikkala, Turtkul, Amu Darya and Khodjeyli, the level of soil fertility and productivity is higher than the average for the region.

Growth in agricultural production in the Republic of Karakalpakstan in 2019-2021 was to be provided by expanding the sown area for crops (potatoes by 0.6 thousand hectares in 2017-2021, vegetables by 1.5 thousand hectares, melons by 0.3 thousand hectares, fodder by 5.5 thousand . ha, industrial oilseeds by 4.5 thousand ha, orchards by 0.5 thousand ha, vineyard by 0.5 thousand ha), as well as by increasing the yield of crops (potatoes by 25.2 q/ha , vegetables by 47.5 c/ha, gourds by 14.3 c/ha, fruits by 8.2 c/ha.

According to indicators, with the growth of production volumes and crop yields, the volume of their processing will also increase. So, in 2025, the level of processing of fruits will be increased to 38-

39%, vegetables to 5.5%. In animal husbandry, the implementation of measures to increase the number of livestock and poultry, as well as the weight gain of cattle, will also become a reserve for deep processing of meat and milk (the level of meat processing in 2025 will increase to 2.0%, milk - up to 22.6%).[5:158].

The fish industry will retain its social orientation towards maintaining the traditional way of life of the indigenous population and will develop along the path of creating a single complex, including the cultivation and catch of fish, processing and marketing of final processing products in the form of frozen, dried, smoked products, canned goods. In order to compensate for the negative impact on the area, projects should be developed for the artificial reproduction of water resources, the modernization of existing lakes.

Development of non-traditional crops in accordance with the ecological situation. Taking into account the climatic and ecological situation in the region, the development of a number of non-traditional crops can bring great economic benefits, in particular, the cultivation of Jerusalem artichoke along with potatoes. This crop has a fruit yield 10 times higher than that of potatoes grown in the region (500-1200 c/ha), and the stem is 6 times higher than that of corn.

Jerusalem artichokes are also an important raw material for the alcohol and paper industries and can be used in bioenergy. It is recommended to grow in Turtkul, Beruniy, Amudarya, Karauzyak, Nukus and Khodzheli regions, where water supply is necessary only during the growing season. Traditional food products produced in the region can only meet domestic demand through rice and melon. It is estimated that



domestic demand for agricultural products will increase by 1.2% by 2030. In order to fully meet the internal demand of the region, it is necessary to increase the sown area for vegetables and potato varieties, including the above-proposed Jerusalem artichoke by 18.1 thousand hectares, orchards by 7.9 thousand hectares and vineyards by 1.8 thousand hectares. Most of the additional demanded area can be allocated through the exploitation of unused land, as well as the optimization of crops with low yields of cotton and grain crops.[1].

At the same time, in order to more successfully solve the problems of the development of the agricultural sector in the context of increasing climate change, there is also a need to take measures in the field of legal incentives and regulation at the national level, while providing for: [4:91-100].

Strengthening the supervisory functions of the district divisions of the Inspectorate for Control over the Agro-Industrial Complex and Ensuring Food Security under the General Prosecutor's Office of the Republic of Uzbekistan, for the safety of agricultural land, as well as land funds suitable in the future for use in agriculture; Improving agricultural legislation in the direction of

preventing deliberate actions leading to the deterioration of the state of agricultural land and food production. Strengthening state supervision and public control over compliance with land and water use norms; Organization of permanent district centers for advising agricultural producers on issues of agricultural legislation, modern technologies for the production of agricultural products, increasing land fertility and rational water use;

Stimulation of research and development, introduction and mass application of the best, including foreign, practices related to increasing land fertility, preventing soil erosion, quality control and storage of food products.

Conclusion. Based on the above-given data it can be concluded that the environmental situation of the Republic of Karakalpakstan is much more concerning. This is due to the fact that this situation negatively affects to not only food products but also human health. That's why, there ought to be presented some legal incentives so as to produce healthy products. The results of the research showed that there are numerous problems regarding the food production. To solve these problems the research presented some valuable strategies.

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