

The Necessity of Developing Prospective Land Management Schemes for The Districts of The Republic of Uzbekistan

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Abstract

This article highlights the achievements that can be achieved in the field of land management based on the development of prospective land management schemes for the districts of the republic, as well as the sequence of works that need to be carried out in this direction, proposals and conclusions on specific measures aimed at the protection of irrigated arable lands. In addition, this study provides information on each stage of developing a land management scheme. The final part of the article presents the author's conclusions and proposals for implementing the results of the research work into production.

Keywords: Land management scheme, irrigated arable lands, digital map, agriculture, settlements, degradation, agroeconomics.

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1. Introduction

Currently, the world is experiencing an annual increase in population and a growing demand for food products. It is no secret that a significant portion of food products is produced on agricultural lands. This, in turn, requires the efficient use of land resources, as well as constant monitoring of them. The world's land fund currently amounts to 13.4 billion hectares, of which only 1.5 billion hectares, or 11%, are considered economically favorable for agricultural production. Their quantity and quality are decreasing year by year under the influence of natural and anthropogenic factors and processes. Globally, 45.2% of the economically active population is employed in agriculture [8]. Meeting the growing needs

of the population for food products and industry for raw materials requires more rational use of land and water resources, increasing their productivity, and increasing the productivity of crop production and livestock farming.

The total area of land within the administrative boundaries of the Republic of Uzbekistan as of January 1, 2024, amounts to 44,892.4 thousand hectares, of which irrigated lands account for 4,342.5 thousand hectares, or 9.7 percent of the total land area. Due to the absence of land management schemes developed for a 20–30-year perspective for the existing agricultural districts of the republic, agricultural lands, especially irrigated lands, are allocated for social facilities, economic facilities and

engineering infrastructure facilities identified in state programs, including the economic zones and “New Uzbekistan Massifs” being created.

At a time when it is necessary to improve the main directions of our country’s development and bring the ongoing large-scale reforms to a new stage, the reduction in the area of irrigated lands per capita over the past 20 years from 0.23 hectares to 0.12 hectares requires the rational and efficient use for their intended purpose and protection of agricultural lands, which are the main means of production of agricultural products and ensuring food security.

The results of the research obtained in this scientific article, to a certain extent, serve the scientific solution of the indicated problems, as well as are aimed at ensuring the implementation of the tasks defined in individual legislative documents.

2. Object and Methods

The object of the research is the agricultural districts located within the territory of our Republic. The main objective is to develop land management schemes for the existing agricultural districts, designed for a 20–30-year perspective.

3. Results and Discussion

In the course of our research, with the aim of ensuring food security, which is becoming one of the pressing problems of our time, and preserving irrigated lands as much as possible, land management schemes will be developed for agricultural districts located within the territory of our Republic. A land management scheme is understood as a set of scientifically substantiated legal, economic and technical documents, calculations and descriptions used in carrying out inter-sectoral, inter-farm and on-farm land management works.

As of January 1, 2024, the number of agricultural enterprises and organizations in the republic, together with farms, is 120,942, and the total area of land allocated to them is 26,232.3 thousand hectares,

including 21,206.0 thousand hectares of agricultural land, of which 3,693.6 thousand hectares are irrigated lands.

Arable lands include all cultivated lands on which agricultural crops are sown and which are continuously used. Arable lands are divided into two types: irrigated and rainfed lands. As of January 1, 2024, the total area of arable land in the republic is 4,028.5 thousand hectares, including a total irrigated arable land area of 3,242.1 thousand hectares, or 12.6 percent of agricultural land, while the total area of rainfed arable land is 768.4 thousand hectares, or 3.0 percent of agricultural land [2].

During the research, particular attention was paid to the analysis of data on the existing areas of irrigated lands in the Republic of Uzbekistan. In this regard, in order to determine differences over the period 2012–2024, the data of the Cadastre Agency on land areas by year were analyzed. According to the land report as of January 1, 2024, irrigated lands in the territory of our Republic amount to 3,245.1 thousand hectares. Changes in the area of irrigated arable land in the Republic of Karakalpakstan, regions and the city of Tashkent for 2012–2024 were analyzed.

As a result of the analysis, it was established that, overall, in the republic, the total area of irrigated lands was 3 million 307 thousand 300 hectares in 2012, while by 2024 it amounted to 3 million 245 thousand 100 hectares. It follows that during the period 2012–2024, the area of irrigated lands decreased by 62,200 hectares. In particular, a decrease in the area of irrigated lands was established in the Republic of Karakalpakstan by 4,800 hectares, Andijan region by 3,700 hectares, Jizzakh region by 3,300 hectares, Kashkadarya region by 4,400 hectares, Namangan region by 13,100 hectares, Samarkand region by 10,000 hectares, Surkhandarya region by 3,100 hectares, Syrdarya region by 2,100 hectares, Tashkent region by 13,600 hectares, Fergana region by 7,200 hectares, and Khorezm region by 4,300 hectares. At the same time, cases of an increase in the area of irrigated lands were identified in Bukhara and Navoi regions and the city of Tashkent.

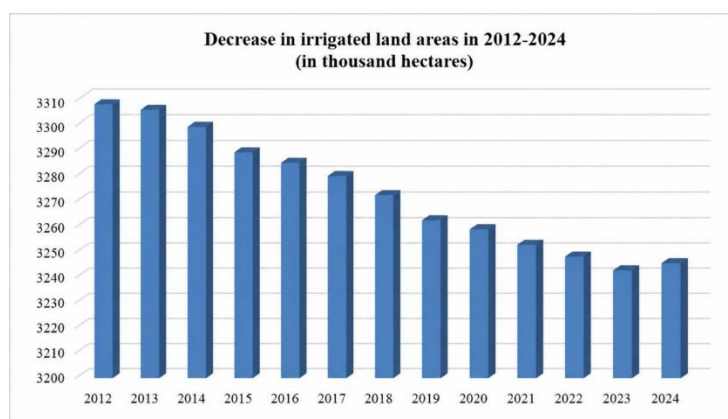


Figure 1. Dynamics of changes in irrigated lands by year (2012–2024).

Figure 1 shows a reduction in irrigated lands. The main reason for the reduction in irrigated lands can be attributed to the fact that currently we use not only irrigated lands but also lands intended for other purposes in an unsystematic and irrational manner. That is, we allocate land not in accordance with its composition and category, but based on our needs. Irrigated lands suitable for sowing agricultural crops are used not for growing agricultural crops, but for the construction of social buildings and structures or for other similar purposes, which, in turn, leads to a reduction in irrigated lands. At present, the negative consequences of this are not noticeable, but in the future this may lead to a food shortage.

In foreign countries, prospective land management schemes began to be developed in the 2010s and are currently continuing to be improved. In our Republic, however, for the first time since gaining independence, work is being carried out to develop prospective land management schemes for districts using land management technologies.

Until now, in the agricultural districts of our Republic: due to the absence of developed current and long-term plans for the development of the national economy, schemes for the distribution of productive forces, engineering projects for measures to combat degradation, the placement of construction, industrial and economic facilities, communication and transport infrastructure facilities, as well as feasibility studies for the development and placement of cities and towns, settlements and rural settlements, a number of problems have arisen in the agricultural sector.

The main objective of our work is to develop prospective land management schemes for the districts of the

Republic in order to eliminate the above-mentioned problems and prevent the threat to food security.

The work on developing land management schemes is carried out in the following stages:

preparatory works;

preparation of the scheme;

consideration and approval of the scheme;

preparation and submission of copies of the scheme documents.

During the preparatory works. Tasks for developing the land management scheme are prepared, and materials and documents are collected, analyzed, and systematized. An electronic digital map of the district at a scale of 1:10,000 is used as the cartographic basis for developing the land management scheme. For mountainous, foothill, and desert areas, maps at a smaller scale may also be used.

Preparation of the Scheme. Works are carried out to determine the general strategy and concept of land use, prepare the text and tables of the scheme, and compile its map.

Consideration and Approval of the Scheme. After the land management scheme has been developed by the institute, it is submitted for consideration to the interested state bodies and organizations (the Ministry of Construction and Housing and Communal Services, the Ministry of Ecology, Environmental Protection and Climate Change, the Ministry of Agriculture, the Ministry of Mining Industry and Geology, the Cadastre Agency under the Ministry of Economy and Finance, territorial divisions of the Agency for Management of

State Assets, and others). The agreed land management scheme is considered by the Councils of People's Deputies of the district and region, and is also approved by the regional khokim.

Preparation and Submission of Copies of the Scheme Documents. In this case, the textual part of the land management scheme consists of text, figures and analytical tables, as well as cartographic parts ensuring the completeness of maps, information tables and individual appendices. The textual part of the land management scheme should reflect the following information: analysis and assessment of the actual condition of lands and land use problems, dynamics and trends of land use in the district, the degree of utilization of the district's natural and economic potential, taking into account restrictions on various types of land use, indicators for assessing anthropogenic impacts, conflict situations, risks arising for the natural environment, biological and landscape diversity, specific conditions of land use, scientifically substantiated proposals for improving land use, increasing the efficiency of land resource use and protecting land resources, proposals for implementing prospective measures in accordance with the land management scheme, and data on the assessment of their consequences.

After the development of the land management schemes, information on the established land use and its condition is entered in the form of an electronic map, including additional descriptions, into the network of geoportals of the National Spatial Data Infrastructure for use within official activities [4].

4. Conclusions

Based on the above-mentioned opinions and considerations, the following results will be achieved through the development of prospective land management schemes for the districts of the republic:

within the administrative boundaries of the district, a land report (balance) will be developed by administrative-territorial units (cities, towns and rural (aul) settlements subordinate to the district) in terms of land users' and tenants' land parcels, as well as their electronic digital maps;

the boundaries of rural settlements will be clarified and works will be carried out to designate them on maps;

engineering projects for measures to combat degradation will be developed;

prospective digital land management schemes for the districts will be developed and their electronic database will be formed;

the land management schemes being developed will create opportunities for the development of agro-economic sectors.

Using the developed land management schemes, effective use of irrigated lands within agricultural lands and prevention of their reduction will be achieved.

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