

PROCESSES OF INTRODUCING THE DIGITAL ECONOMY ON IRRIGATED LAND

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ELSEVIER



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Abstract: At present, land registration and state registration of rights to land has an important role for the development of countries with a rural economic industry - this is, first of all, the protection of land, regulation of land relations, protection by the state of the rights of the population to land and the introduction of GIS technology for a high-quality monitoring system .

Keywords: . GIS, state registration of rights, agriculture, irrigated lands, land monitoring, rights, protection of land funds

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INTRODUCTION.

At this time, as of January 1, 2022, the total area of land within the administrative boundaries of the Republic of Uzbekistan is 44 million 892 thousand 400 hectares, of which 4 million 331 thousand 700 hectares are irrigated, of all the lands of our republic, only 9.7% are irrigated land [1-5].

For your information, it can be noted that the total area of the republic consists of a total of 44.9 million hectares of land, of which 41.4 million hectares (agriculture - 23.9 million hectares, forestry - 11.9 million hectares, environmental lands - 2.9 million hectares, state reserve lands - 1.7 million hectares) or 92.2% are included in the Cadastral Information System with the creation of an electronic map in the "Integrated Information System of Cadastre and Registration" [1].

THE MAIN PART

Of these: 36.0 million hectares (in agriculture - 22.3 million hectares, in the forest fund - 11.8 million hectares, environmental lands - 1.1 million hectares) passed state registration with the formation of cadastral files for 4,596 million land users.

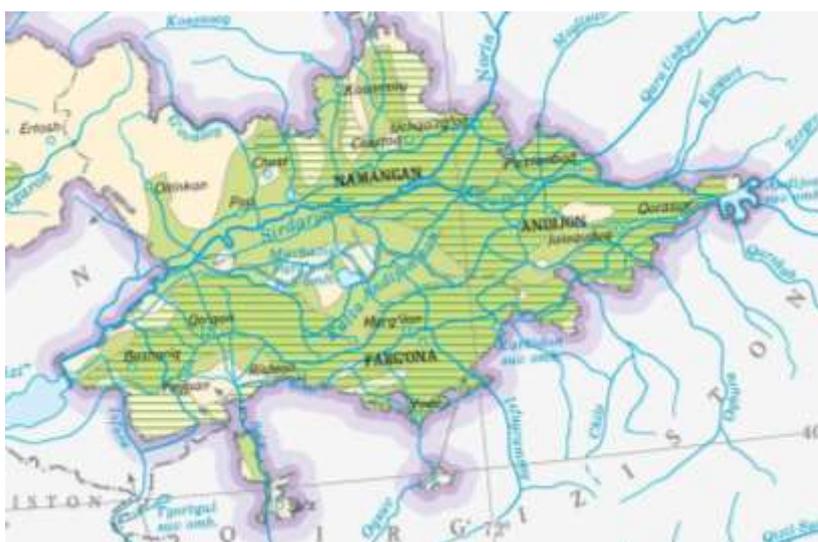
The land fund in the Republic of Uzbekistan has its own characteristics, and since the Land Code, in accordance with the main intended purpose of land, is divided into 8 categories.

The land fund of the Republic of Uzbekistan is divided into categories as follows:

1. Agricultural land - 27148.5 ha
2. Land of settlements - 224.1 ha

3. Lands of industry, transport, communications, defense and other purposes - 879.6 ha
4. land for nature protection, health and recreation purposes - 731.6 ha
5. Lands of historical and cultural purpose - 14.6 hectares
6. Lands of the forest fund - 12057.3 ha
7. Water fund lands - 827.1 ha
8. Reserve land - 3009.6 ha

For a thorough analysis, let us consider maps of ancient irrigated lands on the territory of Uzbekistan [6-10]. On the example of the Ferghana Valley. Fig-1.



Picture 1. Map of the ancient irrigated lands of the Ferghana Valley.

This map reflects: irrigation systems in the Neolithic and Bronze Ages (3rd millennium BC - late 4th century BC);

irrigation systems of the ancient period (VII century BC - IV-V centuries);

Medieval irrigation systems (IV-V centuries - XVII century);

current irrigated lands (XX century - beginning of the XXI century);

plan of irrigation systems near the city of Varakhsha in the Middle Ages;

irrigated lands of Khorezm in the Antique period (right bank of the Amu Darya);

irrigation systems around Tuprokkale, the capital of ancient Khorezm [2].

The application of GIS in the use of land resources is considered. The tasks of GIS are described. The use of GIS technologies in land management and land cadastre in our time is an opportunity to introduce scientifically based, provable project proposals based on a comprehensive computer analysis of the current state of land and aimed at more efficient use of territories. Arzgir (ArcGIS) district has a high potential of land resources, primarily agricultural land. The use of GIS in conjunction with data obtained using GPS / GLONASS receivers will allow the

most efficient use of the land fund of the area according to its intended purpose [11-16].

Geographic information system (geographical information system, GIS) is a system for collecting, storing, analyzing and graphical visualization of spatial [4] (geographical) data and related information about the required objects.

The concept of a geographic information system is also used in a narrower sense - as a tool (software product) that allows users to search, analyze and edit both a digital map of the area and additional information about objects [4].

Data in geographic information systems usually describe real objects, such as roads, buildings, water bodies, forests. Real objects can be divided into two abstract categories: discrete (houses, territorial zones) and continuous (relief, precipitation, average annual temperature). Vector and raster data are used to represent these two categories of objects [18-23].

Analysis of geospatial data. Spatial data form the basis of information support for geoinformation systems. Modern analysis of geospatial data allows you to combine a geographic information system with business intelligence, which leads to high-quality, fast decision-making by reducing the time to search and analyze the necessary information. Spatial analysis allows you to use the map as one of the standard measurements, like time [24-32].

Typical questions that a geographic information system can answer are:

"What is in...?" (location to be determined).

"Where is it?" (spatial analysis).

"What has changed since...?" (determine temporary changes in a certain area).

"What spatial structures exist?"

"What if...?" (simulating what happens if you add a new object).

CONCLUSION.

According to the analysis of geospatial data, it will be necessary to introduce a database such as irrigated lands and multiply attribute data on agricultural lands and other above-mentioned industries of the republic. Also, create data comparing old and new maps of irrigated lands.

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