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## **THE NEED TO CREATE THE EARTH INFORMATION SYSTEM PORTAL** **R.A.Turaev**

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**Abstract.** This article discusses the land information system, its content and essence, its current importance and application, as well as the advantages of land monitoring based on the "Land Information System Portal". "GIS".

**Keyword.** Land information system portal, agricultural lands, geographic information systems, and Python programming, database, quantity and quality indicators.

**Introduction.** The available land resources on the planet are estimated at 3 billion, and according to the latest data, about 1.5 billion hectares of land are being intensively used. Irrigated lands also account for 1/5 of the total used land (300 million ha), accounting for 30-40% of the food grown. The rapid growth of the population in recent years, the rational use of water and land resources directly in agriculture, requires the correct management of quantitative and qualitative indicators of land. This requires the use of the land information system portal when maintaining land records. The difference of a land information system from other information systems is due to the specific characteristics of the land.

**The main part.** The Land Information System Portal requires in-depth scientific and practical research on almost all components of the industry (data management system, database, data storage methods, etc.). Advances in new technologies have made it possible to improve land cadastre, land management and land monitoring work processes, such as the use of GAT technologies to create automated land information systems. However, the use of traditionally organized methods in the field of receiving and processing information in the use of new software and hardware is not effective.

Therefore, their modernization on the basis of new technical and technological capabilities and the creation of land information system portals is today's an important issue.

The purpose of GIS is to show the state of land use in the country, automate land management and provide users with open information about land resources.

The land information system consists of accurate, up-to-date and reliable land registration and related attributes and spatial information that reflects the legal boundaries of land ownership. It provides a vital land portal layer as an independent solution that allows integration into other geographic systems or allows data to be retrieved, created, updated, stored, viewed, analyzed, and published.

At present, issues related to data processing are common in the activities of any industry. It is hard to imagine any enterprise or organization without an automated data system. All automated information systems are based on a database management system. The geodatabase is formed on the basis of a database management system. The creation and management of any geodatabase will depend on theoretical foundations and practical methods.

In this regard, it considers the basic concepts of database and geospatial database and their interrelationships, classification, formation of data structure and corresponding MBMT types. Today, it is difficult to imagine any GAT (geographic information system) project without a geodatabase.

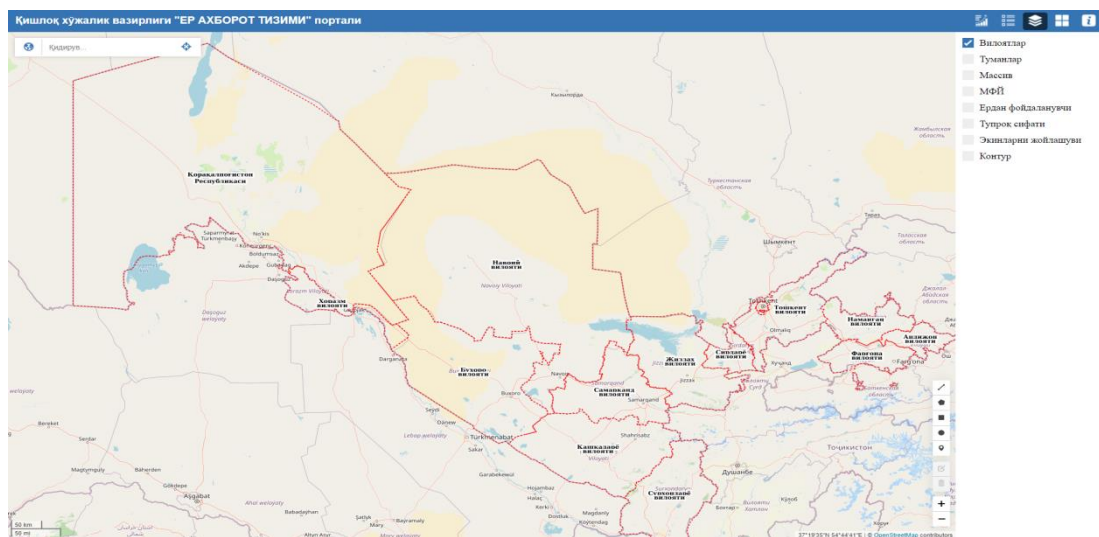
**Results and discussions.** Today, GIS is widely used in all sectors of the economy. In order to use the GIS, a large amount of written and graphical, region-linked geographic data will need to be collected. That is why geodata is an integral part of any GIS. Geodata is created on the basis of special GIS programs.

The Land Information System portal is a generalized and digitized online system of information on all land resources of Uzbekistan, land users and their land plots, land quantity and quality indicators, location of agricultural crops and land types. This portal was developed by the Ministry of Agriculture of the Republic of Uzbekistan.

In the process of developing and coding the geographic information portal system, high-level programming languages were used.

In this regard, the program of the portal "Land Information System" of the Ministry of Agriculture was developed in the Django Framework based on the Python programming language.

The portal of land geoinformation system now contains electronic data on the borders of the republic and regions, districts and cities, which contains information on all real-time administrative-territorial structure of the republic and the sequence of layers, and the portal is regularly updated (Figure 1).



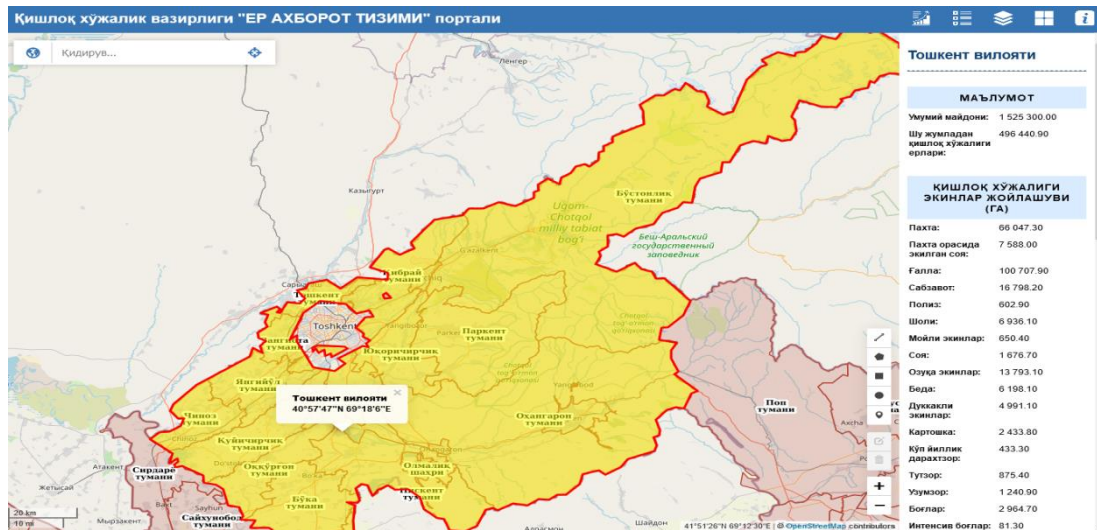
**Figure 1. View of data placed in the sequence of borders of administrative-territorial units of the Republic**

Data from the relevant field in the region:

- total area, including the area of agricultural land
- Location of agricultural crops (hectares)
- salinity level (hectare)
- a view of the generalized data in the section of land user types is formed

(Figure 2).

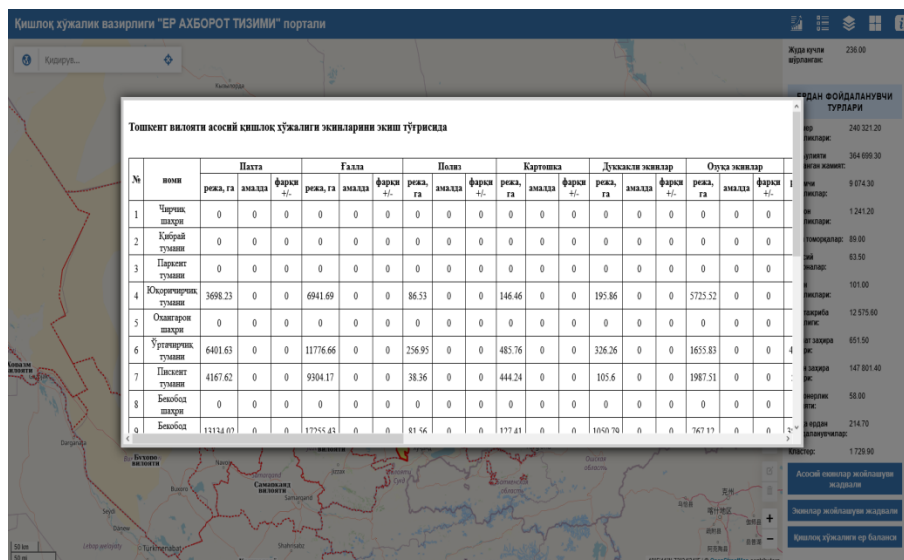




**Figure 2. A table of the location of the main crops in the data window**

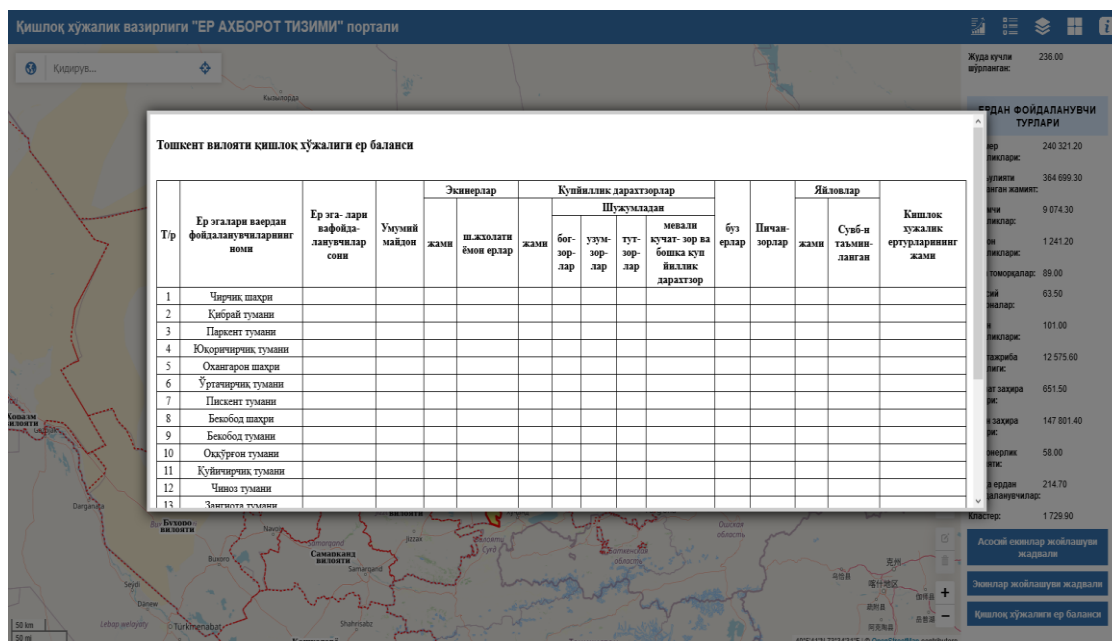
When entering the table of the location of the main crops in a particular region, a window of information of the planting of agricultural crops is created on the ship of the districts that are part of the main structure of the region.

In it, the user can use a table showing the planned figure for the current year, the current situation and the difference between the two in terms of types of agricultural crops (Figure 3).



**Figure 3. Agricultural land balance in the data window.**

The table on the next layer will provide information on the number of landowners and land users, total area, agricultural arable land by district (Figure 4).



**Figure 4. Information on the number of landowners and land users in the districts, total area, agricultural land**

The Geographic Information System Portal is designed to collect, process and edit large amounts of data.

**Conclusion.** The need to create a "portal of land geographic information system" to fully form a transparent mechanism for working in a generalized and digitized online system of information about a particular area or massive land fund, land users and their land plots, land quantity and quality indicators, location of agricultural crops and land types and indicates that it needs constant updating.

In addition, in the mechanism of land monitoring on the basis of the "Portal of the Geographic Information System of the Earth" performs the main functions of the strata, consisting of region, district, massif, land user, land area, soil quality (condition), crop location and contour section. They are inextricably linked to each other in the database. Allows you to get real-time data from the "Geographic Information System Portal of the Earth".

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