

## Quantitative Accounting of Agricultural Land in the Territory of Kashkadarya Region through Qr -Code



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**ABSTRACT:** Accounting of agricultural land areas in the world in software belonging to the family of geoinformation systems is directed to the formation of a unified geodatabase and the implementation of geostatistical analyzes of land accounting, the development of applications for the integration of information using programming languages, and the development of new scientific and technical solutions for their mobilization. scientific and research works are being carried out. In this regard, special attention is paid to the research aimed at the development of special geoportals that geovisualization the interactive geographic location of land areas. In this article, the need for land accounting, issues of quantitative land accounting in Kashkadarya region, as well as recommendations for land accounting in modern methods are given.

**KEYWORDS:** land account, agricultural land, land information, gray land, pastures, tree groves, QR-code, ilu-qr.uz.

**INTRODUCTION:** In the world is available 51 billion to 14.9 billion ha of land area. the land area is covered with land, of which 17.23 million ha. the land area is considered agricultural land. This is 17.23 million ha. 7.55 million ha of land area. the use of innovative technologies in the accounting and formation of irrigated agricultural lands in the land area is taking a leading place. High-accuracy global irrigated land accounting requires the implementation of interactive user and government services. In this regard, it is important to keep account of irrigated land areas on the basis of modern techniques and technologies, geovisualization of information about land users in the geodatabase, and interactive use of information in the geodatabase.

A land information system is a component or other form of an economic information system, because its content is a description of multi-purpose processes associated with land use and protection.

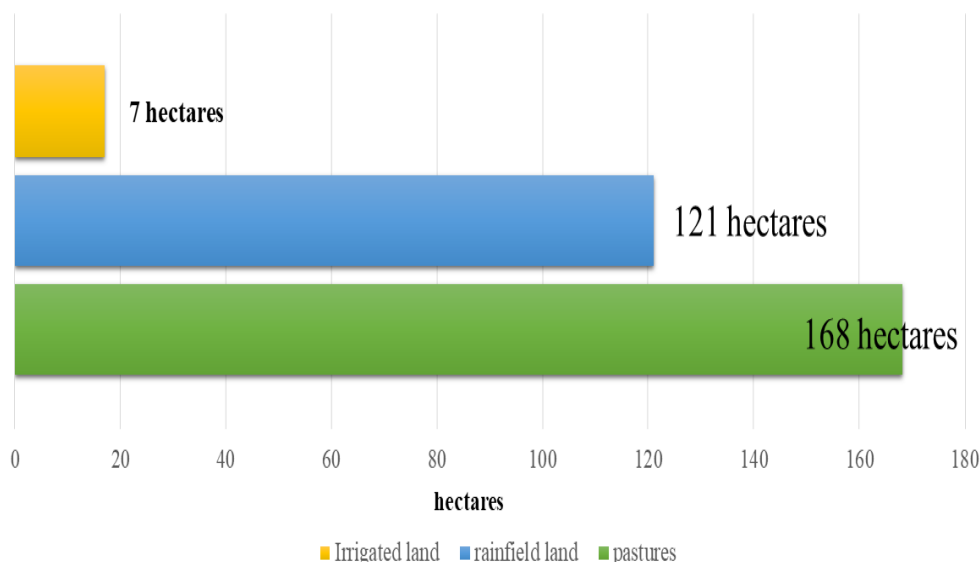
The methodological basis of land information consists of processing, researching, analyzing, preparing and regulating the information characteristics of the state of the state land fund, its use and protection processes, as well as improving the methods and methods of reflecting the quantitative and qualitative indicators of these processes. This leads to lower costs and enables the collection and processing of various data with precise calculation results necessary for land use planning.

Quantitative indicators of agricultural land of Kashkadarya region were analyzed as a research object. The 2022 land report on the distribution of the land fund by categories and types is based on the land report prepared in the previous year, and changes in the amount of land for one year are reflected.

As of January 1, 2022, total arable land is 675,702 hectares, including irrigated 417,283 hectares, perennial trees are 38,923 hectares, brown lands are 21,900 hectares, pastures are 1,406,764 hectares, and total agricultural land is 2,143,289 hectares.

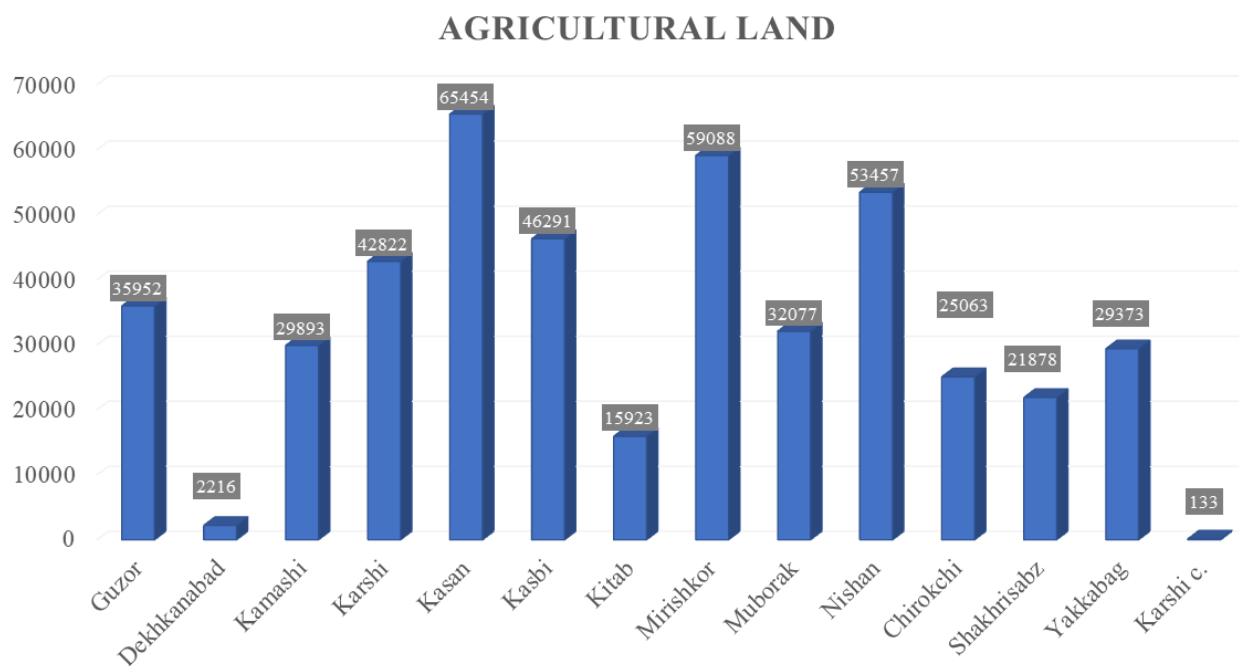
In 2022, according to the decree of the President of the Republic of Uzbekistan adopted on the basis of the "Land Code" and the current laws, as well as the decisions of the regional governor, the area of irrigated arable land decreased to 17 hectares, dry arable land to 121 hectares, and pasture land to 168 hectares due to the allocation of land for non-agricultural purposes ( Figure 1).

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**Figure 1 . Changes in land types in 2022**

the irrigated agricultural land in the districts of Kashkadarya region as of January 1, 2022 (Fig. 2).



**Figure 2. Irrigated agricultural lands of districts of Kashkadarya region**

Today, information is required not only completeness , reliability , but also speed . A QR-code system is a fast data provider that requires a scanning device (mobile phone, camera, or hand-held scanner) is convenient and fast algorithmization and allows coding . In the field of agriculture, the QR-code system has been applied to agricultural products. But until now, it has not been implemented in the fields of land formation, land cadastre and land monitoring in our country.

Therefore, during scientific research, it was possible to obtain information about land users and land contours interactively by creating a database of land users based on the QR-code system and visualizing information on the quantity and quality indicators of irrigated land areas.

QR-code system of land contours was developed in the section of land users in the Alisher Navoi massif, Guzgor district, Kashkadarya region. Web portal address 172.0.0.1:8003 was used to create QR-code system. With the help of the web portal, a special QR-code was created for the user from any place and compiled for geovisualization on an electronic digital map.

To use information about land users as a result of their work ilu-qr.uz site was created. Through this site, it was possible to view information about land contours and perform analytical work (Fig. 3).

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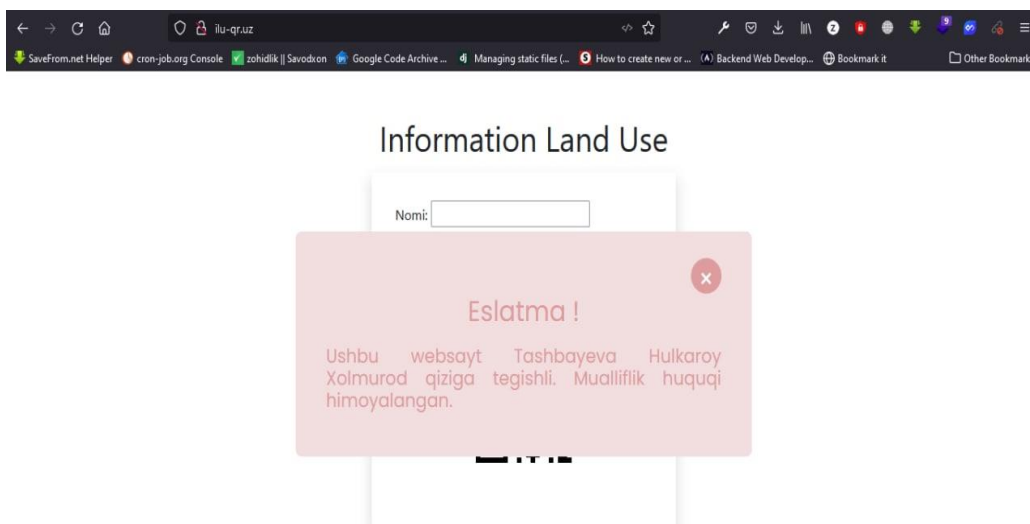


Figure 3. The appearance of the site

During the research [ilu - qr . uz](http://ilu-qr.uz) website has been developed. With the help of this website, a database of information about 30 land users in Alisher Navoi massif, Guzor district, Kashkadarya region, was developed based on the QR-code system.



Figure 4. Tablets created on the basis of the QR-code system

### CONCLUSION

Further increasing the transparency of information by implementing the QR-code system in the field of agriculture also shows that the QR-code system has the ability to collect information about land users. A special website, [ilu-qr.uz](http://ilu-qr.uz), was created, and with the help of this platform, information about users of every land in the massif named Alisher Navoi, Guzor District, Kashkadarya Region was digitized and QR-code was given to them. This created QR-code allows you to present information in an interactive way. This kind of interactive service is recommended for all land users.

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