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Review Article

Cartographic Supply in Evaluation of Quality and Quantity of Land

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Abstract

This article summarizes the estimated value of our irrigated lands that are considered productive on the basis of quality of agricultural lands in our country Uzbekistan. The growing population of the republic from year to year increases their demand for food, as well as a constant increase in living degrees.

Keywords: *Qualitative and quantitative data of lands, cartographic supply, ArcGIS scale, size and shape of land, type and location of land use.*

Introduction

The level of problem which has been studied

The growing population of the republic from year to year increases their demand for food, as well as a constant increase in living degrees. Which in turn has a profound impact on the land, on the rational organization of their use. There is also a growing need for the role of cartographic supply in assessing the quality and quantity of land. As of January 1 2020 year, the total number of land enterprises and organizations of the country's land fund is 103 605, the total area of land they use is 20 761.6 hectares or 46.2% of the republic, the area of agricultural land and 16 025.6 hectares of which 3 694.8 hectares of irrigated land. The deterioration of the quality of our agricultural lands from year to year, the reduction of atmospheric precipitation has a negative impact on the price of our lands and the state of land use.

The role of cartographic support in the assessment of agricultural lands of our country is based on the experience of developing countries (USA, Canada, Switzerland, and Italy)

Type of land in use:

- quality
- quantity
- shape
- location
- climate
- relief
- proximity to traffic
- water absorption of soil
- type of place

As these indicators increase, they can serve as a factor in clarifying the criteria fot assessing our lands. For example, when analyzing the current state of agricultural land in Zangiota district of Tashkent region, it was found that the average quality score of our irrigated agricultural lands is 68%. Tashkent on the basis of the Law of the Cabinet of Ministers dated April 23.2018 "On measures to further improve the procedure for demarcation of administrative-territorial units, inventory, inventory of land resources and geobotanical research in pastures and hayfields. According to the results of the land census in Zangiota district in 2020, the total area is 20 918.0 hectares of which irrigated arable land is 7,445.0 hectares, arable land is 33.0 hectares, orchards are1, 304.0 hectares, vineyards are 261.0 hectares, greenhouse is 447.0 hectares, fruit trees are 2.0 hectares, mulberry groves 8.0 hectares, terraces 42.0 hectares, gray lands 41.0 hectares, pastures 139.0 hectares, total agricultural lands 9721.0 hectares, backyard

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lands 4815.0 hectares, lands of horticultural and viticultural companies 354.0 hectares, total forest areas 40.0 hectares, total underwater land 1826.0 hectares, including river and streams 121.0 hectares, lakes 384.0 hectares, reservoirs 4.0 hectares, canals, collectors and ditches 1317.0 hectares, roads 523.0 hectares, buildings, streets, places and squares 2924.0 hectares, other non-agricultural lands 715 hectares and can be seen in the example of diagram below (diagram-1).

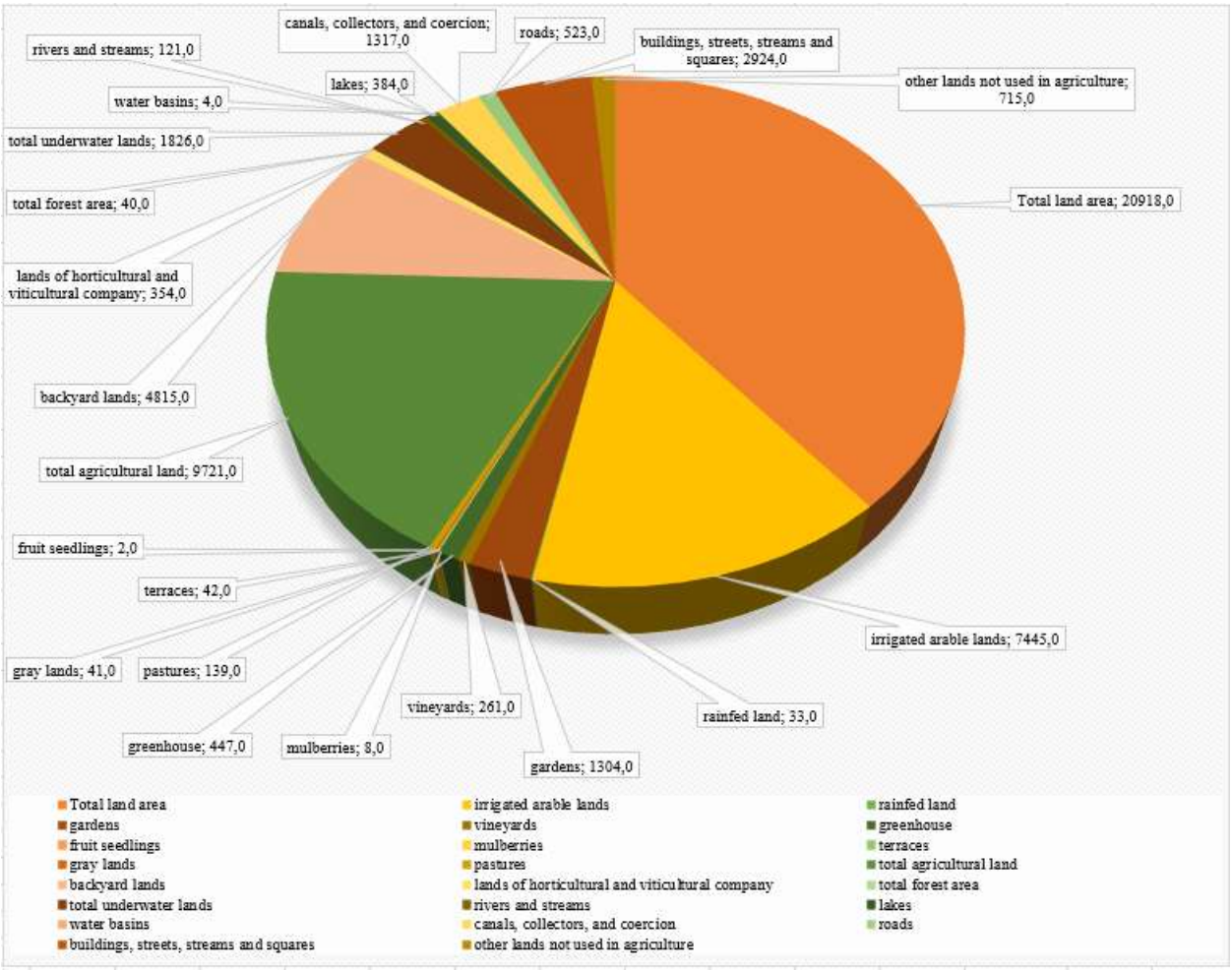


Diagram 1. Information on the results of land census in Zangiota district of Tashkent region in 2020

Compared to the report, the total area of land decreased by 346.0 hectares, arable land decreased by 29.0 hectares, orchards decreased by 20.0 hectares, vineyard decreased by 231.0 hectares, and fruit orchards increased by 2.0 hectares. Mulberry trees 8.0 hectares, terracotta 42.0 hectares, pastures 158.0 hectares, gray lands 41.0 hectares, total agricultural lands 405.0 hectares. As a result of the inventory conducted in the district, a total of 215.2 hectares of land were found to be in violation of land laws. Including 126.0 hectares of housing. 79.3 hectares of unoccupied non-residential buildings were built,1,5 hectares were arbitrarily occupied, 0.4 hectares of unauthorized greenhouses were bult, 2.4 hectares of land were rendered unusable and 5.5 hectares of other lands were destroyed. From this information, it is necessary to improve the quantitative accounting of our lands and gradual implementation of methods of valuation of our agricultural lands. *Agricultural land, land users and tenants of Zangiota district of Tashkent region serve as an example of the research object.*

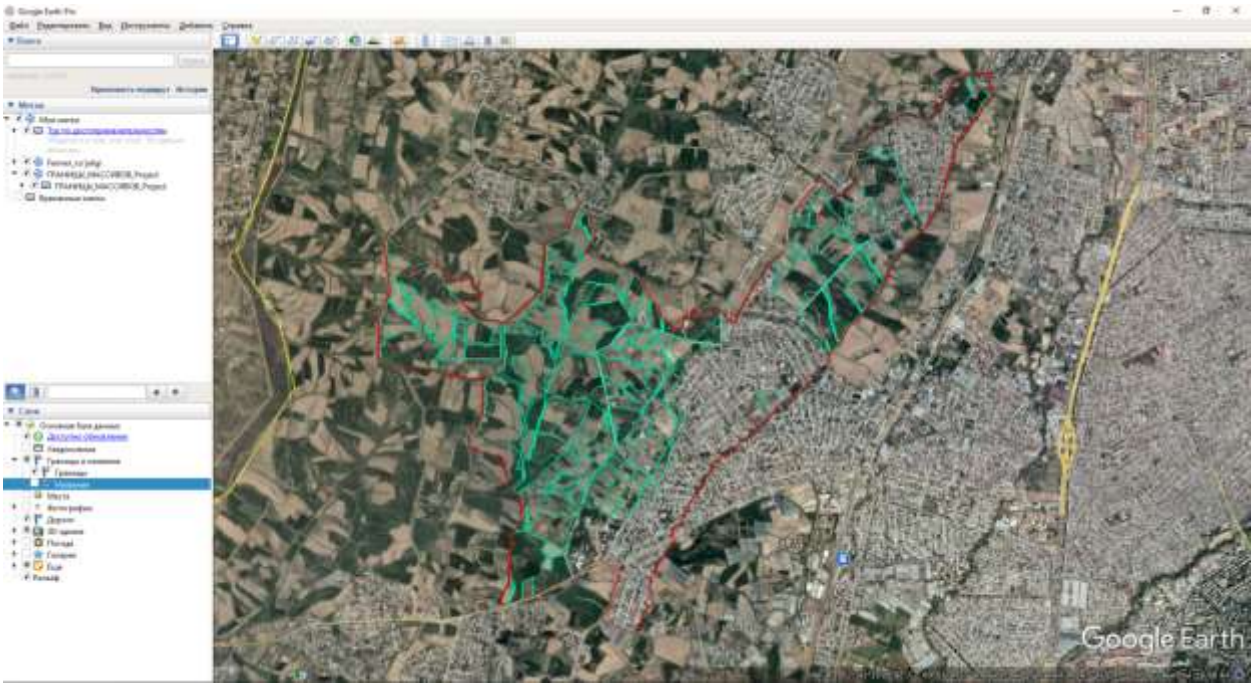
Methods

The Article is based on generally accepted methodological guidelines, based on foreign experience and cartographic developments, land fund material documents.

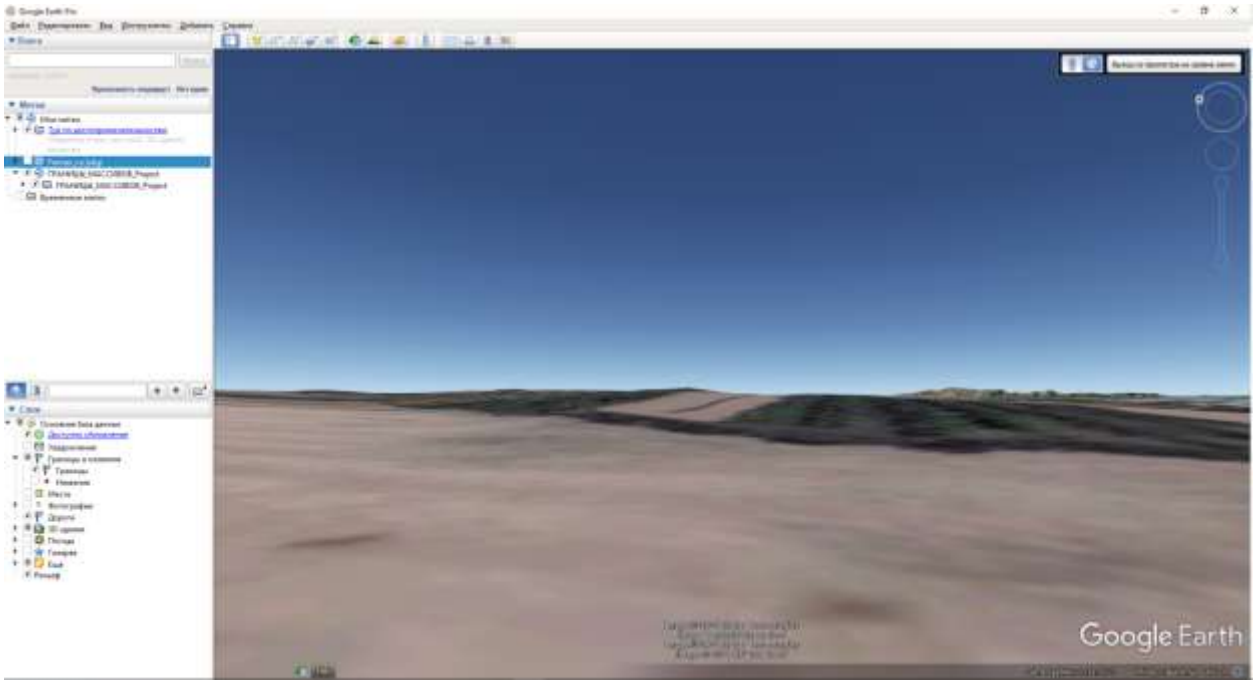
Results and Discussion

Land quality and quantity indicators play an important role in land valuation. Land valuation is a method of estimating and determining the fair value or value of a plot of land. The value of our lands can be divided into urban and rural agriculture and non-agricultural. In general, land in agricultural or non-agricultural areas is valued higher than in rural areas. more fertile agricultural land is usually valued higher than fertile land. Non-agricultural land can be subdivided into residential, industrial or commercial land, and the value of such land depends primarily on the potential for development through the construction of appropriate facility on it. In developing the value of land, foreign countries also evaluate land based on quantitative and qualitative indicators. Cartographic support is one of the most relevant cartographic methods in land valuation today. The exact value of our land and the improved system of land tax would have been developed if the land valuation had taken into account the information about each land and the elements surrounding the land plot. In this case, the land valuation in our country would be divided into categories. Based on the geographical location of the territory of the Republic of Karakalpakstan, the regions and the city of Tashkent, and the atmospheric indicators, we would have formed the optimal type of tax for the categories of land valuation.

The quantity and quality of land changes every 5-10 years. It is necessary to widely use and develop modern methods of land valuation based on cartographic methods. In the figure below, the method of qualitative and quantitative land assessment is based on the location and climate of the areadevelopment work was developed (picture 1-2)



Picture-1 2D google map



Picture- 2. 3D google map land assessment map of our agricultural lands based on land quality and quantity data.

One of the modern and innovative methods of assessing the quality and quantity of land is a cartographic 3D synthesis model. At present, the assessment of the actual quantitative indicators of our lands in relation to the topography of the land, and the normative valuation of agricultural lands, facilitate the work through the program ArcGIS.

Conclusion

In short, the protection and proper use of land will play an important role in increasing its productivity and new methods of land valuation. Using the ArcToolbox function of the arcGIS program, new innovative approaches, such as the creation of cartograms of land assessment works on the basis of modern methods, the production of 3D maps at a scale of 1:10,000, have a positive effect on the development process.

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