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THE IMPORTANCE OF ELECTRONIC MAPS IN THE DISTRIBUTION OF AGRICULTURAL

Abstract: *This article highlights the role and importance of digital electron maps in agricultural land management, their management, monitoring, surveying and efficient use, and the use of modern mapping techniques for agricultural mapping and agricultural mapping.*

Key words: *agriculture, electronic maps, Geographical Information Systems (GAT), modern cartographic methods, rational use of land resources, ArcGIS software, Arc Catalog, GPS PROMARK apparatus, cartography.*

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Introduction

This article outlines the importance of electronic maps in the deployment of agricultural crops in the rapidly developing science and technology sector. Also provided are some recommendations and suggestions. Today, global population growth and rapid economic growth accelerate the relationship between nature and society, leading to an increasing demand for agricultural products and limited resources for agriculture. Under these difficult conditions it is necessary to use them wisely and economically and to improve their condition. As the President of the Republic of Uzbekistan Sh.Mirziyoyev noted, "… is one of the most important tasks of preventing the efficiently use and plundering of land"[1]. After all, land for agricultural is not only a material condition of life, but also an active factor of production.

The main part

The "Strategy of Action for the Further Development of Uzbekistan for 2017-2021" clearly identifies the most important tasks for the modernization of agriculture, as well as in all areas and consistently and consistently implements them. Development of this field requires deep knowledge the theoretical and practical knowledge, soil and labor resources, effective use of climate, land and water, modern achievements of centuries – old agricultural culture and science.

In accordance with the Decree of the First President of the Republic of Uzbekistan

[1] *http://www.uza.uz/uz/documents/rizq-ro-zimiz-bunyodkori-bo-lgan-qishloq-xo-jaligi-xodimlari-09-12-2017*

I.A.Karimov's dated October 15, 2004 to improve the system of management in the field of land use, geodesy and cartography, to regulate land relations, to maintain a single system of state cadaster committee was established. At the same time, this organization should be tasked with the implementation of state control over the protection of land resources, implementation of a unified state policy on the rational use and protection of land, development and implementation of programs in this territory. With this in mind, with the development of modern information technology and telecommunications, efforts to study the experience of developed countries and to realize their potential are continuing. As a result, there was a harmony between science and production and a number of achievements were being made. First of all, electronic maps and automated database were created to allow the calculation of each inch of land.

Currently, these electronic maps are widely used for monitoring agricultural crops. This, in turn, allows for prompt identification of the negative impacts of land use and timely response to their elimination. It is northworthy that today, every farmer can learn important cadastral information about the features of the soils and the level of natural fertility in the land they are using. On the basis of these data, they are scientifically based on the fact that they are agriculture. As a result, the volume of production grows every year, and the needs of the population for food products are fully satisfied. At the same time, a large number of orchards and field supplies are being exported, increasing productivity in the field.

Different Geographic Information Systems (GIS) have been used for mapping electronic maps. Among them is the ArcGIS software developed by the ESRI company, which is unique in its capabilities and the user interface. Taking this into consideration, today electronic maps for agriculture are created using this software.

For this purpose, all of the necessary information was collected, sorted and grouped by ArcGIS utility Arc Catalog. Separate layers are created for each group of data to be reflected on the map.

After you create layers, each of them will be sorted so that the map is fully reflected and the map has a high readability level. At the same time, I would like to point out the objects (water and oil wells, vineyards, sparse forests, pumps, etc.), lines (lines, lines, etc.) that should be shown on the map using dots, necessary facilities (land user boundaries, dry line boundaries, walls and barriers, roads (excluding highways), pipelines, bridges, canals and collectors, canals, protective trees, dry rivers etc.) and objects which, in turn, should be provided with fields (polygonal, polygon), residential areas and public areas, public buildings, ruins, demolished and semi-demolished structures, field cellars, threshing floors and warehouses, gardens, vineyards, mulberry trees, pastures, irrigated land, sands, cemeteries, non-agricultural lands, etc.) (Figure 1).

Figure 1. Conventional signs of agricultural crops

Today, each conventional crop has been developed based on the design of a conventional symbol, and the large-scale work on placing agricultural crops on digital maps is carried out using these signs. At the same time, each type of agricultural crop is clearly shown on the map, no matter how many hectares it is planted.

One of the present- day capabilities of this program is it can connect its own GPS PROMARK apparatus, and the GPS PROMARK measurements can be viewed directly through the coordinates of the ArcGIS software (Figure 2).

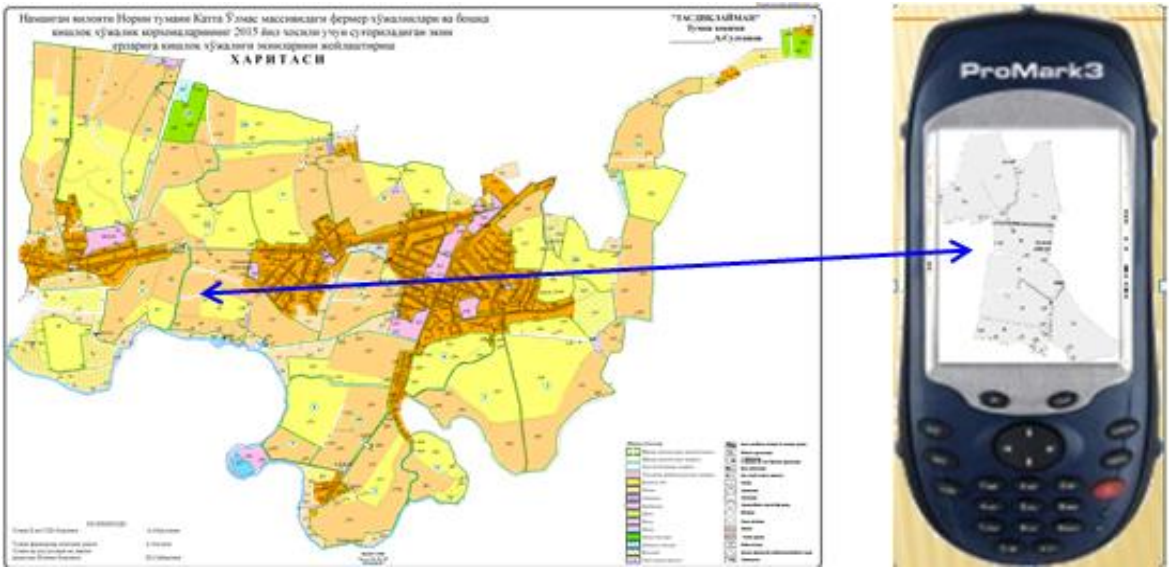

Figure 2. Determination of the area with the use of GPS PROMARK with an electronic map of agricultural crops of the "Katta Ulmas" massive of Naryn district of Namangan region.

The second image shows that GPS PROMARK measurements were performed on the land plots of the farm "Shermamat Husniddin" in the area of "Katta Ulmas", Norin district. Placement of agricultural crops on electronic maps in ArcGIS program is characterized by high quality and saving labor and time. Based on this, today digital program maps of 1:10 000 of all crops are being created in this program (Figure 3).

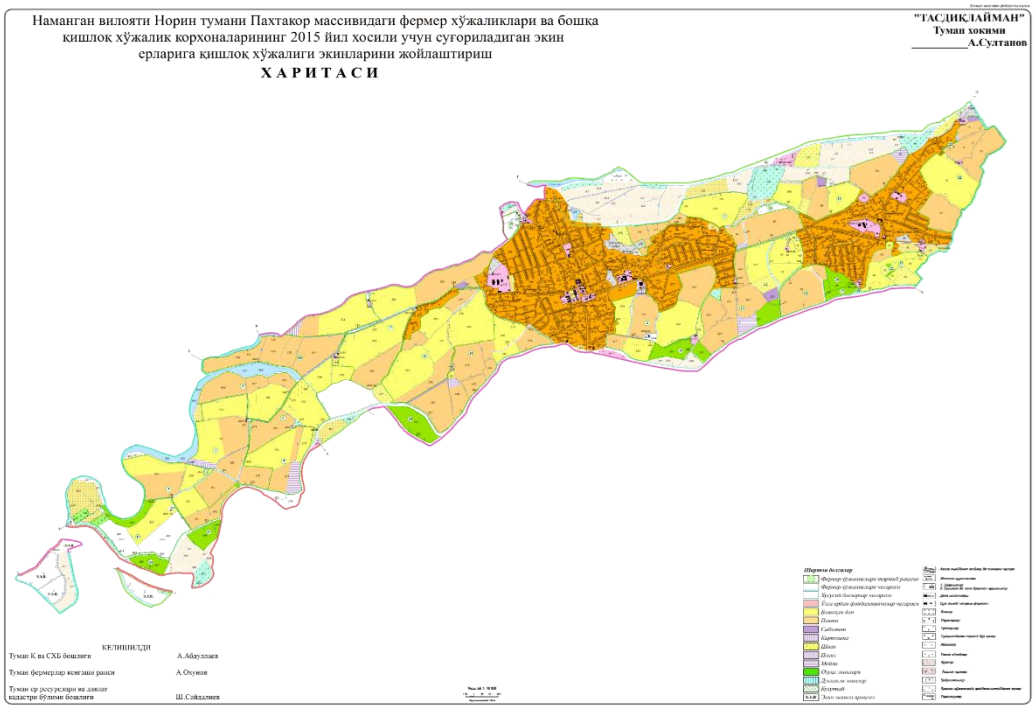

Figure 3. Map of agricultural crops on irrigated land in the Pakhtakor massive of Naryn district of Namangan region.

The main purpose of the creation of such electronic maps is to identify the land reclamation and land use of farms and other agricultural enterprises on agricultural lands, to monitor the planting of agricultural crops in the prescribed manner and plan. Also, the results of the monitoring of agricultural crops on the electronic map will not place the same species in one contour, i.e. the correct crop rotation in the process of placing the crops, and at the same time

determine the land use status and preparation of proposals and recommendations on the rational use.

Summary

We can conclude that today, as a result of the creation of digital electronic maps of agriculture, such problems are prevented and timely measures are taken.

At the same time, there are a number of problems in the field, including the long-term and labor-intensive field measurements, energy efficiency in remote areas, and the ability to handle various seasons, including adverse weather conditions. Creation of digital maps and their wide use in agriculture may be desirable.

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