

The Use of Geoinformation Systems in the Study of the Land Fund of Household and Dekhkan Farms

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Annotation: The article presents an overview of the geoinformation system that will help the student to better understand modern works on territorial planning, land management, cadastre, and assessment of the state of the natural environment.

Keywords: Geoinformation, GIS, cadastre, land formation, plan, territorial, management systems, housing, peasant farms.

Introduction. The problem of land management in rural settlements and, first of all, the household land fund has always been relevant. The increase in economic entities on the land due to the growth in the population of the household land fund initiated the expansion of the circle of participants in land relations. Modern work on territorial planning, land management, cadastre, assessment of the state of the natural environment certainly involves the use of geographic information systems (GIS), which allow to make fundamental changes in the industry of information support for managerial decision-making. [1-5]

The object of my research is the lands of household and dekhkan farms in the Fergana region, which is an ideal testing ground for developing a system of information support for land management using GIS based on land inventory for prompt management decisions.

To create a land management system for household and dekhkan farms using GIS technologies, the method of systematic analysis of the rationality of land use and the allocation of territories for irrational use of land, use for other purposes, field observation methods: by yard bypass, geodetic survey on inventory areas, methods organizing data by creating a geodatabase, methods of spatial-logical modeling.[6-10]

For a fragment of lands of household and dekhkan farms, an automated cartographic system (ACS) has been developed and tested, which is the core of the GIS for managing land resources of household and dekhkan farms, and is a set of software tools that provide the creation and direct use of maps.

It is advisable to create a full-fledged GIS for managing the territories of household and dekhkan farms in 2 stages: preparatory and production.

Results and discussion. The preparatory stage includes: collection, analysis and systematization of archival land and cadastral data, planning and cartographic materials, land management documentation for land plots (allocation materials, land inventory materials, land records), as well as data on the composition and population. In order to clarify and update the planning and cartographic material, as well as to speed up and reduce the cost of work, you can use remote sensing data refined during the production stage during geodetic survey.[6-10]

In addition to geodetic surveys and door-to-door walks, land management and land cadastral work is carried out at the production stage, during which the drawing and adjustment (clarification) of the border, the boundaries of the territories of household and dekhkan farms, the boundaries of individual land masses and plots are carried out.

As a result, digital maps of the area are formed, and a geodatabase (GDB) is compiled.[6-10]

Land plots are formed using topological rules, which eliminates incorrect data, such as overlapping land plots or vice versa gaps between them.

A geodatabase is a spatial logical model that can be used to:

- inventory of lands of household and dekhkan farms;
- monitoring the state of utility networks;

- support, updating and development of the general plan of a rural settlement, the creation of detailed planning projects;

- information support for the selection of a site for the construction of storage facilities, storage facilities for commercial facilities (for example, procurement organizations) that require a preliminary detailed spatial analysis of the territory;

- information services and consultations for potential users of land and real estate: spatial information on the normative and market value of land plots, cartographic services for real estate databases. [11: 309-311 b]

A large amount of accumulated information and the integration of geographic information systems (GIS) allow you to quickly and fully satisfy a wide variety of information needs, both in content and in form - in the form of reports, thematic maps, analytical results in electronic and paper form for information support for the adoption management decisions. [10:312-314 b]

Approbation of the results of the study, which was carried out on the example of lands of household and dekhkan farms in the Surkhandarya region, showed that GIS is an effective tool for managing land resources in rural areas, for example:

- in the sphere of economy - determination of the current state of land use, identification of opportunities for optimizing and improving the use of lands of household and dekhkan farms in the region by changing the territorial and sectoral structure of land, analyzing its state and development trends.

- in the field of ecology - identifying the features of the ecological state of lands and preventing the development of negative processes.

Reliable and complete information on land resources contributes to an increase in revenues to the budgets of all levels from payments for land, the organization of its rational use and protection, the operational regulation of land relations and the introduction of a regulated land market. [7: 93-97b]

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