EURASIAN JOURNAL OF ACADEMIC RESEARCH
Innovative Academy Research Support Center
UIF = 8.1 | SJIF = 5.685 www.in-academy.uz

IMPROVE THE USE OF GIS IN LAND MANAGEMENT FOR AGRICULTURE AND FARMERS

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https://doi.org/10.5281/zenodo.6401559

ARTICLE INFO

Received: 01st March 2022
Accepted: 10th March 2022
Online: 14th March 2022

KEY WORDS

Land fund, types of land, resource, hard worker, rent, massive, horticulture.

ABSTRACT

The article outlines the importance of rural settlements, in particular the role of land fund in the national economy. Agricultural production, livestock production and their low profitability, its causes, nutritional deficiencies and ways to address these problems. The heads of dehkan farms in different regions have analyzed the results of surveys, expenditures for the production of agricultural produce and the organization of production, and the average production volume on the land plots. The perspectives of perspectives development of land use in peasant farms/And the perspectives of GIS application in managing the use of land and peasant farms are highlighted.

In the block of various forms of farming, an important role is played by those forms that are based on an individual, family basis, aimed at a more complete use of the material and labor resources of rural families, in the interests of social production. One of these forms of agricultural production, which in the transition period to a market economy was especially widely used, is the personal subsidiary farming of rural residents.

At present, personal subsidiary farming of the population is an integral part of the national economy. It is a structural element of the agro-industrial complex of the country. In this regard, the attitude towards this category of farms is also changing, as an important additional source of increasing agricultural production and increasing real incomes of the population. Personal subsidiary farming (PSP), being the optimal form of effective mutual combination of socialized and personal interests, favors the reproduction of the labor force. The role of private household plots is great in raising the living standards of the population and labor education of the younger generation, ensuring resource-saving reproduction of the country's labor and material resources.

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.

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In the course of the agrarian and land reform in the countryside, a new organizational and legal structure of management was formed - a dekhkan

family small-scale farm, which produces and sells surplus agricultural products (based on the personal labor of family members on a personal plot of land provided for lifetime inheritable possession) [2]. The dynamics of production shows that the share of this type of farms in the total volume of gross agricultural output is constantly increasing and amounts to 81% - potatoes, 56% - melons, 66% - vegetables, 50% - grapes; almost all of the country's cattle is concentrated here - 6.5 million heads (92.8%), including cows - 2.8 million heads (94.5%); they account for 95% of meat, 97% of milk, 57.9% of eggs, and 71.7% of wool produced in the country [3].

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

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 surveys.

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 massifs and plots are carried out. As a result, digital maps of the area are formed, and a geodatabase (GDB) is compiled.

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

A large amount of accumulated information and the integration of geographic information systems (GIS) make it possible 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 of managerial solutions.

Results. 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 field of economics - determining the current state of land use, identifying opportunities for optimizing and improving the use of lands of household and dehkan 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 about land resources contributes to an increase in revenues to the budgets of all levels from land payments, the organization of its rational use and protection, the operational regulation of land relations and the introduction of a

regulated land market.

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