

Methods Of Calculating Land Plots Using Innovative Technologies

F.K.Khamraev

Associate Professor, Navoi State Mining and Technological University, Navai, Uzbekistan

Abstract

The article describes the theoretical and methodological basis of the advantages of using innovative technologies in keeping records of land plots allocated to individuals and legal entities, issues of increasing the efficiency of keeping records of land plots through the use of geoinformation systems.

Keywords: Accounting of land plots, efficient use of land plots, land cadastre, digital cartographic base, land plot, land allocation, electronic map, drones, real estate, geoportal.

Enter. Today, the use of innovative technologies in production, service and many other areas is an integral part of their activities, which means that there is a need to replace outdated technologies or products from time to time.

The increase in the need for science and technology products and services in our country has increased the desire to increase the share of high-tech products and services in the national economy, which, in turn, has strengthened the need for innovative development of national economic sectors. In the words of the President, "Today, we are moving to the path of innovative development aimed at radically renewing all spheres of state and social life. This is not for nothing, of course. Because who will win in the current era, when time is rapidly developing? The country that relies on new ideas, new ideas, and innovation will win. Innovation means the future. If we start building our great future today, it will be precisely innovative ideas, innovative we need to start based on the approach" [1].

In the "Innovative Development Strategy of the Republic of Uzbekistan in 2019-2021" approved by the President of the Republic of Uzbekistan form No. PF-5544 dated September 21, 2018, the clause "Ensure complete digitization of state cadastral work by 2021 and simplify the property registration procedure" is included in the

development of competition and reduction of administrative barriers. it can be said that it caused further development of efforts.

The introduction of innovations means, firstly, spending funds in the economy to ensure the replacement of technology and technology generations, and secondly, modern techniques and technologies based on scientific and technical achievements and the experience of advanced countries. The development of inventiveness, the creation of major inventions and discoveries in a certain direction, and the important factors of innovative activity are considered [2]. Changes make up the content of innovations, and the basis of innovative activity is the function of changes.

Australian scientist I. Schumpeter distinguished five main types of innovations [3].

1. Use of new equipment, new technological processes.
2. Introducing a product with new features.
3. Use of new raw materials.
4. Changes in the organization of production and its material and technical support.
5. Opening a new market for product sales.

Relevance of the topic. Due to the lack of complete, reliable and up-to-date information on the allocation of land plots to individuals and legal entities and the effective use of these land plots, one of the most important tasks in this direction is the

development of technology for creating and updating a digital cartographic database in real time.

Research object and methods.

The analysis of the work carried out in this field today is all shows that there are a number of innovative opportunities that can be successfully used to provide reliable information to executive authorities and land users.

Also, in order to organize the rational and efficient use of land plots, it is important to have electronic maps created by the continuous connection of various information obtained as a result of information exchange between executive authorities.

The study of the work carried out in practice shows that there are problems that can be solved with the help of innovative technologies in the accounting of allocated land plots.

For example, 30 percent of users of land plots allocated to individuals and legal entities for entrepreneurship and urban planning activities in Tashkent city between 2010 and 2019 did not apply for state registration of the right to land plots allocated to them.

The analysis of these unregistered plots of land over the years shows that 87 percent of them correspond to the decisions made in 2017-2019. This, in turn, shows the need for an innovative approach to keeping records of allocated plots of land and state registration of the right to a plot of land.

Although this problem has been solved by appropriate decisions from the legal and normative side, the fact that new technological innovative solutions are not used in technological processes is the reason why this problem has not been solved until today.

Another problem in this direction is the constant updating of the base for keeping records of land plots, executive authorities

the mechanism for supporting information exchange and control has not been developed, and since there is no information on the exact boundaries of the allocated land plots, it is not possible to place the data on the land plot on electronic maps with a geographical connection.

Study results and their discussion.

Today, appropriate measures are being consistently implemented in our republic to fundamentally improve the mechanisms for granting land plots to individuals and legal entities, as well as to reduce bureaucratic procedures and obstacles in relations with business entities, rational use of land, production, and optimal location of socially significant objects.

However, legal regulation alone is not enough to organize rational land use. An innovative approach is needed to solve the problems of land use, which will help to improve the methods of its organization. In this case, modern innovative technologies create great opportunities for improving the land use system.

Today, technological and practical developments in the field of land allocation are mainly limited to physical and legal entities applying for a plot of land, the requirements for obtaining a plot of land and its subsequent state registration, reduction of bureaucratic obstacles, and ensuring transparency of the process of obtaining a plot of land.

Available for allotment and allotment of land plots data to date is either paper maps or electronic stored in the form of tables.

This situation limits the state's ability to take the following systematic measures, which should be implemented in keeping records of land plots allocated to individuals and legal entities and in their effective use:

- identification of unexploited land plots within the specified periods and take appropriate action;

- the land transferred to the reserve fund due to the cancellation of the land allocation decision

study the possibility of re-allocation of plots and include them in the list of vacant lands;

- record the allocated land plots in the cadastral database and

placing them on electronic maps;

- effective, purposeful use of allocated land plots, control and analysis of the state of construction works on them;

- placement of planned land plots on electronic maps;

- preparation of quick or analytical reports and control of their reliability, etc.

Suggestions and recommendations.

Today, territorial planning is complicated it is not enough to use only cartographic data (topographic maps, plans, schemes, thematic maps) to solve the tasks, it is necessary to have dynamic databases of each direction to manage various data. Such comprehensive storage of information is possible only by using geographic information technologies and information management systems can be achieved.

It is impossible to create electronic maps without creating an appropriate database. The availability and reliability of data is effective from here

is another condition for organizing use. These include land assessment, control, registration, redistribution among prospective investors, identification of inefficiently used or unused land, and other necessary measures.

Reliable, objective, accurate information, the condition of land plots and quickly presenting the distribution, the negative processes that occur with them material necessary for identification, holding and carrying out various events allows for timely identification and distribution of resources.

The effectiveness of obtaining information is fundamental in the conditions of market relations

One of the factors is the management of a specific plot of land or other territory determines the conditions. However, in practice, the rapid updating of information is still too much

a difficult move.

The lack of accurate maps of the vast areas occupied by land plots,

Due to the high cost of unmanned aerial vehicles (UAVs) and their maintenance, and the shortage of specialists, continuous upgrade processes are difficult to manage.

All these factors prevent obtaining objective, quick information necessary for assessing the current situation, evaluating it and planning in the future. In this case, it is almost impossible to increase the effective use of land plots. In foreign countries, similar problems are being successfully solved by the wide use of unmanned aerial vehicles (UAV), aircraft and satellite data, and satellite navigation (GPS) tools.

The development of geographic information and GPS technologies in all spheres of activity leads to the need for rapid decision-making, legal support, development of methods and technologies in the field of their application.

In our country, the use of unmanned aerial vehicles (UAVs) and satellite data in the effective use of land plots is a rapidly developing and promising direction. Spatial imaging materials can help both in solving complex tasks of efficient land use and in specialized fields.

The main tasks in this area:

- inventory of land plots;
- monitor their condition;
- determination of inefficiently used or unused land areas;
- determination of vacant land plots;
- monitoring the state of construction works on allocated land plots and timely completion of construction works, with

regular repetition of strict photography - consists of prospective planning of development dynamics and efficiency of land use.

In land use, GAT is mainly used to create digital maps and land plans. Maps created using GAT technology

maps and plans created based on traditional methods are distinguished by the following advantages [4]:

- the possibility of automating the acquisition of geographic information about spatial objects, exporting it to other programs for further processing;
- the reliability of the geographic information obtained on the digital map, the accuracy of the material, regardless of the skill, experience and accuracy of the designer, the errors of the measuring instruments, the deformation of the paper;
- ability to quickly adjust and update content;
- appearance;
- the ability to automatically create cartograms;
- the ability to search objects by their location or information recorded in the database.

In land use, it is important not only to describe the territory with spatial indicators, but also to fill it with additional information necessary for making a decision on the organization of land use. GAT technology has many tools for working with spatial and attribute data. The unique feature of this system is that it can describe the territory of the land plot taking into account all factors. In addition to organizing information storage and output, this system processes it. With its help and the introduction of certain algorithms, you can analyze the condition of land plots. As a result of the analysis, a map is created, which allows to describe the land area with a set of factors that determine the intensity of land use, and also provides information about legal, ecological and

other restrictions. An electron created in this way

spatial information on the use of land plots on maps

is formed. Use of this information and special electronic programs

decisions on the organization of the economic territory can be made more rationally.

The use of such technologies is a systematic calculation of land plots together with management allows:

- users, owners of land plots, land plots information about the condition and other land plots should be transparent is provided;
- rapid accounting and state registration of allocated land plots the tax base will be increased by introducing the transfer and from the land the protection of users' rights is ensured;
- preparation of proposals for the return of unused land plots to the state reserve is systematized by monitoring the current condition of the allocated land plots;
- preparation of proposals for allocating vacant land plots to individuals and legal entities by keeping an account of vacant land plots systematized;
- it is systematized to send information to the relevant organizations on transferring them to the generally established tax rate by identifying the objects whose construction has not been completed within the specified terms on the allocated land plots;
- damaged residential and non-residential real estate in the allocated land plots an electronic list of property objects is formed and these objects systematizing automatic accounting of damage;
- quick reports on allocated land plots according to various criteria formation is possible.

Uzbekistan has important fundamental and technological developments, scientific and production base and qualified personnel. It is necessary to manage the process of creation and implementation of innovations, to form sources of its financing, to support the activities of scientific groups and to create an opportunity to introduce existing innovative proposals into an effective technological chain in the relevant field of activity.

For example, the proposal to create geoportals addresses the following issues:

- compatibility with GAT (GIS) systems used in government agencies,
- gradually expand the base of the administrative area with relevant information with step-by-step detailing and updating;
- from the use of cartographic materials in the form of paper, electronic transition to the use of visual cartographic materials;
- open use of information and use of security restrictions solution;
- solving the problem of effective use of information resources, GAT-, WEB-, LBS-technologies for the population and government at all levels.

Summary. Ye from innovative technologies in keeping records of plots

To organize the use, the following is necessary:

- creation of centers of data administrators in state organizations and hokims;
- different data created by different organizations for the same area combine;
- ensuring the interaction of the systems of data administrators with the owners of information resources;
- development and promotion of data integration tools and their support based on existing innovative developments.

Also, the introduction of innovations requires legal support from the state.

must be accompanied by support.

Measures are needed to ensure the personal responsibility of land users for purposeful and rational use of land. Depending on the indicators of effective use of land plots, it is necessary to encourage or apply punitive measures to increase the interest of the owner, user of land, tenant in carrying out activities on effective use of land plots.

It is all organizational, economic and technological processes of science and technology

to be implemented in solidarity and interdependence with achievements, from the ground

helps to increase the efficiency of use.

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