AUTOMATED TECHNOLOGIES IN THE MANAGEMENT OF STATE LAND CADASTRE

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Annotation
This scientific article discusses the use of automated technologies in the land cadastre in order to keep the information on land, its use and land cadastre in general up to date, to quickly obtain the necessary information.

Keywords: information technologies, database, land cadastre, geographic information system, digital maps.

Introduction

It is a complex process to obtain information for the state land cadastre, process it, enter it into the land cadastre documents, determine the changes that occur in the legal, natural and economic conditions of the land, and cover these changes in the accounting and reporting documents of the land cadastre. Therefore, it is appropriate to use automated technologies in the land cadastre in order to facilitate such a complex process, to keep the information on land, its use, and land cadastre in general at the current level, to quickly obtain the necessary information.

Discussion

In recent years, the rapid development of electronic technology has radically expanded the fields of computer use. Now the computer can be used to create complex and multi-color production diagrams, for e-mail, to prepare complex engineering, land cadastral and architectural drawings, and for other purposes. From this, it can be seen that, like other sectors of the economy, the land cadastre is being rapidly managed, the preparation of multi-colored, high-quality plan-cartographic materials for the land cadastre, the distribution and continuous redistribution of land resources, the preparation of reports on land use, and the wide use of automated technologies in solving a number of other land cadastre issues based on modern requirements.

It is known that one of the main links of the state land cadastre is the processing of collected data on land areas, their quantity, quality, location, condition, value, etc., automated data processing technologies are designed to solve well-structured tasks. This technology is used to automate some small, constantly repeating operations of management work. Therefore, the use of such technology at this level reduces time consumption and clearly increases the

efficiency of employees' work. The scheme of the main components of the automated technology of land cadastre information processing is presented in Figure 1 below.

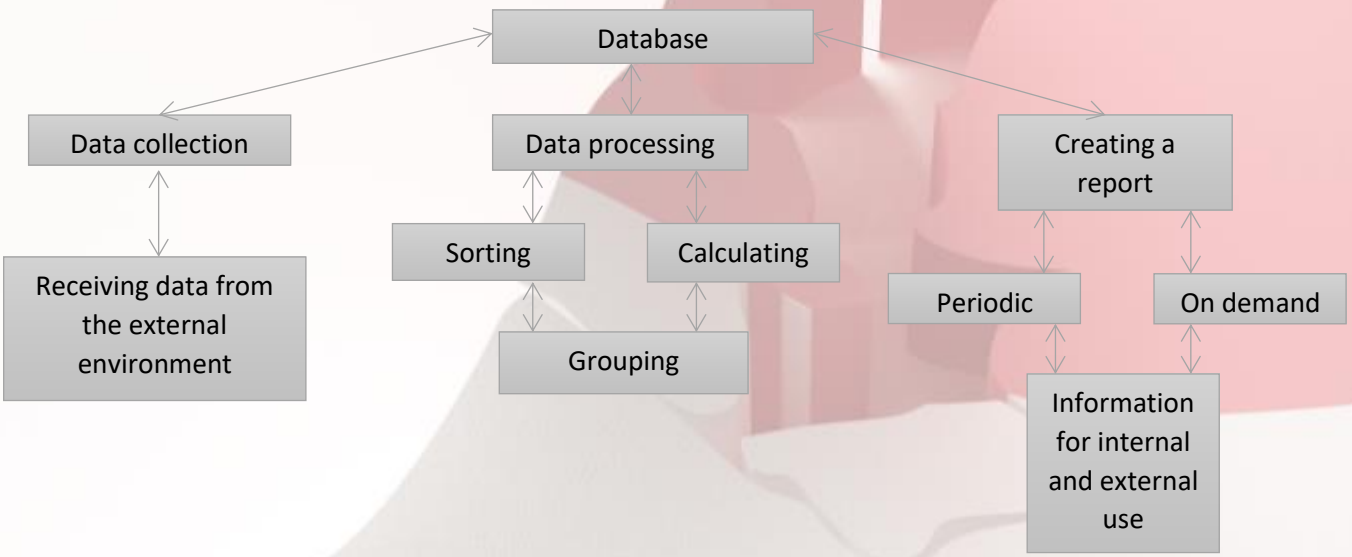

Figure 1. The main components of the automated technology of land cadastre data processing.

The main components shown in Figure 1 highlight:

Data collection. Information is collected on all the work performed in the territorial service of the district land resources and state cadastres. Such information includes the quantity and quality of land plots, types of rights to land plots, their distribution by land users, etc.

Data processing. In order to create a set of information for district employees, the following sample operations are performed for data processing:

- data grouping;
- sorting data to organize records;
- performing calculations, as a result of which new, generalized information is obtained;
- data augmentation or aggregation.

Data storage. Storing most of the generalized information for future use. A database is created to store them in a certain system.

Making reports. A set of necessary documents is created for applicants and other interested agencies using automated technology. Such a complex can often be in the form of annual or periodic reports.

The above-mentioned technology is considered as an automated system for obtaining, processing and providing land cadastral data to consumers. but at the same time, in the following years, automated technologies are widely used in the process of preparing plan-cartographic materials for the purposes of land cadastre. Such technology is called a geographic information system (GIS).

Today, there is no single rule of geographic information system (GIS), because they have the possibility of multi-functional use. However, in any setting, the term is an information system for collecting, storing, processing, searching, and displaying widely defined data.

In the following years, GIS was widely used for the cadastre of settlements in Uzbekistan. Creating a GIS in the city requires large amounts of material and labor costs. To create a GIS, the following is required:

- computing equipment (purchase, adjustment and service);
- software supply (purchase, creation of special programs, correction and maintenance);
- specialists (training, retraining);
- data (creation and maintenance).

GIS technology allows you to collect and store these separate data in a single view, update, analyze, perform any operations, track all changes, get various maps, plans, tables.

Surface data, usually described in the form of digital maps, which provide solutions to the usual problems of GIS, determine the main difference between the information base of GIS and other automated information systems. The main advantage of digital maps over traditional systems is that it can be kept compact, updated quickly, and widely used. Today's technical and software tools allow to display and edit digital maps on the display screen, prepare and print a copy on paper, perform complex calculations related to the processing of territorially distributed realities and formalize their results. In addition, ArcMap, ArcGlobe, and ArcScene have a layering mechanism used to display geographic data sets. Each layer references a dataset and defines how that dataset is represented using symbols and text labels. When you add a layer to a map, you define its dataset and set its map markers and labeling properties (Figure 2).

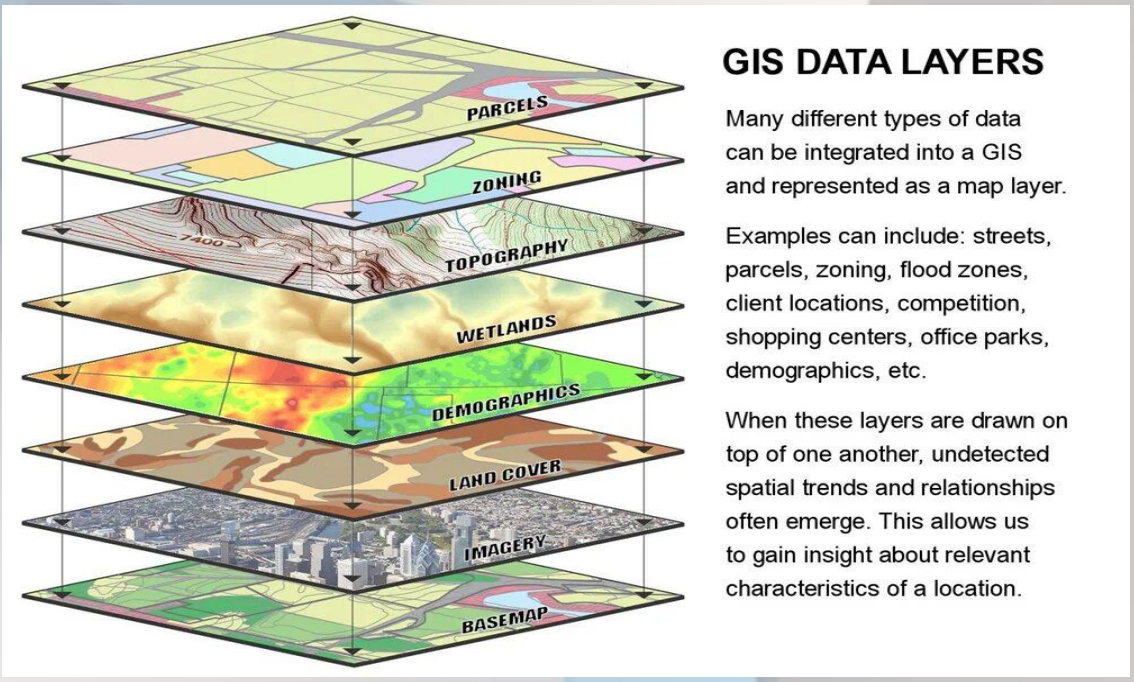

Figure 2. Using data layers.

It should be noted that the result of obtaining a series of maps at any selected scale using the initial information or a combination of them is not so important, but at the same time it is important to obtain analytical maps, video images, data arrays. thus, the multi-level gate of the area provides the following benefits to its users:

1) connecting and coordinating all information in a single database to receive information support of management solutions at different levels of regional planning;

2) use of regional GIS to obtain, analyze and make decisions by the user on various levels of granular information;

3) reducing the costs of creating and updating topographic, cadastral and base maps.

Conclusion

The use of digital maps and the use of automated technologies in general make it possible to maintain the land cadastre in high quality and, as a result, to obtain legal, technical, economic and economic information about land quickly and with high accuracy. Of course, in addition to technical equipment, it is also important to use programs designed to perform land cadastre works.

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