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THEORETICAL BASIS OF CREATION OF LARGE-SCALE CADASTRAL MAPS

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Abstract
In the article, implementation of comprehensive measures in the field of state cadastres, management of the state cadastral system, determination of distribution limits of natural and socio-economic resources, quantitative and qualitative description of land by types, assessment of their economic, ecological and social conditions the issues of learning ways to give and use them rationally are covered. Also, information about the content of large-scale cadastral cards, their importance in the national economy, and the use of conventional signs is presented.

Keywords: GAT, cadastre, plan-cartographic materials, cadastral cards, topographic plan, topographic map, state geodetic network, cadastral survey, coordinate, survey, soil survey, conventional signs.

Introduction

In the world, special attention is paid to modern methods of obtaining and managing cadastral system cards, integration of information into the database, conducting scientific research works on electronic cards and modeling. Effective and high-quality loading of natural resources, and documentary clarification of quality indicators is considered as the main issue for increasing their socio-economic evaluation to mapping based on production and geo-information systems. Therefore, one of the most important roles is the production of the theoretical basis for obtaining large-scale cadastral maps based on GAT technologies.

Implementing comprehensive measures in the field of state cadastres in our republic, maintaining the state cadastral system, determining the limits of the distribution of natural and socio-economic resources, defining the land types in terms of quantity and quality, assessing their economic, ecological and social conditions extensive measures are being taken to study the ways of providing and using them rationally, to use modern methods in digitalization and mapping of all information. In the new development strategy of Uzbekistan for 2022-2026, "... the procedure for introducing a public geoportal based on open data and providing data to state and economic management bodies and individuals and

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legal entities through the National Geoinformation System Development" tasks. In the implementation of these tasks, it is important to carry out scientific research on the effective and rational use of natural resources, their quantitative and qualitative monitoring based on modern methods, and the development of a methodology for creating large-scale cadastral maps.

PF-60 of the President of the Republic of Uzbekistan dated January 28, 2022 "On the Development Strategy of New Uzbekistan" decree and the President of the Republic of Uzbekistan dated September 7, 2020 "Measure to radically improve the system of land accounting and state cadastre management On measures to fundamentally improve the system" of PF-6061 decree and other regulatory legal documents related to this activity, this research serves to a certain extent.

The analysis of existing scientific literature on the field shows that on the theoretical and practical basis of the problems of designing and creating large-scale cadastral maps, among the CIS scientists K.A. Salishev, I.P. Zaruskaya, A.P. Zolovsky, I.Yu. Levisky, V.P. Razov, A.M. Berlyant, V.V. Vershinin, S.N.Volkov, I.K.Lure, P.P.Lebedev, A.V.Donsov, Ye.G.Kapralov, P.F.Loyko, Ya.Ye.Smirnov and others conducted research.

Issues of creation of state cadastral system cards in our republic T.Mirzaliyev, G`.Tolipov, J.S.Qoraboyev, B.T.Kurbanov, L.A.Tursunov, Ye.Yu.Safarov, R.A.Turayev, I.M.Musayev, O.R.Allanazarov, S.N.Abdurahmonov, R.Q.Aymatov, A.N.Inamov, A.P.The researches of Pardaboyev, N.Sh.Umarov and others are of particular importance.

The Main Part

Cadastre is defined as carrying out calculations based on the results of surveys carried out in a certain area in order to methodically and correctly regulate land ownership by the state, and assigning each property a special number, i.e., an identification number. . Property boundaries and serial numbers are usually displayed on large-scale maps. The term "Cadastre survey" is closely related to the cadastre, which means the survey of the boundaries of real estate plots [5].

Development of various sectors and branches of the national economy, assessment of natural and socio-economic resources, restoration, protection and rational use of natural resources, planning and construction of industrial, agricultural, transport and other enterprises, placement of production forces, large-scale special thematic plans and cards are used for maintaining the state cadastral system, management of national economy networks and many other tasks [2].

In the present conditions, when the influence of natural resources on human activity is increasing, the problem of their rational use and protection arises, which, in turn, raises the need to regulate legal, natural and economic relations based on reliable, fast and scientifically based information on their use. causes. In order to systematize these issues, a number of positive works are currently being carried out on the creation and maintenance of the state cadastre [8].

State geodetic networks are of great importance in providing the state cadastre system with planning and cartographic information. Therefore, cadastral maps must be created on the basis of some coordinate system, so the points of state geodetic networks are among the most important aspects when creating cadastral maps. When working in the state cadastre system, the boundaries and coordinates

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of each existing cadastral object in the territory are determined [1, 3]. Long-term studies conducted in a number of countries show that all coordinates in cadastral work must correspond to the coordinate system used on a global scale. That is, all geodetic, cartographic, cadastral works performed within a country are works within its borders and should not go beyond the border lines or vice versa [4, 7].

Each topographic plan and map should be the main source of information in the creation of cadastral plan and map of a certain area. If the necessary plan-cartographic materials are not available during cadastral works, then it is required to carry out the cadastral survey with the required accuracy [6]. In most countries, the basic scale of the cadastral survey is taken as an accurate criterion for plan-cartographic materials.

The base scale of the cadastral survey is understood as the set of all works in the collection of cadastral data and their cartographic systematization as a result of a sufficiently optimal compilation at an arbitrary (specified) scale [8].

A large scale of 1:500 should be taken as the basic scale of the cadastral survey. The larger the scale of the cards, the more complete and detailed the information will be. For this reason, the information described in the topographic maps and plans created on the basis of the survey results of this scale creates the basis for obtaining sufficient data for the rest of the medium and small scale maps.

Geological, soil, forest, agricultural, urban, and many other large-scale thematic maps are created by traditional field surveying and serve as the basis for most maps. Population, transport, climate, hydrological, economic and many similar plans and maps, statistical data, observational and agricultural data, as well as study and processing of economic indicators are compiled.

From the above maps, only geological, soil, forest, agricultural and state cadastre maps are taken over by the state and carried out by special cartographic organizations.

The research carried out during the research revealed from the analysis of the literature that it is appropriate to compile large-scale cadastral cards on the following scales.

Geological maps, their scale ranges from 1:50 to 1:10,000,000. Geological state maps are printed mainly on 1:50,000, 1:200,000 and 1:1,000,000 scales, based on national nomenclature and topographic map sheets. Geological maps are mainly made on the basis of large-scale maps, which are drawn directly in field conditions.

Their legend and conventional symbols are unified (put in the same form), and in expressing the meaning of all geological maps, agreed colors, conventional symbols and the same cartographic representation methods are used.

The scale range of soil maps is 1:5,000 to 1:50,000, and they are drawn by agricultural enterprises and scientific research institutions. They are mainly used for carrying out, controlling and planning agricultural works, as well as for soil inspection and land fund accounting, conducting the land cadastre system, planning and conducting land reclamation works, studying and improving the condition of pastures and meadows.

Forest maps range in scale from 1:5,000 to 1:50,000. These cards represent the geographical distribution of forests, tree species, age, density and forest quality.

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Forest cards are drawn directly in the field and are used in forest management, restoration and conservation. The role of these cards is very large in the Russian Federation, because forests make up 3/1 of this country. The survey of forest maps is carried out without connection to the state geodetic network (without a geodetic base) and without relief. This is their biggest drawback. The main meaning of forest maps is to show the massif and areas of growth of dominant tree species in qualitative color method, the age, density and industrial value of trees are emphasized.

There are several types of agricultural maps, and their scale ranges from 1:10,000 to 1:500,000. All agricultural organizations are provided with "Land Use" cards on a scale of 1:10,000-1:25,000. Collective farms, agricultural enterprises and companies with various large-scale plans and maps for crop rotation, melioration measures, planning and carrying out, measures against salinity and erosion 'those who have been ridden. These include the following cards:

- Use of farm lands;
- Land fund;
- Soil;
- Soil salinity;
- Land valuation;
- Soil inspection;
- Agrochemical;
- Land cadastre etc.

Agricultural maps, in most cases, are not connected to the state geodetic base stations, and they do not use a coordinate grid. This point is a big disadvantage of the cards.

Large-scale thematic cards are prepared in manuscript form and attached to reports in many branches of the national economy, scientific production enterprises, scientific inspection institutes and scientific expeditions. Development of new lands, construction of industrial complexes, construction of hydrotechnical structures, construction of canals, roads, etc. are carried out through large-scale thematic and topographical plans and maps.

Summary

Issues of maintaining the state Cadastral system, determining the boundaries of the distribution of natural and socio-economic resources, characterizing lands by type in quantity and quality, introducing and studying methods of rational use of their economic and environmental conditions, the basic scope of the cadastral scale, as well as the application of land plots. the importance, content and methods of providing a wide range of cadastral Cards are presented.

List of References

1. Allanazarov O.R. Improvement of the cartographic-geodesic support of the cadastre of communication objects based on GAT technologies: // Dissertation written for the degree of Doctor of Philosophy (PhD) in technical sciences. abstract - T., 2018.- 45 p.
2. Boltayev T.H., Rakhmonov Q., Akbarov O.M. Scientific basis of geoinformation system.-T.: GE-UZ

ISSN: 2776-1010 Volume 4, Issue 5, May 2023

- Geoinformatika, 2015. - 274 p.
3. Biktimirova N.M. Razrabotka informationnykh modeley kartograficheskogo obespecheniyazemelnokadastrovykhrabot dlya opredeleniya bazy melnykh platejeyvsex vidov. Autoref. dis.// ...can. tech. science Moscow - 2005. - 24 p.
4. Volkov S.N., Komov N.V., Khlystun V.N. Kak dostich effective management of land resources in Russia? // J. Mejdunarodnyy selskohozyay-stvennyy journal. – 2015. – No. 3. – S. 3–7.
5. Livsky I.Yu. Scientific basis of complex agricultural cartography. - M.: Nedra, 1975. - 204 p.
6. Svatkova T.G. Atlas cartography. - M.: Aspect Press, 2002. - 203 p.
7. Safarov E.Yu., Allanazarov O.R. and others. Cartography and geovisualization. - T.: Economy - Finance, 2016. - 171b.
8. Umarov N.Sh. Creation of the scientific basis of cartographic provision of the state land cadastre based on GAT technologies: // Dissertation written for the degree of Doctor of Philosophy (PhD) in technical sciences. abstract - T., 2023.- 45 p.