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METHOD OF ASSESSMENT OF PURPOSEFUL USE OF LAND IN POPULATION POINTS OF LAND CADASTRAL INDICATORS

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Abstract

To maintain settlement land account in correct modern methods and complete land surveying and to ensure purposeful use of land. Establishing targeted land use through land cadastre-based indicators is important in ensuring economic stability. From this point of view, the article provides information on the creation of cadastral indicators based on the geodatabase ArcGIS program and thereby achieving economic stability in the regions, as well as establishing the purposeful use of land in the regions and their control.

Keywords Cadastre, land, land cadastral system, GIS, ArcGIS, land accounting, cadastral system, socio-economic stability, territory, efficiency.

INTRODUCTION

In the course of the transition to market relations of the Republic of Uzbekistan, the objective basis of managing the effective use of land resources is the mechanism of market economy laws. Regulation of land relations serves to regulate land relations as part of production relations based on the legal basis of management [6]. The system of land resources and their use in agriculture differs from other resources and their use by a number of features. This requires defining the specific features of scientific and methodical issues related to land resources disposal, their ownership and their use relations in agriculture and making changes related to their practical application. Currently, the use of land resources in agriculture and its results are functionally directly related to the use of other resources, it has an absolute character.

In addition, this process depends on the economic

level of capital circulation, prices, bank interest, exchange rates. Such a situation is considered an objective legality, and it forms the theoretical and methodological basis of the land tax system, especially the "single tax", in practice it should be implemented on the basis of the taxation mechanism. Also, the fact that the irrigated lands are decreasing due to the increase of the settlement lands, it is required that the land account be accurate, especially the lands of the settlements.

Basically, it is required to improve the land cadastre management system and database with the help of information and communication technologies and to ensure their transparency, to create a unified system of state cadastres (USSC) on a scientific basis.

The analysis of scientific literature related to the field shows that, along with foreign scientists, several scientists of our republic have also

conducted scientific research on land accounting using high-level GIS software, transparent and fast basing of subjective indicators of land. Therefore, the theoretical and methodological foundations of the issue of maintaining a geo-information system were obtained from foreign scientists J. Bouma, P.A. Burrough, J.J. de Gruijter, E. Van Ranst, A.K.L. Johnson, & A.B. McBratney and others researched the theoretical and methodological foundations of process automation by A.A. Varlamov, K.M. Melikhov, S.V. Kozmenkova, S.V. Kasyanov, V.I. Kusov, A.L. Ilinikh, Yu. Developed by V. Ryabov, E.V. Belorustseva, M.E. Bukovsky, and others. According to the works of A.S. Altiev, A.R. Bobojonov, and K. Rakhmonov, among the scientists of our republic, it includes studies on the calculation of land in terms of quantity, their distribution by certain administrative-territorial units, land users, and land types [5].

Today, in different regions of our country, the researches on conducting and forming the land account in modern ways, integrating the results of field research into the geodatabase, geovisualization of objects using the interpolation method, analysis, processing, digitization of processes based on the "ArcGis" program have not been sufficiently studied [4]. For this reason, there was a need to digitize the land accounting system based on the ArcGis program.

METHODS

The boundaries of settlement lands located in district centers, cities, settlements, and villages are the boundaries of settlement lands that distinguish them from other lands as a valid sign of inhabited land, and land use analysis and settlement land

change (GIS) software are widely used.

Currently, with the help of geographic information systems, it is possible to combine various social and economic data, which leads to low costs and provides the opportunity to collect and process various data with accurate calculation results necessary for land use planning [1].

Based on this, 43,432 houses were determined based on the results of the research conducted in the territory of the Republic of Karakalpakstan. Also, when studying 40,260 arbitrarily occupied houses, it was found that the plots of land have been occupied for almost 9 years. According to him, we can see that the number of arbitrarily occupying lands has increased year by year due to the lack of land control, land accounting and monitoring.

In the Republic of Karakalpakstan, the goal of using 9,415.3 hectares of land has been violated. (Table 1).

According to it, due to the lack of land control, land accounting and monitoring, we can see that the number of arbitrary acquisitions of land has increased from year to year according to the schedule, as a result, the goal of using 9,415.3 hectares of land in the Republic of Karakalpakstan has been violated [2].

When 3172 land plots were not included in the cadastral database, i.e., not taxed, houses built in the 40s of the last century but still without legal documents were identified, in addition to this, a number of houses for which land tax was collected by issuing unofficial receipts that are not in the account anywhere.

Table 1

Land plots without legal documents recorded in the electronic database of the Republic of Karakalpakstan

N	Territory name	The number of residences that do not actually have a legal document	From that								
			2015	2016	2017	2018	2019	2020	2021	2022	2023
1	Karakalpakstan	40 260	483	338	6 126	26 530	3 220	1 733	1 089	696	45
1	Amudarya district	4 586	1	0	1 260	2 780	274	121	94	32	24
2	Beruniy district	8 111	0	39	687	6 521	612	141	60	47	4
3	Buzatov district	482	0	0	0	0	461	15	4	2	0
4	Kegeyli district	1 333	0	2	176	1 085	26	8	16	20	0
5	Muynoq district	110	0	0	1	105	3	1	0	0	0
6	Nukus district	320	0	0	70	75	49	38	55	32	1
7	Taxtakupir district	373	0	0	33	332	5	2	1	0	0
8	Turtkul district	17 290	0	68	924	13 409	1 246	964	320	352	7
9	Xujayli district	1 156	227	66	458	48	123	121	90	23	0
10	Chimboy district	287	25	6	39	191	15	1	7	3	0
11	Shumanoy district	51	0	4	43	1	1	0	2	0	0
12	Ellikkala district	3 403	150	143	1 968	226	186	251	313	157	9
13	Konlikul district	173	19	0	27	124	2	1	0	0	0
14	Korauzak district	1 182	0	0	74	922	121	46	7	12	0
15	Kungirost district	353	0	0	4	232	58	7	50	2	0
16	Nukus city	542	60	10	181	181	21	13	68	8	0
17	Taxiatosh district	508	1	0	181	298	17	3	2	6	0

RESULTS

Using the ArcGIS program, the database of the unified system of state cadastres (USSC) was created for the newly identified 3172 land plots, their outlines were formed and their photographs were taken.

PINNP (personal identification number of natural persons) of the citizens occupying these plots of land was obtained and geoanalysis was carried out. According to it, a loss of 2,901,368,101.8 soums has been reported to the state budget due to land tax as of 2023 (Table 2).

In addition, the goal of using 690.80 hectares of land in the territory of the Republic of Karakalpakstan was violated.

If the 1-year tax amount of these lands is calculated according to the established procedure with 5-year tax rates, it was found that 14,498,550,376.8 soums were lost to the budget revenue from the land tax.

Until now, the houses in the country, which have been arbitrarily occupied by the citizens, have been analyzed.

According to it, in accordance with Article 47 of the Constitution of the Republic of Uzbekistan, based on the decision No. 251 of the Cabinet of Ministers of the Republic of Uzbekistan dated August 3, 2016 “On the general inspection of real estate objects belonging to individuals and legal entities in the period of 2016-2017” 71,987 houses without documents determining the right - the rights to the place are recognized.

At the same time, based on the Decree No. PF-5421 of the President of the Republic of Uzbekistan dated April 20, 2018 “On conducting a one-time nationwide action on additional measures for social support of citizens and recognition of property rights to arbitrarily built residences” it was studied that 50,361 housing rights were recognized without documents [3].

Currently, in the Republic of Karakalpakstan, there are 43,432 additional unrecognized housing units for the purpose of social support of the population by creating conditions for the realization of the right of the population to housing, recognizing the rights to the real estate objects built by individuals, and obtaining a land account. indicates the need for

systematic implementation.

It can be seen that since 2016, the arbitrary acquisition of land and construction of illegal housing in the regions has not stopped, on the contrary, it has become a situation.

Table 2

Analysis of the land tax revenue of the object not registered in the cadastral electronic database in the Republic of Karakalpakstan

N	Years	2020 (sum)	2019 (sum)	2018 (sum)	Total revenue (sum)
	Annual tax	3	4	5	2 901 368 101,8
1	Amudarya district			229 509 403,2	229 509 403,2
2	Beruniy district			168 799 381,8	168 799 381,8
3	Buzatov district			60 516 481,2	60 516 481,2
4	Chimboy district			371 347 800,6	371 347 800,6
5	Ellikkala district			139 875 997,8	139 875 997,8
6	Kegeyli district			257 416 038,6	257 416 038,6
7	Muynoq district			40 664 072,4	40 664 072,4
8	Nukus city			164 964 210,6	164 964 210,6
9	Nukus district			496 886 292,0	496 886 292,0
10	Konlikul district			44 310 907,2	44 310 907,2
11	Kungirotdistrict			80 859 429,0	80 859 429,0
12	Korauzak district			14 524 666,8	14 524 666,8
13	Shumanoy district			33 623 284,8	33 623 284,8
14	Taxiatosh district			256 984 551,6	256 984 551,6
15	Taxtakupir district			109 370 549,4	109 370 549,4
16	Turtkul district			231 920 770,2	231 920 770,2
17	Xujayli district	3 407 002,2	1 476 127,8	194 911 134,6	199 794 264,6

Therefore, it is necessary to establish an effective control in the regions, a scientific and methodological approach to the purposeful use of land, the correct formation of cadastral indicators, because cadastral data provides the opportunity to

use each land for the specified purposes.

Creation of land cadastre data in a modern geodatabase and organization of regular updating is based on the dependence of cadastral experts on conducting regular field research and updating

information in the geodatabase.

Errors made by a cadastral specialist conducting field research in mechanically entering information into the geodatabase in each land settlement segment and obtaining analytical results will have negative consequences. In particular, we can cite reasons such as the errors made in the projection, the decrease or increase in the value of land areas, the exchange of information about land users, and the exchange of incorrect information in government agencies.

The geodatabase serves as the basis for storing all types of data used in the process of working with ArcGIS software applications, that is, the geodatabase acts as a warehouse for storing various types of data.

With the help of geodatabase, effective management of data stored not only locally, but also on the server allows to create complex models in the process of working with different fields and projects.

Buildings and structures belonging to the land plot are also formed in the geodatabase for the purpose of obtaining the account of the land plots for their purposeful use and protection, and the buildings and structures are mainly the land under construction in the lands of the settlement.

In this regard, buildings and structures were formed in the geodatabase of the state cadastre, in the attributive data, property rights to buildings or other material rights (appearance, transfer to another person, limitation and termination), as well as other information describing the object, are recorded.

High-rise residential buildings are part of the land of the settlement, the land plots under them and the apartments belonging to the building were also formed in the geodatabase in vector format using the ArcGIS program.

Each data generated in the ArcGIS program is

simultaneously entered into the "Real Estate Database" electronic program, which we mentioned above, which in turn made it possible to monitor the increase or decrease of the population of land users over the years[7].

As a result of scientific research, the processes of processing the results of field research in ArcGIS software, integrating the calculation analyzes carried out in the field into the geodatabase in the form of a vector layer, and separating the real estate objects and indicators of users of the settlement land using geostatistical analyzes were geovisualized.

In addition, cartography, cadastral and land plot accounting were modernized. This created a cartographic basis for the creation of 1:10,000 and 1:25,000 scale agricultural maps and 1:2000 scale electronic maps of residential areas for administrative-territorial units to determine boundaries, land accounting, and illegal land use.

In the Republic of Karakalpakstan, only in Takhiatash and Khojayli districts, practical work was carried out from the point of view of purposefulness or lack of purposefulness of the plot of land where houses were built without documents defining the right. In particular, Takhiatosh (14 neighborhoods) and Khojayli (28 neighborhoods) districts were selected as samples, and 36,809 real estate objects in 42 neighborhoods (12,923 in Takhiatosh, 23,886 in Khojayli) were inspected one by one. According to it, an additional tax source of 944.4 million soums (land tax 699.2 million soums and property tax 275.2 million soums) was created due to the additional land area and equipment identified.

DISCUSSION

Information about 5,199 dwellings without documents confirming the right (1,301 in Takhiatash, 3,898 in Khojaly) was submitted to the Council of Ministers of the Republic of

Karakalpakstan for study by the working group, and the land on which these plots are located was transferred to the target use.

Taking into account the above circumstances, it is recommended to implement the following in the draft Law of the Republic of Uzbekistan “On recognition of rights to arbitrarily acquired land plots and buildings built on them”:

1. Individuals and legal entities apply for arbitrarily acquired plots of land and the buildings built on them through the State Department of Civil Aviation or state services;
2. Granting the lease right to the plot of land occupied by privatized real estate objects, in particular, buildings and structures, as well as individual residences;
3. Recognizing ownership of buildings and structures for rent, building and structures in the state border protection zone, and charging local authorities with compensation payments for moving them to another location;
4. Granting the right to rent to the plots of land used by citizens for the purpose of farming;
5. The date of arbitrary occupation of the land plot, the date of construction of buildings will be determined by “Uzbekkosmos” agency;
6. We believe that it is appropriate to provide an appropriate conclusion by the Ministry of Emergency Situations that the residences for which the right is recognized are not located in zones with a high man-made risk of explosion, fire, man-made

events, natural disasters, flood roads.

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