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The Importance of Developing a Cartogram through Assessment of Land Quality and Quantity in Zangiota District

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Annotation: This article is about the development of cartographic methodology of quality and quantity indicators of agricultural lands of Zangiota district and the creation of quantitative and qualitative map schemes of the research area.

Key words: Zangiota district "Ittifak", quality of land assessment, land quantity, cartographic supply, farmers' table, land users.

The level to which the problem has been studied. Land assessment is an integral part of the state land cadaster and is part of the totally assessment of natural resources used in sectors of the economy. In this regard, the assessment of land as the main means of production of agriculture is of particular importance. It is embodied as one of the important challenges in taking into account and comparing regional differences of location [1]. Most issues of the economy, as well as internal issues of agricultural enterprises, the state's land use payment policy, land management and land use problems, and the quality of land and cannot be successfully addressed without a comparative assessment [4].

The successful solution of the evaluation problem depends, first of all, on the correct choosing of its object and subject. Studies in soil science and the study and analysis of special literature on land valuation show that in the valuation of agricultural land we must pay attention to the fact that the land plots, which its main means of production are, serve as an object. The main feature of land as the main means of production in agriculture is its fertility. Soil fertility is the ability of a piece of land, or more precisely soil, to provide plants with the nutrients and moisture they need

Normative valuation of agricultural land, mortgage lending from banks, allocation of land for the construction of private housing and over-allocation of land to farmers, determination of land tax rates, sale of land rights by auction and in other cases provided by law, to determine the initial price of the land.

Relevance of the topic: identification of arable lands in the world, automation of the research process on the basis of modern methods, cartographic support methods in assessing the quality and quantity of agricultural lands, and field research in the geological database. One of the most pressing issues today is to conduct targeted research aimed at developing integration methods using improvement.

Object of research and methods. Development of scientific-theoretical and methodological-practical proposals and recommendations for improving the cartographic supply in the assessment of quality and quantity blind sellers of lands in the "Ittifak" massif of Zangiota district of Tashkent region.

Results of studies and their discussion. The climatic indicators of the region are characterized on the basis of meteorological data from the meteorological station; the average annual temperature is 12.8-13.3° [5].

The average annual rainfall is 359 mm, with the main rainfall occurring in the winter and spring months. In the summer there is almost no precipitation. The thickness of snow cover in some years reaches 34-36 cm. the average annual relative humidity of the air rises to 47%, to 66-70% in winter and to 30-33% in summer, during which time the amount of deficient moisture is replenished by irrigation.

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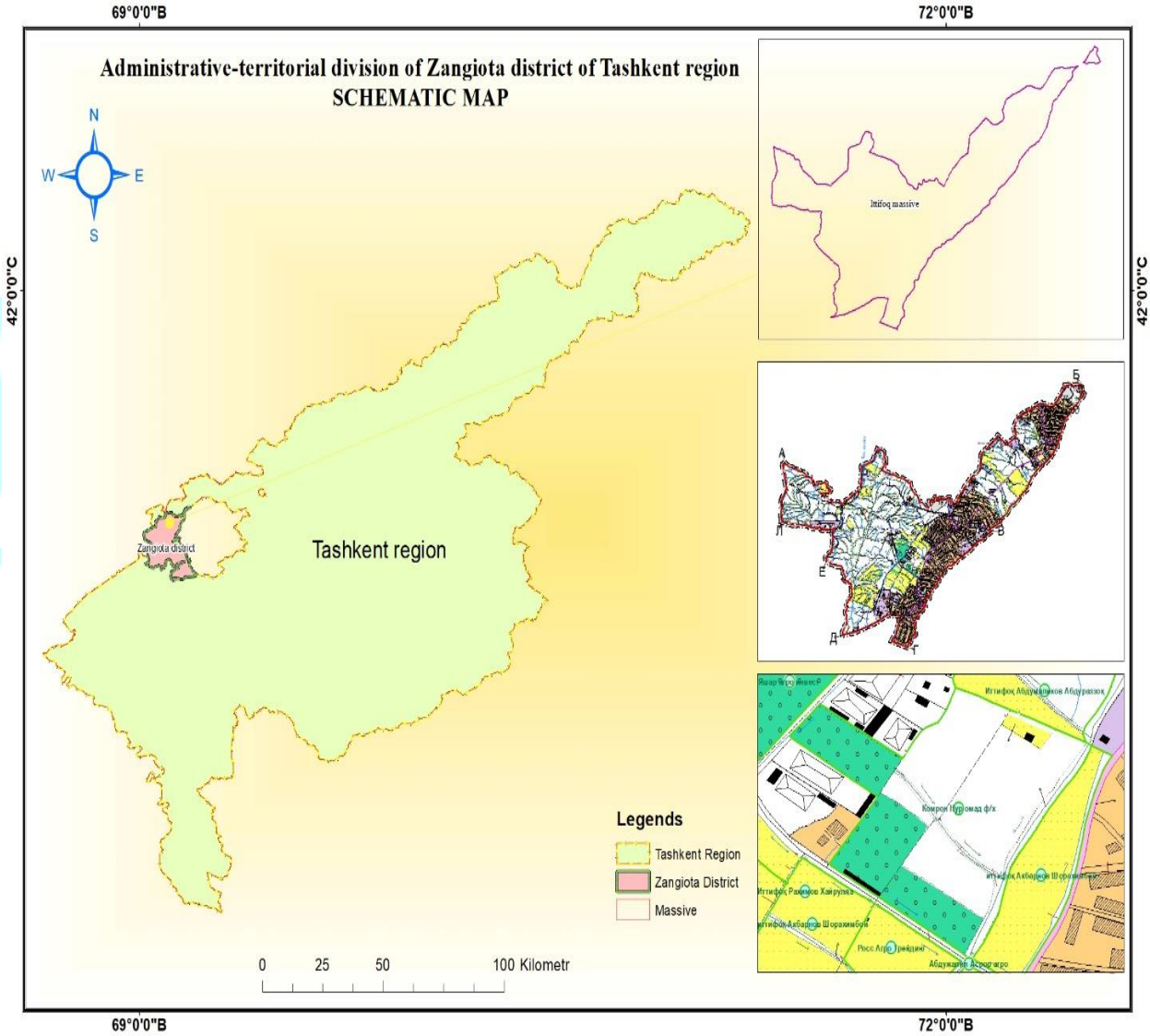
According to the results of land inventory in Zangiota district of Tashkent region in 2020 [3], the total area is 20,918.0 hectares, of which irrigated arable land is 7,445.0 hectares, arable land is 33.0 hectares, orchards are 1,304.0 hectares, vineyards are 261.0 hectares. , greenhouse 447.0 hectares, fruit 2.0 hectares of saplings, 8.0 hectares of mulberries, 42.0 hectares of terraces, 41.0 hectares of gray lands, 139.0 hectares of pastures, total agricultural land 9721.0 hectares, backyard lands 4815.0 hectares, horticulture and viticulture company lands 354.0 hectares, total forest area 40.0 hectares, total underwater land 1826.0hectares, including rivers and streams 121.0 hectares, lakes 384.0 hectares, reservoirs 4.0 hectares, canals, collectors and ditches 1317.0 hectares, roads 523.0 hectares, buildings, streets, palaces and squares 2924.0 hectares, 715 hectares of other non-agricultural land were identified and a schematic map has been created in the ArcMap application of ArcGIS software (1-picture) [3].



1-picture: *Administrative-territorial division of Zangiota district of Tashkent region schematical map*

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Table 1 Area and form of land users of the "Ittifak" massif of Zangiota district

Total area of agricultural producers of Zangiota district of Tashkent region

№	Name of agricultural commodity producers	Form of farm	Location Address (Massive	Irrigated zone							Fishing pools	Non-irrigated zone		Total lands	Average score quality of irrigated lands	Total
				Arable land	Greenhouses	Garden	Vineyard	Boz lands	Total irrigated agricultural land	Construction, facilities and apartments in the irrigated area		Plots of pastures adjacent to irrigated areas	Non-irrigated agricultural land total			Area, he
1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Fayzullahja Mirishkar Fayz	farmer farm	Ittifok massive	16,31	0	0,3	0	0,49	17,1	0,01	0	0	0	17,11	60	17,11
3	Ittifok Vakhobova Nigora	farmer farm	Ittifok massive	10,16	0	0	0	0	10,16	0,01	0	0	0	10,17	60,77	10,17
4	"RAVSHANXO'JA FAYZ BARAKA"	farmer farm	Ittifok massive	5,53	0	5,96	0	0	11,49	0,11	0	0	0	11,6	65	11,6
5	Farovon ittifak	farmer farm	Ittifok massive	7,33	0	3,3	0	0	10,63	0,01	0	0	0	10,64	65	10,64
6	Bakhtiyor Tabarruk Fayz	farmer farm	Ittifok massive	1,94	0	0	0	0	1,94	0,01	0	0	0	1,95	60	1,95
7	STEPPE TURTLES	farmer farm	Ittifok massive	0,15	0	5,5	0	0	5,65	0,08	0	0	0	5,73	60	5,73
8	Rikhsitillaev Rahmatilla	farmer farm	Ittifok massive	0	0	0	0	0	0	0	0,84	3	3	3,84	85	3,84
9	Rihsiboev Nodir	farmer farm	Ittifok massive	1,31	1,8	0	0	0	3,11	0	0	0	0	3,11	71	3,11
10	Shams Apple Gold	Limited Liability Company	Ittifok massive	3,1	0	7,5	0	0	10,6	0,01	0	0	0	10,61	65	10,61
11	ZAHRIDDIN FLOWER PLANTATION	Limited Liability Company	Ittifok massive	1,8	0	0	0	0	1,8	0	0	0	0	1,8	72	1,8
12	Shodlik Agro Fayz	farmer farm	Ittifok massive	15,55	0	0	0	0	15,55	0,01	0	0	0	15,56	66	15,56
13	Rasulov Davron Agro	farmer farm	Ittifok massive	22,55	0	2,5	3,55	0	28,6	0,03	0	0	0	28,63	64	28,63
14	Obod Zamin	farmer farm	Ittifok massive	10,12	0	0	0	0	10,12	0	0	0	0	10,12	64	10,12
15	Zamin agro expert	farmer farm	Ittifok massive	1,71	4,1	7,88	0	0	13,69	0	0	0	0	13,69	60	13,69
16	Ittifok Akbarov Shorahimboy	farmer farm	Ittifok massive	0,66	0	14,68	0	0	15,34	0,06	0	0	0	15,4	60	15,4
17	Green city boglari	farmer farm	Ittifok massive	10,75	0	0	0	0	10,75	0,01	0	0	0	10,76	64	10,76
18	MURODBOYOTA OLTIN BOG'I	farmer farm	Ittifok massive	2,7	0	3,15	0	0	5,85	0	0	0	0	5,85	60	5,85
19	Ulugbekhoja Agro	farmer farm	Ittifok massive	7,32	0	0,4	0	0	7,72	0,06	0	0	0	7,78	72	7,78
20	Ittifoq Ilkhomov KHurshid	farmer farm	Ittifok massive	2,34	0	0	0	0	2,34	0	0	0	0	2,34	60	2,34
21	OOO "OLTIN OLMAZOR"	Limited Liability Company	Ittifok massive	0	0	11,15	0	0	11,15	0,02	0	0	0	11,17	60	11,17
22	OOO "DAVR AGRO KLASTER"	Limited Liability Company	Ittifok massive	102,2	0	2,72	0	0	104,92	0,23	0	0	0	105,15	60	105,15
23	ODILBEK OMAD AGRO FX	Limited Liability Company	Ittifok massive	28,75	0	0,15	0	0	28,9	0,02	0	0	0	28,92	57	28,92
24	OOO "INORA GREEN AGRO GROUP"	farmer farm	Ittifok massive	37,12	0	5,44	1,25	0	43,81	0,15	0	0	0	43,96	68	43,96
25	Komron Nur omad	farmer farm	Ittifok massive	6,81	0	0,25	4,1	0	11,16	0,07	0	0	0	11,23	71	11,23
26	Ittifoq Rixsitillaev Shavkat	farmer farm	Ittifok massive	4,79	0	1,43	0	0	6,22	0,01	0	0	0	6,23	71	6,23
27	Ittifoq Abdumalikov Abdurazzoq	Limited Liability Company	Ittifok massive	0	0	13,81	0	0	13,81	0	0	0	0	13,81	54	13,81
28	Xoji ona bog'i	farmer farm	Ittifok massive	0	0	8,1	0	0	8,1	0,05	0	0	0	8,15	68	8,15
29	"ABDUJALIL ASROR AGRO"	farmer farm	Ittifok massive	0	0	2,7	0	0	2,7	0,05	0	0	0	2,75	72	2,75
30	Ishonch	Limited Liability Company	Ittifok massive	14,6	0,2	0	0	0	14,8	0,38	0	0	0	15,18	67	15,18
31	Ittifoq Akbarov Shorustam	farmer farm	Ittifok massive	0,3	0	1,71	0	0	2,01	0	0	0	0	2,01	60	2,01
32	R.X.SHAMS	Limited Liability Company	Ittifok massive	8,75	0	7,43	0	0	16,18	0	0	0	0	16,18	64	16,18
33	Narimon Baraka	Limited Liability Company	Ittifok massive	174,54	3,6	0,45	0	0	178,59	1,12	0	0	0	179,71	60	179,71
34	"ITTIFOQ CHERRY"	Limited Liability Company	Ittifok massive	4,1	0	4,65	0	0	8,75	0	0	0	0	8,75	64,2076	8,75
35	"ZOHIDJON HOJI AGRO"	farmer farm	Ittifok massive	28,62	0	0,93	0	0	29,55	0,02	0	0	0	29,57	64	29,57
36	"ELITE GOLDEN GARDEN"	farmer farm	Ittifok massive	9,15	0	0	0	0	9,15	0	0	0	0	9,15	60	9,15
37	"HUSNIDDIN BUSINESS"	farmer farm	Ittifok massive	5,73	0	0	0	0	5,73	0,04	0	0	0	5,77	64	5,77
38	Ittifoq Rakhimov Khayrulla	farmer farm	Ittifok massive	1,9	0	8,45	0	0	10,35	0,01	0	0	0	10,36	60	10,36
39	Osiya Kholding makon	farmer farm	Ittifok massive	0	0	12,58	0	0	12,58	0,05	0	0	0	12,63	72	12,63
40	YASHNAR AGRO INVEST FX	farmer farm	Ittifok massive	0	0	0,13	7,7	0	7,83	0	0	0	0	7,83	68	7,83
41	Ross agro Treyding	farmer farm	Ittifok massive	0	0	2,19	0	0	2,19	0,01	0	0	0	2,2	72	2,2
42	"BIRLIK"	farmer farm	Ittifok massive	2,55	0,5	0	0	0	3,05	0,1	0	0	0	3,15	85	3,15
43	YO'LDOSHOV XUSNIDDIN AGRO	farmer farm	Ittifok massive	1,5	0	0	0	0	1,5	0,01	0	0	0	1,51	60	1,51
44	"QAMARIDIN IBROXIM"	Limited Liability Company	Ittifok massive	4,8	0	8,04	0	0	12,84	0	0	0	0	12,84	64	12,84
45	"ITTIFOQ TURON AGRO"	Limited Liability Company	Ittifok massive	2,9	0	0	0	0	2,9	0	0	0	0	2,9	59	2,9

Zangiota district the number of agricultural land users in 2020 will be 45 and the total area of arable land will be 737.8 hectares. normative yield of agricultural crops of the main massif is calculated as the sum of normative productivity of soils with average quality score corresponding to one quality score of soil quality of agricultural crops, orchards and vineyards [1,3] (Table 1).

The normative productivity of the main agricultural crops in the area of 1 ha according to the following formula in terms of value in relation to the average annual prices of sales of agricultural products, which occurred before the period of determining the normative value in the relevant administrative region determined [2]:

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$\mathbf{Н_{пск} = Н_{у} \times Ц_{рк}}$, there:

$\mathbf{Н_{пск}}$ - Normative productivity of agricultural crops per 1 hectare, thousand soums

$\mathbf{Н_{у}}$ - normative yield of agricultural crops, ts/h

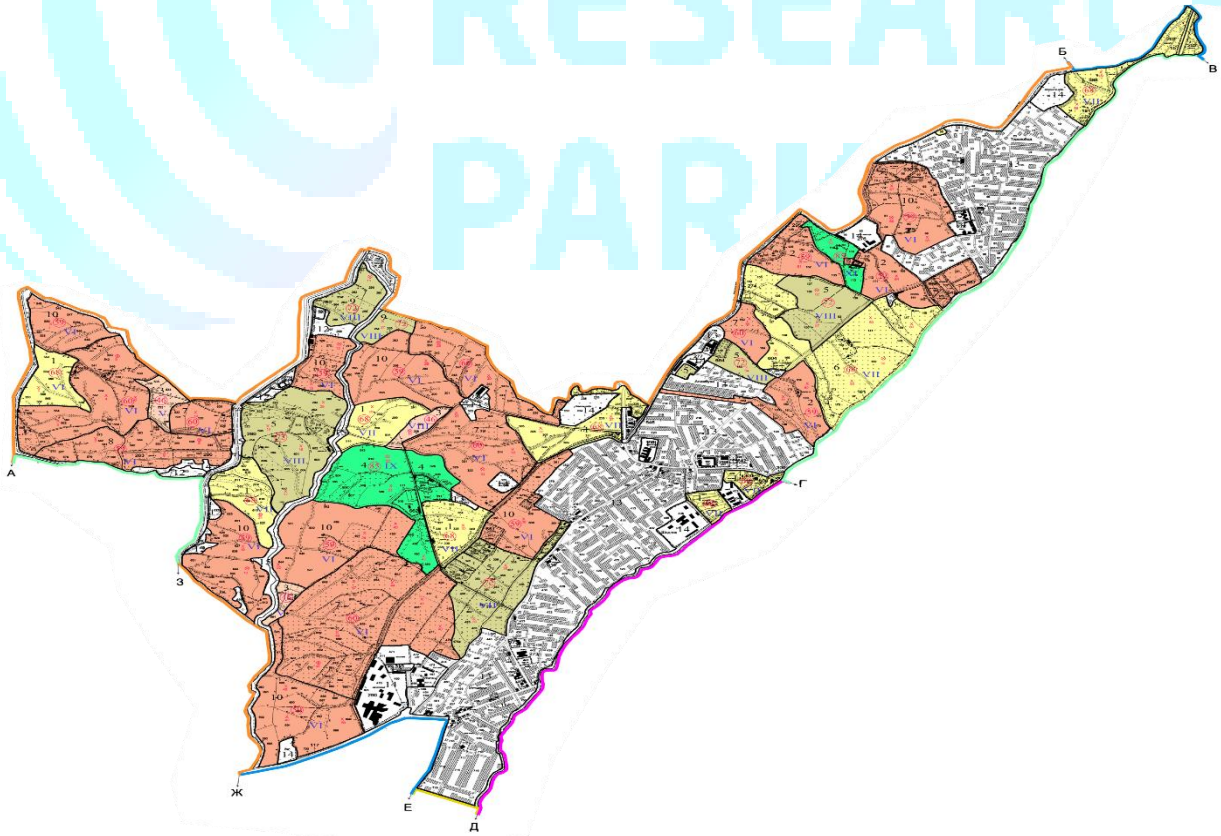
$\mathbf{Ц_{рк}}$ - the average annual price of the relevant type of agricultural products sold in farmers' markets, thousand sums/ts, the purchase price of raw cotton and cereals - thousand sums/ts [2].

The normative yield of fodder crops is calculated by converting their yield to the equivalent yield of wheat.

The structure of arable lands formed in the year preceding this year is used to determine the normative value of agricultural arable land for each agricultural producer in determining the calculated profit from irrigated 1 ha of arable land

The subject of normative assessment of land is the study and assessment of the productive capacity of the soil of land plots, taking into account its place in the district infrastructure (cadastral object). The criteria for normative assessment of land are soil valuation, calculated normative productivity of major agricultural crops, gross output and profitability.

0.01 percent of profit is applied to exclude the value of land of negative value in the case of obtaining the calculated amount of profit in percent on negative values for individual low-yielding classes of soils [6] average data on the value of the product and the calculated data on cereals are used in the absence of average costs for the cultivation of agricultural products per plant.



2-picture: *Soil quality assessment map of Zangiota district of Tashkent region*

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The agricultural land quality of the Zangiota massif has a quality score of 68 points, and the soil physiology is not the same as the soils of the Chirchik-Ahangaron region. Because the formation of the soil depends on the relief of the place and the composition of the rocks scattered on the surface, the amount of precipitation, temperature, vegetation. Accordingly, the soils of the Chirchik-Ahangaron region change from the south-western plains to the north-east to the mountains (Figure 2).

Conclusions, suggestions and recommendations. New methods of land protection, proper use, increasing productivity and land valuation are important. Using the Arc Toolbox function of the ArcGIS program to create a cartogram of land assessment work on the basis of modern methods, and to prepare inventory and soil maps of agricultural lands and place land information online in the Geoportal, the quantity and quality of agriculture we would have paved the way for transparent data access and the development of prospective land and cartographic data.

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