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## The Composition of the Lands Used in Agriculture and their Electronic Cartography

**Xakimova Kamola Raximjonovna**

Fergana Polytechnic Institute  
[kamola773004@gmail.com](mailto:kamola773004@gmail.com)

**Mullag'oziyev Xojiakbar Muhiddin o'g'li, Soliyeva Xulkarxon Taxirjonovna**

Fergana Polytechnic Institute

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**Abstract:** *This article consists of electronic mapping of the process of land resource use in the region by studying the theoretical and methodological bases of territorial organization of land resource use in agriculture.*

**Keywords:** *land, agriculture, map, electronic mapping, region, territory, ArcGIS, GIS, Table Of Contents.*

### Introduction.

Thematic cards are of great importance in showing the location of geographical events and phenomena of the region. Taking into account the achievements of today's science and technology, using the available opportunities, using modern information technologies to create thematic cards is more justified than the traditional paper situation. After all, the extent to which the area has been studied geographically is also determined by the existence of thematic maps related to this place. After the independence of our country, as a result of focusing on economic reforms, structural changes in the formation and development of economic sectors are growing significantly. In this, thematic cards occupy the main place in the geographical study of regional economy, and great attention is paid to their analysis [1,2,3,4,5]. Maps are a necessary factor in the study and comparative comparison of regional (territory) and district production networks. In addition, maps are widely used to show and analyze the spatial and regional structure of industry and agriculture. In the formation of the national economy of our country, great attention is being paid to the development of agriculture and the elimination of existing problems and shortcomings in it. In this regard, as President Sh. Mirziyoyev noted, "One of the main problems facing us today is that science and practice in the agriculture of our republic are far from each other, and in most cases they are disconnected. One fact is well known to all of us: where there is no science and research, there will be no development, growth and, in general, the future of any field [1,6,7,8,9].

Indeed, in the development of this field, it is of great importance to strengthen agricultural research and to study the effects of natural factors affecting agriculture. In addition, large-scale structural changes and qualitative upgrades cause significant spatial changes over time in agriculture. Because today, changes in

the structure of cultivated areas due to the optimization of the lands for cotton cultivation and the expansion of the areas allocated for grain crops, vegetable growing, horticulture, and viticulture are continuing rapidly[1-10].

### Methods.

The analysis of scientific literature on the subject shows that a number of studies have been carried out in the Commonwealth countries, including our republic, on the geographical research of the scientific and practical issues of territorial organization of agriculture. Theoretical and methodological issues of territorial organization of land resources, especially agricultural land use, are covered in several scientific areas of geography. In the studies carried out on the territorial organization of agriculture (O.Abdullaev, Z.M.Akramov, K.I.Ivanov, V.G.Kryuchkov, K.I.Lapkin, A.M. Nosonov, A.N. Rakitnikov, A.N. Riziev, A.Gofurov) the study of land resources economic geographical foundations were created. In the concept of rural areas (A.I.Alekseev, E.A.Ahmedov, S.A.Kovalev, O.B.Otamirzaev, V.A.Pulyarkin, A.Soliev, A.A.Qayumov) the study of the aspects of the territorial organization of the use of land resources related to population, density, location and employment is the main attention was drawn[1,2,3].

### Results.

The scientific novelty of the completed research work is determined by the fact that the theoretical and methodological bases of territorial organization of the use of land resources in agriculture were studied and the process of land resource use in the region was electronically mapped using the modern "ArcGIS" program.

The scientific-practical ideas, work results and proposals presented in the article can be used in the territorial organization of agriculture and the created electronic map of land resources can be used to determine the prospects for the placement of regional agricultural industries[1,11,12,13,14,15].

### Discussion.

In agriculture, labor productivity depends on the productivity of land, and in solving the problem of managing the effective use of land resources, it is necessary to monitor its condition, assess land, prevent and counter negative processes in order to identify changes in the land fund in a timely manner. development of measures, land formation, use of the land fund for the specified purpose and rationally, implementation of state control over land protection is of great importance.

Taking into account the above, today, as well as all regions of our republic, land resources using modern geographic information systems (GIS) are used for the purpose of their use and management in agriculture. is being built[1,16,17,18,19,20].

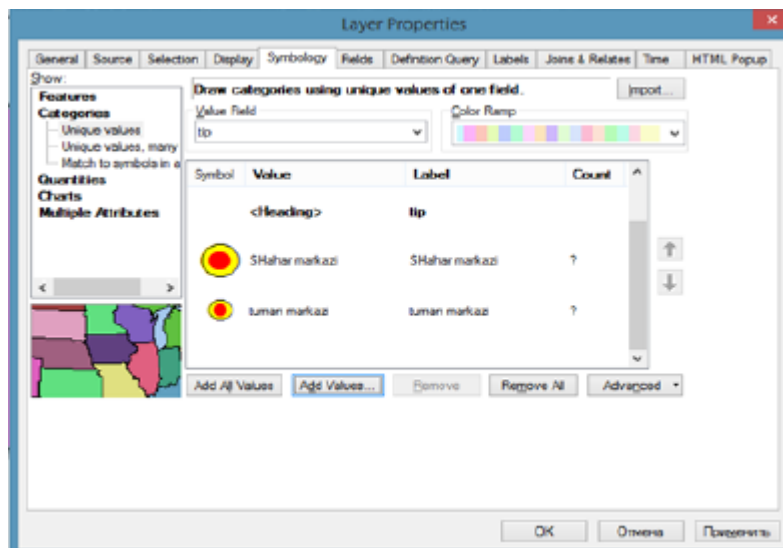
The use of land resources and their geographical location are determined through field-related data and their analysis. In the mapping of information related to land resources, the database of administrative structures (districts, regions) with the same status is considered the main source and is useful in the design of maps. In particular, the area of the territory and the level of use of land resources in agriculture also differ from each other, and in this regard there are inconsistencies between districts.

All of them are mapped in order to reflect the analyzes and the conclusions based on them on the map.

For this, a separate layer and attribute window is created for each of the data that should be displayed on the map. After all the created layers are called into the window. All layers are displayed in the "Table Of Contents" window. When drawing the map, first of all, the borders of the regions and districts are drawn and conditional symbols are chosen for them. In order to improve the visibility and readability of the map, each of the drawn districts is marked with a separate color using the quality color method from the cartographic representation methods[21,22,23,24,25].

After drawing the districts, their centers are drawn and marked with the necessary conditional symbol. Having marked the center of the regions with a larger circle and the center of the districts with a smaller circle, click the left mouse button (Ok) twice quickly on the layers and a new "Layer Properties" dialog box will open (Fig. 8). Select the "Symbolology" item from the dialog box that opens, and select the type from the "Value Field" item that opens. Click the "Add All Values" command in the window, then click the "Add Values..." command, enter the names that should appear on the map in the new dialog box that appears, and click "Ok". button is pressed (Fig. 1).

In addition, names of objects, general information, sources, exhibitions, sorting of existing information, working with records, connecting selected objects with each other, and depicting them on the map with unique cartographic methods are also performed using this window[26-30].



1-figure.

After the borders of the region and district, their centers are mapped, now the main highways and railways, as well as rivers, lakes, reservoirs and canals will be mapped. In this case, the layers in the database are called, and actions are performed on them as above. Conditional signs of roads and railways and hydrographic objects (rivers, canals) are selected by using the method of linear signs and using the conditional signs of the program, then the "Ok" button is pressed. Water reservoirs from hydrographic objects are displayed using the method of area (polygonal) signs.

In addition, the above actions were performed when displaying the composition of the land used for agriculture in the region on a map, and one of the methods of cartographic representation was shown using a pie chart. In order to make the card easy to read and rich in content, easy and understandable for the user, their weight is shown in numbers in each diagram[31-37].

## Conclusion.

The use of thematic maps in economic geographical research and the mapping of processes according to research results are considered to be the main methods of scientific research. In agricultural research, using thematic cards to describe information related to the use of land resources, production and technological processes on the card will greatly increase the practical and scientific value of the research. After all, mapping is one of the most effective methods of regionalization of regions according to the effective use of land resources related to agriculture, the form of organization of agricultural production, natural and economic conditions and specialization. Thus, by creating a system of thematic cards, it is possible to reveal the information-resource potential of regional information, etc., and to determine the

necessary inter-sectoral balance. With the help of agricultural cards, the distribution of events and phenomena in space and time is represented in a visual way, the territorial location and specific characteristics of its branches are compared, and an opportunity for scientific analysis is created.

Such cards are very useful in studying the laws of agricultural development and territorial organization in our country, in studying the internal potential of the land (fertility, humus layer, the amount of rain that falls on it, its slope and the influence of natural factors on it) sources.

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