Factors of Urban and Rural Population Growth
(On the Example of the Fergana Valley)

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Abstract: In research, the most common method of calculating population size and density is widely used, i.e., calculation within administrative units. However, there are specific shortcomings in the calculation of the population within administrative units. In this article, the calculation of the population per 1 hectare of land is also carried out. This reveals some of the disadvantages of calculating population density across administrative units.

Key words: population density, level of land provision of the population, gross population density coefficient, net population density coefficient, agricultural land area per capita, central settlement within administrative units.

Introduction.

In studies related to the territorial organization of the population, its indicators of land supply occupy one of the main places. Usually, the main objective unit of production and territorial organization of the population is land. A unique demographic situation has been formed in the Fergana Valley, which cannot be compared to any other territory of the Republic. Studies of the demographic characteristics of the valleys also require an equal basis study of the land (area) employment indicators of the immediate population. The reason is, when almost all indicators of the population are in constant change, the area in which it is located remains an almost invariable factor. Increasing population threshing (number, density) in a restricted area requires maximum, intensive and rapid use of land (area), such as a valley. This, in turn, can create geodemographic and geo ecological problems.

Analysis of literature review.

Determining the norm of anthropogenic pressure falling on the territory under the" development " program, which meets the environmental requirements, should be the first step in organizing the use of nature in the interests of the current and future generations. In such an approach, determining the demographic capacity of an area, the geographic distribution of anthropogenic pressure, by studying population density forms the basis of geographical research.

In the demographic processes of the region, the main emphasis in the research of the issues of land (territory) provision of the population is on the following aspects:

➢ increased population and density and territorial differences of demographic processes;

➢ per capita irrigated land area and per capita area per 1 he;

➢ the area of farm land per capita and its changes;

➢ territorial differences and changes in the location of the population.

The calculation of the demographic capacity of the area, the population density, was the first, P.P.Semenov was invited by Tyan-Shansky. Today, however, there is a need for a separate and distinctive new geographical approach to the study of population density. Because the calculation

of the population density is accepted in the economy within the framework of administrative-territorial units and in gross indicators. This does not reveal the exact differences of the territories at the same time, but only gives the primary indicators about the territory. In fact, the fact that the calculation of individual population density of a particular administrative unit by different terrain, climate, soil zones is of great practical importance is proposed by experts much earlier [5; 7; 10].

The territorial organization of the population is found in all regions of the world, but its Fergana Valley-like quantity, composition, density, employment, location characteristics are completely different from other regions. Without studying such aspects of the population of the Fergana Valley, it is a difficult task to positively solve other issues in this area. As we know, one of the most common methodologies in the study of the population is the study of it in groups. When the population is grouped according to living settlements, in our republic basically two different criteria are distinguished, namely urban and rural settlements. But when analyzing the total density of the population of the region, fertility, death, natural reproduction, as well as the indicators of the supply of the population by various means, the above two criteria are selected as a general indicator. This is the right approach from one account. But the means of production, the potential of cities and villages is not the same. Therefore, in economic geography, when calculating population indicators relative to an area, in addition to the indicator of the total population, the concept of the number of rural residents and the number of inhabitants employed in agriculture is widely used [3; 4; 8].

To solve such an imbalance, however, in the analysis of population density, it was first studied within the natural-landscape units of each administrative district, and then proposed to associate the results obtained with administrative units. Based on this, it is noted that it is advisable to study the amount of per capita land, calculate the natural need of the population for an area (area), assess the possibilities of growing food and other agricultural products [9]. In addition, the indicators obtained in the new approach also reflect the level of land supply of the population and production sectors. To do this, landscape elevation regions are initially isolated within the framework of administrative districts. For example, in the Uzbek District, 2 landscape elevation regions are distinguished (low mountain, prolyuvial-alluvial plains of conical arcs), in the Marhat District-3 (low mountain, plain, plain range alluvial-proyuvial Plains). The PMC and RGC, where each landscape is located in the elevation region, are identified. The boundaries of the neighborhood and rural civic assembly, which are considered the last smallest unit of an administrative division, are in most cases fully aligned with the boundaries of the landscape. Even their names are often taken from the name of the landscape. For example, in the District of Marhamat, it is possible to find out the landscape altitude region in which they are located, since the villages of the Plain region are called Tuyamoyin, Shiragan, Karaadir, Polvontosh [1]. It is necessary to note that the smallest units of statistical reports (number, number of families, age-gender composition, employment, income) by population are also neighborhoods and villages. Because, in the analysis of statistics on the population in the landscape altitude region, the use of data from PMC, RGC in the same region allows us to obtain results with a resolution greater than 90 percent.

The amount of anthropogenic pressure per field is also determined by a generalization of the above indicators. The amount of natural demographic pressure in the distinct landscapes of each administrative district is calculated. As indicators that form them, the number of inhabitants in the territorial unit (in this case, the population of PMC, RGC, depending on the landscape region), the area of rounded landscape boundaries are taken.

Research methodology.

In the process of preparing the article, methods of dialectic, analysis and synthesis, induction and deduction, scientific abstraction, monographic observation, systematic and comparative analysis were used.

Analysis.

The inhabitants of the Fergana Valley were studied using the above methodological guidelines,

initially within the framework of natural landscape regions and administrative districts. The division or grouping of the territory of each administrative district within the framework of natural landscape regions makes it possible to calculate the growth of the population, in relation to the regions where it can be inhabited.

1-picture Population density dynamics
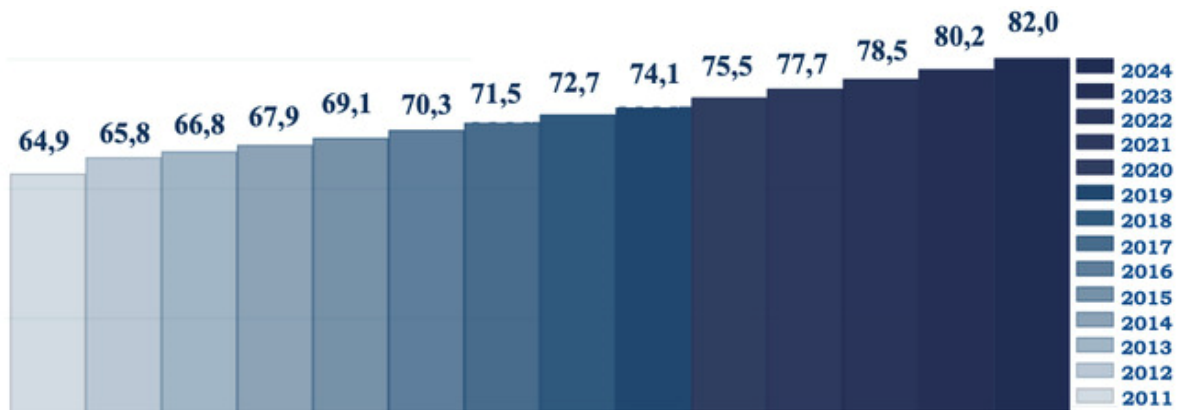
Source: www.stat.uz - Official Site Information.

The initial settlement of a population in an area occurs and develops under the laws of a natural landscape complex. To fully and accurately characterize the population, it is required to take into account all indicators of the landscape. The amount of indicators that must be taken into account can vary in different periods, depending on the demand for space and time. There is also a total number of indicators typical for all regions in research. They include relief, climate, soil and water regime (hydrography) [6]. For mountain range landscapes, other landscape-forming indicators also change as the elevation step changes [2]. Therefore, on the basis of a Geographical Study of population density, it is important to identify them as landscape-based population densities.

The number of permanent residents by region was highest in Samarkand region with 4,208,500 people, Fergana region with 4,061,500 people, Kashkadarya region with 3,560,600 people, Sirdarya region with 914,000 people, Navoi region with 1,075,300 people and Jizzakh region with 1,507,400 people. Thus, the number of regions in Uzbekistan, whose population exceeded 4 million, reached two. In Uzbekistan, as of January 1, 2024, there were an average of 82 people per 1 square kilometer. This increased by 1.8 people compared to the corresponding period of the previous year (80.2 people per 1 square kilometer as of January 1, 2023). Judging by the regions, the highest population density was 6787.5 people in Tashkent, 789.4 people in Andijan region, 600.8 people in Fergana region, while the lowest was 9.7 people in Navoi Region, 12 people in the Republic of Karakalpakstan (Figure 1).

It is worth noting that the boundaries of landscape units do not correspond to the boundaries of administrative-territorial units. This situation makes it impossible to use population density data in isolated landscape units. However, it is possible to develop specific recommendations by determining the location of the population, its actual density, territorial differences. In this case, as noted above, when zoning, it is required to adapt landscape boundaries as much as possible to administrative-territorial boundaries (in our study, the boundaries of citizens ' assemblies), that is, the smallest administrative-territorial units are studied in groups depending on the natural-landscape conditions. This makes it convenient to use statistical and economic indicators when analyzing the use of geographic capabilities of landscape elevation regions. In this, first of all, the connection of Science with practice is strengthened, directed to management offices, where it is possible to implement its recommendations into real life.

Among the factors that affect the territorial organization of the population, causing its density to change, population dynamics occupy a place in the population. Therefore, these indicators were analyzed below.

Although the dynamics of population in the regions of the Fergana Valley was somewhat normalized in the period 1989-2022, it still remains above the Republican average. In particular, over the past time, there has been an average population increase of 179.5 percent. This figure applies more to rural districts in the valley, with 181.4 per cent of the total urban inclusion. Considering that the population growth of the country during the study was 167.5 percent, it can be seen that the population of the Valley regions is growing rapidly from the Republican average.

Results.

In the following years, an increase in the volume of economic and anthropogenic pressure in the regions is observed as a result of population growth in our country, an increase in the volume of production and increased demand for land. As a result of this, the amount of irrigated land that forms the basis of our country's agricultural production is decreasing from year to year when it is calculated per capita.

In addition, as of January 1, 2023, according to the national report of the land resources of the Republic of Uzbekistan, the land of settlements is also growing. As of January 1, 2023, the total land area on the administrative border of the Republic of Uzbekistan is 44,896.9 thousand hectares [11].

Irrigated land in the Republic covers 4,312.9,000 hectares, 9.6% of the total land area of the Republic. As a result of the high irrigation capacity in the Fergana Valley provinces from time immemorial as well as the expansion of large-scale irrigated land accounts in the first and second quarters of the last century, its irrigated land area has reached 50.1 percent to this day. This is 5.2 times larger than the total figure of the Republic. It appears that the Valley has more irrigated land than any other region of the Republic. But this situation also increases the level of degradation caused by land degradation, increased soil erosion, waterlogging of the lands. Also, all cultivated land is land that requires irrigation.

The largest share of irrigated land in the Republic corresponds to the Syrdarya region. Of the 427.6 thousand available here, 67.2 percent of the land is irrigated land . It is followed by the three regions of Fergana Valley, namely Andijan, Fergana and Namangan regions. The proportion of irrigated land in them compared to total land is 63.6%, 52.6% and 39.5% respectively. In accordance with these indicators, the lowest indicators of per capita irrigated land area are also in the valley three regions and Samarkand region, which is 0.10 in Namangan, 0.09 in Fergana and Samarkand and 0.08 in Andijan. In this regard, Andijan region is the most disadvantaged region with per capita irrigated land. This situation assumes a complex study of the rational organization of the population for the use of irrigated land.

The number of marriages recorded in 2023 was 283.8 thousand, of which 139.7 thousand were in urban areas (49.2 percent) and 144.1 thousand in rural areas (50.8 percent). The number of recorded marriages decreased by 12.9 units compared to the corresponding period of the previous year. It decreased to 13 thousand units when compared with the corresponding period of 2020. The median age of women in recorded marriages was 22.2 years, while the median age of men was 27 years. The largest proportion of recorded marriages was to women under the age of 25, or 81.3% of total marriages. The number of marital divorces recorded in 2023 was 49.2 thousand units, an increase of 21 thousand or 1.7 times compared to the corresponding period of 2020. In 2023, the number of divorces from marriage was 49.2 thousand, of which 29.9 thousand were in urban areas, (60.7 percent), and 19.3 thousand in rural areas (39.3 percent). The number of childless divorces in 2023 was 24,576 (50% of total divorces). As of January 2023, there were 13,610 (27.7 percent) divorces from marriages with 1 child. In January 2023, the number of divorces from marriages with 2 or more children was 11,012 (22.3 percent) .

In order to further analyze the amount of irrigated land and the existing population indicators in the area, in economic geography the population per capita is also the number of inhabitants per 1 area, as opposed to the area of irrigated land per capita. These two indicators develop in reverse proportionality to each other. That is, the lower the per capita irrigated land, the higher the population per 1 Area.

The total land area of the Fergana Valley provinces is 1,848.9,000. This represented 4.1 percent of the total Republic's land area of 44,896.9 thousand ga, with Andijan region holding 0.96 percent (430.3 thousand ga), Namangan region holding 1.60 percent (718.1 thousand ga), Fergana region holding 1.56 percent (700.5 thousand ga). The largest area within the Fergana Valley regions is in Namangan, Fergana and Andijan regions, with 38.9 percent, 37.8 percent and 23.3 percent respectively. The existing irrigated land in the Fergana Valley is 925.8 thousand ga, representing 21.5 percent of the Republic's (4312.9 thousand ga) irrigated land. From this it can be seen that the Valley provinces own 1/5 of the irrigated land, occupying 4.1% of the total area. Namangan region, which occupies the first place in the valley in terms of area, is next to Fergana region in terms of irrigated land. 30.6 percent of the irrigated land of the Valley corresponds to the contribution of Namangan region and 39.8 percent of the irrigated land corresponds to the khissas of Fergana region.

Fergana Valley has a population of 9,673.1 thousand as of October 1, 2019. This means 28.6% of the population of the Republic. In terms of population density, it was mentioned above that the highest figure in the analysis of all administrative districts of Valley provinces is Asaka district. The district has a population density of 226 people more than the second-largest district of Shahri Khan. It is known that most of the population lives in irrigated areas. Irrigated areas form half of the valley, except for. This means that this situation with respect to the total density is actually even greater on irrigated land. With Asaka district occupying the highest position in terms of total population density, it will empty its seat into Soh district in terms of the number of inhabitants per 1 of irrigated land. The area irrigated by 1 in Soh district is 43.7 people (1 km2 irrigated area is 4370 people).

Within the administrative districts of the valley, the districts of Khojaabad and Uzbekistan, which occupy 21 and 32 places in terms of population density, occupy 5 and 7 places respectively in terms of the number of inhabitants per 1 irrigated land. Such an example can also be seen in the Soh district. Soh district has the 38th highest population density among the administrative districts of the Valley compared to gross area.

Conclusion.

From this indicator it can be concluded that there are lands that are currently available for development. However, the available land was fully developed and added to irrigated land. In terms of irrigated land, the people of Soh area are the last in the valley among the districts most disadvantaged by land resources. Therefore, the problems there are being solved in the state level.

The presence of such a discrepancy indicates how much the degree of supply of districts with land resources (not with area) depends on the natural-landscape conditions of the territory, and gives reason to agree that calculating population density by landscape regions only allows us to find a real demographic burden.

REFERENCES

1. Abduvaliyev, Hayitboy Abdug„Aniyevich, Hamdamova, Feruzaxon Alijon Qizi, Eraliyev, Zilolaxon Zoxidjon Qizi. Landshaft omili asosida aholi hududiy takribini takomillashtirish // orienss. 2021. №11. URL: https://cyberleninka.ru/article/n/landshaft-omili-asosida-aholi-hududiy-takribini-takomillashtirish (дата обращения: 29.04.2022).

2. Абдуғаниевич Ҳайитбой Абдувалиев, Абдусатторжон Абдумалик Ўғли Абдулхамидов Фарғона водийсида аҳоли жойлашувининг ижтимоий иқтисодий омиллари // Academic research in educational sciences. 2021. №12. URL: https://cyberleninka.ru/article/n/far-ona-vodiysida-a-oli-zhoylashuvining-izhtimoiyi-tisodiy-omillari (дата обращения: 29.04.2022).

3. Аҳмадалиев Ю.И. Ер ресурсларидан фойдаланиш геоэкологияси. – Тошкент: Fan va texnologiya, 2014. – 340 б.

4. Валиева Р. Динамика сельского населения и населенных пунктов

Самаркандской области//Проблемы народонаселения. – М., 1970. –с. 151-165.

5. Жумаханов Ш. Наманган вилояти аҳолисининг ҳудудий таркибини такомиллаштириш. Геог. фан. ном. дис. Т., 1998. -178 б.

6. Исаченко А.Г. Методы прикладных ландшафтных исследований.- Л.: Наука, 1980. – 222 с.

7. Кашин А.А. Исследование ландшафтной организации территории Удмуртии как фактора хозяйственного освоения и расселения населения. Дисс. ... канд. геог. наук. –Ижевск, 2015. – 184 с. (https://www.dissercat.com);

8. Крупко А.Э. Теоретические аспекты изучения территориальной организации населения и расселения // Журнал «Вестник ВГУ», 2007. - с. 65-69. 9. Раҳматуллаев А. Ўрта ва Қуйи Зарафшон воҳа геосистемаларида экологик вазиятни географик оптималлаштириш. Геогр. фан. док. (DSc) ... дисс. автореф. – Т., 2018. – 59 б.

9. Шарипов Ш. Аҳоли зичлигини ҳисоблашда ландшафт-типологик карталардан фойдаланиш // Ўзбекистон География Жамияти ахбороти, 34-жилд. –Т., 2009. -Б. 166-168.

10. Ўзбекистон Республикаси Ер ресурсларининг ҳолати тўғрисида миллий ҳисобот. Т.: "Ергеодезкадастр" давлат қўмитаси, 2017. – 87 б.