

**ҚОРАҚАЛПОҒИСТОНДА
ФАН ВА ТАЪЛИМ**

**ҚАРАҚАЛПАҚСТАНДА
ИЛИМ ҲӘМ ТӘЛИМ**

**НАУКА И ОБРАЗОВАНИЕ
В КАРАКАЛПАКСТАНЕ**

**SCIENCE AND EDUCATION
IN KARAKALPAKSTAN**

3/1-сон

Нукус

2023 й.

ISSN 2181-9203



Science Magazine

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O'zbekiston Respublikasi Vazirlar Mahkamasi huzuridagi OAK Tartib-qoida komissiyasi qarori 24.05.2017 y., №5/2.
 Постановление комиссия по регулированию ВАК Республики Узбекистан при Кабинете Министров от 24.05.2017 г. №5/2.
 Resolution of the Regulation Commission of the Supreme Attestation Commission of the Republic of Uzbekistan from 24.05.2017 y. №5/2.

ASSESSMENT OF EFFECTS OF PASTURE LIVESTOCK ON AGRICULTURAL LAND IN THE EXAMPLE OF THE SAMARKAND REGION

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Summary: *The article provides information about the changes in the agricultural lands of Samarkand region as a result of anthropogenic impacts and their consequences. The state of pastoral livestock in the region, the number of cattle per 1 hectare of land and the degree of its impact are given in terms of areas.*

Keywords: *Samarkand region, pasture livestock, livestock, cattle, Akdarya district, mountains and foothills.*

Introduction. Food safety is presently one of the world's most important issues. The global demand for food products has increased especially after the pandemic. The basis of meeting the demand for products is the main task of agricultural development. In this regard, animal husbandry occupies a special place. However, the unplanned and unscientific management of these agricultural sectors has a significant impact on the environment, especially desertification, soil erosion and water pollution. Currently, although it is possible to have a negative impact on the environment of agro-economic sectors related to agriculture, the negative impact of animal husbandry is increasing in this regard, and one of the main reasons for this is that it is not well organized. In particular, the productivity of fodder crops for livestock is decreasing year by year. Therefore, climate change will lead to a certain reduction in pasture area due to drought. It can also be seen that there is no strict requirement for the season of pasture use in the studied area. This leads to overuse of pastures and a sharp decrease in the amount of fodder. As a result of the fact that pasture crops (mainly cereals) are given to livestock before they are ripe, the yield of fodder in pastures is still decreasing. After all, it is well known that this plant will not grow in the next season after the seeds ripen and do not fall to the ground. This process is observed in almost all pastures of the region.

According to the types of pastures in Samarkand region, mountain, desert and semi-desert pastures are widespread. Livestock and sheep breeding are developed in these areas. However, overuse of pastures in spring and summer, overgrazing of pastures in one place, and seasonal neglect of pastures lead to complete destruction of the vegetation layer. This leads to the destruction of the soil cover, excessive fragmentation of the sandy soil surface. This directly leads to the erosion of the soil of the mountain pastures and the acceleration of desertification processes.

Study area. The studied area of Samarkand region (fig.1) is one of the areas provided with agricultural land of the Republic of Uzbekistan. Protection of the land areas used in this area and their rational use are of particular importance. The area of agricultural land resources used in the region is limited, and their quality also causes some limitations. These are, first of all, conversion of fertile lands to agriculture, processing and return to use of lands damaged as a result of mining, construction and other works. Currently, the area of agricultural land is shrinking as a result of the withdrawal of agricultural land of the region from use for other purposes (urban development, road construction, etc.). Compensation for this damage requires a consistent increase in land productivity. [4]. Pastures occupy a large area of agricultural land in the studied region.

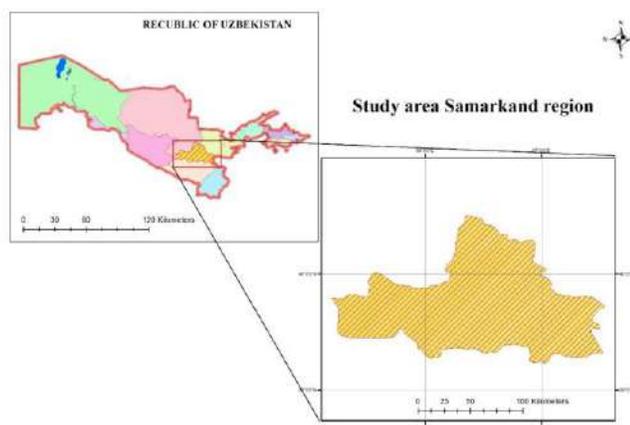


Fig. 1. Study area Samarkand region

Materials and methods Area information is obtained by district (Table 1). In this case, data was obtained on the composition of the fodder base of the pastures and their supply with fodder throughout the year. The data is the data of the regional statistics office. It is important to know the productivity of different field pastures when feeding pastures with forage and shrubs. The main condition for proper grazing of livestock in natural pastures is that the pasture load corresponds to the normal capacity. Livestock capacity is the average number of livestock per hectare of land. In areas with high livestock capacity, the top layer of the soil and plant roots are damaged. As a result, the efficiency of grazing areas decreases. Therefore, their use coefficient (C) in desert natural pastures should not exceed 60-65% according to existing standards. [3].

Therefore, the location of the productivity of pastures in the territories is increased by 15-20% of the calculated area, taking into account the weather conditions and the variability of the season. Pasture cattle breeding is established in almost all places of the studied area. Within districts, the area of pastures and the number of livestock are distributed as follows (Table 1). Pastdargom and Urgut districts differ in the number of livestock. In addition, Kattakorgan district is one of the leading places in the number of cattle [2]. On the contrary, this sector is poorly organized in Okdarya, Nurabad and Samarkand districts.

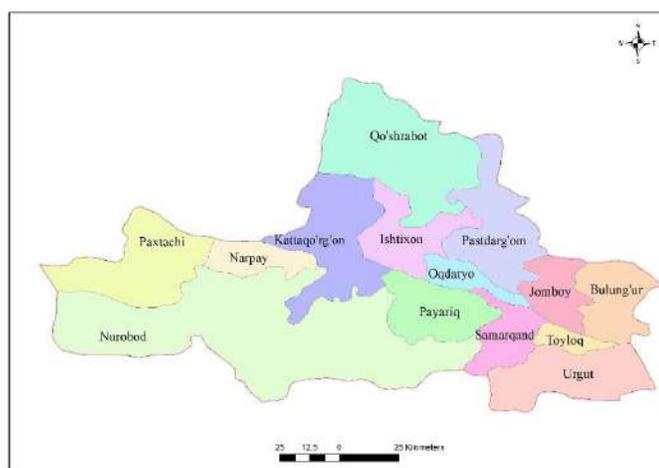


Fig. 2. Districts of Samarkand region

Table 1. Level of livestock (sheep, goats) capacity impact in pastures of Samarkand region

№	Districts	Pasture lands (thousand ha)	Number of livestock (thousand heads)		Capacity		Level of impact
			cattle	sheep and goats	cattle	sheep and goats	
1	Bulungur	17,2	107,2	151,2	6,2	8,8	average
2	Jomboy	6,3	107,5	135,3	17,1	21,5	strong
3	Ishtikhon	11,3	134,4	103,1	11,9	9,1	strong
4	Kattakurgan	49,9	158,0	167,4	3,2	3,4	average
5	Narpay	4,8	106,1	81,2	22,1	16,9	strong
6	Nurbod	352,5	66,7	586,0	0,2	1,7	weak
7	Oqdaryo	1,1	79,0	36,2	71,8	32,9	very strong
8	Payarik	42,1	105,6	116,4	2,5	2,8	weak
9	Pastdargom	7,6	185,6	167,9	24,4	22,1	very strong
10	Pakhtachi	90,1	92,8	204,4	1,0	2,3	weak
11	Samarkand	10,7	48,4	143,4	4,5	13,4	average
12	Taylok	3,1	96,6	64,8	31,2	20,9	very strong
13	Urgut	46,1	184,3	113,2	4,0	2,5	average
14	Kushrabot	150,5	106,1	395,3	0,7	2,6	weak
Total		793,3	1606,0	2465,8	2,0	3,1	

The number of sheep and goats in the region is about 2.5 million, and it varies by district. They are mostly abundant in desert and semi-desert areas, but their capacity is not high due to the size of the grazing areas. On the contrary, there are no favorable conditions for the establishment of this network in districts where agriculture is developing rapidly. Due to population density in the outskirts of the city, the area of fertile land is decreasing.

In order for cattle to be healthy, their number should not exceed 3-4 [1,10]. The region lacks high potential and diversity in this regard. It can be seen that mainly in peri-urban areas, livestock capacity is high, which affects agricultural land (Table 1).

Results and discussion

According to the results of the analysis, a large number of cattle are observed mainly in densely populated areas (Aqdarya, Tayloq). The reason is, firstly, there is a lot of livestock in these districts, and secondly, there is a shortage of pasture land and in some places it is completely absent. Animal husbandry is mainly raised on an intensive basis around the city and although it is developed, high intensity has a negative impact on agricultural land. At the same time, the situation in the desert regions (Pakhtachi, Nurabad, Koshrabot) cannot be assessed as positive. In these areas, the self-regeneration process of pastures is slow and climatic conditions are lacking.

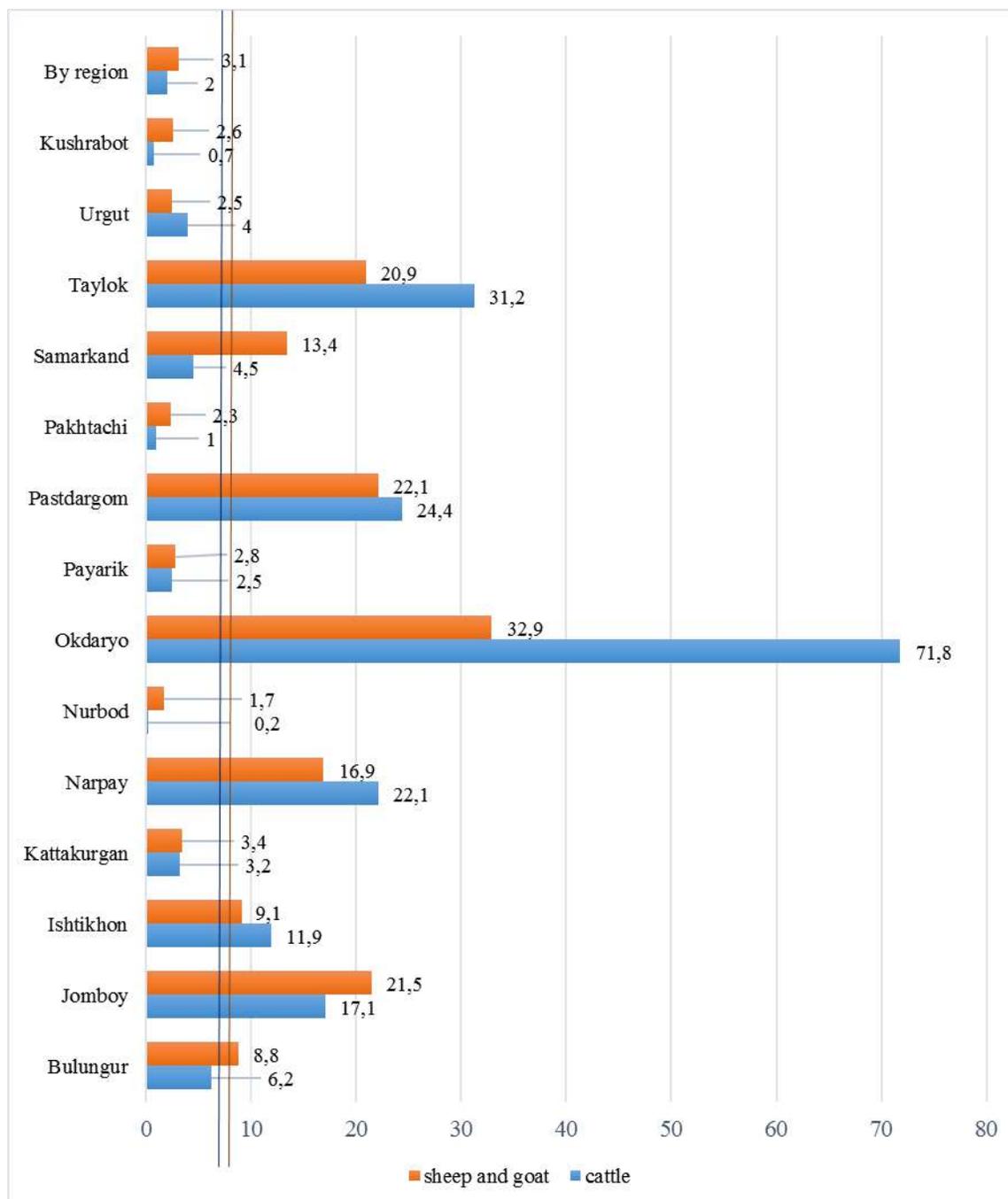


Figure 1. Number of cattle per pasture in Samarkand region by districts.

Conclusions

Studies show that pastures occupy the largest area in regional agriculture. However, any negative changes in them have a significant impact on the agricultural resources of the region. At present, large-scale organization of agriculture or animal husbandry is not sufficiently effective alone. It is possible to intensively develop animal husbandry everywhere. Poultry farming can be divided into the following groups according to the types of organization:

- ✓ intensive livestock breeding in the suburbs (Taylok, Akdaryo, Jomboy);

- ✓ yahlov breeding in mountain and foothill areas (Urgut, Payariq, Bulung'ur, Kattakorgan);
- ✓ establishment in desert, semi-desert (Pastdargom, Pakhtachi, Nurabad, Koshrabot);
- ✓ also not to increase livestock capacity when using pastures, and to pay attention to seasonal aspects when restoring pastures.

References

1. Namozov J.A. Economic and geographical aspects of rational use of land and water resources of Samarkand region. D.G.Ph.Sci. (PhD) ...thesis. - T., 2021. - 120 p.
2. Rajabov F.T., Sattarov A.U. (2020) Farms of Uzbekistan: development, specialization, geography. Journal of Critical Reviews, 7 (6), 1189-1196. doi:10.31838/jcr.07.06.214
3. Data of the Samarkand regional department of statistics (<http://samstat.uz>). – Samarkand, 2020.
4. Data of the State Committee of the Republic of Uzbekistan for Ecology and Environmental Protection (<http://uznature.uz>). - T., 2020.
5. Ameur, F., Amichi, H., Leauthaud, C. Agro ecology in North African irrigated plains? Mapping promising practices and characterizing farmers' underlying logics // Regional Environmental Change. 2020. 20(4), 133
6. Guillet, D. Agrarian ecology and peasant production in the Central Andes (South America) // Mountain Research and Development 1(1), P. 19-28
7. Mazur, E., Drdos. Geoecological synthesis of the environment // Travaux de l'Institut de Geographie de Reims. 1981. 45-46, P. 25-35.
8. Namozov J.A. Khamroeva F.A., Dovulov N.L. Specific and integral efficiency use of land and water resources // IOP Conference Series: Earth and Environmental Science 839 (2), 022025. P. 1-7.
9. Namozov J.A. Khamroeva F.A., Dovulov N.L. Territorial aspects of water pollution in Zarafshan region // Sustainable Agriculture, № 1(9), 2021. P. 60-63.

Rezyume: *Maqolada Samarqand viloyati qishloq xo'jaligi erlarining antropogen ta'sirlar natijasida o'zgarishi va uning oqibatlarini haqida ma'lumot berilgan. Viloyatda yaylov chorvachiligi holati, 1 gektar erga to'g'ri keladigan qoramollar soni hamda uning ta'sir darajasi hududlar miqyosida keltirib o'tilgan.*

Резюме: *В статье представлены сведения об изменениях сельскохозяйственных угодий Самаркандской области в результате антропогенного воздействия и его последствий. Состояние пастбищного поголовья в регионе, поголовье крупного рогатого скота на 1 га земли и уровень его влияния приведены в региональном масштабе.*

Kalit so'zlar: *Samarqand viloyati, yaylov chorvachiligi, chorva sig'imi, qoramol, Oqdaryo tumani, tog' va tog'oldi hududlari.*

Ключевые слова: *Самаркандская область, пастбищное поголовье, поголовье крупного рогатого скота, Окдарьинский район, горные и предгорные районы.*