ACADEMIC JOURNAL
ISSN 2697-2212

Academic Journal of Digital Economy and Stability

Volume 38, Issue 1 | January-2025

Available Online: *https://economics.academicjournal.io/*

Article

Prospects of Effective use of Land Resources in Agriculture

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Abstract: The main problem of the World Land Fund is the regulation of the use of agricultural land. In many countries, measures are being taken to preserve the land stock and regulate their composition. In the conditions of innovative reform and modernization of our country's economy, regulation of the system of land resources use and improvement of its mechanisms is becoming one of the most important priority tasks not only in terms of sustainable development of agriculture, effective use of farmers' and peasants' land, ensuring food security of our republic and increasing export potential. Therefore, in this article, scientific-theoretical and methodological-practical proposals and recommendations are given for improving the regulatory mechanisms of the land resource use system.

Keywords: Agriculture, Land Resources, Modernization, Regulation System, Land Fund, Water Resources, Agricultural Development

1. Introduction

The According to the strategy of agricultural development of the Republic of Uzbekistan for 2020-2030, improving land and water relations, creating a favorable agribusiness environment and a high added value chain, supporting the development of cooperative relations, introducing market mechanisms to the sector , the wide introduction of information and communication technologies, as well as the effective use of scientific achievements and increasing the potential of personnel are among the priority tasks of agricultural development.[1]

Literature analysis

Scientific-practical aspects of improving the system of land resources use in our country and its promotion economists-scientists F. Q. Qayumov, R. H. Husanov, Q. A. Choriyev, F. Q. Jorayev, A. S. Altiyev, Sh. T. Khasanov [9], B.Sultanov,S.Buriev [7].,A.Abdullaev [8].,A.Oblakulov[10]., It is widely covered in the scientific researches of Jageldiyev and others. In his scientific works, Khasanov scientifically substantiated the indicators of the effective use of limited resources in agriculture, the assessment of their economic efficiency, the economic assessment of the productivity of the main crops, and the improvement of the composition of crops in increasing the efficiency of land use in agriculture. A more precise concept of land use is expressed by S. Tkachuk as "Land use is a set of socio-economic forms of land resource use and production methods that objectively develop with the conscious use of economic laws in harmony with the laws of nature." [2]. Among the scientists of our country, A. S. Altiyev explained the land use system, its elements, types, and their systematic interdependence.

Citation: Nurmukhamadova, S, N. Prospects of Effective use of Land Resources in Agriculture. Academic Journal of Digital Economics and Stability 2024, 38(1), 68-73.

Received: 4th October 2024
Revised: 11th November 2024
Accepted: 21th December 2024
Published: 21th January 2025

2. Materials and Methods

The In the course of this research,we extensively used methods such as grouping,statistical and comparative analysis,logical observation,and monographic methods,sociological surveys,and expert evaluation.[13] In this study, we analyzed all land resources in our country and their effective use using statistical, monographic, and survey methods.To more accurately justify the real situation related to land tax in farms and identify and solve problems related to the effective use of land resources in the future, we conducted a survey among farms in the Syrdarya region to study the level of land use.The survey focused on the state of land used by farmers, increasing its fertility, attracting financial resources, applying modern agricultural technologies, providing equipment, placing crops and efficient use of land resources, issues of credit, land value, pledging and taxation.During the survey, it was noted that farmers' understanding of land use has increased, their vision of the problems facing them and their correct approaches to solving them are being formed, but there is still a need to liberalize the economic mechanism of the land use system. For example, 37% of those surveyed in 2018 and 42% in 2023 expressed their dissatisfaction with the terms of the lease, 46% and 77% expressed their opinion about the need to pledge the right to lease land for a bank loan.Using this method, the situation was analyzed and relevant conclusions were drawn in our study.[13]

3. Results

Along with the analysis of these studies, the National Report on the state of the. land resources of the Republic of Uzbekistan on January 1, 2024 by the Cadastre Agency under the Ministry of Economy and Finance of the Republic of Uzbekistan, we analyzed the data on all changes in the land of enterprises, institutions, farms and organizations in the reporting year.

The total land area of the administrative border of the Republic of Uzbekistan in 2024 As of January 1, the total land area is 44,892.4 thousand hectares, of which irrigated land is It is 4,342.5 thousand hectares or 9.7% of the total land area. The land fund of the Republic of Uzbekistan has its own characteristics according to the purpose and procedure of land use, and they are divided into 8 categories based on Article 8 of the Land Code of the Republic of Uzbekistan, and we can see them in the table below.

It is known from this table that the lands given for agricultural needs or designated for these purposes are considered agricultural lands. The land intended for these purposes is divided into agricultural land necessary for agriculture and land occupied by tree groves, internal roads, communications, forests, closed water bodies, buildings, buildings and structures. Also, agricultural land includes arable land, hayfields, pastures, fallow land, perennial tree plantations (orchards, vineyards, orchards, fruit tree nurseries, orchards, etc.).Of these types of land resources, only 4,226.2 million hectares of them are irrigated lands. Their effective use and introduction of cost-effective technologies is one of our important tasks.

Table 1. The distribution of the land fund of the Republic of Uzbekistan by categories. (at the expense of a thousand hectares)

Categories of land fund	Total land area	Including irrigated land

		Total	In interest	Total	In interest
1	Agricultural lands	26 132,2	58,21	4 226,2	9,41
	Lands of settlements	226,7	0,51	50,9	0,11
3	Land intended for industry, transport. communications, defense and other purposes	786,9	1,75	12,6	0,03
4	Land intended for nature protection, health and recreation purposes	3 223,3	7,18	0,9	0,002
5	Lands of historical and cultural importance	15,0	0,03		
6	Forest fund lands	12 092,5	26,94	45,4	0,10
7	Water fund lands	827,3	1,84	4,6	0,01
8	Reserve lands	1 588,5	3,54	1,9	0,004
	Total lands:	**44 892,4**	**100,0**	**4 342,5**	**9,67**

Table 2. Distribution of agricultural land by land type (at the expense of a thousand)

T/P	List of regions	Total land area		Cropland			Multi-year tree stands		Steppe lands		Hayfields and pastures		Total agricultural land		Land used for household plots,orchads ,vineyards,and vegetable farms		Land under land reclamation.	Forests		Bushlands	Other lands
		Total	Including irrigated land	Total	Included: Irrigated land	Total	Total	Including irrigated land	Total	Including irrigated land	Total	Including irrigated land	Total	Including irrigated land	Total	Including irrigated land		Total	Including irrigated land		
1	The Republic of Karakalpakstan	6 243,5	503,0	414,9	414,9		7,8	7,8	12,5	12,5	4 303,5	33,7	4 738,7	468,9	40,5	33,5	24,3	53,6	0,6	42,7	1 343,7
2	Andijon	360,6	271,5	198,8	198,8		30,6	30,6	2,2	0,5	15,5	0,8	247,1	230,7	51,2	38,9	0,9	1,9	1,9		59,5
3	Buxoro	3 441,6	277,3	205,4	205,4		20,6	20,6	4,8	4,8	2 352,7		2 583,5	230,8	58,1	45,7	4,0	7,9	0,8	5,1	783,0
4	Jizzax		300,1	501,4	259,8	241,6	39,3	17,0	11,2	1,7	557,9		1 109,8	278,5	31,1	18,2	4,5	9,4	3,4	0,1	216,9

5	Qashqadarya	2 339,8	505,8	670,9	415,9	255,0	38,2	36,0	21,0	4,6	1 230,9	0,1	1 961,0	456,6	73,0	45,0	18,6	11,2	4,2		276,0
6	Navoi	6 966,5	123,4	118,8	90,7	28,1	9,8	9,1	6,7	6,6	6 548,7		6 684,0	106,4	24,3	16,1	2,1	0,9	0,9		255,2
7	Namangan	487,5	277,5	182,4	182,4		46,7	46,7	2,3	2,3	43,0		274,4	231,4	54,5	43,3	0,7	3,8	2,8		154,1
8	Samarkand	1 470,7	368,9	420,3	242,8	177,5	68,0	65,8	5,2		703,1		1 196,6	308,6	79,6	58,0	3,6	4,5	2,3		186,4
9	Surxandarya	1 360,7	318,1	276,0	237,2	38,8	33,1	32,1	0,3		693,0		1 002,4	269,3	58,5	47,3	1,3	29,1	1,5		269,4
10	Sirdarya	371,2	280,3	246,4	246,4		7,7	7,7	9,6	9,6	18,3		282,0	263,7	18,3	14,8	3,3	1,8	1,8		65,8
11	Tashkent	745,4	378,8	316,4	287,8	28,6	52,2	43,6	0,7	0,4	191,3	1,4	560,6	333,2	54,1	44,3	0,2	9,0	1,3	1,0	120,5
12	Fergana	532,4	354,8	241,3	241,3		55,0	55,0			5,6	3,5	301,9	299,8	63,8	48,1	1,8	6,9	6,9		158,0
13	Xorezm	437,5	263,9	198,7	198,7		18,3	18,3	3,3	3,3	41,4		261,7	220,3	51,4	43,4	1,0	14,5	0,2		108,9
14	Tashkent city	3,0	2,8	2,3	2,3		0,5	0,5					2,8	2,8							0,2
	Overall:	**26 132,2**	**4 226,2**	**3 994,0**	**3 22,4**	**769,6**	**427,8**	**390,8**	**79,8**	**46,3**	**16 704,9**	**39,5**	**21 206,5**	**3 701,0**	**658,4**	**496,6**	**66,3**	**154,5**	**28,6**	**48,9**	**3 997,6**

According to this table, the number of agricultural enterprises and organizations in the republic together with farms is 787,808 as of January 1, 2024, and the total land area of the land assigned to them is 26,132.2 thousand hectares, including the area of agricultural land types 21,206 ,5 thousand hectares, of which 3,701,0 thousand hectares are irrigated lands.

58.21% of the territory of the Republic of Uzbekistan is occupied by agricultural land, which is the main means of agricultural production. The distribution of land intended for agricultural purposes in the territory of the republic is determined according to natural climatic factors.

4. Discussion

According to statistical data, the area of saline lands currently accounts for 12.9-42.6% of the total irrigated land area in Tashkent, Andijan, Namangan, and Samarkand regions, 53.7%-68.7% in Surkhandarya, Kashkadarya, Jizzakh, and Ferghana regions, 82.2%-97.5% in Syrdarya, Navoi, Bukhara, Khorezm regions, and the Republic of Karakalpakstan. To prevent, preserve, and enhance the fertility of irrigated lands, it is necessary, first and foremost, to implement necessary land reclamation and agrotechnical measures, taking into account the ongoing salinization processes in the soils. At the same time, it is necessary to adhere to scientifically sound recommendations aimed at desalinating soils and preventing secondary salinization. It is important to pay special attention to the structure of crops on lands with difficult reclamation conditions and to plant salt-tolerant crops. In addition to salt leaching, chemical, biological, and other similar methods should be used in soil reclamation work.The current measures are aimed at increasing the productivity of irrigated lands. The following problems related to land resources are encountered in agriculture:

1. Disruption of the structural structure of land in existing use
2. Decreased humus (useful productive part) layer
3. Land salinization
4. Use of land for other purposes (for example, construction, construction of buildings)
5. Land irrigation problems, water shortage

6. Improvement of regulatory legal documents on the use of land resources.[14]

In solving these problems, the main directions of improvement of land resources are as follows: organizational-economic, meliorative, socio-economic, biological and ecological. Each of these directions has its own measures. it is also carried out at the expense of the development and plowing of the lands used for their purpose [15].

5. Conclusion

From Ensuring the stability of agricultural land causes the stability of production, income, investment, consumer prices in the network.Of course, in order to prevent, preserve and increase the productivity of land degradation, especially irrigated land, it is necessary to apply the necessary meliorational and agrotechnical measures, taking into account the ongoing salinization processes in the soil [16].

In this case, it is necessary to follow scientifically based recommendations for soil desalination and prevention of secondary salinization. It is important to pay special attention to the structure of the crops in the lands with severe meliorative conditions and to plant salt-tolerant crops.It is necessary to use chemical, biological and other similar methods in addition to salt washing in soil reclamation works. Desertification, deterioration of the geobotanical condition of pastures, increase in wind and water erosion, abandoned land and other negative situations require special research [17].

When evaluating the efficiency of agricultural production, it is necessary to come to the final conclusions, taking into account the characteristics that affect it:

1. Consistent implementation of land leveling works, widespread Introduction of laser leveling
2. Expansion of crop rotation, soil enrichment
3. It is necessary to standardize irrigation works, establish control over water consumption, improve the skills of peasant farms;
4. Introduction of agricultural use of lands used for other purposes
5. Introduction of drainages, cleaning of sloughs into wider practice, wide introduction of green criteria in agriculture
6. Introduction of digital technologies in agriculture [18]

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