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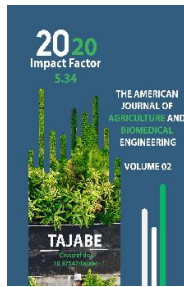
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## Mechanisms Of Establishing The Use Of Irrigated Land In The Degradation State In The Conditions Of Land Use Diversification

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### ABSTRACT

The formation of the appropriate, effective and effective mechanism of the restoration of irrigated lands in the state of degradation in the conditions of diversification of land use in our country is one of the most important problems of today. In this sense, this article presents the results of research on the restoration of irrigated lands in the state of degradation and their return to the process of their use repeated and offers in this regard are presented.

### KEYWORDS

Land use, diversification, land degradation, irrigated land, mechanism, territorial application, land restoration, capacity, sustainable, product, export.

### INTRODUCTION

The fact that the global climate changes taking place in the world, the depletion of lands by the second decade of the 21st century, many countries are experiencing the problems of desertification and degradation

of lands, and as a result of which nearly 2 billion hectares of land is depleted in the world, shows how relevant the problem is [1]. According to the UN, at present, about 6 million hectares of land per year around the

world is subject to desertification, more than 40 per cent of the arable land is degraded due to mistakes and shortcomings in irrigation and melioration, and it has become absolutely unsuitable for cultivation of agricultural crops.

In addition, land degradation, that is, its depletion, today poses a threat to the living conditions of 1,2 billion people around the world, to life as a whole. According to statistics, as a result of climate change, erosion processes, an average of 6-7 million rubles per year. ga lands on the field are leaving the agricultural sector. The construction carried out in the field of industrial and transport infrastructure, quarry and soil piles formed in the process of extracting underground resources are rapidly compressing agricultural arable land, and arable land remains under the water reservoirs under construction.

### MATERIALS AND METHODS

Land use diversification is:

- Direct allocation of the land fund of the existing land in order to achieve high efficiency;
- Changing the land fund category;
- It is necessary to allocate or allocate a huge economic and social benefit.

Diversification is carried out in production with high productivity, economic benefits, elimination of bankruptcy and other goals. Previously, firms specializing in one area (industry, agriculture, transport, finance, etc.) expanded their economic activities and access to services, primarily in high-income sectors. Diversification will lead to the creation of a broad, but technologically unconnected complex (for example, the agro-industrial complex, the forest industry), which produces, produces various types of goods,

services the economy and development sectors and is called production diversification. In addition, there is a diversification scheme for loans (in which capital funds are distributed among various items to reduce risk and increase profits). Economic entities need to build long-term plans that will ensure sustainable development, however, for this, enterprises should look for alternatives to the existing specialization of production. In this regard, there is a need for a strategic approach to the management of agricultural enterprises. Enterprises are faced with the task of finding development strategies that allow them to solve a number of economic problems of agriculture, and consequently, social problems and, above all, an increase in the level of employment, and hence the standard of living in the countryside. One of the strategic alternatives for long-term planning is diversification [3].

Diversification has pushed aside the effect of mass production of homogeneous products, leading to the realization of growth strategies due to the “effect of diversity”. The essence of the effect of diversity is that the production of many types of products in one large enterprise is more profitable than the production of the same types of products in small specialized enterprises.

However, when deciding on the diversion of agricultural enterprises, a number of features of agriculture should be taken into account:

- The discrepancy of the working period with the production period (seasonality);
- The intertwining of biological and economic processes;
- Dispersed territory;
- The land acts as a means of production.

Diversification due to the development of other areas of activity will reduce seasonality and the negative consequences associated with it, arising from agricultural enterprises. In most enterprises, the development of new industries, along with existing ones, will provide a more rational use of all available resources, which in turn will lead to an increase in the economic efficiency of the enterprise as a whole. This is especially true for farms located in remote areas, which, due to their specialization, do not use the available land, and because of their remoteness from other farms are not able to rent them out [6].

According to the data of the Davergeodezskadastr, the use of irrigation water to a large extent leads to an increase in the sales of groundwater. Today, groundwater has a low mineralization (1-3 g/l) area of 1.5 million square meters. hectares, average mineralized (3-5 g/l) 0,7 million. hectare and strong mineralized (5 g/l) 0,5 million rubles. it makes up a hectare. The fertility of soils is greatly influenced by wind and water erosion. Today, 2 million. over a hectare. the land was transferred to deflation, including 0,7 million. a hectare of land suffered a strong deflation, 0,5 million. hectares of land are experiencing irrigation erosion. Such lands are the regions located in the foothills, especially the Fergana Valley, where many threeraydi and a significant part are irrigated. Data from the Ministry of Agriculture and water resources indicate that as a result of erosion, it is possible to wash 0,5-0,8 tons of humus per hectare, 100-120 kg of nitrogen, 75-100 kg of phosphorus. This creates the ground for a decrease in the efficiency of the use of irrigated land [5].

In the following years, various degradation-excessive moistening, secondary salinization, desertification, wind and irrigation erosion,

contamination with heavy metals and toxic substances, degumification, condensation of the arable layer were formed in the irrigation farming zones, especially in the Aral Sea regions under the influence of natural conditions and human economic activity, as a result of which the productivity of irrigated soils and crop yields decreased.

As a result of the conducted scientific and practical research, a total of 2 million were allocated. It was determined that 418,8 thousand hectares of irrigated land areas were salted at 72,1% different levels, of which 38,4% were saline at a weak level, 22,8% at a moderate level, 6,2% at a strong level and 4,7% at a very strong level.

In particular, the area of saline lands is -91.4% in the Republic of Karakalpakstan (15 districts), -85.1% in Bukhara Region (12 districts), -76.4% in Jizzakh Region (7 districts), -64.5% in Navoi Region (6 districts), -79.3% in Sirdarya Region (10 districts), 68.8% in Khorezm Region (10 districts). It was determined that the share of strongly saline soils mainly corresponds to the share of the Republic of Karakalpakstan (15.1%) and Khorezm region (5.9%) [5].

Several districts are also large areas, requiring special agrotechnical, meliorative measures, in the form of "salmonid spots", where 30-40% of irrigated crop areas in the state of degradation, some areas suffer from secondary, strongly saline, cotton seeds, which are found up to 50% in some fields and die up to 60-80% in the first irrigation.

As can be seen from the above analysis, the state of irrigated lands in the state of degradation in the regions today does not serve the cyclicity in ensuring the stability of land use. In particular, one of the main problems is the fall of soils to the level of



degradation, the salinity of soils increases year after year. Taking into account the natural conditions of the regions, one of the most important tasks is carrying out systematically organized melioration activities, applying modern innovative technologies to the sphere, as well as carrying out targeted activities [2].

Negative cases of humus decline, desertification, waterlogging, poisoning, gypsum, weeds pressing, pollution, flooding, pollution, desertification in irrigated lands continue of Uzbekistan. Their accounting, monitoring, prevention and elimination of all land resources management levels have a systematic and continuous description. Complex programmatic work is required.

Within the framework of the research, in order to study the problem, social surveys were conducted among the heads of existing farmers and farm farms in Kashkadarya, Surkhandarya, Samarkand regions. In the

Social Survey, 146 respondents took part, according to the results of the survey, 89% of respondents did not have an understanding of the status of the affected lands, 74% of the population did not have knowledge and skills on the factors that caused the status of the affected lands, 81% did not know what measures to take to restore and improve (Table 1).

The development of the territorial program of organizational and economic measures to identify the causes of these situations and diversify the use of irrigated land resources on the basis of monitoring and restoration of irrigated lands whose status is violated due to the experience of foreign countries on the basis of their restoration is the most important topical issue of today. In the following years, little attention has been paid to the use of advanced technologies for the purpose of restoration of lands with impaired status in irrigated areas [4]

**Table 1. Results of the survey conducted at the peasant and farm farms in Kashkadarya, Surkhandarya, Samarkand regions.**

(In the case of July-August 2018)

<b>The number of farmers and farmhouses under study - 146 units</b>			
<b>Question</b>	<b>Responses of respondents</b>		
	<b>Variants of answers</b>	<b>Number</b>	<b>%</b>
What lands do you understand when you say lands whose status is broken?	<b>Don't own</b>	130	89
	<b>Owning</b>	16	11
Do you know the factors that cause the violation of the state of the lands?	<b>Yes</b>	38	26
	<b>No</b>	108	74
Is it necessary to provide financial assistance by the state to restore the lands whose status is violated in your peasant or farmland?	<b>Yes</b>	126	86
	<b>No</b>	20	14

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The most important thing is how much agricultural output and jobs are lost from the account of irrigated damaged lands, it is of great socio-economic importance to find the answer to such questions correctly and accurately, as the formation of incomes does not take place.

In this regard, it should be noted that in addition to the implementation of State targeted programs for the deep modernization of the economy and the development of the region's complex, protection of them in the conditions of diversification of the use of irrigated lands, in particular, measures for the restoration of irrigated lands in the state of degradation are also required. Because in agriculture, it is important to consider the restoration of irrigated lands in the state of degradation at the same time in the process of placing one type of crop on irrigated lands, taking into account the specific demand for quality and rheological properties. At the same time, in the restoration of irrigated lands in the state of degradation, the establishment of an especially exchangeable planting area is an important task. As a result of crop rotation, it is of decisive importance in increasing the efficiency of farming, the arable land is the main and most fertile land of the agricultural enterprise, which, as a result of crop rotation, increases the fertile layer of the land, has a great influence on the increase in the yield of crops.

In order to develop proposals on these approaches, on the basis of scientific and practical study of the existing problems, ensuring the stability of the restoration of irrigated lands in the state of degradation is achieved through the following ways:

- The mechanism of formation of a single system of accounts on these lands is established as a result of improvement of keeping separate accounts of irrigated lands in the state of degradation (who maintains, inter-agency coordination, methods, reporting, etc.);
- As a result of the formation of operational management and monitoring system of restoration work by creating electronic cards on duty on irrigated lands in the degradation state, their turnability, location, are ensured reliability of information;
- Determination of methods of restoration of irrigated lands in the state of degradation (chemical-biological, technical, etc.) and determination of its investment sources, development and implementation of incentives for the restoration of irrigated lands in the state of degradation;
- The foundations for the introduction into the state investment program of measures to restore irrigated lands in the state of degradation will be created.

The implementation of this program through these roads, in turn, along with the restoration of irrigated lands whose status is violated, the volume of agricultural products extracted from these lands and the increase in the number of jobs to be created and employment of the population residing in rural areas is ensured. In the future, their role in the socio-economic development of the country will be strengthened as a result of further development and diversification of agricultural production through the restoration of lands with impaired status.

In the development and implementation of this territorial program, I believe that the restoration of irrigated lands in the state of

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degradation should rely on the development of infrastructure networks, and secondly, ensure the stability of the lands in the state of degradation and introduce modern facilities for their repeated production.

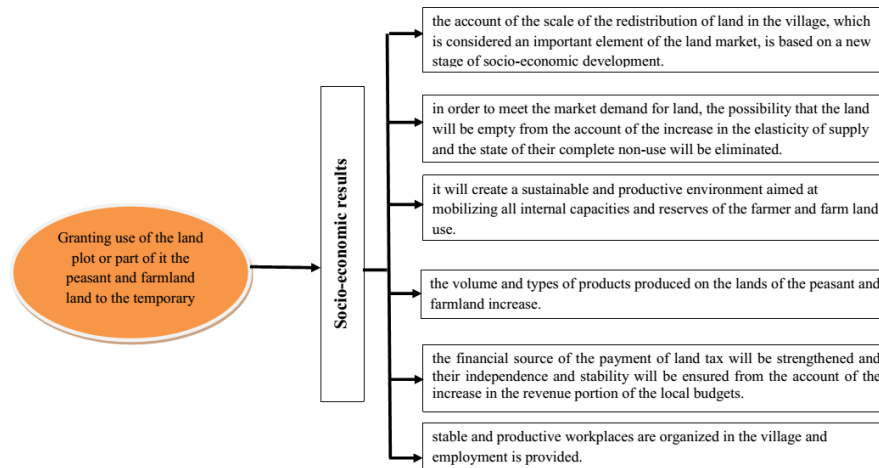
Further improvement of the development of a program of measures to restore irrigated lands in the state of degradation, covering systemic measures of degradation at the Republican and regional level, is possible. By increasing the efficiency of the restoration of 200 thousand hectares of irrigated land in the state of degradation, agricultural production contributes to the satisfaction of the need for irrigated land. It will contribute to an increase in the volume of production of agricultural products, an increase in the number of permanent and seasonal jobs for the employed population in agriculture, an increase in the incomes of the population operating in this direction. The increasing demand for food products in the domestic and foreign markets contributes to the saturation and maintenance of the socio-economic stability of the country.

### CONCLUSION

It is necessary to introduce the practice of granting these lands or a part of them to temporary use while retaining the right of peasant and farmland owners to have a lifetime from generation to generation. Because the village did not have access to the farmland at all (up to 10%), partially user (20-30%), once a full user (40-50%), stratified to the

full user (10-30%) during the year. The question arises. Why is it that the user of the first and second category of land can not give the owner of the land or part of it to the temporary use on a legal basis to the person who is looking for a land without the possibility in that village. Even in the case of giving to temporary use, it is not from outside, but from the fact that members of the same family establish in the law the norm of employment on their land, which corresponds to the interests of the giver of temporary use of the land plot or part of it. Such practice exists in other states. The socio-economic results of the temporary (except for the land on which individual housing is located) use of peasant and farmland are presented in Figure 1.

To date, there is a need to study the features of the regional economy by reviewing the work on the restoration of irrigated lands in the state of degradation in the Republic and substantiating the development of the territorial program, as well as systematic analysis and development of scientific-practical proposals and recommendations that solve the above systemic problems involving scientific potential. One of the most important tasks of today is the study of existing normative-legal, organizational-technical rules and foreign experience in this sphere, as well as in-depth study and application of aspects of them that are suitable for our republic.



**Figure 1. To temporary use of the transfer of peasant and farmland lands socio-economic results.**

It is recommended that the implementation of this form and procedure for the use of peasant and farmland lands be carried out in accordance with the terms of the agreement on the basis of cadastral documents by forming data on the lands of peasant and farmland, which are either vacant or inefficient with the support of self-governing bodies of citizens, or Most importantly, here it is necessary to correctly and fairly specify the interests and obligations of the state, the giver and the recipient to temporary use. It is in the interest of the state here, above all, and only in the event that a financial source of payment of land tax is emerging through the commissioning of lands that are lying idle or are not used effectively. For such activity, it is necessary not to incur excessive financial burden by the state, especially bureaucratic obstacles, neither to the temporary giver of the land plot or part thereof nor to the recipient.

The implementation of such institutional changes will lead to a further increase in the stability and competitiveness of the network

through the regulation of the system of land ownership and use of land resources in agriculture, the formation of an escort-oriented agrarian sector, the liberalization of state regulation, the promotion of private entrepreneurship, the sustainable development of peasant and farmland.

**REFERENCES**

1. Usmonov Yu.A. (2017). Sustainable management of land resources in conditions of climate change. Materials of articles of the Republican scientific-practical seminar.- Tashkent.
2. Shukrullaev H. (2009). Land recultivation and protection. Tashkent, p. 128.
3. Altiev A.S. & Mahsudov M.D. (2019). Methods of forecasting and management of land fund diversification in local areas. International Journal of Recent

4. Technology and Engineering (IJRTE). Volume-8, Issue-3S, 403-411. DOI: 10.35940/ijrte.C1086.1083S19.  
Mukumov A. M., Usmanov Y. A., Ruziboyev S. B. & Majitov B.K. (2020). The ways to increase the efficiency of dekhani and household plots. International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 03, 2020. 318-324. DOI: 10.37200/IJPR/V24I3/PR200785  
www.ygk.uz website information.
5. Babajanov, A. R., & Mahsudov, M. D. (2019). Diversification of land fund in the district. Monograph. LAP Lambert Academic Publishing, 77-78.
- 6.