



## LAND RECLAMATION IS AN INDISPENSABLE ELEMENT THEIR OPTIMAL REPRODUCTION

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### ABSTRACT

*Land is a natural resource that is used in all spheres of human activity as a spatial basis, and in agriculture and forestry, it also serves as the main means of production. Like all other resources, it is a limited nature. Therefore, the article focuses on the disclosure of the content of the concept and types of reclamation for the reproduction of land suitable for use.*

*Land as a means of production is renewable, as it can maintain and even increase its productivity (under rational management), but it is also exhaustible and non-renewable, as its fertility can be destroyed by improper exploitation.*

**Introduction.** As far as the location of natural landscapes, massifs of untouched nature, wild animal and plant populations are concerned, land is also exhaustible in this capacity, as its underdeveloped areas are shrinking under human influence and are non-renewable, as humans can destroy its wildlife and lose its capacity for self-preservation and self-development.

In this context, a sensible mix of land uses is one of the main challenges in rationalizing this area of nature management and preserving land as a renewable resource.

An estimate of the size of the land resource can be expressed through the following indicators:

- The total size of this type of land – sq. km, ha;

- Productivity is the amount of useful production obtained per year from a unit of land (t/ha, m.c./ha);
- Quality- the condition of the land, its suitability for a given use. For example, flatness of terrain and strength of soils for development and road construction;
- Beauty and undisturbed landscape for recreation;
- integrity of natural complex for nature reserves;
- land endowment – the amount of land (total and type) per person and according to the needs of the country, region.

### Materials and Methods

Uzbekistan is one of the middle-income countries. On the one land, there are regions such as the Republic of Karakalpakstan and, to a lesser extent, Jizzak, Surkhandarya regions that are



characterized by low population density and large land areas. On the other hand, Fergana Valley and Tashkent province and characterized by high population density per hectare of land. (Table 1)

Meanwhile, Russia is one of our neighbors in terms of land availability-more than 10 ha/person. The Russian

Federation is second only to the most sparsely populated countries, Australia and Canada. It has the world's largest array of productive land. This includes forested land the third largest area of arable and forage land and more than 10 million sq km of land is suitable for hunting. [4]

### Distribution of the land fund of the Republic of Uzbekistan by category as of 1 January 2022 (thousand ha)

T/ r	Land fund categories	Total land area		Including irrigated	
		total	%	total	%
1	Agricultural land	27148,5	60,48	4220,5	9,4
2	Land of settlements	224,1	0,50	50,5	0,11
3	Land of industry, transport, communication, defense	879,6	1,96	12,7	0,04
4	Land of nature conservation, recreational and recreational use	731,6	1,63	0,8	0,002
5	Land of historical and cultural importance	14,6	0,03		
6	Forest fund land	12057,3	26,86	45,4	0,10
7	Water fund land	827,1	1,84	4,6	0,01
8	Reserve lands	3009,6	6,70	2,1	0,005
	<b>Total:</b>	<b>44892,4</b>	<b>100</b>	<b>4336,6</b>	<b>9,7</b>

Agriculture is the most important sector of Uzbekistan's economy. Irrigated land, amounting to 4.2 million hectares, including 3.2 million hectares of arable land, is of particular value. "Uzbekistan is a country of ancient irrigation. Irrigated farming is the basis of the republic's food independence and a source of export products." [3]

### Results and Discussion

Land use in agriculture is 27.2 million hectares, of which 4.2 million hectares are irrigated Uzbekistan is also one of the world's leading countries by this indicator. Irrigated land accounts for about 95% of all agricultural production. [1]

During use, for many reasons, including irresponsibility of the user, lack of material and technical resources, and poor control, the soil cover is destroyed. This category of land is referred as



disturbed land. In particular, they are defined as – lands that have lost their economic value, natural integrity of formation or are a source of negative impact on the environment in connection with disturbance of soil cover, hydrological regime and formation of anthropogenic relief as a result of industrial activities. In this regard, land users are required to carry out various types of reclamation of such lands.

These works should be guided by the Decree of the Cabinet of Ministers of 6 December 2018 “On Approval of the Regulation on the Procedure for Land Reclamation, Removal, Preservation and Rational Use of the Fertile Soil Layer” ID – 1255. [2]

Land reclamation is a complex of works aimed at restoring the productivity and economic value of disturbed land, as well as at improving environmental conditions.

The following requirements must be met when reclaiming waste dumps:

- Preliminary removal and storage of fertile soil layer, selective development of potentially fertile overburden in the volumes necessary to create a reclamation layer of appropriate parameters, with the removal of the fertile soil layer to be carried out in the warm season, and in areas occupied by crops, after harvesting;
- Backfilling of waste pits, or flattening of their sides and leveling the bottom, depending on the depth, stockpile and delivery distance, as well as economic feasibility;
- The pit wall slope setting to prevent slopes from collapsing and sliding and to avoid the use of construction vehicles and machinery;

- Ensuring erosion control at waste dumps based on zonal requirements for erosion control in the waste dumps area;
- Measures to organize concentrated runoff of storm and technical water by means of special hydraulic engineering structures;
- Treatment or harmless disposal of water drained from waste dumps containing toxic substances;
- Ensuring measures to regulate the water regime in the reclamation layer of rocks with unfavorable water-physical properties, including the creation of a screen of capillary-breaking or neutralizing materials (sand, stone, gravel, film) if toxic rocks are present in the base of the reclamation layer;
- The formation of waste dumps from rocks prone to combustion using technological schemes that exclude spontaneous combustion;
- Importing and depositing up to 50 cm of potentially fertile soil at the bottom of the quarry when quarrying bricks until the gravel-pebble and sandy material is exposed;
- Provision of pit bottoms with ramps and exits for vehicles;
- A soil storage area that prevents flooding by surface water;
- Leveling the surface of the waste dumps with a slope;
- Planting fruit trees (orchards) on slopes (along terraces)

During the construction and operation of linear structures (trunk pipelines and their taps, railways and motorways, canals/ power lines and communication lines), geological exploration, survey and other works, pipeline routes, underground cable communication and power lines, geological



exploration and other pits, roadside pits are reclaimed.

Land disturbed in the course of the reclamation process must be rehabilitated:

- Open-cast or underground mining and peat extraction;
- Laying of pipelines, construction, reclamation, logging, geological exploration, testing, maintenance, design and survey and other works involving temporary land acquisition and disturbance of soil cover;
- The storage and disposal of industrial, domestic and other wastes;
- Construction, operation and maintenance of underground facilities and utilities (mine workings, storage facilities, underground railways, sewage works, etc.);
- The removal of contaminated land if the conditions for its restoration require the removal of the top fertile layer of soil;
- The use of military exercises outside of designated training areas.

Enterprises, organizations and institutions engaged in industrial or other construction, as well as carrying out other works related to soil disturbance, are obliged to remove and store the fertile layer of soil in order to use it to improve the fertility of low-yield lands.[5]

When fertile topsoil is removed, it is most advisable to use it directly. However, if this is not possible (reasons may vary), it is necessary to store the topsoil in piles for storage and use at some time in the near future in the agricultural and national economy of the country.

In case of disturbance of soil cover caused by the construction of railways and highways, construction and laying of gas and oil pipelines, construction of power transmission lines, communication lines, irrigation channels and other linear

structures, the direct use of the removed topsoil must be carried out in a differentiated manner.

First, the most fertile arable layer or the top part of the humus layer is removed for use on adjacent arable land or other agricultural land. Then the entire topsoil is removed. The removed fertile layer can be used for landscaping of construction areas (railways or highways, etc.). Where, for whatever reason, the fertile layer cannot be used immediately and directly, provision must be made to store it in spoil piles for conservation, to prevent loss of fertility and subsequent use.

A fertile layer of soil applied to low-productive lands must have a higher content of humus and nutrition elements, be characterized by a higher degree of saturation with bases in comparison with soil or rocks of these lands, and have a loamy and clayey mechanical composition. It is allowed to use a fertile layer of soils with humus content equal to or slightly lower, but not less than 1%, than on reclaimed lands of low productivity, and also a fertile layer of sandy loamy texture.[4]

An important concept of the land fund is its land use structure, which is a consequence of the multi-purpose nature of land use by society and determines the rationality and efficiency of land use. Therefore, the problem of optimizing the structure of land use on the scale of sectors of the economy and the country as a whole is becoming increasingly relevant. Optimization of land use structure is an integral part of realization of a complete reproduction cycle of the land and essentially influences efficiency of its use.



## Conclusion

Thus, the possibility of renewability on the one hand and exhaustibility on the other imposes a special responsibility on physical and legal land users for the preservation and quality reproduction of the land used. Therefore it is extremely important to avoid the emergence of disturbed lands for subjective reason – this is, firstly. Secondly,

achievement of timely carrying out of the whole complex of reclamation works arising due to objective reason. Moreover to bring, on the order of higher, to strict personal responsibility of personal on fault of which these conditions are not executed, exactly also to punish administrative-territorial and other supervising bodies concerning reclamation.

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