



THE TYPES OF DISTURBED LANDS AND THE MAIN DIRECTIONS OF THEIR RECLAMATION

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ABSTRACT. The growth of the population in the Republic from year to year, the construction of a new housing complexes, the development of industry, the increasing the demand for mineral raw materials, the development of enterprises that extract minerals leads to destruction of nature, and especially of the lands were given in thi article. Together with it was reviewed of the process of the lagging work on the reclamation of the disturbed lands at the present time, and the damage the lands by people. The reasons for the necessity to reclaim the disturbed lands, the definition of the types and main directions for their reclamation and the inculcation of these works in the land construction were taken into account.

KEY WORDS: destruction of lands, reclamation, agriculture, land use, ecological requirement, land management measures.

INTRODUCTION. In our country, the impact on nature is growing year by year, as a result of increasing population, industrial enterprises(miners). In the last 30 - 40 years, as a result of an increase in the production activity of mankind, environmental conditions have deteriorated and the amount of degraded lands in our republic is also increasing. This can be explained by this: the increase in the number of extractive industrial enterprises, the construction of new housing, urban and industrial waste, the absorption of the soil layer, the formation of techno relays; this in turn causes material damage to the environment, human health and society. At the same time, scientists have found out that under natural conditions the formation of the soil occurs in 100 years in the volume of 0,5-2 cm [2].

Broken lands are said to be lands that have become unusable as a result of human activity in all categories of the Republican Land Fund or have become a source of negative impact on the environment as a result of changes in the composition of the soil layer and plant world, geological conditions and relief. They become sources that pollute the soil, air, water of the surrounding areas, worsen the hygienic conditions of living of the population and the general appearance of landscapes. Piles of carers, soil and mountain rocks, which are formed and irregularly located as a result of the



open method of extraction of fossil riches, distort the natural landscapes, giving them a desert landscape in which cocaine does not grow. The construction of highways and other similar structures, most often causing disruption of the terrain.

So far, the work on the recultivation of the damaged lands is lagging behind the processes of degradation of the lands by humans.

The spoiled lands on the territory of the Republic, that is, the objects that need to be recultivated, are as follows:

- Extraction, production of fossil riches and building materials (deep carvings, piles of soil and mountain rocks, clay, sand, gravel, etc.);
- Gas and oil fields search and production;
- Irrigation and collector-cavalers located on the banks of drainage networks;
- Road construction, pipe holding;
- The role of liquidated industrial enterprises;
- Urban and industrial waste.

In order to return the broken lands for use in the sectors of the national economy and to end their negative impact on the environment, their recultivation work is carried out.

Land recultivation is a system of engineering, technical, melioration, agrotechnical and other measures aimed at restoring the biological productivity and importance of the damaged lands for the national economy, as well as improving the conditions of the environment [4].

RESEARCH METHODOLOGY: the work of recultivating in the allocation of land for objects whose activities lead to land degradation should be designed as an integral part of the technological process (State Standard 17.5.1.01).

Recultivation can be carried out from the land in various industries and use for mainly agricultural purposes.

The methods of using recultivated land will depend on the natural and technical conditions in which they are located, economic and social needs and economic viability.

Local and foreign experiments have shown that the main directions for the use of spoiled land are as follows:

- agriculture (in the first place) - creation of conditions for agricultural crops, as well as for fruit gardens and vineyards;
- forestry is the planting of forest crops used for soil protection, erosion, sanitation and other purposes and restoration of forests;



- water management - the creation of water bodies for various purposes(it is possible only in cases when the lower and mountain ridges consist of non-toxic mountain rocks);
- recreation-restoration of recreational facilities and parks, landscaping around industrial enterprises, landscaping around quarries under water bodies and creation of places for the construction of sports facilities.
- sanitation-hygiene-for the purpose of biological or technical conservation of damaged lands that adversely affect the environment;
- construction-selection of lands for the place of construction [5].

Recultivation work will consist mainly of 2 stages:

- technical recultivation-preparation of the upper part of these lands for their intended use; in this process, the upper part of the land is leveled, the edges are adjusted, fertile soil layers are laid on the recultivated land, chemical melioration works are carried out, roads, hydrotechnical and meliorative structures are built and other;
- biological recultivation is an event aimed at restoring land fertility. It includes a collection of agrotechnical and phytomeliorative measures aimed at restoring the fertility of the land, updating the flora and fauna.

Recultivation for agricultural purposes involves the creation of arable lands, gardens and meadows. In these lands, crops (alfalfa, leguminous crops, etc.) that improve soil quality are sown in the first years after regultivation, and they are plowed and sent for use as organic fertilizer, mainly in the case of beets. A high amount of fertilizer is given [1].

On low-productivity lands, the recultivation is carried out for forestry purposes, and trees are planted on these lands [3].

In cases where the extraction of mineral resources by an open method is carried out on broken lands,the costs of recultivation are 2-2, 5 times higher, and in recultivated lands forests or low-yield slopes can be established. The reason is that the fertile layer of the land will be mixed with the unproductive layers under the ground. They can be trimmed in time and not stored.

In particular, in the current legislation, when allocating fertile lands to non-agricultural enterprises for indefinite use, their upper fertile layers are scraped, preserved, and covered with low fertile lands are used to increase their productivity.

It is done only when it is cost-effective. The cost of covering 1 ha of low-yield land with soil should not exceed the normative cost of appropriating 1 ha of new land instead of the lands that are taken for non-agricultural purposes.



Agricultural production losses in this area are not fully covered when the work on land cover with fertile soil is carried out according to the project of land formation.

Over the past 15 years, more than 45 thousand hectares of land have been commissioned for various construction projects, and only one-third of it has been restored.

There are many examples of significant material damage to agricultural land in the process of various types of construction, in turn, to land users, as well as about lands that have not been recultivated and restored in time.

RESEARCH RESULTS: Transplantation of a layer enriched with humus is carried out with the help of scrapers or bulldozers, which are transplanted, impregnated and replaced. In various works related to land degradation, the evaluation of the level of soil fertility in the development of project documents for clipping the fertile layer of soil, as well as is an important task determining the soil volume.

The thickness of the recultivated layer depends on the agrotechnical and physical properties of the soils used for filling P_c , which is determined by the following formula.

$$P_c = h_b + h_k + 0,2M \quad (1)$$

In this: sand 0,5 1,0; Sandy sand 1,0 1,5; sandy 1,5 3,0;

h_b – agrotechnical processing layer thickness; m.

h_k - thickness of the root-feeding layer; for grain crops 0,8; to fruit trees 1,5 2,0; to forest trees 2,5 4,0.

When forming a fertile layer, the boundaries of its thickness should be from 3 to 1-15% of the genetic horizon in the structure of the humus. In the mode of exception - semi-deserts and desert zones with a long watering period, where it is recommended to remove a layer containing 1% humus.

In the process of transplanting the fertile layer of the detachable area and covering it with fertile soil of low-yield soils, the humus part of the soil decreases by 30-50%, resulting in a decrease in the microbiological activity of nitrogen and soil by 35-48%. If after long-term storage of crushed soil (5>years) the content of humus in the soil is disturbed, the biological activity of humus in the soil changes to a passive form. The height of the soils stored after the ripening of the fertile layer should not exceed 5 metres and the potentially fertile types-no more than 10 metres. The optimal thickness of the coating with the soil is determined using the following formula:

$$M_3 = \frac{A * 30}{B * K} \quad (2)$$

In this: A - the amount of nutrients that leave the soil with the yield of agricultural crops; hectar/ centner.

B – 30sm nutrient composition of fertile soil layer in thickness;

K - coefficient of utilization of nutrients in the soil.

In land development projects, it is envisaged that the fertile layer of agricultural land on the plots on which the non-agricultural facilities are located will be used for scraping, storage and other land improvements. In order to do this, a working is drawn up project. For its preparation, the assignment in the form of scraping, storage and technical conditions of use of soils is carried out at the stage of primary presettlement of the location of the land use in the structure of the land formation project.

In the technical conditions (in the assignment for the design), the following are indicated:

- the location and area of the fertile layer of clippable areas;
- the thickness of the clipping layer on each plot or type of soil;
- directions for the use of a fertile layer;
- location of temporary soil piles;
- the location and area of the areas where the soil will be covered and improved;
- coating layer thickness;
- basic requirements for lands to be covered by the fertile layer (periods of cultivation, agrotechnics, crops and the like).

Table 1: Conditions for recultivation of broken lands

Direction	Types of land use	Terms of mastering of the lands
1. Agriculture	Arable land Summer pastures and hay Perennial trees	Creating the slopes of the surface of the recultivated territory and its potential fertile soils (PFS) and fertile layer with filling (FL) $i < 2^\circ$ (PFS) – 0,5–1,0m + FL–0,3m $i = 2-4^\circ$ (PFS) – 0,3–0,8m + FL–0,2m $i > 5^\circ$ (PFS) – 2,0m to depth
2.Forestry	Forest seedlings for forestry and field protection	Potentially fertile soils (PFS) $i = 10^\circ$ and $i = 4^\circ$ plate-like surface longitudinal ($i =$ height) and across ($i =$ across) creating slopes: cross-sloping on the side 18° , slope of soil pile 25°



3. Water management	Fish and poultry Water basin for maintenance and production	up to 2m by cutting the depth side by side 30-100m create a tiny watery area along the water basin. Terms not specified
4. Direction of recreation	Water pools for sports recovery For hunting and tourism	Flattening the coastal region to a depth of 2m, sand layer topping up to a distance of 10m and immersion zone not less than 0,5 m Terms indicated by CNR requirements for related items
5. Building	Construction of buildings and industrial buildings	Conditions with the requirements of CNR for a specific item are indicated
6. Nature protection and sanitary hygiene		Conditions not specified

A drawing is attached to the technical conditions. On the basis of this task, a working project is drawn up until the time of the issuance of the land plot, without which the land plot can not be given for use or as a property [3,7].

The technical conditions of recultivation are worked out in the structure of the land plot project for land use, which is given to temporary use and is associated with land violations. They show the following:

- the location of the disruptive land, the area;
 - ways of using recultivated land (land sections);
 - the top fertile layer is the area of the removable lands and the thickness of the fertile layer;
 - the composition of the upper layers of the recultivated areas and the thickness of the fertile layer on which they are laid;
 - post-recultivational state of land release (land slope, etc.), requirements for the biological stage of recultivation;
- periods of performance of recultivation are indicated.
- a drawing is attached to the technical conditions.

CONCLUSION: The conditions for the issuance of a land plot should be prepared when drawing up a land plot project for the organization of non-agricultural land use and carried out before the start of the use of the plot and during the process of its use.



Compliance with these conditions is the basis for agreeing to take the plot and to give. They are processed in agreement with the owners of the land on which the land is taken and the users of the land on which the land is given. In the following years, the rapid development of industrial enterprises, the issue of increasing the number of home construction will remain primarily on the allocation of fertile land, the production of building materials (sand, gravel, silt, etc.) necessary for their construction.) requires. As production develops, it leads to an increase in the number of degraded lands.

One of the ways to reduce the amount of damaged land is the development of the following activities in the projects for the selection and allocation of land plots for these objects:

-protection of nature and the environment, storage of agricultural lands, protection of lands from erosion, salinity, flooding, drying out and rise in the level of groundwater, protection of plants, ponds, atmosphere, underground and cultural and historical monuments, restoration of severed transport links, taking into account the interests of the state and other land users, as well as land owners, if the issue of limiting the necessary. Legal reinforcement of the development and control of projects for the creation of a guaranteed land so that land users, that is, after the use of land snow, can carry out the work of the rectification of their lands violated by them. It is only then that effective use of land and their protection can be achieved.

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