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Some Problems on Erozon Protection of Soils in Azerbaijan

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Abstract

In 430 mkn.ha of land has been damaged by erosion processes in different countries around the world. Surface, cleavage and irrigation erosion is also widespread throughout the country. 43.29% of the total area is subjected to varying degrees of erosion. In some regions, especially the Nakhchivan AR, erosion processes cover 70% of the area. 66.6 of the total area of the southern slope of the Greater Caucasus has been eroded. In some areas of the country, the percentage of eroded farms is high. This figure is 51% in Lachin-Kalbajar zone, 57.9% in Guba-Khajmaz zone and 72.4% in Sheki-Zagatala. The newly formed splinters break down the farmland into small parts and make them useless. The following erosion intensity scale is presented. 1) net wash-up to 0.5 t / ha, 2) poor wash-up to 0.5 t / ha, 3) moderate washing 1-5 t / ha, 4) severe washing -5-10 t / ha, 5) very severe washing -10 t / ha. Different geographical areas of the country have also been identified the possible distances between stripes on different slopes. Soil preparation should be carried out with a strip of 1–2 m in every 3–5 m in areas of 10–200 incidence, moderate to severe, and 1.5–3 m wide in each of the 2–3 m in severely washed areas of 20–300 m. trench to be dug. In large areas with more than 15-200 thick, thick soils and where the tractor can operate, deforestation should be carried out on terraces. On the slopes where heavily washed and often rigid rocks are exposed, soil preparation can be used to make yards and ditches.

Keywords: Inclination slopes; Forest-land reclamation; Terrace; Water erosion; Surface erosion; Environmental conditions

Introduction

Significant increases in agricultural productivity and sustainability are required to meet the population's demand for food and agricultural raw materials. For this purpose, it is important to implement comprehensive measures to increase soil fertility, to apply intensive agricultural technology, and to carry out extensive anti-erosion control measures. The quantity and quality of agricultural products depends to a large extent on the availability of water in the fields. While irrigation water is not present in our country and in some cases droughts are observed, some of the rain and snow, as well as irrigation water, are lost from the areas. As a result of erosion processes various countries around the world, 430 mkn ha of land has been destroyed. Surface, cleavage and irrigation erosion is also widespread throughout the country. 43.29% of the total area is subjected to varying degrees of erosion. In some regions, especially the Nakhchivan AR, erosion processes cover 70% of the area. 66.6 of the total area of the southern slope of the Greater Caucasus has been eroded. In some areas of the country, the percentage of eroded farms is high. For example, this figure is 51% in Lachin-Kalbajar zone, 57.9% in Guba-Khajmaz and 72.4% in Sheki-Zagatala. The newly formed splinters break down the farmland into small parts and make them useless. The material from the ravines covers valuable planting areas and pollutes the wetlands.

2. Scientific bases of protection of soils from water erosion

2.1. Damages caused by the erosion process to the environment and agriculture

Under the concept of water erosion, soil degradation is understood as the process of soil erosion and depletion through streams, as well as the processes of landscape degradation. Water erosion is the main cause of degradation of soils and natural complexes. Water erosion in nature occurs in two ways: surface erosion and (linear Argan) erosion.

2.2. Justification of anti-erosion measures

When developing erosion control measures, the intensity of surface runoff and soil washing, erosion of eroded soils, etc. issues are taken into consideration. The goal here is to create conditions to prevent surface formation in the upper slopes of the slope. If this cannot be prevented by existing means, it is intended to store particles in the required area of the soil to prevent excessive washing of fine soil particles. Various modeling methods have been used for this purpose in recent years. Examples of these are simple mathematical models.

Predictive issues are used to justify soil conservation measures. The universal equation proposed by American scientists can be widely used to predict soil loss. The washed lands are allotted to justify the system of countermeasures, to maintain and increase the fertility of the lands.

3. Complex anti-erosion measures on slopes

Integrated anti-erosion measures include economic, organizational, agrotechnical, meadow, forest and hydromeliorative measures. Implementation of these measures should at the same time prevent the negative impacts of all natural and economic activities and provide an opportunity to increase the productivity of their lands.

4. Organizing the area as an important part of erosion control

Anti-erosion of the area, composition and proportions of agricultural sector, measures for its productivity increase, types and types of crop rotation, number of farmland, alternate plantings, hydrotechnical constructions, forest strips, boundary and settlement, volume of agricultural works identifies issues. For this purpose, a general scheme of anti-erosion management of individual farms, administrative regions, provinces and the country is being developed.

5. Phytomeliorative measures with the participation of hydraulic devices

Anti-erosion agro-melioration-erosion is an engineering-biological system. Protective forest strips and hydrotechnical anti-erosion facilities are the main elements of this system. Protective forest strips are often used in conjunction with simple hydrotechnical installations to enhance the erosion efficiency. A trench forest strip with a depth of 0.6 m, a depth of 1.2 m and a depth of 0.1 m between the bottom line retains almost all of the surface runoff from the basin. In the North Caucasus, faulting surface fluxes decreased 6–8 times. The last century From the 1970s on the southern slopes of the Greater Caucasus, erosion was carried out in the field with various soil preparations (pitch, trenches, stripes) and their impact on soil washing. At that time, 18785 tons of land was washed out of each hectare under control a total of 955 and 2210 g of soil were washed out of the area prepared by pitch and strip method. One of the most important principles for the creation of forest strips is their proper slope or slope placement. The distances between stripes along different slopes are also determined for different geographical zones of Azerbaijan.

6. Land reclamation

In the mountainous and foothill areas of the republic there has been an intensive development of erosion, which is one of the most dangerous and destructive types of soil erosion in recent years. Over the past ten years, the area of the unused flea in our country has grown by more than 5 million tons. 6.6 million ha of acreage. Their length reached 1 million km, and their total number reached 13 million. As a result of the development of the ravines, the area of the farmland grows by 100-150 thousand hectares annually.

7. Interactions of elements of complex measures of struggle

Erosion control is a complex, labor-intensive process that requires the implementation of complex measures: economic, organizational, agro technical, phytomeliorative and hydrotechnical. Due to the protective conditions of protective plantings and hydraulic facilities, it is necessary to be located in accordance with the contour-reclamation principles.

Conclusion

In recent decades, the intensification of erosion processes has been attributed to the decline of humus in the soil, deterioration of the water-physical properties of soils, and inadequate antimicrobial activity of humans. Water erosion has taken such a scale that if it continues this way, 1/3 of the agricultural land in our country could fall into disrepair in 20 years.

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