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Research Article

Study of Factors Influence of Natural-Geographical Mustache and Slope of Terrain on the Development of Soil Erosion in the Azerbaijan Part of the Lesser Caucasus

Z.X. Mustafaev*

Department of Agricultural Sciences, Institute of Soil Science and Agrochemistry of NAS of Azerbaijan, Baku, Azerbaijan

ABSTRACT

Complex natural-geographic and agro climatic conditions regions of the Republic, long and anthropogenic effects on the natural objects have led to the emergence and widespread erosion. currently, 43.3% of the land Republic affected by erosion. In the Republic developed all kinds of erosion, particularly irrigation water and wind. At the present stage of development of agriculture, widely implemented land reform. Ubiquitous privatized land, where at this point erosion control is a precondition for improving soil fertility, crop yields, requiring reference to global studies improve their fertility.

Keywords: Depth; Topography; Slope basis; Terraces; Erosion

INTRODUCTION

In Azerbaijan occupy large areas of summer pastures, forest, priselski pastures, where vegetation performs a huge role in protecting slopes from flushing and washout. Meanwhile on the summer pastures, forests and pastures to settlements pastures for under the influence of anthropogenic factors widespread erosion.

Work to combat erosion and mudflows in mountainous areas are of great economic importance. Erosion control should focus on the prevention and elimination of causes, because it is easier to prevent erosion, than to deal with its consequences.

Measures to combat soil erosion should be integrated, mixed organizational-economic, agro technical, reclamation, hydraulic techniques as well as techniques improve the fertility of eroded soils.

MATERIALS AND METHODS

The depth of local bases of erosion. One of the most important factors contributing to the intensity of display of erosion processes is the depth of local bases of erosion that is celebrated in his writings, S.S.Sobolev (1948).

Describing the role of a relief of the erosion processes in the S.S. Sobolev (1948) wrote: "the terrain is the knell of erosion processes and at the same time itself changes under the influence of these processes.

S.S.Sobolev (1948) indicates that under the same conditions with increasing depths of local bases of erosion in 4 times the rate of runoff increases in 2 times, and its destructive power about 4 times [1].

The deeper local bases of erosion, the harder the surface water flows collapses, flowing watershed in ravines and rivers. This is due to the fact that the depth of local bases of erosion is mainly determined by the rate of runoff, which contributes to leachate may run off and erosion of soils.

Analysis of studies

Mapping the depths of local bases of erosion for the South-Eastern part of the Lesser Caucasus, us in a topographic basis, was composed of the same map at a scale of 1:50000. As local bases of erosion River were taken Kuruçay, Kozluchaj, Chajlag, Kendelenchaj, Kichik Akara, with their streams, valleys and gullies, as well as scale was adopted as follows: 50, 50-100, 100-150, 150-200, 200-250, 250-300, 300-400, 400-500, more than

Correspondence to: Z.X. Mustafaev, Department of Agricultural Sciences, Institute of Soil Science and Agrochemistry of NAS of Azerbaijan, Baku, Azerbaijan, E-mail: zakirakademik @ mail.ru

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500 meters [2,3].

From the compiled map shows that in the southeastern part of minor Caucasus depth of erosion varies from 50 to 500 m, and sometimes more. Area of plots with a depth of 50 m erosion of 3677.5 hectares or 5.20%, 50-200 m-27702.5 ha or 39.19%, 200-400 m-27564.5 ha or 39.00% and over 400 m-11742.5 ha or 16.61% of the total land area (Table 1).

Studies have shown that where there is a depth of local bases, erosion occurs more intensively. As noted by S.S. Sobolev [1948] "the deeper local bases erosion, i.e. the higher is the watershed above the River, there's more destructive streams flowing from these watersheds in ravines and rivers [1,4].

Weighted average depth of local bases erosion research facility is 240 m, i.e. the territory itself is potentially erosion-hazardous.

Inclination of the surface: An important factor influencing the manifestation and the development of erosion processes is the slope of the surface.

S.A., Sobolev [1948] noted that water erosion causes soil increases as the steepness of the slopes, and at the same time reducing the incline from 0 to 1140 smytoj quantity of the soil decreases from 36 m^3/HA up to 5 m^3/ha [1].

K.A. Alekperov and A.b. Agayev [1965] indicate that the fallen with a slope of 80 smytoj quantity of soil is 65 m^3/HA, while the slope of 150 it reaches 183 m^3/ha [3,4].

According to B.H. Aliyev [1996], with a slope of 100 flush the soil with 1 HA was 220-240 t/ha, while the slope 170 achieves 320-410 t/ha.

In view of the foregoing, we deemed it appropriate to make a on the topographic map based on slope surface of the South-Eastern part of the Lesser Caucasus Mountains in the 1:50000 scale. If this had been taken following graduation grade: 30, 3-5, 5-7, 7-10, 10-15, 15-20, 20-25 25-30, 30-45 and over 450 (Table 2). In doing so, it turned out that the investigated area slope ranges from 0 to 3, and sometimes more. A large variety of steepness of slopes affect the intensity of erosion processes. Calculations show that slopes slope less than 50 where erosive processes manifested very little, occupy only 6565.0 hectares or 9.29% of total land area.

Table 1: The distribution area in depth local bases of erosion.

S.no	The depth of local bases of erosion, m	Area highlights		Group of gradations, m	Area groups	
		in ha	in%		in ha	in%
1	0-50	3677.5	5.2	0-50	3677.5	5.2
2	50-100	8362.5	11.83			
3	100-150	8980	12.7	50-200	27702.5	39.19
4	150-200	10360	14.66			
5	200-250	9702.5	13.73			
6	250-300	8494.5	12.02	200-400	27564.5	39
7	300-400	9367.5	13.25			
8	400-500	7440	10.52	400	11742.5	16.61
9	500	4302.5	6.09			
	Total:	70687	100		70687	100

Table 2: Distribution of slope surface.

S.no	Inclination in degrees	Area highlights		Group graduation, degrees	Area groups	
		in ha	in%		in ha	in%
1	0-3	2412,5	3,41	0-5	6565,0	9,28
2	03-May	4152,5	5,87	-	-	-
3	05-Jul	5180,0	7,32	-	-	-
4	07-Oct	3907,5	5,53	May-15	17227,5	24,37
5	Oct-15	8140,0	11,52	-	-	-
6	15-20	12415,0	17,56	-		
7	20-25	11942,5	16,90	15-30	36457,5	51,58
8	25-30	12100,0	17,12	-	-	-
9	30-45	7835,0	11,09	-	-	-
10	>45	2602,0	3,68	>30	10437,5	14,77
	Total:	70687	100	-	70687	100

RESULTS AND DISCUSSION

The role of exposure in the development of erosions into the manifestation and intensity of erosive process is more important w 1st role plays Exposition. Observations show that the mountain-meadow, mountain forest and mountain-farming territory areas, slopes of South, Southeast and Southwest exposure most heavily affected by erosion.

In mountain areas have significant agro-climatic differences due to difficult terrain. For the southern slopes are known to have the biggest and annual amplitude of temperature, accelerating the process of weathering of soils and weakening their resistance to erosion. Especially in summer, when the southern slopes are heavily [3,5].

As a result of the combined effect of all these factors, erosive processes develop very intensively, the soil becomes shallow, skeletal, and the plant loses its desirable stronger than on the northern slopes, causing in turn even more intensive development of surface runoff and soil flushing. And this is due to the fact that in mountainous snow accumulation, snowmelt, the degree of soil moisture, density of standing vegetation etc. depend on the exposure.

According to flush the soil with 1 hectares on the flank of the Northern exposure was 75.6 m^3, and on the slope of the southern exposure 134.6 m^3. In view of the above, the US has been formulated on the basis of the topographical map of the exposition in the scale 1:50000, emitting the following exposures: North, North East, North West, East, South, South East, South-Western and Western [2,4].

As can be seen from table 2 data slopes North Exposition 5410.0 hectares or 7.65% of the total land area, while the North group is 30440.0 hectares or 43.05%. It should be noted that the erosion processes on these groups developed on those sites where work is carried out lesomeliorativnye violated overgrazing to settlements pastures for summer pastures and pastures, as well as not executed agrotechnical measures in agricultural zone. Relatively large area occupied by slopes of South, Southeast and Southwest exposure.

Southern Exposure slopes area is 5445.0 hectares, or 7.70%, while the Southern Group occupies 34362.0 ha or 48.65% of total land area. On these slopes in connection with great dryness and underdevelopment of vegetation soils heavily affected by leachate may run off.

A small area occupied by the eastern slopes Exposition 2570.0 hectares or 3.63% of the total area and, mainly, flush the soil in these areas is evident in the weak and moderate. Western slopes Exposition 3315.0 hectares or 4.68% of the total area [6]. Here flush soils developed in weak degree.

CONCLUSION

During the formation and development of the erosion process, the depth of territorial erosion. (0-50mm 0-50 (mm), 50-100 mm, 100-150 mm, 150-200 mm, 200-250 m, 250-300 mm, 300-400 mm, 400-500 mm,>500 mm Along with the depth of the geological and geomorphological structure of the erosional territorial base, the slope of the surface also has a great influence on the erosion process, the slope of the surface also plays an important role in the formation and development of the erosion process. 0-30, 3-50, 5-70, 7 -10, 10-15, 15-20, 20-25, 25-30, 30-45,>450.

Likewise, as the slope of slopes increases, the intensity of formation and the development of erosion processes, such as uplifts in the process of formation, soil slopes have a large impact on the formation process and the intensity of erosion. Studies have shown that compared to the northern, northwestern slopes, the southern, southwestern and southeastern slopes are more susceptible to erosion.

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