

Full Length Research Paper

Scientific and spiritual significance of advanced irrigation technology for increasing the fertility and biological activity of lowland slopes of the small Caucasus: (As an example of the Garabagh region)

Z. X. Mustafayev

Institute of Soil Science and Agrochemistry ANAS-2020.

Author E-mail: Volqa_5@mail.ru

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The article has been proven by the comparative analysis of long-term research results in the Karabakh region in the lowlands of the Lesser Caucasus, as well as a comparative analysis of current research, as well as to the extent that these areas have been subjected to various forms of erosion. The productivity of self-cultivated agricultural crops has adversely affected the quality indicators and reduced productivity. At the same time, the complex physical and geographical conditions of the area, ever-increasing exogenous and anthropogenic pressures create

favorable conditions for the development of all types of erosion processes in a wide range. The scientific and practical application of advanced microstructure technology, as well as traditional backwatering, as well as traditional wetland irrigation, along with other complex measures in irrigated soil erosion soils, to improve fertility in erosional soils.

Keywords: Progressive irrigation methods, soil, fertility, erosion, moisture reserves, crop productivity, low slopes

INTRODUCTION

60% of the territory of the Republic of Azerbaijan is located in a mountainous area with a complex geomorphological structure, reflects the attributes of mountain-irrigated agriculture, which are characteristic from one of the regions. The complexity of the region's natural conditions, the intensification of exogenous and anthropogenic pressures, the rapid deforestation of the forests, and the ineffective use of pastures have led to the emergence and intensification of the erosion process and its extensive range. According to 2012 data, 43.29% of the country was subjected to some degree of erosion. There are all types of erosion in the Republic, including surface, linear, meadow, irrigation, wind erosion. Nagorno-Karabakh and its surrounding areas, which have been subjected to Armenian aggression since the 1980s, have become a site of military operations and

have been completely destroyed. So, there was catastrophic military erosion in the republic. The erosion process destroys the upper soil fertility, contributing to the soil profile, leading to the loss of humus, nitrogen and other nutrients. The fertility potential of such soils is considerably weakened and eventually degraded. Land resources of the Republic are an inexhaustible wealth of the people. The fertility of the soil is its main and most valuable property. The fertile soils provide the plants with the nutrients they need, as well as water and air throughout the growing season. In lands with good and favorable physical properties, the root system of plants develops normally, forms vegetative organs and creates favorable conditions for efficient development of generative organs. In lands with good physical properties, the root system of plants is strengthened; there is enough

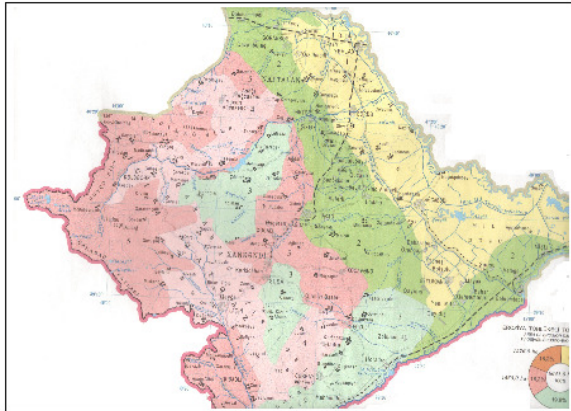


Figure 1. Fragment from a map of the erosion hazardous terrain of the Karabakh zone of Azerbaijan.

ventilation in the root layer, which creates favorable conditions for the development of microorganisms. It should be noted that the formation and formation of fertility in the process of natural land-making has been widely investigated by world scientists and researchers over the last century. It has been established that fertile soils provide sufficient water and air at the same time. The fertility is a diagnostic and indispensable feature of soil types, which sharply differentiates the soil from mountain rocks, sands and river boulders. Various problems, theoretical and methodological principles of soil fertility have been studied by former Soviet scientists and foreign researchers. The results of these studies have led to the theory that soil fertility (as part of the ecosystem) is able to provide the essential nutrients, air, water, and heat in certain geographical areas. Soil fertility is a product of complex natural and anthropogenic factors. It is considered that inefficient use of soil on mountain slopes for many years, poor application or non-application of soil-protective agrotechnical measures has resulted in the washing down of the fertile soil layer, which has led to a significant decrease in soil fertility. In agriculture, poor soil and humorous abundance of humus, nitrogen and reserves, as well as the lack of humus, nitrogen and nutrients in the soil as a result of inadequate agro-technical measures, inadequate seeding systems, inadequate fertilizers, especially organic fertilizers and lack of advanced practices. Lack of moisture in unhealthy soil, humus content reduction, soil 'respiration' and, as a consequence, decrease in CO₂ export and loss of biological energy considerably limit the growth of plants in the soil. As a result of these factors, the quality of agricultural crops is significantly reduced, which can cause damage to human and animal organisms. In this regard, ways to improve soil fertility and, in general, to regulate the agroecological system is of great importance. The use of mineral fertilizers plays

an important role in the improvement of soil fertility for erosion, obtaining high and stable products from such soils, as well as soil erosion (Aliyev, 1986). It has been established that fertilizers given to soils in flat areas increase the productivity of agricultural plants and restore the fertility of the soil. Fertilization on the slopes significantly increases the plant's surface and root mass. The thin wires of the roots cover the soil particles and are solid. The enhanced surface area is resistant to the impact of raindrops.

The purpose of the study

The aim of the study is to study the quality and quantitative indicators of sugar beet erosion, using progressive irrigation systems, which are important for improving the fertility parameters of low-mountainous erosion-prone areas of the Lesser Caucasus, as an example of the Karabakh region. All of the rainfall on the slopes forms an overflow, which prevents water from absorbing into the soil, causing spills in the soil. Under these conditions, the efficient use of fertilizers becomes more difficult and the development of plants is prevented. The erosion process presupposes soil profile, causing loss of soil and nutrients by worsening their water-physical, physical, physical and chemical properties. Studies show that at least 2.3 million ha of erosion areas in the country have moderate to severe levels. In the modern world, sugar cane is a common ingredient for a richly colored cocoon, and it is glue-shaped glue for the sugar beans. The climatic-caliphate of the Tartar Bulletin of the Garabagh dynasty is a unique opportunity for a unique and technologically advanced form of technology. Many gray mats of Tartar region have a range of minerals and mucous membranes.

METHODOLOGY

The external soil-erosion and field phase of the study was carried out using microfluidics as a method described by Prof. BH Aliyev, applied in the open ground. Laboratory analytical researches were carried out using methodological approaches and research methods accepted in soil science and agricultural sciences.

Methods of analysis

1. Humus - by the method of IV Tyurin
2. General Nitrogen - by Tyurin IV, by Kononova MM
3. The ammonia absorbed by DP Konyaeva method;
4. Soluble in water by ammonia- Colorimeter-Nesler method
5. Nitrates - by the method of Grandval-Laji
6. Mucosal Phosphorus -Ph

7. Carbonate-calcimeter device - with sheets esulu
8. Acidity of soil and aggregate - by NI Savinov's method
9. Mechanical composition of soil - by NA Kacinski method
10. Foundations: Ca and Me-Hedroys method
11. Field and hydrosopic moisture-weight method of soil

The sugarcane is one of the few things that can be eaten by the bitches. The candy cannons are very popular on the hinges and on the shelves. 300-400 quintals of cocoons and 150-200 metric tons of eutrocyclone, 120-140 kg of nitrogen (H), 40-50 kg of phosphorus (P), 150-200 kg of potassium (K). This method does not require inspirational tools of the irrigated economy; enables automated mechanization and automation of software applications; dosage rates, dosage rates, and mineral dosage; to enhance the structure of the turtle and to get the tip of the turkey salmon and the dye. This is an approach that addresses the existing problems and ensures that Azerbaijan uses agricultural production, irrigation and irrigation water to fill the fields that are particularly important in increasing global food insecurity and increasing demand.

Conceptual Framework for Efficient and Efficient Use of Existing Natural Resources (Land, Water, Pasture, Forest) one of the sources everybody else is going to use it. In particular, stable or unmanageable sugar can be used to enhance the production of tatsarfate.

Aliyev (1986), Aliyev, (2005) is also convinced of the fact that yacht yachts - "fancy" karaoke - will also have no signs of damage in some primary areas of the country. In recent years, new types of micro-irrigation systems (aerosol moisture, autonomous pulsed rainfall, combined microstructure, and so on) have been developed and implemented in the country. These irrigation systems have been proven to be commercially viable, have undergone a resource test and have been widely used, with up to 5% of irrigated land being irrigated using progressive methods. However, the main scientific and economic importance of these irrigation methods is that they are environmentally friendly technologies that prevent surface and surface erosion from natural and anthropogenic impacts, and are considered to be the fight against existing erosion processes. In turn, preservation of the ecological balance of the environment, elimination of salinization and recultivation of soils. It is also worth noting that this system is used in a way that is more than just a taste of the water. Geid is a microstructured microfluidic, and highly porous microfluidic microstructure that can be extracted from small particles at the time of microwave use. BH Aliyev, ZH Aliyev (Aliyev, 1986, Abutalibov, 1939). N.V. Bashirov and other scientists have shown that the results of a survey of Azerbaijan's mountainous areas have come to the conclusion that the use of microstructure approaches the intensity of soil water accumulation, which in its entire vegetation period. The optimal water supply in the Tazil soils is regulated to

ensure that it grows and develops and maintains the appropriate fertility regime. The guide is most likely to be planning a time of exclusion from the microfinance system, so that the migratory water supply to the migrant workers can be planned from time to time. The plan is to devise a special version of the canal, where the amillary nucleus is to be removed. The elm-triggered action was taken by the Yerylyashian Tatar Tatar River in the Taryar region. The Garabagh Jazz jazz is a well-known martial arts and dance company, and is the most popular among the Danish expatriates. Maximum evaporation is estimated at 60-64% of the evaporation in May. The Garabagh is one of the largest amyloids in the world. In the Belyan area, the high volcanic incidence has severely affected the country's migratory routes. In Azerbaijan, gray-matted calf type, glue Zakharov is also an author. Oh, these bulls were the type of calf and puppy in the head of the Caucasus and Araz provinces. Zaslavsky and Zaxarov, (1989) is the beginning of the "light gray calves", the first of which is the image of the reverberating calves, and the formulation of the jars. Garabagh Dozens gray calves are poorly differentiated, sandstone, herbaceous herb, poorly structured, richly calibrated carbonate profile, and elusive elixirlars. In the case of low-calf calves, there are many mechanically trained calves, and the most expensive calves are calves. Artar region is located in the north-western part of the Lesser Caucasus in the lowland part of the region. Climate here is characterized by dry mild, semi-desert and dry hummocks. The area has become an undeclared military conflict zone for Armenian occupiers, where almost all types of erosion are intensive development in a wide range of areas (Aliyev, 2008; Anskop, 1979; Shyuraky and Yasswady, 2005; Rubin, 1968). The soil cover of the Tartar region is colorful. The soil types distributed throughout the region are subject to both vertical and horizontal regularities (gray-brown), light chestnut (light gray-brown) soils. The mountain is dark chestnut (1634.60 hectares) and is widely distributed in the western part of the district, north-west of the regional center at an altitude of 400-500 meters above sea. level. In the direction of the moderate erosion slopes of the area, the width of the intermittent trails is 1-2 meters from each other; the vegetation cover is almost reduced. Humus layer was washed up to half (Aliyev, 2008; Aliyev, 1986; Zaslavsky S.I, Zaxarov, 1989).

As the study was conducted in the Tartar region of the region, the area was classified, taking into account the agro-climatic parameters of the region in accordance with the requirements for the selection and application of appropriate advanced irrigation techniques and technologies (microstructure) (Table 1) (Aliyev, 2005; Abutalibov, 1939; Shakuri, 2004). Tartar region is located in the north-western part of the Lesser Caucasus in the lowland part of the region. Climate here is characterized by mild dry, semi-desert and dry hummocks. The area has become an undeclared military conflict zone for Armenian occupiers, where almost all types of erosion

Table 1 . The main climatic indicators of Tartar region, which is the object of research.

Indicators	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Year
Total radiation volume, kcal / cm ²	4.9	6.4	9.6	12.2	13.6	17.4	17.1	16.2	12.3	8.5	5.8	4.5	128.5
Amount of radiation balance, kcal / cm ²	0.1	1.4	3.6	4.9	5.7	7.9	7.4	6.8	4.8	2.3	0.8	-0.2	45.5
Average air temperature C ⁰	2.0	3.6	7.0	12.6	18.2	22.7	25.9	25.4	20.9	15.3	9.0	4.4	13.9
The average air temperature is C ⁰	-7	-6	-4	2	8	12	15	15	10	5	-2	-5	-8
Absolute minimum air temperature C ⁰	-17	-14	-11	-1	2	7	11	10	4	-4	-6	-16	-17
Absolute maximum air temperature C ⁰	20	24	31	32	35	38	40	40	37	35	29	24	40
average soil surface temperature C ⁰	1	4	8	16	23	29	32	31	24	16	9	5	16
Annual volume of temperatures over 50 is 48450							Annual temperature over 100 is 43560						
Average history of the first fall mines 27.XI							Average history of the last spring frost 21.III						
Indicators	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Year
Average relative humidity in %	75	72	73	68	67	60	55	56	66	72	77	76	68
The amount of precipitation in mm	19	24	31	37	45	51	27	18	30	35	30	16	363
Possible evaporation, mm	34	38	52	71	103	137	169	166	107	71	44	35	1027
Direction of Judge Winds	Q şmq	Cş şmq	Cş şmq	Cş şmq	C.ş şmq	Cş şmq	Cş şmq	C.ş şmq	Cş şmq	Cş şmq	q şmq	q şmq	Cş şmq
Average wind speed, m/s	2.8	3.0	3.1	3.1	3.0	2.9	2.7	2.6	2.6	2.7	2.5	2.5	2.8
Number of strong winds (> 15 m/sec)	1.1	1.5	2.6	2.1	1.9	1.5	0.9	0.9	1.3	1.5	1.1	1.2	18
Number of snow-covered days													9
Number of days of hike				0.05	0.2	0.1	0.05		0.5				0.4

are intensive development in a wide range of areas. The soil cover of the Tartar region is colorful. The soil types distributed throughout the region are subject to both vertical and horizontal regularities. The mountain is dark chestnut (the total area of mountain gray-brown soils is 1634.60

Table 2. Agrochemical and agro-physical features of my field of practice.

Dehydration	Humus. %	Nitrogen (N)				Phosphorus (P)		Calium (K)		Hydros copic humidity in%	Volume weight in%	Specifi c weight in%	In pH water suspens ion
		Mg per 1 kg of soil			Total nitrogen in %	In% of total	peroxide. mg / kg	In% of total	Dosage mg / kg				
		High ammonia mg / kg	Easily hydrolyzed mg / kg	HO ₃ in water									
1	2	3	4	6	7	8	9	11	12	13	14	15	16
0-20	2.63	13.4	76.0	10.2	0.14	0.13	16.2	2.9	334.7	1.40	2.50	7.8	12.0
20-40	1.90	11.0	67.0	8.2	0.11	0.10	15.1	2.5	298.5	1.46	2.56	7.0	9.76
40-60	1.76	9.6	50.0	6.6	0.09	0.08	12.0	2.36	247.3	1.44	2.57	7.6	7.14
60-80	0.98	8.6	37	6.0	0.06	0.05	8.6	2.10	199.6	1.43	2.54	7.3	8.45
80-100	0.77	5.7	28	3.2	0.04	0.03	4.5	1.77	154.2	1.45	2.55	7.6	6.98

hectares) and is widely distributed in the western part of the district, north-west of the regional center at an altitude of 400-500 meters above sea level (Alekperov, 1961; Aliyev, 2008; Rubin, 1968, Zaslavsky and Zaxarov, 1989). These calves migrate to or from the calf and monotony the calf profile. Their profile is based on comparatively unreliable data. The morphology of grazed gray calves is not comparable to 2.63-0.77%. Total nitrogen in these calves is 0.14-0.04%. Fewer mammals suffer from migraines, but the mwigigs are less likely to have a low mass of 0.08% at 40-100 cm. The average amount of humus is 150 tons per 1 m. Physical entities are present in the range of 53.16-71.60%. Those calves are eily and are very popular with calves. Throughout the profile, lilacs can be thought of as an overlap system. Migrations of carbonate alloys in gray calves are relatively uniform throughout the profile. The gray calves, which are grazed on the Gadimdyan, are the purple gabble. Balykii, the thickness of the sturdy stems on calves (100 g of torpedoes) is 26.9-27.9 m between them. Migrants of calcium cation have a significant reduction in migratory stools when they reach 57.60-69.89%. Tiartsbye calcium agrochemicals are particularly susceptible to dehydration: 0.20% cumulus of sand at 0-20 cm., Ammonium 13.4 mg; Potassium phosphorus 0.13%, calcium phosphorus 1.62 mg, potassium chloride 2.9%, calcium chloride 334.7 mg, hygroscopic fluid 1.40%, citrate fraction 2.50% , 8%, PH = 12. At 20-40 cm of hemp, cummium is 1.90%, ammoniac is 1.76 mg, nitrogen from hydrolysis is 67.0 mg, nitrogen is 8.2 mg in water, 0.11% in nitrogen. phosphorus 0.15%, sodium phosphorus 15.1 mg, potassium chloride 2.9%, potassium chloride 298.5 mg / kg, hygroscopic fluid 1.46%, quartz 2.56%, sulfuric acid 7.0% , H=9.76. At 40-60cm of saline cummium 1.76%, ammoniacal 9.6mg, Asan hydrolysis nitrogen 50.0mg, nitric oxide 6.6mg, nitrogen nitrogen 0.09%, cumulum phosphorus 0.08 calcium phosphorus 12.0 mg, potassium chloride 2.36%, potassium 244.3 mg / kg, hygroscopic fluid 1.44%, quartz

2.57%, sulfate 7.6%, p = 7. , 14 beautiful photos (Aliyev, 2005; Abutalibov, 1939; Bennett, 1957; Shyuraky and, Yasswady, 2005) (Table 2). The revamped program is likely to include the following visceral interventions:

1. Definition of scaling mechanism and dyeing mechanism of mineral embryonic silt and nematode jellyfish N₉₀P₉₀K₆₀ kg French variety of diadema.
2. The bulk of the ridge of the tiggigat can be traced to the phenolics of the mangrove.
3. Dissemination of well-developed farm technology for the best technology of production of sugarcane beetles.
4. Tiartsbalyar 2 schemes each scheme has two variants and a length of 10 meters, with a diameter of 5 meters and a cumulative surface of 50m². The first part of the Thyartsbyan scheme is the introduction of a semicircle of purebred and hydrated water.

The second scheme is the version of the microstructure microstructure technique (N₉₀, P₉₀, K₆₀). However, in the gold of the tournament, it was 980 m² alone.

The Tiartsbiya woman was carrying the current thrillers.
 - Shelter constellation of the Thiarcia field;
 - The phenology of the beetle moss:

- a) Historical rhizomes (75% of bitchylarine),
 - b) Biccillary's skull (the end-of-the-line notices are then brought to the head);
 - h) Migrants from Bitklyarin in Elysian (5 times the size of the herb)
- (b) The cuckoo-pigeon-like heifers are subjected to a spatial incision of about 15 euros,
 (f) The dwarf curve of the sugarcane, the excess dynamics of the green cuttings, and the percentage of sugar in the lattice are 1 month and one parent only 5;
 - The Chinese hybrid of the sugar beet (moved about 10 euros);
 - agrochemicals of turf and agriophysics,

Table 3. Desirability of mineral welding on the sculpture.

№	Options	Feel free-sen			Centers per 1 ha	product growth (under control)	
		Trailers				7	8
		I	II	III			
1	2	3	4	5	6	7	8
1	Control (no fertilizer) - spray irrigation	378.0	386.0	389.4	384.4	-	-
2	Fon N90 P90 K60 - Micro precipitation method	510.0	506.2	503.4	506.5	122.1	26.5

- eutrophication of heifers for heterogeneity of typhoid genes in torpedoes;
- Dynamics of calf nuclei (about 15 euros per head);
- Hedgehog species of sugar beet.

Eustiaryillary dream of the mineral and the form of the mineral bark. Gluten-free calves are the best known in the European Union. These tigidates are the norm for the growth, development and maturation of the sugar beet, for example, in the case of some of the mycelium. The mineral is one of the most elusive phosphorus species in the form of bicarbonate beetle and mineral. Phosphorus is likely to have a major impact on the development of generative organs of typhus, butyric acid, as well as migraine shykharyn migrators (Aliyev, 2008; Abutalibov, 1939; Shakuri, 2004).

Phosphorus is an important factor in the development of cucumbers in the early development of cocoons.

Phosphorus is a biochemical process involved in bitcoin. Porcelain Verilyan phosphorus is a mysterious form of phosphorus in calcium carbonate calves. Phosphorus is widely used in grapefruit gold to degrade bituminous cyanide.

The sculpture of the bituminous bitumen, which is the second largest in the world, is the largest in the world (Table 3).

In the Nakaryat version (unbroken), the juice of the juice is 384.4 sen / 3 in 3 shades. Background N₉₀ P₉₀ K₆₀ Micro-Pumping Solution or Irrigation 506.5 F / c. The options are great in the variants of the background + microscope. Much of the variation from the gay backyard mattress is comparatively great in the other version (Aliyev, 2008; Anskop, 1979; Rubin, 1968).

RESULTS AND DISCUSSION

The climatic-caliphate of the Tartar Bulletin of the Garabagh dynasty is a unique opportunity for a unique and technologically advanced form of technology. Garabagh is one of the few mineral mineralogy breeders in the agricultural sector, which is one of the most expensive and stable formations of turf seedlings in the

gray area. The results of the elite-volatile case of the Hassassian Garabagh Dock are the most promising options for high-grade mineral anhydrous oxyarinescence. Below, the Background N₉₀P₉₀K₉₀ version has a micro-amplifier product or a succulent formula with a 506.5 cent / yr model. The sculpture of the bituminous bitumen, which is the second largest in the world, is the largest in the world. In the Nakaryat version (unbroken), the juice of the juice is 384.4 sen / 3 in 3 shades. Background N₉₀ P₉₀ K₆₀ Micro-Pumping Solution or Irrigation 506.5 F / c. Most likely, the options are reat in the form of a background + microscope. Much of the variation from the gay backyard mattress is comparatively great in the other version.

Conclusion

The Karabakh territory is the most economical region for the people and is the most suitable region for the development of sugar beet. Although since 1991 beetles have been a concern of the republic by sowing, however, to date, there has been an absurdity of scientifically-motivated development of sugar-feeding systems that negatively influences these important cultures upon productivity. We have a problem with the sulfur-brown soil conditions of the Karabakh zones, which is the main fund for sow sugar beet. The results of the studies have shown that using the mineral fertilizers in the progressive irrigation method promotes increasing the sugar beet productivity.

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