

# Assessment of the Application of Micro-Irrigation Systems and Calculation of the Definition of its Economic Efficiency in the Conditions of Azerbaijan



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## Annotation

For a well-known purpose in 2010-2015, Guba-Khachmaz RAEM, Tartar and RAEM Shamakhi TSB have been confirmed by numerous research findings in the field of mountain watering, in terms of the development of irrigation, the mountainous slopes include soybean, sugar beet, trees, and germination (barley, wheat, etc.), the microcirculation method was not cost-effective in terms of efficiency, and preventive measures such as surface soil wash, sliding, irrigation and drowning, erosion characteristic for mountainous terrain zones, which is of particular importance, confirms the feasibility study of the farm calculated with the following formula.

**Keywords:** Leakage; Micro-irrigation; Investment; Bringing costs; Irrigation

## Introduction



Figure 1.

(Figure 1) Rapid growth of the world population, limited land plots, lack of fresh water resources, environmental degradation, climate variability and so on. problems have highlighted the problem of food humanity, which in turn requires proper regulation of land protection and improvement of the public administration mechanism of land resources. From this point of view, 60% of the land with difficult relief and complex natural climatic characteristics has been eradicated from the threatened state of the intensive development of mountainous zones and has been partially implemented in order to rehabilitate the fertility of these

areas in the direction of agricultural destination, The scientific and economic importance of irrigation irrigation systems for progressive water is an undeniable fact. In this regard, it is aimed to calculate the effectiveness of these irrigation systems with more accurate method and methodology. The calculation of the economic efficiency of the use of the microscopy in terms of production experience with respect to the application of the application of the microscopy is considered to be one of the key factors.

## The Course of the Study

In accordance with the methodology for determining the importance of the application of new techniques and technology applied to the existing agricultural sector, the annual economic benefit obtained by the application of sugar beet micro-gradient is as follows:

$$E = (TS_2 - w_2) - (TS_1 - w_1) / a^{-2} \quad (1)$$

here  $w_1$  and  $w_2$  [1] hectares base case and new sources for the introduction of products owned by agricultural practices directly with the account mentioned costs; with USD.  $TS$   $TS$  and  $-1$  hectares base case and new sources of agricultural techniques involved, giving accounts belonging to the production plant; from

USD. And [2] -annual volume applicator, ha. He compared to the sources of new methods for sufferers of traditionally implemented furrows watering sources. Ammortizasiya countries, major industrial distribution ammortizasiya popular norma and fond of Shamil running costs and repair costs in “Sojuzvodproekt”-n recommendations methodological guidance mainly accredited [3]. And studied at the settlement, belonging to the current irrigation natural indicators (parameters) Importance of the importance of Daka important elements in analysis. Micro-irrigation’s a series of hail shower processes physiological Mammary sugar, basic version compared to 20% to stimulation, he believes qn (cf. 1). From the table, July-October, months hang sources. This product is comparable to a 32.4% microscope option and down to the country’s product range of 54.3s/ha. In this difference, serious sources of water are effective (Table 1). This is the largest amount of supplies in the United States dollars volumesopposite

or complementary sources of water is to take prices production Shehzad (increment) is generally characterized by (Table 2 ). Table 2 also available with situations mentioned, mikrosuvarmada/1 cents to get additional product name şırım Deng with sh 2-2, 5 times less water to spend relatively olunurki and that the sources of saving water [4]. Economic comparative efficiency sources for questioning, is the microelements macro and cotton from sugar beet using micro-irrigation with an additional set of products that have been achieved before Wahid overloaded costs the cost of establishing the system of mikrosuvarma, according to the variant set of products in production costs (labor, land cultivation) taken into consideration and s. (Tables 3 & 4). the report results Table 5-inch Micro-irrigation is generally characterized by observable short produced sugar beet , Ana Rajendra indicators during PA effectiveness will depend on several noted:

**Table 1:** Effect of yield of sugar beets from Micro-irrigation.

Research, convening duration	Options	Sources from among	Sources norması (m)3/ h.(A)	Average performance simply s/ha	water at the units product; m3/ha
July October	Micro-irrigation	16	4490	318.2	14.1
July October	Borozdovye glaze	5	5294	263.9	20.06
July October	Control%-ith		84.81	180.6	70.3

**Table 2:** Sources of water in the production of effective use of for sugar beets (July-October months average).

Options	Sources of standards; (actual cost) m <sup>3</sup> /h and	Average performance simply cents from the internal TS/(h).(A)	Units of additional sources of water harvest production mentioned costs (costs of water) m <sup>3</sup> /cents from the internal
furrow irrigation	5294	263.9	59.7
Micro-irrigation	4490	318.2	31.4

**Table 3:** According to agricultural cultivation and maps of harvest sugar beets.

Info names	The unit of measurement	room	Free (USD)	Only (USD)
1. resources :-Seeds	KQ	4	26.06	104.24
-Annual cost of water sources	(h). AND/DOL	1	4.8	4.8
2.labour and torpaqışləri :-the surface area of Earth (layout) hamatrlanması	(h).(A)	1	77.6	77.6
-Sham said APA of	(h).(A)	1	12.77	12.77
-HARROWING	times	2	4.26	8.52
-Sowing Seeds	(h).(A)	1	6.38	6.38
-furrow of Opening	(h).(A)	1	6.38	6.38
cultivation measures	times	4	6.38	25.52
-tillage	TIMES	3	32	96
3. harvest my stack: -harvest	TONE	26.39	1.06	27.97
-edilmə transport (car karvanı	TONE	26.39	1.6	42.22
Total:				412.4

**Table 4:** According to agricultural cultivation costs spent cards and harvesting of sugar beet.

Info names	This measure was all played	Issue (amount)	Free USD. With	For only USD. With
1. resources :-Seeds	KG	4	26.06	104.24
-annual consumption of property, water sources can be downloaded	(h). AND /DOL	1	4.8	4.8
-Gübrələrtin can be downloaded:- nitrogen (N)	KQ	150	0.12	18
- Phosphor (P)	KQ	120	0.16	19.2
- potassium (K)	KQ	90	0.16	14.4
- BOR (B)	KQ	4	0.43	1.72
- molybdenum (Mo)	KQ	3	0.43	1.29
2. Mikrosuvarma cost of building systems :This, including				8655
-Micro System sources (komplekt)	k-t	1		4615
-bulk water pipe-line network	p. m	3200		2268
-Hydrants	PC	1		107
-Fertigation approach in	PC	3		679
-micro water outlet apparatus	PC	260		136
-Nasos Kits	PC	1		850
3. labour market : -Y aparmaq	(h). (A)	1	12.77	12.77
-HARROWING	times	2	4.26	8.52
-Seeds (seeding)	(h). (A)	1	6.38	6.38
-reclamation	times	4	6.38	25.52
Earth çevirmə (effort)	times	3	32	96
4. harvest my stack : -harvest	tons	69.43	1.06	73.59
-Transport (Kura River originates from Water)	tons	69.43	1.6	111.01
Total:				9152.44

**Table 5:** Economic evaluation of sugar beet micro-irrigation.

Indicators	The unit of measurement	Motto and	Furrow without fertilizer sources	With the use of micro-irrigation C.150P120K90+ B4Mon3
(I). Area Sources (application)	(h). (A)	And2	1	1
1 h. And the area is the production of Ana şəkər (value with application)	USD/h (A)	TS1; TS2	514.4	4199.4
Irrigation the increment of additional product	USD/ (h). (A)	(D) Ts1; (D) TS2	273.3	1597
(II). Zemlo- construction works (cost) of the special measures, including:	USD/ (h). (A)	To1; To2	84	8655
-micro-irrigation komplekt	USD/ (h). (A)	PC		4615
-Trunk pipe linear Seth	USD/ (h). (A)	PC		2268
-Hydrants	USD/ (h). (A)	PC		107
-hydrogenating devices	USD/h (A)	PC		679
-mikroorositelnye machines	USD/ (h). (A)	PC		136
-Pump Kits	USD/ (h). (A)	PC		850
III. Expenses çəkiləcək Suvarmaya	USD/ (h). (A)	With1; (C)2	4.8	350
Directly to the costs	USD/ (h). (A)	W1; W2	412.4	9152.44
given the cost	USD/ (h). (A)	Pr1; Pr2	425	1800
(IV). Sources of water in cotton cultivation (1000 m3 with an account )	USD/M3		51.6	355.7

(V) Labour unit costs. for irrigation	man . day/h. (A)	OST(F)		1
(VI) . Annual economic s�m�r� 1 h. And -from	USD / h. (A)	E		2310
Water Get the owner before income: -1 (h). And -from	USD/h. (A)	P=D-c (with c +Extras)	198.3	3012.4
-1000 m3 of water account	USD/M3		37.5	670.9
Skirting option compared to the extra income	USD	(D) p (n2-1) and2		2813.7
Duration Investicion nyhvlozhenij	Provincial	I.e.Ok=To2-To-1 N2-1		3

- a) New Micro-irrigation technology application gives you the opportunity to increase the sources of water this means 90%, so the sources of water for more than 2 times in savings;
- b) Labour cost fee-owned SH 3 has dropped from more than times;
- c) Traditional furrow irrigation sugar beets is compared with an embedded micro-irrigation systems from annual economic income of \$959.6, for reality in 3’s provinces from additional 1 hectare reclaimed area average investment return in the year.

Ecology of economically reliable, efficient and economic point reasonable are one of the sources who develop it worshipped the mikrosuvarma experience scientific institutions in our country system, produced the social sphere, pole t s rr fanlarında and other qurumlarında to be self-sufficient it is spread wide, this mountain was regarded [5] agriculture as sources to use to obtain ownership of agricultural bitkil rind n Ecology of the retrieval of a set of products enables you to clean it. Now 25 metres below according to main, Nagorno positions in the zone zonada duties YAP torpaqlarında area management and mikrosuvarmanın economic efficiency identification and here is the production they created new gardens and Vineyard development of Fame main g t r l r k system applied to them economic to be evaluated. That’s on top of research appointed economic efficiency will depend on several,

**Table 6:** According to Agrotechnical maps on the fruits of the tree of the costs.

Info names	The unit of measurement	Issue (amount)	Free (USD)	Only (USD)
1	2	3	4	5
(I). Investment Including:				1782
1. the costs of installing the system Mikrosuvarma including:				1006
-metal pipes	(m).	2.4	4.08	9.79
� 76 x 3.0				
� 50 x 2.2	(p) . (m).	14.4	3.41	49.1
-Plastics pipe	(p) . (m).	91	0.73	66.28
� 75 x 8.1				
� 50 x 5.4				
� 20 x 2.2	(p) . (m).	250	0.13	35.5
-elements of metal contract				
Three �ucaqlılar:	PC			

which Yao 0.5 ha area Shamakhy region Soil a new worked asked Alma and pears arrested for ties and studied. Economic efficiency here is never possible. So that, a new 2-3 only after liberation and other in the morning pears GH property [6].

But despite this, they separate the option of economic efficiency of alloy conditions, shrink microwave for conditions for  araitl ri conditions comparative effectiveness of efficiency (roofing, lubrication, cultivation of agrotechnical program, the establishment of the microwave system sources and costs and phenology on the economic implications of the observed comparative effectiveness of efficiency fully aware. Table 5 mikrosuvarma ((roofing, lubrication, etc.) creating a system of actual expenditures and for fruit (pears) proqrama cultivation of agrotechnical program for current expenditure. Information that, 1 ha of orchards in the establishment of the microwave system you want to belong to the largest expenses 1006 USD. Use this operation despite the expenses without electric power less than many water sources explains, because that same value (1m<sup>3</sup> in 0.0041 dollars) compared to 0.27 against \$. irrigation is equal to \$0.7. Low intensity (Dadia wildlife sources incarnation) sources, sources of water systems using in roaming which as a result of the current 2.6 2.4 times too low expenses time reduction seconds. At the same time, low intensity sources bathing condition unlike the reserves compared with in the ground present in tree fruit thanks to physiological activity stimulates moisture [7] (Table 6).

Æ=75 x 75x75		2	6.1	12.2
REINFORCING=75x50x75		3	5.45	16.35
bucaqlılar:	PC			
Æ 75x75		2	4.9	9.8
Æ 50x50		8	4.01	32.08
-Plastic contract elements	PC	3	0.61	1.83
Three çucaqlılar:				
REINFORCING=50x50x50				
REINFORCING=50x20x50		4	0.51	2.04
Bucaqlılar: reinforcing steel 50x50	PC	2	0.5	1
clutch : Reinforcing 75	PC	4	0.81	3.24
REINFORCING 50		5	0.6	3
Keçidlər Reinforcing=75x63		1	0.92	0.92
REINFORCING=63x50		1	0.82	0.82
-Valves:	PC	3	7.55	22.65
Du=50(156/BR)				
- Nasos RZK-6	PC	1	400	400
-Suburaxıcılar	PC	18	0.36	6.48
2.V=25 m3volume of water amount of metal çənin harlanması and installation				250
-metallic materials	PC	285	700	200
-To install				50
3.mənbəyindəki gerayli water and karataj works				226
4.0.25 ha size Terrace land construction apar işlərinin	(p) Meters.	250	1.2	300
During the second world war. Aqrotexniki fruit tree proqrama for processing recurring charges : Including:				80.13
1. tinklər	PC	154	0.5	77
2.36 PCs for wood gübrə (physical reselling program)	KQ	210	0.12	31.38
-Nitrogen (N)	KQ	65.4	0.12	7.8
-Phosphor (R)	KQ	117.34	0.16	18.7
-Potassium (K)	KQ	25.12	0.16	4
-Bor (In)	KQ	1.2	0.43	0.5
-Sink (Zn)	KQ	0.89	0.43	0.38
3. chemical preporat:	KQ	3.1	1.5	4.65
-DNOC				
4. Suvarmaların from:	(m)3	66.2	0.0041	0.27
-drip sources				
-Springs with Groove				
5. give a mineral fertilizer	M3	159	0.0041	0.7
6 . chemical preporat give	times	3	2.45	7.35
7 . Tink surroundings earned on the ground boşaldılması	times	1	3.38	3.38
7 . Tink surroundings earned on the ground boşaldılması	PC	54	0.1	5.4
8 . Mastering the micro-irrigation systems for farmers education seminar portal created in Azerbaijan	times	4	160	640
Total:				2532.13

### Note

a) Low-intensity (micro drip irrigation sources hot and s.) the establishment of a system of recurrent expenditure sources really \$606 is because locking-pumps 400 USD, establish stocks

of some unwinding of the following. This natural water in the summer, it is considered that the lack of ownership of water scarcity in the country, its water will be used from another source (small reservoirs) necessary.

b) ASMO is an integral part of the technology systems for automated control system is not given for free, so, in a small area and also in the objects of study due to its great expense and it is not installed in the system account is not maintained Therefore, the record.

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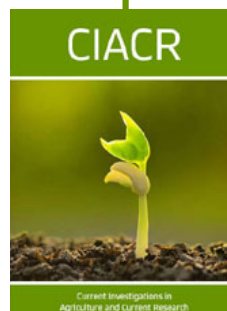


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