



EVALUATION OF PERFORMED NEW IRRIGATION PROJECTS IN THIRD DEVELOPMENT PROGRAM IN ZANJAN PROVINCE AND INTRODUCING THREE SUCCESSFUL SAMPLES

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ABSTRACT

Increasing water efficiency in agriculture part is the most important solution to reduce low water bad effects and it is crises and will be in future too, because by improving new water sources in all success degrees, wouldn't meet that part's different needs because of wasting 70 percent of using water in agriculture.

So firstly it's necessary to focus our best tries on programming and performing irrigation designs and projects. Regarding to the obtained information from evaluation in irrigation new projects in five years third program in zanzan province performed by organization in contribution with investors, the results of effect amount have been ranked in four levels including excellent, good, moderate and weak, that the projects in zanzan have been evaluated in quantity weak, in quality good, and from these projects, three successful contribution projects have been elected and we introduce them in this article.

INTRODUCTION

Today's, evaluation debate is one of basis in designs and projects which seems that they are measurement and efficiency tools in designs and programs, regarding to aims noted in that design performed and the degree of projects conformity with aims has been shown by observation in performing place and the way of doing and we can obtain result for providing amending acts by strength and weakness points for changing weakness to strength point in points for changing weakness to strength point in future projects, and will be performed as pattern for other designs in future. (1,6) since about 93 percent water from provided water is used in agriculture part and in this part we use only 30 to 35 percent of water efficiency and about 65 to 70 percent water has been wasted (global output in using water is 40 percent), so using new irrigation approaches or improving traditional ways, wasting is reduced and its additional water is used in another parts so that if our country's mean efficiency will be increased about 1 percent, about 0.9 milliard mm³ is saved. So any little change in irrigation efficiency increasing

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effect very deep on reducing water crises. Any way, evaluation topic and following it in new irrigation designs is very important.(5, 3)

MATERIALS AND METHODS

Used materials and methods in this evaluation include; using existing sources in library archives and studying reports and experiences in quantity and quality evaluation from performed new irrigation projects during third development program in Zanjan province, by conformity in projects with defined aims, visiting and using expert experiences, interview with experts and investors, finally it was gathering data and obtain the result and offer the suggestions.

STUDY AREA

Zanjan province with area about 22164 km² in north west of Iran plateau is placed on geographical coordinates between 35 and 48 east length and 37 and 35 to 36 north width, and in north is restricted to Ardebil east Azarbaijan and in south with Hamedan and Kordestan is confined.

COLLECTING INFORMATION

For evaluating new irrigation project, first in collecting information by referring organizations such as region water organization and water and soil management in agriculture and program, all of activities have been recognized by these institutions and it was defined that in spite of this fact that many innovational projects in order to increase irrigation efficiency such as making irrigation canals and drainage and irrigation net in Mazid Abad and Nor Abad, underground wall projects (cut off-wall) in Kahrizbeik, transfer project of Kazabar water, Mahneshan pumping, water canals in Dehbahar village, soil dam in Yengije, Vanisar pumping Chavarzagh pumping by water organization, but because the aim of evaluation projects in pressured irrigation during third program in Zanjan and these projects have been done only by water and soil management in agriculture organization, so in two next steps, defining valuation standards will be noted.

DEFINE INDICATORS AND EVALUATION

In evaluation step, three basic topics were noted:

- 1- Quantity evaluation; In this evaluation, The province share amount defined for third years program with performed amount has been compared in this province.
- 2- 2.Quality evaluation; In this evaluation, comparing static safe projects using unstable destructive or repair projects and feature were noted which include technical features, innovations and results design compared with designed basic aim and little or basic technical deficiencies.
- 3- Contribution evaluation;

In this evaluation, the degree of exploiters contribution in design, contribution in performance, financial contribution and exploit contribution have been noted.

CONCLUSION AND DISCUSSION

Regarding to evaluation approach, the results obtained have been offered as this table.

Table of quantity evaluation in new pressured irrigation projects during third program in zanja province

Number	design kind	defined share in organization during third program (ha)	performed level degree	success relative to organization developed (percent)	deduction from organization develop indicator (percent)	Result of evaluation	Respected degree according to the develop indicator	Deduct From Respected indicator	Result Of Province Indicator
1	study	12500 ha	7750 ha	% 62	% -38	good	-	-	-
2	perform	7500 ha	2573	% 34.3	% -65.7	weak	10624	76	weak
sum	-	20000 ha	10323	% 51.6	% -48.4	moderate	-	-	-

Based on third development program in agriculture part, it was seemed that water products under culture land totally 28600 would increase that it needed 307 million mm³, which in 192.8 mm³ from ground water and 114.9 mm³ from underground water will be provided.

If only 2 percent of this number and 10 percent of the under culture lands are irrigated through new irrigated (pressured), expected lands to pressured irrigation would be 10624 that regarding to performed lands amounts 2573 that it's 24 percent of expected lands, so effect of irrigation in saving water usage and increasing performance from quantity point is weak and contribution and evaluation of quality has been good. As a general suggestion, we can note that in order to motivate in investors, it's necessary to use encourage policies for using new irrigation approaches comparing to those who don't use them. For example we calculate water and power costs in different ways for two parts.

It must be noted that agriculture share from the underground water sources (by deep and semi deep wells) that is 324 million mm³ (85 percent of all wells), is from nation mean for retardation compensation.

Table of perfumed new irrigation (pressure) project's quality evaluation during third program in zanja province.

number	description	evaluation		evaluation result			
		positive	negative	excellent	good	moderate	weak
1	defined aim in performed project	*			*		
2	useful life in performed project	*			*		
3	defined function in project	*				*	
4	perforce of technical and engineering parameters	*			*		

Table of contribution degree of exploiters in performed new irrigation (pressured) project during third program in zanzan province.

number	description	Evaluation		Evaluation result			
		positive	negative	excellent	good	moderate	weak
1	contribution in design	*				*	
2	contribution in execution	*				*	
3	financial Contribution	*		*			
4	Contribution in exploiting	*		*			

GENERAL CONCLUSION

Since the aim of reconstruction project execution in time section aims in development program and effect degree for exploiters, so when these project can be base of a region development that in addition to meeting quantity and quality for people acceptance, contribution will result in better keeping and stable, would be made.

Regarding to performed evaluations from pressured irrigation in third program in zanzan, it was realized that these projects aren't conformities in contribution degree from quality point.

SUGGESTIONS AND ADVICES

- 1- Improve and equip statistic networks from nation water sources must be provided accurately from quantity and quality point to continuous evaluation in times.
- 2- Measurement networks install and improve of water usage in agriculture part.
- 3- Increasing irrigation efficiency and exploiting water and increasing under culture lands as successful level in efficiency.
- 4- Performing the artificial feeding projects in province lands by ground water's specially in non culture seasons.
- 5- Help to farmers unities for correct exploitation from water sources and increasing irrigation efficiency and attract investors contributions in water designs investments.
- 6- 6.Regarding to obtained result from studies about comparing evaluation of pressured irrigation ways and groove way and difference in irrigation efficiency (at least 20 percent) it's necessary in pressure way to use more lands from irrigated farms.

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