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The Role of People's Participations in Protecting the Water Resources in the Township of Rasht

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ABSTRACT

This study aims to detect appropriate methods in order to motivate the utilizers of water resources and encourage their participation in protecting the water resources in the township of Rasht. In this investigation, besides collecting data from the archives of the Gilan Province Regional Water Stock Company, another essential part of data was collected through questionnaires. In order to justify and represent practical approaches aimed at protecting the water resources, decreasing constitutional costs and the quality of people participation in order to construct , mend and reconstruct the third and fourth-grade irrigation and drainage channels, it was acted to hold apprenticeship workshops in all the under-study parts by the coordination of the related authorities. The studied variables included age, literacy level, the amount of people awareness of the water resources, manner and motive of participation, satisfaction and etc. The population included all the 83413 water suppliers of subsidiary regions of Rasht township from which 386 utilizers were selected as the sample through performing a classificatory random sampling in all the above-mentioned sections. Also the general Cochran formula was used for sampling. The collected data was analyzed by the SPSS software and the non-parametric method. The findings indicated a significant correlation between variables of the cultivation area, the role of the administration, the effect of substructures expansion, the manner of participation with variables of participation amount and tendency to cooperation. But no significant correlation was observed between the number of family members and the amount of participation.
KEY WORDS: amount of participation, protection of water resources, Gilan province.

I. INTRODUCTION

As the Gilan province has faced considerable amount of costs in order to develop substructure operations in terms of utilizing water resources at the approximate level of 200000 hectares of rice fields, it has now become more obvious the importance and necessity of investigating the influential elements of motivating the water utilizers, encouraging participation of villagers, garden and crop users in order to protect water resources and represent appropriate methods in the related area in a manner that the above-mentioned subject was offered as one of the research focuses and priorities of the Gilan Regional Water Stock Company. The relative scarcity of water resources and the necessity of source management in order to prevent indiscriminate use, water resources rapid reduction and water crisis in the coming years have caused the establishment of research about protection and expansion of water resources as an inevitable necessity. Given that people's participation is one of the major elements of consistent development of water resources protection, utilizing the public participation demands building appropriate grounds in all the local, provincial and national aspects based on natural and social conditions and features of the administrative structure. A consistent development in this area would be realized only through replacing and reconstructing water resources by the comprehensive public participation and unified, concordant management of them. In the last few decades, effective proceedings have been done in Gilan province in order to expand and develop the drainage and irrigation channels physically. In order to transfer the exploitation and protection management of irrigation channels structures and installations to people and public foundations, an interaction between administrations and water utilizers is one of the main national approaches. The manner of utilizing local leaders and associations as a part of reasons explanations and participation guarantee in water projects and installations can be effective in participation improvement and projects prosperity. Although traditional participation such as support in different phases of plantation, reservation and harvesting of rice fields and dredging them has a long tradition in the Gilan province, but participation in its actual and comprehensive sense has not

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experienced a significant improvement. In this regard several points may be mentioned: the role and amount of public participation in terms of the type of contribution which they can offer, depends on the explanation of reasons and cooperation guarantee in water installation and projects. Villagers with low financial properties show more tendencies to do handworks in such projects if they are justified about the probability of improving families' financial conditions such as increasing food production and providing side incomes.

Ghasemi (2010) believed that encouraging public participation in administrating the projects guarantee their practical success. He claimed that public participation is a necessity of success in water utilization projects, also expressed that during recent years the unidirectional state management of irrigation channels and lack of sufficient exploitation in such a system has led to the gradual decline of many water installations and constructions and has inevitably necessitated the application of systematic water protection and utilization management.

In his research, Eftekhari (2007) emphasized at the centrality of people and villagers satisfaction in development through cooperation of people and local foundations as an absolute necessity and the main component of development.

Motevali (2002) concluded a significant correlation between variables of: the amount of people's awareness of the essence of natural resources projects, age, literacy, occupation, income and local leaders' role, and the amount of villagers' participation in participatory projects. In order to perform the projects accurately and quickly, he acknowledged the utilization of public potentials, innovations and facilities as the primary purpose of villagers' participation in natural resources projects.

Khoobfekr (2002) stated that peoples' participation causes a change in their attitude and behavior toward resources development, increase of income, villagers continued inhabitancy in villages, acceleration of projects implementation, decrease of costs, employment and absorption of villagers' spiritual and material properties.

Ganji (2003) asserted that villagers' participation should be considered as the most effective and important element in economic, social and cultural development in order to achieve a consistent, favorable and complete development. In his research findings, he asserted that economic, industrial and agricultural developments would not be realized without people's participation and cooperation. Involving people in all phases of planning, implementing and supervising watershed management projects led a sense of mental and spiritual security in the participatory. Therefore people's tendency to cooperate with government in implementing the projects would reduplicate the development of manufacturing, economic and construction activity.

Mahboobi and Ghasemi (2010) acknowledged public participation as one of the beneficiary approaches in utilizing the available capabilities and capacities in an almost biologic system in order to guarantee the optimal utilization and systematic preservation of water constructions through water resources projects. Now in many underdeveloped countries, the Arable Water Resources Administration has faced state intensive management without considering the public culture and the social system governing agricultural domains which has led to a decrease in the amount water utilization and deficiency of government proceedings. Therefore the first step in the participatory management system and utilizers attraction for protecting water resources is creating capacities and institutionalizations in order to define new responsibilities for water utilizers. This action is possible through planning, utilizing and (if possible) through reconstructing the water installations by users. Mahboobi and Ghasemi (2010) asserted that participation in any field is a prerequisite of the field development. In order to make the grounds appropriate for attracting public participation in the area of water resources optimal protection and utilization, two important factors should be considered: 1.the transparency of regulations and principles accompanying the representation of participatory administrative regulations, and 2. administrations should accept public institutions as the center of administrative programs.

In one of the Kerman chamber of deputies meetings, by insisting on his findings, Sayyari (2010) clarified that protecting water resources is essential and if people don't cooperate in this domain, we would face problems in water management. He confirmed that the management of consistent water resources studies in the watershed areas considering the contradictory needs should inform the upstream and downstream people in the area about their profits by removing all the barriers.

In order to incorporate matters such as: protecting underground and surface water resources, protecting natural environment and realizing balanced economic and social developments in an integrated management, specifically places which faces unpredicted dehydration, the only choice is participatory management of water resources. This will not be possible without adopting software and hardware programs. In their study entitled "the statistical study of the role of educational and promotional programs of rice cultivation: the perspective of the Gilan province rice cultivators", Dadashi and Gholami (2011) found that educational and promotional programs lead to an increase of awareness and skills of villagers, also attraction of public cooperation and crop production improvement.

Bahrami and et al. (2011) stated that public participation is one of the main factors involved in consistent development of natural sources protection and preparation, specifically water resources which necessitates creating appropriate grounds in terms of natural and social conditions, and also national, provincial and local administrational

structures. The stability and continuity of consistent development is only possible through replacing or reconstructing sources by comprehensive public participation and a unified and harmonious arrangement. In this regard, people, resources and participation are three central aspects of human consistent development, but the difference lies in the fact that among these three aspects, participation has the structural role and the other two factors (people and resources) work inside its framework.

Dadashi, Madadkhah and Ghodrati (2012) found a significant correlation between literacy, manner of participation, role of administration, people's awareness of the benefits of the project, project's effect on improving life, and the role of education and propagation with the amount of people participation. Also they found a significant correlation between the amount of people participation and success of project. During the evaluation of the economic aspect and analyzing cost-efficiency of performed projects of Natural Sources and Agricultural Center of Gilan, Dadashe and Shrife (2011) found that economic-ness and demand-centeredness of projects effect on their success and absorption of public participation.

METHODS AND MATERIALS

Library and documentary searches were employed in the early stages of project implementation. Reports and documents related to the aim of this study were analyzed based on the researches. In this regard questionnaires were designed based on the aims, then questionnaires were developed and apprenticeship workshops were held through coordination with Water Organization Managers, water distributors, leaders of rural districts, Agriculture Jihad managers of the studied cities, Islamic assemblies members and local reliable people. The variables involved in the study included: age, literacy level, the cultivated area, the amount of people's awareness of the water resources, manner and motive of participation, the number of family members, the role of administration, elements which effected on participation, satisfaction, development of substructures and etc. these variables were evaluated and assessed based on Likert scale. The statistical population included all the 83413 water suppliers in the subsidiary regions of Rasht township from which 386 participants were selected from all these parts according to the Cochran general formula and classified random sampling. 386 questionnaires were distributed from which 373 questionnaire were returned and the data gathered was analyzed based on SPSS software and non-parametric method.

DISCUSSIONS AND CONCLUSION

Considering the data gathered from various parts of Rasht, samples were classified into six groups using Cochran general formula and in terms of cultivated area/ the number of water suppliers. Data obtained from questionnaires which were completed by water suppliers were classified into two groups of analytical and descriptive and then were analyzed.

Descriptive analysis

In this part we represent a descriptive analysis of individual, agricultural, and economic features of the under study area. Findings are represented in the following tables:

Table1. the number of samples based on the cultivated area and the number of water suppliers in various cities

raw	Name of city	Cultivated area	Number of water suppliers	Number of sample
1	Khoshkbijar	6400	10400	41
2	Rasht	16800	18700	71
3	Lasht Nesha	9700	19000	90
4	Khomam	8800	12200	61
5	Kuchesfehan	8800	12300	60
6	Sangar	8300	10600	50
Total sample	**376**			

Table 2. the age frequency of water utilizers

raw	age	frequency	percentage
1	17-29	34	9/1
2	30-49	184	49/3
3	50-69	128	34/4
4	70-89	27	7/2
total		**373**	**100**

The mean age of agricultural water utilizers in village is 45, which the highest frequency belongs to the range of 31-40. So it is obvious that the population under study is middle-aged. The findings indicate that we must pay attention to the age range of producers and utilizers of water in the under-study community as soon as possible.

Table3. Literacy frequency of water utilizers

raw	frequency	literacy	percentage
1	66	illiterate	8/17
2	138	Able to read and write	37
3	113	High school diploma	2/30
4	56	undergraduate	15
total	**373**		**100**

Table 4. frequency distribution of the amount of cooperation tendency with regional water organization

details	Percentage	frequency	Amount of tendency
From this amount, 4% are ready to cooperate culturally, 56% handwork, 4% financially.	95	356	**cooperation**
	5	17	**No cooperation**
	100	373	**total**

Based on the field study, 18% of the population was illiterate, 44% had junior high school degree or lower, 17% had high school diploma, and 15% had an undergraduate or higher degree. In table 4 utilizers and agricultures' participation was analyzed in terms the water resources protection and utilization of 3rd and 4th grade channels located near to the above-mentioned areas. 95% of utilizers showed tendency to cooperate with the local Water Organization of Gilan which implied the creation of appropriate contexts and truth by the authorities of the Regional Water Stock Organization to attract public cooperation. As the majority of the population members were not in financially appropriate condition, they showed more tendencies to cooperate in manual works.

Table5.frequency distribution of participation and cooperation with authorities of the Water Organization

details	Percentage	frequency	Amount of tendency
From this amount, 78% stated that they have benefited from the guidance of the Water Organization authorities.	83	310	**cooperation**
	17	63	**No cooperation**
	100	373	**total**

Table 6. frequency distribution of elements effecting on the reasons of cooperation and coordination

Elements effecting on non-cooperation	Observed sample frequency	Total observed frequency	Percentage
1.cultural and traditional	32	79	8/6
2low motivation	52	131	14
-3lack of correct relationship with experts	32	82	8/6
-4lack of on-time and correct informing	28	71	7/7
-5non-consideration of water utilizers role	36	89	9/6
-6the low amount of utilizers' truth in the organization	28	70	7/5
-7low level of literacy	42	104	11
-8low level of utilizers income	100	253	**27**
9. lack of educational means and facilities	23	57	**6**
total	373	936	**100**

Studies show that 83% of people have tendency to cooperate and coordinate with authorities of Gilan Local Water Organization, 78% have benefitted from their guidance and 85% of this amount have had an average-very high satisfaction from those authorities. One of the important points in assessing participation manner, is studying the influential factors, lack of participation and coordination of farmers and utilizers of water resources. 9 influential factors were analyzed which have been represented in table 6. Based on utilizers' statements, variables such as low levels of utilizers' income, low level of literacy, low attention to the role of water utilizers in the cooperation had the most effect on the lack of water utilizers' cooperation in protecting water resources. In order to cope with this issue,

other variables including training villagers, valuing employed-educated inhabitants in the field of agricultural and local assemblies may be supported.

Analytical part:

Further in the research, the correlation between variables was studied.

Table7.The spearman correlation between amount of participation-coordination and the independent variables

Variables role	**1**	**2**	**3**	**4**	**5**	**6**	7
Cooperation and participation(1)	1 0	0/169** 0/001	0/108* 0/037	-0/386** 0/000	0/049 0/349	-0/088 0/090	0/003 0/952
Role of government policies(2)		1 0	0/066 0/206	-0/188** 0/000	0/164** 0/001	0/259** 0/000	0/215** 0/000
Water issues(3)			1 0	0/128* 0/013	0/115* 0/026	0/114* 0/028	0/073 0/160
ealdormen(4)				1 0	0/084 0/106	-0/031 0/546	-0/141** 0/006
The role of villagers(5)					1 0	0/130* 0/012	0/263** 0/000
The role of assembly(6)						1 0	0/344** 0/000
The role of the young (7)							1 0

Based on the above table, a significant relationship exists between variables: the role of administrations, water resources issues, and ealdormen with variable of participation. Therefore administrations can perform acceptable actions in order to decrease water issues through protecting public formations. In this regard, local assemblies and ealdormen may be effective.

Table 8. Spearman correlation coefficient between the amount of participation-cooperation and independent variables

The role of variables	**2**	**1**	**3**	**4**	**5**	**6**	**7**	**8**
Participation and cooperation(1)	0/061 0/237	1 0	-0/031 0/554	-0/187 0/000	0/022 0/672	-0/112* 0/031	0/279** 0/000	0/078* 0/031
age(2)	1 0		-0/586** 0/000	0/344** 0/000	-0/205** 0/000	0/310** 0/000	0/055 0/287	0/151** 0/003
literacy(3)			1 0	-0/297** 0/000	0/218** 0/000	-0/166** 0/001	-0/062 0/235	-0/160** 0/002
Number of family members(4)				1 0	-0/045 0/390	0/379** 0/000	0/025 0/627	0/032 0/540
occupation(5)					1 0	-0/406** 0/000	0/052 0/313	-0/101 0/051
ownership(6)						1 0	-0/045 0/389	0/088 0/090
Tendency to cooperate(7)							1 0	0/041 0/429
Manner of cooperation(8)								1

Based on the above table, there is a significant-positive relationship between variables: manner of participation and the amount of people ownership, with the amount of participation. Based on the data obtained in the descriptive part, 50% of the population tends to cooperate culturally and manually with the Water Organization. However the utilizers show less tendency to financial participation because of some reasons such as poverty as mentioned in the descriptive part, in other words these people can cooperate in cultural aspects and manual works. No significant difference was found between variables of age, level of literacy, general information, number of family members, occupation and variable of participation and cooperation amount.

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REFERENCES

Eftekhari, A., H. Sajasi and J. Eeinali (2007) A new approach toward rural management with an emphasis on effective foundations. *Village and Development periodical. Y.10, no.2, Pp. 1-30*

Bahrami, M., K.Shahedi and Zirjani,M (2010) The consistent development of water resources and the role of public participation. The fourth conference of Iran water resources management.

Khoobfekr, H. (2002) Public participations as the originator of evolution in watershed management in area of Taftan: the final report of Sistan Agriculture Research Center research project.

Ganji, M. (2003) Participation asn the most important strategy of rural and urban development, *Journal of economy, society and culture, Mordad,* no.143

Dadashi, M., and M. Madadkhah (2012) the study of causes and amount of villagers participation in the Gilan watershed management biologic action. The final report of Gilan Natural Resources and Agricultural Research Center.

Sayari, M (2010) Kerman Chamber of Deputies. Fars News.

Ghasemi, A. (2010) water resources management through Qazvin province utilizers' participation: the consistent development of water resources and the role of public participation. The Fourth Conference of Iran Water Resources Management.

Motevali, H. (2002) The study of effective causes of villagers participation attraction in Semnan province dedesertification. *Autumn Quarterly of Forest and Pasture of National Forests and Pastures Organization.*

Dadashe, M.A &Mohammad Ali sharife.(2011). Socio-economic evaluation of completed Projects of Agriculture and Natural Resources Research Center of Guilan: Advances in Environmental Biology, 5(8): 2048-2051.

Dadashi, M.A and Hamid Gholami.(2011). Statistical Study of Promotion Rice Cultivation Training Program from Aspect of Rice Farmers in Guilan Province: Advances in Environmental Biology, 5(8): 2080-2083.