

## ORIGINAL ARTICLES

### Factors Affecting the Participation of Fars Province's Aqua Culturists in Extension-Educational Courses

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#### ABSTRACT

Development theorists determine the human development as the most important part of development. So the educational and extensional activity is especially important for improving the level of human development. At all times, Iran's agriculture and its fishery and aquatic subsectors had not enough skilled and specialist human forces. Holding extensional courses is a way and method to counter this problem. In spite of such educations' continuous holding, factors causing the producers' participation in these courses are not studied well, so this study was aimed to identify factors affecting aqua culturists' participation in extensional education courses. This is applied study and the research methodology is correlation. The main research tool is questionnaire. The statistical population of the study is 65 Fars province's aqua culturists. Statistical analysis was done through SPSS Version 16. Findings showed that the Fars province's aqua culturists have averagely participated in 11.45 activities of the studied activities. Results of the stepwise regression showed that the variables of economical factors and work experience determined about 9 percent of the variance of the aqua culturists' participation in extensional education courses.

**Key words:** Aqua culturists; participation; extension- educational courses

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#### Introduction

Nowadays, this is accepted that, without people, the development objectives and expected results are inaccessible (Mojahedi, 1992). One way helping the sustainable development is protection of the species and their in- nature verity. Because of the limitless fishing, commercial species generation of aquatics is more subjected to danger than others. Most percentage of fish needed for Iranian people consumption is supplied by aquaculture. Undoubtedly, if cultured fish is removed from market, because of the market demand, limitless fishing well increase and, thus, species will more speedily removed from the natural waters causing a measureless damage for water environment (Tavasoli, 2008). Aquaculture is an important activity through which utilization of water resources can be increased and more needed protein can be supplied (Amini, 2001). Globally, aquaculture is considered with economical and nutritional objectives and its production shows an optimistic view.

Frequently, aquaculture, which is semantically considered as being equal to water cultivation or under-water agriculture, consists of aquatic beings culture for human consumption. Most of the aquaculture is carried out in the on-ground ponds. Aquaculture, on the other hand, is involved with fish production for breeding programs, fish food production, tropical and ornamental fish production, and aquatic plant cultivation (Lawson, 2001).

According to the importance of participation in development, and from an applicatory view, there are two basic and main views about participation: one has an implemental and input-based view to participation and the other considers it as the development objective:

- Participation as implement and tool: this sight's proponents believe that participation is the implement and tool for development and is mainly used to achieve the objectives of rural development projects.

- Participation as the development objective: this view is in contrast with the previous one. Participation is resulted from this sight, and has an undeniable role in the development (Hosseini Nia, 1999).

Empowering people, in order to involve them directly with development, in this sight, is the main goal of participation. This sight considers the real, active and dynamic participation empowering people to have role in the developmental activities.

According to O'Kelly and Marsden, participation includes people's involvement in the decision-making processes, plans' conduction, evaluation, and their share of the developmental plans' profits (O'Kelly and Marsden, 1989).

Participation is affected by other factors which have been illustrated in others' studies:

Rezadost *et al* (2009) reported that there is a relationship between participation and variables of employment situation, marital status, education, satisfaction of urban services, membership in social groups and taking part in elections.

Hejazi and Abbasi (2007) concluded that there is a positive and significant relationship between participation in animal and rangeland plans and variables of these plans' characteristics (capability of execution and prospects realization) and extensional programs (symbolic programs, video movies, radio-TV programs and extensional journals and newspapers).

Azizi Khalkhili (2007) in his report concluded that among the economical features, the rate of land, rate of individuals' property, and the percent of water consumption have a positive and significant correlation with the individuals' participation.

Panahi and Yazdan Panah (2004) in their study believed that there is a direct and significant relationship between the individuals' social participation with social trust, social interest, social commitment, future hope, and level of education.

Pezeshki Rad and Arayesh (2001) concluded that there is a significant relationship between the adoption of overhead irrigation system innovation and variables of lands size, agriculture work experience and economical issues.

Roussel (2000) in a study stated that variables of age, level of literacy, income and sex affect the participation. Older people, women, and workers with a low job hierarchy (simple workers) have a lower participation rate. One of the most important factors affecting participation is that participation rate is more in the higher level of education than the lower one.

Bastami (2000) reported that there is a positive and significant relationship between farmers' membership in the farming club, rate of under- property lands, rate of listening to radio's educational programs, propensity to the region's agriculture advancement, being elected as premier farmer and access to agricultural inputs with rate of participation.

Nunkoo (1988) named the factor of environment and its three sub-factors of physical, institutional and social factors as the most important factors.

At all times, Iran's agriculture and its fishery and aquatic subsectors had not enough skilled and specialist human forces. Most of this sector's workers have not enough skills and education. Holding extensional courses in the field of fishery is carried out by agricultural ministry to resolve this problem. Thus far, in spite of the continuous process of holding these courses, factors causing the participation and non-participation of exploiters in these courses have not been studied.

Fars province, because of having many water resources, suitable weather, its proper population, and appropriate transit state, is suitable for carrying out aquaculture activities. Based on the development plans of aquatic production in this province, 11300 and 18000 tons of aquatics should be produced until the end of the fifth program of development and 2021, respectively (Goudarzi and Ramin, 2006), while higher education graduates in the agriculture sector are less than 2 percent of who 18 percent have studied agriculture sciences (Programming Department of Fars Government office, 2008). If we assume the extension courses as a strategy for fulfilling the lack of exploiters' information, the share of extension courses held for aqua culturists was less than 1 percent in Fars province during the last few years, too (Bayat, 2009). So, the main purpose of this study is identify the factors affecting the participation of the province's aqua culturists in the extension- educational courses.

## Materials and Methods

This is applied and non-experimental (descriptive) research. The methodology of research is correlation. The statistical population of the study is 65 Fars province's aqua culturists. Questionnaire was designed as the main tool of the study, all questions except the personal characteristics of aqua culturists were written as Likert's five-point range including the following sections: The situation aqua culturists' participation in extension-education courses and the impacts of social, economic, environmental, extension and personal characteristics on aqua culturists' participation. For measuring study tool's validity the questionnaire was given to some university professors and experts associated with the subject in the ministry of Agricultural organization, and a primary-test by completing 30 questionnaires and for measuring reliability, the questionnaire was taken and the Cronbach alpha coefficient was 84 percent. In this study, descriptive and inferential statistics were calculated and reviewed. Statistical analysis was done through SPSS Version 16.

**Results:**

Based on the collected information, it is illustrated that 90.6 percent of respondents were men. Average age of the respondents was 42.69 years and most of them (7.8 percent) were 40 years old; the minimum age was 25 and the maximum was 63 year. Most of them, 35.9 percent, had bachelor degree. Most of the respondents, 70.3 percent, were aqua culturists and 67.2 percent have not a second occupation. 43.8 percent of them were cooperative members.

Rate of participation includes a group of activities carried out by a person and get a mark for each activity. The rate of their participation was determined by totting up the gotten marks (number of activities).

According to Table 1, in average, Fars province's aqua culturists participated in 11.45 activities of the studied activities. Most of them, 34.4 percent, participated in 11 to 15 activities. The minimum participating activities of respondents were 2 and the maximum were 46 ones; and most of the activities were related to 4 participating activities. Totally, more than 92 percent of the respondents participated in less than 20 activities and about 8 percent participated in more than 20 ones. Table 1 indicates the status of aqua culturists' participation in the extension courses.

**Table 1:** Frequency distribution of respondents in according to number of activities in extension-educational courses.

Number of activities	Frequency	Percentage	Cumulative percent
1-5	14	21.9	21.9
6-10	19	29.7	51.6
11-15	22	34.4	86
16-20	4	6.3	92.3
21-25	0	0	0
More than 26	5	7.7	100

Mean: 11.45      Mode: 4      Min: 2      Max: 46

In order to investigation the effects mentioned factors on the aqua culturists' participation, Information shows that in the opinion of the respondents, the effects of social, economic, environmental and extension factors on aqua culturists' participation is much, moderate, high and much, in respectively.

Based on collected information, there is a significant and positive relationship between economic factor and working experience with aqua culturists' participation at 5 percent.

Regression analysis was used to identify the factors affecting the aqua culturists' participation. In the first step, economic factors variable was entered the equation. This variable, alone, explained 5.4 percent of the participation variance, meaning that economic factor has the maximum effect on the aqua culturists' participation. In the second step, the variable of working experience in aquaculture farm was entered the equation; these two variables, totally, determined 7.8 percent of the aqua culturists' participation variance (Table 2).

**Table 2:** Effective factors on aqua culturists' participation.

Variables	Unstandardized Coefficients B	Standardized Coefficients Beta	t	Sig
Constant	1.682	-----	0.438	0.663
Economic factor (X1)	2.013	0.246	2.026	0.047
working experience (X2)	0.288	0.198	1.631	0.003

R<sup>2</sup> = 0.09%

According to the results shown in Table 2, the regression equation according to the B and  $\beta$  quantities were, respectively:

$$Y = 1.682 + 2.013 x_1 + 0.288 x_2$$

$$Y = 0.246 x_1 + 0.198 x_2$$

**Discussion:**

This study was aimed to identify factors affecting aqua culturists' participation in extensional education courses. In average, Fars province's aqua culturists participated in 11.45 activities of the studied activities. Most of them, 34.4 percent, participated in 11 to 15 activities. Totally, more than 92 percent of the respondents participated in less than 20 activities and about 8 percent participated in more than 20 ones.

Results of the correlation coefficient showed that there is a positive and significant relationship at a 5 percent between the aqua culturists' participation in the extension- educational courses and variables of economic factors and working experience in aquaculture farm. Farid (2002), Niknami (1999), Shahidzandi (1996) and Roussel (2000) have confirmed this in their studies.

Results showed that the economic factor is the most important factor affecting the aqua culturists' participation in the extension-educational courses. Therefore, economic factor should be considered as the criterion of learner selection to improve the participation of aqua culturists. Totally, both variables of economic factor and working experience explained about 9 percent of the aqua culturists' participation in the extension-educational courses).

Khalili and Ghasemi (2004), Tavasoli Larijani (2002), Farid (2002), Pezeshkirad and Arayesh (2001), Ghafari (2000), Baba Akbari Sari *et al* (2008), Niknami (1999), Shahidzandi (1996) and Sam Aram (1994) have confirmed this in their studies.

According to the results and to improve the aqua culturists' participation in the extension- educational courses, the following suggestions are dedicated:

Creating incentives, monthly average income from aquaculture and having a production justification are the most effective factors on the aqua culturists' participation. Thus, leading the economical incentives to the aqua culturists having the production justification is suggested so that their income and, finally, participation would be increased.

It is suggested that holders of extension and educational courses consider the learners' work experience to increase the participation coordinated with the learners' participation need.

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