

Analysis of Factors Influencing Motivation of Villagers' Participation in Activities of Social Forestry (The Case Study of West Mazandaran)

¹Elham Faham, ¹Ahmad Rezvanfar and ²Taghi Shamekhi

¹Department of Agricultural Extension and Education,
Faculty of Agricultural Economics and Development, Tehran University, Karaj, Iran

²Department of Forestry and Forest Economy, Tehran University, Karaj, Iran

Abstract: The main purpose of this study was to analyze factors influencing motivation of villagers' participation in activities of social forestry. The statistical population includes all villagers living in villages, which locate in the west Mazandaran of Iran and had been covered by local forestry cooperative. A sample of 110 villagers were selected by the use of proportional random sampling method. A questionnaire was used to collect data. For determining the validity of the questionnaire, the content validity was used. Cronbach's alpha was used to measure reliability of index measuring level of motivation of villagers' participation in activities of social forestry that its extent was 0.84 and showed that mentioned variable had high reliability. The data were analyzed by the use of descriptive and inferential statistics such as extent of mean, standard deviation, coefficient of variation, correlation analysis and regression analysis. The findings revealed that level of literacy, using level of mass communication media, level of participation in extension-education courses, social interaction and attitude toward participatory activities positively and significantly ($p < 0.01$) correlated with the level of motivation of villagers' participation in activities of social forestry. The result of multiple regression showed that variables consisting: attitude toward participatory activities, using level of mass communication media, level of literacy and social interaction could explain 39.7% of the variation in the level of motivation of villagers' participation in activities of social forestry.

Key words: Economic motivation, social motivation, environmental motivation, participation, forest

INTRODUCTION

A number of researchers have initiated over the years on the issue of people's participation. Scholars like Oakley; Norman Uphoff and etc. are very interested to use the concept of people's participation in developmental policies^[3]. In addition, social scientists, development practitioners and development agencies have attempted to conceptualize the term people participation as an essential element of development strategy^[18].

Until the early 1970s, it was thought that the development of natural resources by governments would automatically trickle-down in most forestry projects in developing countries. In this managerial system, people who depend on forests and enumerate as social-cultural dimension in forest management, were not taken into consideration, this matter intensify factors of forest deterioration^[7]. Therefore, the failure of forestry development programs proved that trickle-down was not working and would not work. One of the

earliest institutional responses to this realization was a program of the FAO called Forestry for Local Community Development. This received an international boost with the holding in 1978 of the Eighth World Forestry Congress in Jakarta, Indonesia, with the theme Forests for people^[6]. Social forestry is now seen as the most viable alternatives to traditional forestry and as the most useful tool to halt deterioration of the natural environment while significantly contributing to the process of increase of income opportunities of rural people^[10]. With attention to mentioned subjects, one may claim that one of the major factors in current conditions of forests deterioration is lack of involvement of local people in forests management^[7]. Also, most significant subject in social forestry approach is participation of local people in decision-making and planning processes in projects of reforestation, conservation and development of forest^[3].

In fact, acceptance of social changes, adoption of social and individual responsibilities and participation

Correspondent Author: Elham Faham, Department of Agricultural Extension and Education, Faculty of Agricultural Economics and Development, Tehran University, P.O. Box 4111, Karaj, Iran

in programs of national and rural development depend on person's motivation to participate in programs^[20]. Therefore, identification of motivations of villagers' participation and investigation of factors influencing them are important due to the importance of participation in social forestry.

As this study deals with factors influencing the motivation of a specific group of people who participate in activities of social forestry, it is useful to describe the basic concept of motivation. In terms of motivation have different definitions. All of the psychologists believe that motivation is the internal factor that activates person's behavior and gives it direction^[15,11].

Attention to Studies in the field of factors influencing motivation has found different answers to the question of why people participate. In this study, the some motivation theories have been used to investigate motivations of participation that we describe them.

McClelland's manifest needs theory^[16] suggests that three major needs motivate individuals to behave in certain ways: the need for achievement, the need for affiliation and the need for power. Henderson suggests that the need for affiliation motivates individuals to be concerned with their relationships with others. Affiliation-motivated persons are concerned about the quality of personal relationships, seek the company of others as much as possible, enjoy social interaction and enjoy stable relationships^[9]. Based on the theories of Katz (1960) and Smith *et al.* (1956), understanding, sociability, career, protection and enhancement are the six major motivational functions served by volunteerism^[4,5] that this study emphasize on understanding and sociability. According to understanding function, participants expect to receive benefits related to self-development, learning and updated skills and abilities through their participation, so according to sociability function, people tend to improve their social relationships and interaction^[9]. Fisher and Cole^[8] identified the reasons for volunteering such as making new acquaintances, enhancing social prestige and gaining career-related experiences.

Benefits are one of the major motivations influencing individuals to undertake voluntary activities. In this study, in context of benefits, exchange theory and expectancy theory have considered. According to exchange theory, human activities are based on an exchange of costs (time, money and energy) for benefits; therefore benefits can be motivators for participation^[19]. Similarly, expectancy theory suggests that individuals are involved in different volunteer roles because they expect to receive

recognition and rewards at the end of the process and to contribute to society^[14].

Using level of extension programs of radio and television motivate women participation in extension education program^[15]. According to the study done^[23] has confirmed that age and education influence motivation of farmers' participation in the environmentally sensitive areas scheme. According to the study done^[13] personal attitudes towards subject will influence individual intention to undertake activities. Ajzen and Fishbein's theory suggests that people's intentions to undertake various actions are in turn influenced by two principal types of factors: (i) subjective norms and (ii) personal attitudes towards that behavior^[1], whilst some of the researches found that behavioral intentions of farmers correlate to their attitudes towards that behavior directly^[2,23]. According to the study done^[3], training of beneficiaries of social forestry project introduces them to participatory approaches, procedures and fostering motivation. Educational programs help to understand forestry opportunities and provide incentives for implementing forest management activities, also, technical consultations by natural resources specialists affect forestry activities^[22].

The main purpose of this study was to analyze factors influencing motivation of villagers' participation in activities of social forestry. The special objectives of the study were:

- Identifying the personal, social and economic features of villagers
- Identifying and priority setting of indicators of economic, social and environmental motivations of villagers' participation in activities of social forestry
- Analyzing correlation for independent variables and level of motivation of villagers' participation in activities of social forestry and
- Regression analysis for level of motivation of participation in activities of social forestry on independent variables of villagers

MATERIALS AND METHODS

Description of the study area: Mazandaran Province of Iran located between the latitudes 35-47 and 36-35 N. and longitudes 50-34 and 54-10 E. It is bounded on the north by the Caspian Sea. Its area is 23,756 square kilometers^[17] that total area of its forests is estimated at 950000 hectares^[21]. West Mazandaran forests are extended over an area of 320,000 hectares^[12] that distributed in Nowshahr, Chalous, Tonkabon and Ramsar counties.

Sampling selection: The statistical population includes all villagers in villages, which located in the west Mazandaran in Iran and had been covered by local forestry cooperative. A sample of 110 villagers was selected by using of proportional random sampling method. In sampling process, six villages were selected randomly and sampling in each village was carried out with proportional selection.

Measuring independent variables: For measuring variables, the respondents were asked questions in relation to each variable and total score of statements for each variable organized final score of that variable. These variables are listed in Table 1 that shows Names, labels and units of independent variables. In total, 10 independent variables was derived and used in the study. In order to obtain an insight into the composition of the interviewed 110 villagers, Table 2 shows the distribution of interviewees according to personal features.

Measuring level of motivation of villagers' participation in activities of social forestry: For measuring level of motivation of villagers' participation in activities of social forestry were used of three indicators including economic, social and environmental motivations. Each of the indicators includes a set of statements that were rated on a six-point scale from 0 to 5. These statements listed in Table 3-5. Total scores of mentioned indicators organized final score of variable of level of motivation of villagers' participation in activities of social forestry.

Tool and techniques: We collected data from the villagers (the target group) by means of a questionnaire. For determining the validity of questionnaire, the content validity was used that was obtained by group of specialists. A pilot study was conducted in one of the villages covered by local forestry cooperative. The aim was to test the validity and improve the questionnaire. Cronbach's alpha was used to measure reliability of the index measuring level of motivation of villagers' participation in activities of social forestry that its extent was 0.84 and showed that mentioned variable has high reliability. Data analysis has been done in two sections, descriptive and inferential statistics. Statistics such as mean, standard deviation and Coefficient of Variation (CV) were used in the descriptive section. Correlation coefficient and multiple regression analysis were used in the inferential analysis section. To evaluate all variables simultaneously and, thus, to determine factors influencing motivation of villagers' participation in activities of social forestry, correlation

Table 1: Names, labels and units of the variables of research

Name of variable	Label	Unit	Scale
Age	Age	year	18-65
Level of literacy	LIT	-	1-6
Household size	HS	person	2-10
Level of annual income	AI	1000 Rials	10000-50000
Using level of mass communication media	UMCM	-	1-5
Level of relationship with forestry extension agents and specialist	CFEAS	-	1-5
Level of participation in extension-education courses	PEEC	hour	0-50
Level of social interaction	SI	-	5-25
Attitude toward participatory activities	ATPA	-	6-30
Level of forest dependency	LDF	-	0-35

Table 2: Personal features of villagers

Features	Frequency	(%)
Age groups		
30 and low	20	18.2
31-40	21	19.1
41-50	39	35.4
51-61	20	18.2
61 and above	10	9.1
Education levels		
Illiterate	11	10
Literate (not primary school)	16	14.5
Primary school	17	15.5
Secondary school	18	16.4
High school	18	16.4
Graduate and above	30	27.2
Household size		
2-4	51	46.4
5-7	41	37.2
8 and above	18	16.4
Annual income		
15000 and low	15	13.6
15001- 25000	30	27.3
25001-35000	42	38.2
35001-45000	16	14.5
45001 and above	7	6.4

Table 3: Priority setting of statements of economic motivation of villagers' participation in activities of social forestry

Priority	CV	Std. dev	Mean*	Statement
1	0.386	1.36	3.52	To meet daily needs
2	0.499	1.438	2.88	Livelihood security
3	0.547	1.465	2.68	Receiving of governmental incentives
4	0.856	1.643	1.92	Income from non timber forest products (comestible)
5	0.918	1.56	2.7	Income from medical herbs

*: Range of means is between zero and five

analysis was used. Furthermore, the derived factors are used in a multiple regression analysis (stepwise method) to explain variation in the level of motivation of villagers' participation. In applying these statistical techniques, version 11.5 of the Statistical Package for Social Science (SPSS) was used.

Table 4: Priority setting of statements of social motivation of villagers' participation in activities of social forestry

Priority	CV	Std. dev	Mean*	Statement
1	0.325	1.221	3.75	Need to more relationship with people
2	0.345	1.265	3.66	Existence of culture of natural resources conservation in village
3	0.378	1.357	3.59	Need to get awareness about forestry activities
4	0.443	1.431	3.23	Religious tenets
5	0.467	1.612	3.45	Preventing from migration to town
6	0.501	1.483	2.96	Need to social prestige
7	0.508	1.640	3.23	Community contribution

*: Range of means is between zero and five

Table 5: Priority setting of statements of environmental motivation of villagers' participation in activities of social forestry

Priority	CV	Std. dev	Mean*	Statement
1	0.333	1.241	3.73	Improving of quality of forest resources
2	0.354	1.365	3.86	Decreasing of flood
3	0.387	1.36	3.51	Increasing of levels of forest resources
4	0.433	1.448	3.34	Conservation of wild plants and animals
5	0.494	1.778	3.6	Internal willingness to environment conservation
6	0.537	1.682	3.13	Predisposing to rural tourism

*: Range of means is between zero and five

RESULTS AND DISCUSSION

Analyzing the personal, social and economic features of villagers: The age of respondents ranged from 18 to 65 years, the respondents were relatively middle age with an average age being 44 years. Table 2 shows that the largest proportion of respondents were in the (41-50) year-old category (35.4%). About 10% of the respondents were illiterate and 15.5% had completed primary school (5 years of education). The average annual family income of respondents was 28000 (1000 Rials), with 42 of them (38.2%) earning annual family income in the range of 25000 (1000 Rials) and 35000 (1000 Rials).

Priority setting of indicators of economic, social and environmental motivations of villagers' participation in social forestry activities: This section includes priority setting of statements of three indicators that explain motivation of villagers' participation in social forestry activities.

Economic motivation: Table 3 shows that to meet daily needs has first priority because of having the lowest extent of coefficient of variation (CV = 0.386). Livelihood security (CV = 0.499), receiving of

governmental incentives (CV = 0.547), income from non-timber forest products (comestible) (CV = 0.856) have allocated priorities from 2nd to 4th, respectively. In addition, income from medical herbs with the highest extent of coefficient of variation (CV = 0.918) has allocated last priority to itself.

Social motivation: Table 4 shows that need to more relationship with people (CV = 0.325), existence of culture of natural resources conservation in village (CV = 0.345), need to get awareness about forestry activities (CV = 0.378), religious tenets (CV = 0.443), preventing from migration to town (CV = 0.467), need to social prestige (CV = 0.501) have allocated priorities from first to sixth, respectively. Also, Community contribution with the highest extent of coefficient of variation (CV = 0.508) has allocated last priority to itself.

Environmental motivation: Table 5 shows that improving of quality of forest resources (CV = 0.333) and predisposing to rural tourism (CV = 0.537) have had first and last priority, respectively. In addition, decreasing of flood (CV = 0.354), increasing of levels of forest resources (CV = 0.387), conservation of wild plants and animals (CV = 0.433) and Internal willingness to environment conservation (CV = 0.494) have allocated priorities from 2nd to 5th, respectively.

Level of motivation of villagers' participation in activities of social forestry: By grouping the respondents with respect to level of motivation of villagers' participation in activities of social forestry, it turns out that respectively level of motivation of 3.6, 45.5 and 40% of respondents is lowest, low and high while this level for 10.9% of respondents was highest (Table 6).

Correlation analysis for independent variables and level of motivation of villagers' participation in activities of social forestry: Table 7 shows that level of literacy was positively and significantly ($p < 0.01$) correlated with variable of level of motivation of villagers' participation in activities of social forestry.

Table 6: Level of Motivation of villagers' participation in activities of social forestry

Participation group	scale	No. of respondents	% of respondents	
Group 1 (lowest)	≤44.102	4	3.6	
Group 2 (low)	44.103-57.74	50	45.5	
Group 3 (high)	57.75-71.38	44	40	
Group 4 (highest)	≥71.39	12	10.9	
Total		110	100	
Max: 79	Min: 0	Mean: 57.74	Std. dev: 13.638	Scale: 0-90

Table 7: Correlation analysis between independent variables and level of motivation of villagers' participation in activities of social forestry

Independent variable	Label	r
Age	Age	-0.058
Level of literacy	LIT	0.42**
Household size	HS	0.036
Level of annual income	AI	0.126
Using level of mass communication media	UMCM	0.294**
Level of relationship with forestry extension agents and specialist	CFEAS	0.185
Level of participation in extension-education courses	PEEC	0.349**
Level of social interaction	SI	0.433**
Attitude toward participatory activities	ATPA	0.491**
Level of forest dependency	LDF	-0.019

*: p<0.05 and **: p<0.01

This result is accordant to the results of Wilson^[23]. There is positive and significant correlation (p<0.01) between using level of mass communication media and level of motivation of villagers' participation in activities of social forestry that Malek Mohammadi and Hosaini nia^[15] have confirmed this correlation. There is positive and significant correlation (p<0.01) between level of participation in extension-education courses and level of motivation of villagers' participation in activities of social forestry. This result is accordant to the studies done by Wicker^[22] and Chowdhury^[3]. There is positive and significant correlation (p<0.01) between level of social interaction and level of motivation of villagers' participation in activities of social forestry. This result is accordant to the theories of Katz (1960) and Smith *et al.* (1956) that have indicated sociability as a motivating force in participation. Attitude toward participatory activities is positively and significantly (p<0.01) correlated with variable of level of motivation of villagers' participation in activities of social forestry. Different studies have confirmed this result^[23,13,2]. In addition, this result is accordant to Ajzen and Fishbon's theory.

Multiple regression analysis of motivation of villagers' participation: To explain variation in level of motivation of villagers' participation in activities in social forestry in west Mazandaran in Iran, we have undertaken a multiple regression analysis. The result is presented in Table 8.

Interpretation of Table 8 indicates that among independent variables that have significant correlation with dependent variable, attitude toward participatory activities, using level of mass communication media, level of literacy and level of social interaction have entered to regression equation by four steps. Four forgoing variables could explain 39.7% of variation in level of motivation of villagers' participation in

Table 8: Regression analysis to explain variation in motivation of villagers' participation

Description	Label	Motivation of villagers' participation	
		t	B
Constant		3.246**	17.031
Attitude toward participatory activities	ATPA	2.853**	0.961
Using level of mass communication media	UMCM	3.557**	2.479
Level of literacy	LIT	3.153**	1.953
Level of social interaction	SI	2.2*	0.574
R ² adjusted			0.397

*: p<0.05 and **: p<0.01

activities in social forestry. The following model is estimated by using stepwise method:

$$Y = \text{constant} + \beta_1 \text{ATPA} + \beta_2 \text{UMCM} + \beta_3 \text{LIT} + \beta_4 \text{SI} \quad (1)$$

Equation (1) shows that (Y) is used as dependent variable that representing motivation of villagers' participation in activities in social forestry in west Mazandaran, (β_i) is the coefficient of independent variable. Table 1 shows the meaning of the variables, which are included in the regression. Consequently, final equation of multiple regression is:

$$Y = 17.031 + 0.961 \text{ATPA} + 2.497 \text{UMCM} + 1.953 \text{LIT} + 0.574 \text{SI}$$

CONCLUSIONS AND RECOMMENDATIONS

According to results, there was positive and significant correlation between level of participation in extension - education courses and motivation of participation in activities of social forestry. Hence, we suggest that villagers are persuaded to use of these courses by appropriate solutions, one of the solutions is to introduce social, economic and environmental benefits of implementing social forestry activities to villagers.

According to positive and significant correlation between using level of mass communication media and level of motivation of villagers' participation in activities of social forestry, we suggest that educational content of mass media is adjusted by appropriate planning and needs assessment.

Results of multiple regression analysis showed that attitude toward participatory activities could explain most variation in level of motivation of villagers' participation in activities of social forestry. Therefore, we suggest that people's mental readiness and their cognitive levels of participation are enhanced by

holding justifier meetings and implementing effective information system.

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