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Research Article

FACTORS AFFECTING VILLAGERS' PARTICIPATION IN FOREST CONSERVATION IN THE REGION OF MIYANDOROUD

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ABSTRACT
A descriptive type of research was conducted to investigate Factors affecting Iranian villagers' participation in forest conservation in the region of Miyandoroud. The total population was all 11273 villagers who live in the region of Miyandoroud. Using Cochran formula, 372 persons were selected based on stratified sampling. A questionnaire was developed by the researchers and used to collect data. The main variable of study was villagers' participation in forest conservation which was measured by asking questions in Likert scale. The findings of study showed that the most important challenges of villagers' participation in forest conservation are "lack of proper training about forestry for the villagers" and "lack of suitable protective legislation for forest conservation" and "lack of financial incentives to encourage participation of villagers". Also the findings showed that there is relationship between cultural factor, economic factor, management factor, social participation, educational activities with villagers' participation in forest conservation.

Keywords: *Forest Conservation, Participation, Villagers, Miyandoroud, Iran*

INTRODUCTION
Forests are fundamental to all living creatures including human life because they supply a various range of resources such as storing carbon, helping in regulating the terrestrial climate, purify water and mitigate natural disaster. Forests also are necessary producers of human basic needs including food, medicine, clothing, and shelter since prehistoric time. Subsequently humans gradually encroach it for food cultivation by clearing a small patch in the forest to grow food. However, human is persistent to depend on forests to achieve numerous needs. Although, currently, people still depend on the forest for paper, timber, fuel wood, medicine, and food. Concurrently in developing countries, forests are also fencing for wind prevention and soil erosion with their roots bind the soil then they prevent erosion caused by wind or water. Plant communities cover approximately 9.4 percent of the Earth's surface in various regions, and their functions as habitats for organisms, hydrologic flow modulators, and soil conservers. Moreover, they are classified mainly by trees; the concept of a forest ecosystem includes additional (species such as smaller plants, fungi, bacteria, and animals) as well as physical and chemical processes such as energy flow and nutrient cycling (Kokfai *et al.*, 2014; Thiengkamol, 2011; Stamets, 2005; Ruengpanich, 2003).
The late 20th century saw a dramatic transformation in global forest resources, their use and management, and people's perception of their value. Since 1961 tropical countries lost over 500 million hectares of forest cover (FAO, 2000) and consumption of forest products rose by 50 percent (Gardner-Outlaw and Engelman, 1999). The role of forests in environmental protection and biodiversity became the focus of active international and local policy (Scherr *et al.*, 2003).
Then in 2010, Food and Agriculture Organization of the United Nations reported that world deforestation mainly resulted from the conversion of tropical forests to agricultural land. Forest had decreased over the past ten years but still continues at a frighteningly high rate in many countries. Between 2000 and 2010, about 13 million hectares of forests were globally converted to other uses or lost through natural causes each year (Kokfai *et al.*, 2014).
FAO estimates that 0.1 hectare per person of forest cover is needed in low-income countries to supply these essential goods. But deforestation and population growth are reducing those critical subsistence

resources. About 1.8 billion people live in 40 countries with critically low levels of forest cover. Some of these countries historically had low forest cover and developed alternative strategies to obtain fuel, construction materials, etc., that depended less on forests (Scherr *et al.*, 2003).

The characteristics of this natural forest resource are changing. Roughly 30 percent of the tropical forest area is now estimated to be "secondary forest," that is, "anthropogenic" forests that have regenerated after heavy influence by human intervention (Scherr *et al.*, 2003). De Jong *et al.*, (2001) distinguish five common types, to which we add a sixth:

• Forests regenerating after significant tree extraction;
• Forests regenerating after significant vegetative loss through human-induced fire;
• Sweden forest fallows allowed regenerating after crop production for purposes of restoring the land for subsequent cultivation;
• Secondary forest gardens resulting from enriched swidden fallows, or less-intensively-managed smallholder plantations or home gardens where substantial spontaneous regeneration is tolerated, maintained or even encouraged;
• Rehabilitated forests regenerating on degraded lands, largely through natural processes or (where conditions of previous use inhibit or delay forest re-growth) aided by rehabilitation efforts or the facilitation of natural regeneration through measures such as protection from chronic disturbance, site stabilization, water management and planting.
• Forests regenerating naturally on farms after the abandonment of cropland or pastures, as a result of agricultural intensification, rural depopulation, or growth in non-farm employment (Mather, 2001), or reduced incentives for extensive livestock grazing, mainly in Latin America.

In general, there is a widespread assumption that forests provide useful ecosystem functions in maintaining constant supplies of good quality water. Loss of forests has been blamed for everything from flooding to aridity and for catastrophic losses to water quality (Dudley and Stolton, 2003).

Since the 1980's many conservation and development agencies have attempted to reconcile social, ecological and economic goals, by promoting the involvement of local people in conservation initiatives (Vihemaki, 2005).

With respect to forest conservation, participation is often associated with community forestry, which means that a forest is managed or co-managed by people who live close to the forest. Legal, political and cultural settings within which community forestry is practiced vary considerably and accordingly, the term covers a range of different experiences and practices (Isager *et al.*, 2001).

Participation is communicating and working together with different people and groups in order to achieve commonly defined goals. Participation is learning from each other's knowledge and mistakes. It is a process made up of different steps or phases, each of which presents new insights and challenges. Participation is sometimes difficult but the rewards of truly participatory processes are often impressive, as more effective forest conservation is achieved (Wily, 1997; World Bank, 1996).

In many countries, plans to protect forest ecosystems in forest reserves and protected areas have failed to pay attention to the needs and knowledge of local people (Tuxill and Nabhan, 1998; Kumar, 2000). However, it is becoming increasingly acknowledged that the participation of local people is essential for an effective conservation of protected forest areas. Local people's participation and efforts in the conservation of specific target tree species are less well documented. However, the same ideas and considerations can be applied whether the aim is conservation of particular priority species, protection of specific areas, or management of community forests (Isager *et al.*, 2002).

In general, participation of people is an important element in forest conservation. But no participatory process will ever be exactly identical to another because people, forests and other circumstances vary from place to place and from one period to another (Isager *et al.*, 2001).

Forest conservation has also been subject to similar contestations. Proponents of stronger community involvement in forest control stress that participatory approaches too often see local people just as "beneficiaries" and not as actual decision makers over forest use (e.g. Wily, 2002). Alternatively, the communities can be considered as "custodians" of the forests. Wily and Dewees (2001) suggest that the

forest-adjacent communities hold enough custodial interests to manage forests well and they could at least be given decision-making powers if not full tenure rights.

Overall, the participatory approach to development has been criticized from various standpoints. Mohan and Stoke (2000) argue that an emphasis on "local participation" can underplay the role of state and trans-national power holders in development pro-cesses and represent the "local community" as too a homogenous entity. Moreover, Plateau and Abraham (2002) suggest that the local elites may not be as ac-countable to the poorer members of community as state agencies, for the resources can be "captured" by local elites in participatory programs.

To understand the local people way of life for forest conservation, it needs to gain information from their daily living behavior including their environmental knowledge, environmental awareness, environmental attitude, and environmental participation (Thiengkamol, 2011). Therefore, this study is to investigate villagers' participation in forest conservation in the region of Miyandoroud of Iran and to identify the factors that are involved in this participation.

MATERIALS AND METHODS

The methodology used in this study involved a combination of descriptive and quantitative research and included the use of questionnaire to collect data. The total population for this study was 11273 villagers in the region of Miyandoroud in Iran. Stratified sampling procedure was used to select villagers. Based on the Cochran formula a total of 372 villagers were estimated and selected.

From review of literature, the researchers of the study developed a questionnaire to collect data. Validity of questionnaire were established by a panel of experts were familiar with forest conservation. Likert type questions on a Likert five-point scale with 1=very low, 2=low, 3=moderate, 4=high, 5=very high, were used to measure variables of study. The variables of study are participation in forest conservation, educational activities, cultural, economic, and management factors. In this study, also the challenges of participation in forest conservation were rank in terms of importance.

A pilot study was conducted using the instrument on 30 villagers who were not part of the study. The data collected from the pilot study were entered into Statistical Package for Social Science (SPSS) data file for computer analysis to generate Alpha coefficients for estimation of questionnaire reliability. The Cronbach's Alpha was estimated between 83% and 89% for different parts of questionnaire. This shows that the questionnaire was highly reliable. Then the questionnaires collected entered into SPSS/19 for data analysis. Means, percentages, frequencies, and standard deviation were generated to describe the general trend of the data and correlation coefficients were used to examine relationships among the study variables.

RESULTS AND DISCUSSION

Findings

The villagers who participated in the study ranged in age from 31 to 58 years. 69% of researchers were male and the rest (31%) were female. Villagers were asked to report their education level: 22% of respondents had elementary literacy; 8% were in high school level; 19% had diploma degree; and 51% had associate degree or higher. Also villagers were asked to indicate their main job and the years of agriculture experience that they possessed. According to the findings, 67% of villagers were farmer, 22% were employee, and 11% were orchardist (table 1). The villagers' agriculture experience ranged from 5 to 21 years and 36% of villagers with the highest frequency had 16 years experience or more (table 2).

Table 1: Frequency distribution of villagers in according to main job

Main job	Frequency	Percent
Farmer	249	67
Employee	82	22
Orchardist	41	11
Total	372	100

Table 2: Frequency distribution of villagers in according to Agriculture experience

Agriculture experience	Frequency	Percent
5 years or less	41	11
6 to 10 years	112	30
11 to 15 years	84	23
16 years or more	135	36
Total	372	100

Based on the results as shown in table 3, most of the villagers were participated in lecture meetings, education and extension courses, and television educational programs as educational activities. While literacy programs and educational publications less used by the villagers.

Table 3: Frequency distribution of villagers in according to participation in educational activities

Education activities	Percent				
	very low	low	moderate	much	very much
Lecture meetings	11	22	22	44	-
Television educational programs	22	-	45	33	-
Radio educational programs	11	33	33	22	-
Educational journals and publications	11	44	22	22	-
Educational films and movies	11	45	33	11	-
Literacy programs	45	33	11	11	-
Education and extension courses	33	-	45	22	-

Table 4: Villagers' participation in forest conservation activities

Forest conservation activities	Percent					Mean	Rank
	very low	low	moderate	much	very much		
Cooperation in firefighting	22	34	22	11	11	2.55	**7**
Training and guidance of other villagers about forest conservation	11	34	11	44	-	2.00	**12**
Promoting the use of fossil fuels instead of biofuels	11	22	45	22	-	2.78	**3**
Participation in the seeding and planting	22	22	45	11	-	2.45	**8**
Attracting participation of different institutions in the protection of forests	33	11	45	11	-	2.34	**11**
Participating in the tree planting	45	-	33	11	11	2.43	**10**
Preventing the entry of livestock into forest	22	11	22	34	11	3.01	**1**
Contribute to the implementation of forest conservation activities	11	22	45	11	11	2.89	**2**
Participation as the honor guard of forests	11	45	33	11	-	2.44	**9**
Using correct methods of lopping and deforestation	22	34	11	22	11	2.66	**5**
Preventing the conversion of forest to farmland	33	-	45	22	-	2.56	**6**
Recognition of forest pests and deal with them	11	45	11	22	11	2.77	**4**

Scale: 1= very low, 2= low, 3= moderate, 4= high, 5= very high

The findings of this study about forest conservation activities show that the villagers' participation in "preventing the entry of livestock into forest", "contribute to the implementation of forest conservation activities" and "promoting the use of fossil fuels instead of biofuels" was more than other conservation activities. While the villagers were less involved in activities such as "training and guidance of other villagers about forest conservation" and "attracting participation of different institutions in the protection of forests" (table 4).

The results of this study indicate that the most important challenges of villagers' participation in forest conservation are "lack of proper training about forestry for the villagers" and "lack of suitable protective legislation for forest conservation" and "lack of financial incentives to encourage participation of villagers". While challenges such as "villagers limited awareness about forest conservation" and "not strengthen the spiritual motivation for encourage villagers' participation" are the less important challenges (table 5).

Table 5: Ranking the challenges of participation in forest conservation

Challenges of participation in forest conservation	Percent very low	low	moderate	much	very much	Mean	Rank
Inappropriateness of programs and projects to needs of villagers	11	-	11	78	-	3.56	**6**
Villagers limited awareness about forest conservation	-	33	-	67	-	3.34	**7**
Lack of financial incentives to encourage participation of villagers	-	11	22	44	22	3.74	**3**
Villagers low communication with experts of natural resources	11	-	11	67	11	3.67	**5**
Inadequate coping of justice system with violators	11	-	33	22	34	3.68	**4**
Lack of proper training about forestry for the villagers	-	11	-	67	22	4.00	**1**
Not strengthen the spiritual motivation for encourage villagers' participation	-	33	22	34	11	3.23	**8**
Lack of suitable protective legislation for forest conservation	-	-	34	33	33	3.99	**2**

Scale: 1= very low, 2= low, 3= moderate, 4= high, 5= very high

Pearson coefficient was employed for measurement of relationships between different variables of the study and villagers' participation in forest conservation. Table 6 displays the results which show that there was relationship between all cultural factor, economic factor, management factor, social participation, educational activities with villagers' participation in forest conservation.

Table 6: Correlation measures between variables of study

Variable 1	Variable 2	r	p
Cultural factor	villagers' participation in forest conservation	0.841**	0.000
Economic factor		0.637**	0.000
Management factor		0.858**	0.000
Social participation		0.811**	0.000
Educational activities		0.705**	0.000

**p<0.05 **p<0.01*

Conclusion

Today, conservation of forest genetic resources is impossible unless technical expertise is combined with an understanding and consideration of the political and cultural processes within which conservation inevitably takes place (Isager *et al.*, 2001). While, the dynamic relations of power between the actors intervene in and affect the functioning of the new "participatory" control mechanism and institutions established. For instance, diverse development initiatives are put into practice in existing village power configurations. The challenges for participation arise both from "local realities", including political and social relations within villages and lack of social and material resources, as well as weaknesses of state organizations and institutions (Vihemaki, 2005).

According to findings of the study, most of the villagers were participated in lecture meetings, education and extension courses, and television educational programs as educational activities. Also the villagers' participation in "preventing the entry of livestock into forest", "contribute to the implementation of forest conservation activities" and "promoting the use of fossil fuels instead of biofuels" was more than other conservation activities. In another section of study, the findings indicated that there is relationship between all cultural factor, economic factor, management factor, social participation, educational activities with villagers' participation in forest conservation.

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