

## Factors Affecting the Sustainable Forest Management

S. Dehyouri<sup>1\*</sup>; Sh.Bayat<sup>1</sup>; P. Alimoradian<sup>2</sup>

*1: Department of Agricultural Extension and Education, Faculty of Agriculture and Natural Resources, Science and Research Branch, Islamic Azad University, Tehran, Iran*

*2 : Department of Agricultural Development, Faculty of Agriculture and Natural Resources, Science and Research Branch, Islamic Azad University, Tehran, Iran*

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### ABSTRACT

The major purpose of this study is to assess the perception of managers in the Forest, Range and Watershed Organization. It is an applied study by using descriptive–correlative method. A questionnaire was developed and data collected from 105 respondents. The validity and reliability of questionnaires was verified. The results of study show that there was a relationship between educational level, work experience, experiences in extension and education activities, role of extension in increasing information about sustainable forestry, create positive attitude, providing information about sustainable forestry indicators, motivation for participating in the projects, local management, allocation of appropriate financial resources, attend of extension education courses, participate in group discussions, visiting successful projects, using workshops, newsletters, magazines & bulletin and improvement of sustainable forestry management. Multivariate regression analysis shows that providing economic motivations of managers, being aware of indicators, using courses, management experiences & the role of extension in creating positive attitudes had positive impact on improvement of sustainable forestry sustainable management.

**Keywords:** Forestry Management; Sustainable Forestry Management; Iran

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\* Corresponding Author Email: sahar.dehyouri@gmail.com

## INTRODUCTION

FAO (2006) reported that amount of forests have been decreasing rapidly but the rate and speed of forest destruction has been lower in comparison to the past. Conversion of forest to agricultural lands has been the main cause of deforestation and annually about 13 million hectares of forest have been destroyed because of conversion. Shamekhy and Rfanyfard (2004) cited that Iran has about 12.4 million hectares of forest which cover about 7.4 percent of total lands. Iran is among 57 countries in the world with low amount of forest.

Since the Earth Summit of 1992, the need to manage forests sustainably has been well-recognized by the international community. The principal focus of the UN forest-related forums since then has been to implement the aims of the Summit through promoting Sustainable Forest Management (SFM). The most recent of such proposals was in 2006, when the UN Forum on Forests (UNFF) set four Global Objectives on Forests that are central to SFM. These include: addressing the loss of forest cover and forest degradation, forest-based economic, social and environmental benefits and protecting forests, as well as mobilizing financial resources for the implementation of sustainable forest management (UN, 2007).

The management requires a greater understanding of current and potential future value of forest ecosystems as a complete chain of benefits for public and private sector, new reinvestment in forest resources and sometimes in order to limit utilizing to short time uses of the forest (De Montalembert & Schmithussin, 1994). The aim of sustainable forestry capture existing resources without endangering the ability to meet future their needs production with supervision and support that is associated with integration of processes such as management reform and development, and trees in order to develop useful products, protection of water quality, soil, air, biodiversity, wildlife and recreation centers is (Wallinger, 2003).

Accordingly, this study aimed to assess the opinions and views of managers - those who can be the key individual decision-making and planning in these areas are - about sustainable forestry management ameliorative factors research was conducted.

## MATERIALS AND METHODS

The methodology used in this study involved a combination of descriptive and quantitative research and included the use of correlation and

descriptive analysis as data processing methods. The total population for this study was 154 managers in FRWO in Iran and 105 respondents completed the questionnaire. Data were collected through interview schedules. A series of in-depth interviews were conducted with some senior experts in the Forest, Range and Watershed Organization to examine the validity of questionnaire. A questionnaire was developed based on these interviews and relevant literature. The questionnaire included both open-ended and fixed-choice questions. The open-ended questions were used to gather information not covered by the fixed-choice questions and to encourage participants to provide feedback. Measuring respondents' attitudes towards sustainable forest management has been achieved largely through structured questionnaire surveys. The final questionnaire was divided into several sections. The first section was designed to gather information about personal characteristics of respondents. The second section was designed to measure the attitudes of respondents about factors that improve the sustainable forest management. The respondents were asked to indicate their agreements with 13 statements by marking their response on a five point Likert-type scale. Content and face validity were established by a panel of experts consisting of faculty members at Islamic Azad University and experts in Forest, Range and Watershed Organization. A pilot study was conducted with 20 managers who had not been interviewed before the earlier exercise of determining the reliability of the questionnaire for the study. Computed Cronbach's Alpha score was 91.0percent, which indicated that the questionnaire was highly reliable. Dependent variable in the study included factors improving the sustainable forest management. The independent variables in this research study were educational level, working experience providing material incentives to managers, knowledge about indicators of sustainable forest management, participation in sustainable forestry projects and utilization of local resources and allocating appropriate financial resources for sustainable forestry projects. For measurement of correlation between the independent variables and the dependent variable correlation coefficient has been utilized and include Pearson test of independence.

## RESULTS AND DISCUSSION

The average age of managers is 45 years old and the highest numbers is between 46 to 50 year old. The results show that more than half of

respondent had a Bachelor degree, while only four percent had a doctorate degree. It was reported that working experience of managers was 15 years.

The results of table 1 show that participation of people in sustainable forestry were the most important factor in forestry sustainable management and the least important factor was providing facilities to forestry projects.

**Table 1: Factors affecting sustainable forest management**

options	Mean	SD	CV	rank
Participation of people involved in sustainable forestry	4/41	0/65	14/74	1
Preparing legislation regarding integrated sustainable forestry	4/25	0/64	15/06	2
Sanction decision And importance of forest office	4/34	0/68	15/67	3
Prevention of discrimination and social inequalities existing in rural areas	4/14	0/66	15/94	4
Use of managers with experience in sustainable forestry	4/04	0/71	17/57	5
Understanding the value and importance of sustainable forest management with people	4/17	0/77	18/74	6
Population reduction woodman	4/08	0/77	18/87	7
Providing facilities and supplies to do projects	4/01	0/77	19/20	8
Adequate funding and credits for sustainable forestry projects	4/09	0/79	19/32	9
Increased decision making power of managers regarding the development of sustainable forestry	3/98	0/77	19/35	10
To prevent existing disputes and conflict	4/18	0/82	19/62	11
Consideration of traditions and foresters	3/95	0/79	20/00	12
Strengthen the personal relationship between experts and woodman	4/13	0/87	21/07	13
Financial support systems in sustainable forestry	4/35	0/92	21/15	14
Life Sciences according to local and indigenous foresters	3/68	0/78	21/20	15
Material incentives for managers in the implementation of projects	4/26	0/92	21/60	16
Developing a sense of trust between government and foresters	4/07	0/85	20/88	17
Create empathy and unity among managers, experts and executive agents	4/36	0/93	21/33	18
Providing facilities to support forestry projects	3/92	0/96	24/49	19

The results of correlation coefficient in table 2 show the relationship between independent variables and dependent variable. The results of stepwise regression analysis show that variables motivation to provide material managers, awareness of indicators of sustainable forest management, using extension and educational

courses, management experience and positive attitude in promoting the role of managers explained 75 variance in the perception respondents about factors improving sustainable forestry management.

**Table 2: Result of correlation(\*%5, \*\* %1)**

<b>Variables</b>	<b>r</b>	<b>P</b>
Educational level	**0/334	0/004
Management experience	*0/291	0/013
extension and educational Experience	*0/284	0/039
Providing material incentives to managers	**0/576	0/000
Role in promoting increased awareness of managers	*0/254	0/029
Role in promoting positive attitude in managers	*0/252	0/033
Knowledge of sustainable forestry management indicators or g	**0/383	0/001
Willingness to participate in sustainable forest management plans	*0/274	0/018
Usage of local resources	**0/373	0/001
Considering the level of local management	*0/293	0/010
Allocation of financial resources and appropriate credit	*0/251	0/032
Using classes extension and education	**0/627	0/000
Participate in group discussions	*0/257	0/028
Visit successful projects of sustainable forestry	*0/246	0/036
Use of workshops and practical training	*0/242	0/039
Use of educational journals and magazines	*0/268	0/023
	**0/334	0/004
	*0/291	0/013

## CONCLUSION

Factor scan be effective in improving sustainable forestry management can be classified in term of educational factors and educational courses could affect the improvement of sustainable forestry management.

On the other hand, previous management experience and knowledge about forestry can also affect the forestry management. Now there is other issue that is creation a new orientation and desire towards sustainable management and also to create conditions encouraging incentives in this path. However in terms of management, extension organization with offering the various courses to create conditions that could also influence the forestry management.

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