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**THE EFFECTS OF EDUCATIONAL ACTIVITIES IN PRESERVATION AND
RESTORATION OF FORESTS IN ILAM PROVINCE**

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ABSTRACT

The major purpose of this descriptive study was to investigate the effects of educational activities in preservation and restoration of forests in Ilam province. The total population was all 80 experts working at the department of natural resources in Ilam province. A questionnaire was developed by the researcher and used to collect data. Respondents were asked to indicate their responses on a five-point likert type scale. The statements of questionnaire were validated and the reliability estimate calculated and found to be 0.89 averagely. The dependent variable of study is preservation and restoration of forests, and the independent variables of study are educational activities, and some individual characteristics. The findings of study showed that activities such as producing and planting seedlings, protection and conservation of forests, and prevention of forest fires are the most important restoration activities in forests. Also the results of regression analysis indicated that the variables of “informing forest dwellers through mass media”, “workshops”, “educational visits of successful forestry projects”, and “training appropriate to the needs of forest dwellers” can totally explain 70.5 percent of changes of the dependent variable.

Keywords: Forest restoration, educational activities, experts, Ilam province, Iran

INTRODUCTION

All over the world, forests are an inevitably part every man life. Forests provide us with shelter, from the cradle on which we rest

when we are born to our final bed on which we lie before we are buried. Forests play an important role in economic growth, food

security, livelihoods, rural development and in climate amelioration to sustain our lives. Growth in the forestry sector stimulates higher rates of growth in our economy through forward linkage activities such as processing and transportation, and backward linkage activities such as provision of services of the sector, with further growth spurred as a result of spending incomes earned from all these productive activities (Eric, 2013). According to Dudley & Stolton (2003), 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.

The Food and Agriculture Organization of the United Nations in 2010, 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 when it was compared to around 16 million hectares per year during the

1990s. The study was conducted on 233 countries and areas. As a result the net loss of forest area was reduced to 5.2 million hectares per year between 2000 and 2010, down from 8.3 million hectares annually in the 1990s (FAO, 2010).

Developed countries for years to come to the conclusion that the destruction of forest trees will exacerbate air pollution, so cutting old trees and destroying forests in these countries is prohibited. However, other countries that still believe in the importance of forests have not lost to the massive destruction of natural resources (Abedi et al., 2011).

The causes of forest degradation are varied. Some, such as overexploitation of forest products, can be avoided or minimized by sound forest planning and management, whereas the effects of others, such as natural disasters, can be mitigated by contingency planning. Factors responsible for this loss are the conversion of forestland to produce food for a burgeoning world population, especially in developing countries (FAO, 2000; Swanson, 1997), as well as logging for timber and fuel (Abedi et al., 2011).

The forestry situation in Iran is no different than other vulnerable areas in the world. There are an estimated 12 million hectares

of forest in Iran, while this forest threatened by unsound forest management activities including inappropriate productivity (too much) by government companies private sector and cooperative, intensive agricultural operations, indiscriminate forest activities and timber use, Lack of vehicles for foresters, smuggling of wood, Lack of near cooperation between forest sector with judicial and disciplinary power, Lack of adequate protection personnel, changing forestlands to agricultural fields, presence of livestock in forests, continuous changes in policies, legislation and programs, lack of education level among personnel, threat of pests and diseases to plantations, making roads inside forests, lack of participation by forest dwellers in protection of forests, lack of politicians serious belief on the protection of forest, cutting trees by forest dwellers, changing forestlands to agricultural fields, happening of fire and other factors (Khosrowshahi and Ghavamie, 2008; Farhadian, 2000; Abedi, 2004).

For more responsible usage of prairies, and keeping them live and healthy for our future generations, it is important and necessary for users to be educated and aware of effects of their actions. Public

training and awareness is the only solution to preserve our natural resources (including our prairies, and forests), and preserve them for future generations (Fathi et al., 2012; John et al., 2002; John & William, 2000).

Agbamu (2006) posited that knowledge and skills have always played an important role in economic growth. With education, labor productivity is greatly enhanced, resulting in increased physical capital and it is universally acknowledged that technology is produced at a cost by investment in research and development. In order to do this effectively, there is the need for a substantial investment in education and research by governmental, policy makers, non-governmental bodies as well as the private sector participation including extension for forest conservation and protection.

Thiengkamol (2011) believe that 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. Therefore, the environmental education principles are introduced to study local people for forest conservation behavior

because it aims to give knowledge and understanding, to raise awareness, to change attitude and value, to take responsibility, to make correctly decision for environmental problem solving, to participate in environmental activity with consciousness to alter behavior in daily living to conserve environment and natural resources.

Education in forestry has to shift from forests in isolation to the relationship between forests and society, with attention to other land users and diverse user groups as obtainable. Training could be regarded as an extension tip, which could be greatly explored as a communication method where agricultural development project (ADP) collaborates with other institutes to organize such training (Agbogidi and Ofuoku, 2009).

According to the study by Hosseini (2011), there is need for more training and education to change the attitude of managers about sustainable forest management and enhance their role in managing the natural resources.

The results of study by Abedi et al. (2011) about the role of education activities to protect forests in Iran indicated that education of youth and children at the elementary and secondary school level is

necessary and important in forest protection and conservation. Also this study showed that inform to public about worth of forest is very important in protection of forest. The study showed that education methods are important factors in protection of forests.

Therefore, this study is to investigate forests preservation and conservation in Iran and to identify effects of educational activities in preservation and restoration of forests in Ilam province.

METHODS AND MATERIALS

The current study was carried out in Iran to identify the effects of educational activities in preservation and restoration of forests in Iran from viewpoints of natural resources experts. Research methodology applied in this study was descriptive and quantitative methods. Applying a survey technique, all 80 experts working at the department of natural resources in Ilam province were selected. The data were collected through a well-structured questionnaire. The questionnaire was based on the published literature on related topics in Iran and other countries. To evaluate face and content validity of the instrument, the questionnaire was assessed through expert judgment. It was modified according to comments and suggestions of the early respondents.

Cronbach's alpha coefficient, a measure of internal consistency, was used to estimate the reliability of the survey questionnaire. This coefficient ranges in value from 0 to 1 and it was found to be 0.89 for main scale of the questionnaire indicating an acceptable level of reliability.

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 dependent variable of study is preservation and restoration of forests, and the independent variables of study are different educational activities, and some individual characteristics. The data collected from the experts were entered into Statistical Package for Social Science (SPSS) for data analysis. Means, percentages, frequencies, and standard deviation were generated to describe the general trend of the data and correlation coefficients and regression analysis were used to examine relationships among the study variables.

FINDINGS

The experts who participated in the study ranged in age from 23 to 53 years with the mean of 34.5 years old. 55% of experts were male and the rest (45%) were female. The results showed that 63.75% of respondents with highest frequency had

bachelor degree. Also studied experts were asked to indicate their place of residence. According to the findings, more than 93% of respondents live in the city and the rest are residing in the village (table 1,2).

The results of this study indicate that the most important restoration activities in forests include: producing and planting seedlings, protection and conservation of forests, and prevention of forest fires. While activities such as providing women's participation in reforestation programs and integration of dispersed forester families are less important activities (table 3).

In this study to consider the relationship between independent and dependent variables Spearman coefficient were used. The results of correlation analysis show that the variable of "informing forest dwellers through mass media", "workshops", "instructional videos about forest", "proper use of educators", "educational visits of successful forestry projects", and "training appropriate to the needs of forest dwellers" have positive and significant relation with preservation and restoration of forests. The other variables had no significant relationship with dependent variable (table 4).

To examine the effects of different educational variables on preservation and

restoration of forests, multiple regression analysis were used. According to the results of regression analysis, the variables of “informing forest dwellers through mass media”, “workshops”, “educational visits of successful forestry projects”, and “training appropriate to the needs of forest dwellers” was entered in the equation that the multiple regression coefficient (R) was 0.840 and determining coefficient was 0.705. It means that 70.5 percent of changes of preservation and restoration of forests are explained by these variables (table 5).

The results of regression analysis by *enter* method indicated that after entrance of all independent variables which had

significant correlation with dependent variable, only four variables remained. These variables can totally explain 70.5 percent of changes of the dependent variable. Of course, other changes are related to other elements which have not been studied in this research. So, According to the results, the linear equations of regression would be as follow (table 5):

- > Equation based on B coefficient:

$$y = 1.602 + 0.249x_1 + 0.176x_2 + 0.175x_5 + 0.195x_6$$
- > Equation based on β coefficient:

$$y = 0.384x_1 + 0.283x_2 + 0.225x_5 + 0.173x_6$$

Table 1- Frequency distribution of experts in according to age

| Age | frequency | percent | cumulative percent |
|---------|-----------|---------|--------------------|
| 23 – 33 | 38 | 47.50 | 47.50 |
| 33 – 43 | 29 | 36.25 | 83.75 |
| 43 – 53 | 13 | 16.25 | 100 |
| Total | 80 | 100 | - |

Mean: 34.45 SD: 8.04 min: 23 max: 53

Table 2- Frequency distribution of experts in according to education

| Education | frequency | percent | cumulative percent |
|------------------|-----------|---------|--------------------|
| Associate degree | 3 | 3.75 | 3.75 |
| Bachelor | 51 | 63.75 | 67.50 |
| Master | 25 | 31.25 | 98.75 |
| PhD | 1 | 1.25 | 100 |
| Total | 80 | 100 | - |

Table 3- Ranking of the restoration activities of forests

| Restoration activities of forests | Mean | SD | CV (%) | Rank |
|--|------|------|--------|------|
| Producing seedlings | 3.53 | 0.78 | 22.10 | 1 |
| Planting seedlings | 3.53 | 0.88 | 24.93 | 2 |
| Protection and conservation of forests | 3.38 | 0.93 | 27.51 | 3 |
| Preparation of ground | 3.22 | 0.91 | 28.26 | 4 |
| Prevention of forest fires | 3.50 | 1.03 | 29.43 | 5 |
| Afforestation and reforestation | 3.36 | 1.03 | 30.65 | 6 |
| Cooperative participation in decisions related to reforestation | 2.95 | 0.92 | 31.19 | 7 |
| Strengthening the monitoring and control system in the field of conservation and reforestation | 2.95 | 0.94 | 31.86 | 8 |
| Weeding | 2.92 | 0.97 | 33.22 | 9 |
| Replanting | 2.78 | 0.94 | 33.81 | 10 |
| Organizing Evacuation livestock from forests | 2.66 | 0.91 | 34.21 | 11 |
| Developing the capabilities of indigenous knowledge in the field of conservation and reforestation | 2.77 | 0.95 | 34.30 | 12 |
| Crust breaking of ground | 2.73 | 0.94 | 34.43 | 13 |
| Running research projects | 2.65 | 0.94 | 35.47 | 14 |
| Thinning shrubs and bushes | 2.78 | 0.99 | 35.61 | 15 |
| Fertilizing the forests | 2.80 | 1.01 | 36.07 | 16 |
| Providing women's participation in reforestation programs | 2.76 | 1.01 | 36.59 | 17 |
| Integration of dispersed forester families | 2.84 | 1.11 | 39.08 | 18 |

Table 4- Relationship between educational activities with preservation and restoration of forests

| Independent variables | Dependent variable | r | p |
|---|---|---------|-------|
| Informing forest dwellers through mass media | preservation and restoration of forests | 0.447** | 0.000 |
| Individual training in the areas of natural resources | | 0.220 | 0.557 |
| Providing technical knowledge to farmers | | 0.214 | 0.578 |
| Workshops | | 0.330** | 0.000 |
| Instructional videos about forest | | 0.276* | 0.013 |
| Proper use of educators | | 0.266* | 0.017 |
| Educational visits of successful forestry projects | | 0.239* | 0.030 |
| Training appropriate to the needs of forest dwellers | | 0.281* | 0.012 |
| Participating in the classes of Natural Resources | | 0.188 | 0.096 |
| Producing brochure, magazine, booklet and flyers | | 0.143 | 0.204 |

** Significant in 0.01 level of probability; * Significant in 0.05 level of probability

Table 5- Effect rate of variables on preservation and restoration of forests

| variables | Unstandardized Coefficients | | Standardized Coefficients | t | sig. |
|--|-----------------------------|------------|---------------------------|---------|-------|
| | B | Std. Error | Beta | | |
| Constant coefficient | 1.602 | 0.247 | — | 6.487 | 0.000 |
| Informing forest dwellers through mass media (X ₁) | 0.249 | 0.070 | 0.384 | 3.575** | 0.001 |
| Workshops (X ₂) | 0.176 | 0.073 | 0.283 | 1.041* | 0.032 |
| Instructional videos about forest (X ₃) | 0.019 | 0.068 | 0.033 | 0.276 | 0.783 |
| Proper use of educators (X ₄) | -0.020 | 0.078 | 0.036 | -0.251 | 0.802 |
| Educational visits of successful forestry projects (X ₅) | 0.175 | 0.082 | 0.225 | 0.921* | 0.036 |
| Training appropriate to the needs of forest dwellers (X ₆) | 0.195 | 0.060 | 0.173 | 1.570* | 0.012 |

R = 0.840 R² = 0.705 Adjusted R² = 0.679 F = 5.948 (Sig = 0.000)

CONCLUSION

Forests are a conspicuous and crucial component in the livelihoods of all societies – rich or poor, developed or developing, endowed with forests or not (Temu&Ogweno, 2008). Human being has caused much of the destruction of forests and policy makers have realized that they should look for involving local population in protecting the forests (Hosseini, 2011). 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). According to findings of this study, activities such as producing and planting seedlings, protection and conservation of forests, and prevention of forest fires are the most important restoration activities in forests. In another section of this research, the results of

correlation analysis showed that the variables of informing forest dwellers through mass media, workshops, instructional videos about forest, proper use of educators, educational visits of successful forestry projects, and training appropriate to the needs of forest dwellers have positive and significant relation with preservation and restoration of forests.

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