

The Perception of Natural Resources Expert about Factors Influencing the Participation of Beneficiaries in Protecting Pastures

¹Jamal Farajallah Hosseini and ²Mohammad Sadegh Sabouri

¹Islamic Azad University, Garmsar Branch, Garmsar, Iran

²Youth Reseachers Club, Islamic Azad University, Garmsar Branch, Garmsar, Iran

Abstract: Natural resources experts in the Semnan province in Iran were surveyed in order to explore their perception about the factors influencing the participation of beneficiaries in protection of pastures. The total population for this study was 59 experts in the Natural Resources Department in the Semnan province. The data was analyzed by using factor analysis technique. Based on the perception of the respondents and factor analysis, factors were categorized into 5 groups, namely policy making, social, economic, extension/education and psychological factors ordered by the magnitude of their impact.

Key words: Pasture, natural resources experts, participation, protection, perception, Semnan province

INTRODUCTION

Natural resource has an important status in social and economical development in the world. Unfortunately in many countries especially in developing countries increasing population, rapid urbanization, lack of knowledge about importance of natural resources along with inappropriate planning resulted in rapid degradation of forests and rangelands. Iran is no exception and based on the statistics by forest and range organization in every second about 300 m² of forest and 400 m² of rangelands are destroyed in Iran and annually this is accounted the destruction of about one million ha of rangelands.

United Nations (2005) reported that 616,000 km² of total surface area in Iran is considered agricultural land in which 71% of that is permanent pasture. It could point out that several factors contributed to the destruction of rangelands and among them are irregular grazing, overgrazing, rapid urbanization and industrialization, converting the rangelands to farming lands and lack of knowledge and training about appropriate use of rangelands (Jafaei, 1994).

According to the Forest, range and watershed organization, Iran has 12/4 million ha of forest, 90 million ha of pasture and 43 million ha of desert is. The 0.3% of Iran is forest, 55% pasture and 26.2% are desert. The importance of natural resources are not only limited to its environmental aspects but also it has key role in economic development of the country. Based on the latest statistics, 15.7 million ton of forage, 5.4 million cubic meters of pastures and 2 million cubic meter of timber are produced annually in Iran. Comakli *et al.* (2008) citing the studies by

pointed out that heavy grazing and grazing during wrong seasons are the most important rangeland degradation factors. Overgrazing and its attendant effects reduce plant cover and trampling of soil contributes to degradation of rangeland soils.

Human being has caused much of the destruction of rangelands and policy makers have realized that they should look for involving local population in protecting and revitalizing the natural resources.

Empowerment of people in rural areas should be one of the basic elements of any revitalization policy. It should include clear rules and guidelines for decentralization in decision making, participation and empowerment of local people, positive discrimination for marginal groups and institutional development to ensure good governance at local level (FAO, 2006).

There is a belief among policy makers and planners in many countries that a significant portion of destruction and degradation caused by beneficiaries. Allsopp *et al.* (2007) pointed out to this wrong misunderstanding in the South Africa. They indicated that in South Africa, there is a belief that communal herders have little technical skills and individual livestock keepers are selfish, norm free and aiming at maximizing short-term off take and that there is no consistent management of the commons.

However, the research shows that practices of a diversity of livestock keepers are at odds with this viewpoint: access to rangeland and its use are structured by collective norms and concerns regarding both the sharing of resources and their long-term sustainability. Appropriate management decision may be an important factor for pasture owners which impact the duration or

intensity of grazing on rangelands. PROGRAZE is an extension package developed in Australia to assist the pasture owners to improve their decision making ability on maintaining or improving the rangelands (Bell and Allan, 2000).

Traditional knowledge can play an important role in managing the agriculture and forestry (e.g., community rangelands) but this kind of knowledge is gradually lost because older generation no longer employs traditional practices and there are no young people to continue (FAO, 2006).

In a project by the Global Environmental Fund (GEF), about the revitalization of traditional grazing practices in Kazakhstan, it was found out that revival and improvement of traditional methods as well as training of the local community had impacts on rangelands operation, conservation and rehabilitation (Global Environmental Fund, 2006).

In Iran, the history of people's participation in management of natural resources goes back to 50 years ago and currently about 400,000 ha of forest in Northern Iran is managed by private sector. Shaeri (2004) reported that >7000 volunteers are working along with Natural Resources Departments to help them in protecting the forests and rangelands. Based on the official statistics by Forest and range organization about 800 forest and pasture cooperative established in Iran. The government of Iran, in order to combat the destruction of rangelands has introduced the revitalization projects. In these projects, efforts were directed to offer pasture owners and herders with the scientific and applied methods in revitalizing the rangelands.

Research about the participation of beneficiaries showed positive results in protection of rangelands. Shirazi (1996) in a research, about ways to attract the participation of ranchers in rangelands projects in the city of Saveh found out the educational level had impact on their participation.

A study by Zandi (1995) indicated that holding pasture educational classes, social status and available resources for farming influenced the participation of beneficiaries in rangelands projects. Poor (2002) studied the role of extension in participation of beneficiaries in pasture projects and found out that contact with extension agents and knowledge about benefits and objectives of pasture projects had positive relationship with the participation. Aboeh (2002) reported that income level of ranchers, knowledge about pasture projects, forage needs, attending the extension classes and contact with extension agents had impact on protecting and revitalizing of rangelands in the Semnan province. Adhamy Mojarrad examined the attitudes of

beneficiaries toward new pasture management and found out that establishing the ownership guidelines for rangelands and allocating the credits and loan could result in a better pasture management. According to numerous experts, participation in natural resources is a process by which stakeholders and its partners can affect on determining priorities, policies, allocating resources and implementing programs.

The results of study by Shariati and others entitled factors affecting participation of foresters in protecting the country's Northern and Western forests show that there was relationship between the variables of education level, knowledge of the importance and benefits of forests, participation in educational/extension programs, printed extension materials, the use of educational films, the use of lecture sessions, educational programs using radio, television use, contacts by extension agents, contact with volunteers protecting forests and supplying fuel by government with participation of local people in protecting forests as dependent variable.

Motevale in his study titled barriers and problems of conservation of natural resources in the province of Semnan found out that shortages of rangers and extension agents, overusing the natural resources, presence of large number of livestock in forest and pasture, lack of coordination among executive agencies, lack of material incentives for participation in the protection of utilization of natural resources, low technical literacy level of foresters were among the factors preventing the participation of people in protecting the natural resources. The province of Semnan is located in central part of country and it has 9.8 million ha surface area. It is the 6th largest province in Iran and >20% of its area is considered national areas, protected areas and wild life habitats. The central research question is what are the factors which influence and affect the participation of beneficiaries in protecting pastures in Semnan province, Iran.

The purpose of this study is two fold. First, it determines the key factors that influence and affect the participation of beneficiaries in protecting pastures in Semnan province, Iran. Secondly, it provides suggestions for policy recommendations.

MATERIALS AND METHODS

The methodology used in this study involved a three stage combination of descriptive and quantitative research. Stage one involved a series of in-depth interviews were conducted with senior experts in the Forest, range and watershed organization in the Ministry of Agriculture to provide a context. A questionnaire was

Table 1: Variables and their measurement scale

Variables	Measurement scale
Attitudes about economic factors	Five-point Likert
Attitudes about social factors	Five-point Likert
Attitudes about policy making factors	Five-point Likert
Attitudes about extension/education factors	Five-point Likert
Attitudes about psychological factors	Five-point Likert

developed based on these interviews and relevant literature. The questionnaire included fixed-choice questions. A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used as a quantitative measure.

The final questionnaire was divided into several sections. The 1st section was designed to gather information about personal characteristics of respondents. The 2nd section was designed to measure the attitudes of natural resources experts about the economic, social, extension/education, policymakers and psychological factors that influence the participation of beneficiaries in protection of pastures. The respondents were asked to indicate their agreements with statements by marking their response on a five point Likert-type scale. The variables and their measurement scale are shown in Table 1. Content and face validity were established by a panel of experts consisting of faculty members at Science and Research Branch, Islamic Azad University and some experts in the Forest, range and watershed organization. Minor wording and structuring of the instrument were made based on the recommendation of the panel of experts. Stage two involved a pilot study with 30 natural resources experts in the province of Tehran 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 93.0% which indicated that the questionnaire was highly reliable. Stage three involved a survey held in summer 2010. The research population included all natural resources expert in the Department of Natural Resources in the Semnan province (N = 59). The data collected by interviewing the respondents and analyzed by using ordinal factor analysis technique.

RESULTS

Table 2 shows the demographic profile of respondents. The results of descriptive statistics indicated that 49 respondents were male with a mean age of >37 years old. The results also show that majority of respondents were married with 11 years average of experience. The classification of the factors into six latent variables was shown in Table 3. The variables were classified in economic, social, extension/education psychological and policymaking factors. The basic idea of factor analysis is to find a set of latent variables that

Table 2: Personal characteristics of respondents

Parameters	Values
Sex	
Female	(n = 10)
Male	(n = 49)
Marital status	
Single	(n = 8)
Married	(n = 51)
Age/year (Mean)	37.24
Work experience/year (Mean)	11.4

Table 3: Classification of factors by using ordinal factor analysis

Factors	Variance by factor (%)
Policy making	22.85
Social	12.52
Economic	8.51
Extension/education	6.60
Psychological	5.45
Total	55.93

Table 4: KMO amount and meaningful level of Bartlet test

Factorial analysis	KMO	Bartlet test	Sig.
Factors influencing the participation in protection of pastures	0.801	8201.205	0.00

contain the same information. The classic factor analysis assumes that the both observed and the latent variables are continuous variables. KMO and Bartlet test were used to show the extent variables have correlation and dependence to each other. In factorial analysis when KMO is <0.5, data are not suitable for factorial analysis and when KMO is between 0.5-0.7, data are suitable for factorial analysis. KMO amount and meaningful level of Bartlet test indicated in Table 4 that shows are very suitable for factorial analysis.

The results show that these factors contributed about 53% of variance in the perception of respondents about factors influencing the participation of beneficiaries in protection of pastures. Table 3 shows components of each factor as well as portion of each factor from the total common variance. As one may observe, about 53% of total common variance is explained by these five factors where the majority of it has been explained by the policy making factor.

DISCUSSION

As shown in the factorial analysis, the factors were categorized in 5 groups; policymaking, social, economic, extension/education and psychological factors. These factors were then ordered by the magnitude of their impact. The participation of beneficiaries in protection of natural resources could be achieved over time. Therefore, certain special factors should be identified and need to be carefully examined. The findings show that based on the perception of experts, policymaking factors is the most important factor which could influence participation of beneficiaries in the protection of pastures a result that echoes the findings of FAOUN (2006). The results also

show that more awareness and knowledge about the importance of pastures is widely needed by the people most likely benefit it. In this regard, extension and education classes and packages could inform beneficiaries about the benefits and ways to control the destruction of pastures. The research by Hosseini and Saboonchi (2010) finds that extension classes increase the participation of pasture owners in protecting and revitalizing the pastures. The findings reflect an important fact, namely that social factors such as role of local leaders would have a positive impact on participation of beneficiaries in protecting pastures. As findings of study by Hosseini and Saboonchi (2010) suggest, local leaders should be given an important role in encouraging the rangelands owners to participate in the revitalization projects.

CONCLUSION

This study demonstrated that opinion and attitudes toward factors influencing the participation of beneficiaries in protecting pastures to a great extent depend upon policy making, social, economic and extension/education and psychological factors. Government should explore ways to increase the participation of beneficiaries in planning, implementing and evaluating programs related to protection of pastures.

REFERENCES

Abooeh, F., 2002. Factors affecting participation of ranchers in protection and revitalization of rangelands in the Province of Semnan. Master Thesis, Islamic Azad University, Science and Research Branch.

Allsopp, N., C. Laurent, L.M.C. Debeaudoin and M.I. Samuels, 2007. Environmental perceptions and practices of livestock keepers on the Namaqualand Commons challenge conventional rangeland management. *J. Arid. Environ.*, 4: 740-754.

Bell, A.K. and C.J. Allan, 2000. PROGRAZE-an extension package in grazing and pasture management. *Aust. J. Exp. Agric.*, 40: 325-330.

Comakli, B., M. Dasci and A. Koc, 2008. The effects of traditional grazing practices on upland (Yayla) rangeland vegetation and forage quality. *Turk. J. Agric. For.*, 32: 259-265.

FAOUN, 2006. The role of agriculture and rural development in revitalizing abandoned/depopulated areas. Policy Assistance Branch, Regional Office in Europe.

Global Environmental Fund, 2006. Revitalization of traditional grazing practices in Pre-Aral Region. GEF Small Grant Program, United Nations: New York.

Hosseini, S.J.F. and A. Saboonchi, 2010. The perception of pasture owners about factors influencing their participation in the revitalization of rangelands in Kermanshah Province. *Aust. J. Basic Applied Sci.*, 4: 3708-3712.

Jafae, S., 1994. Knowledge about Rangelands. Ministry of Agriculture, Tehran.

Poor, M.H., 2002. The role of extension in participation of managers of pasture projects in the City of Semnan. Master Thesis, Islamic Azad University, Science and Research Branch.

Shaeri, A., 2004. Practical Guidelines in Natural Resource Extension. Ponneh Publication, Tehran.

Shirazi, M., 1996. To examine ways in attracting ranchers in Rangelands Education programs in the City of Saveh. Master Thesis, Islamic Azad University, Science and Research Branch.

United Nations, 2005. Environmental Statistics of Islamic Republic of Iran. United Nations Statistical Division, New York.

Zandi, K.S., 1995. Factors influencing the participation of ranchers in revitalization projects. Master Thesis, Tehran University, College of Agriculture.