The Journal of Animal & Plant Sciences, 22(4): 2012, Page: 1167-1172
ISSN: 1018-7081

PERCEIVED IMPACT OF PARTICIPATION IN FOREST MANAGEMENT ON NATURAL AND SOCIAL CAPITALS IN MANSEHRA DISTRICT OF PAKISTAN

B. Shahbaz, T. Ali and M. Awais

Institute of Agric. Extension & Rural Development, University of Agriculture, Faisalabad
Corresponding author's e-mail: babar.shahbaz@gmail.com

ABSTRACT

The paradigm shift in forest governance – from top-down bureaucratic to participatory approach – in many developing countries was made during the nineties in response to the high deforestation and inefficiency of state institutions for sustainable forest governance. In the mountainous region of Khyber Pakhtunkhwa province of Pakistan (previously known as North West Frontier Province, NWFP) the process of institutional changes in forestry sector was also started in the mid nineties and now participation to local stakeholders has become a significant feature of the forest policy of the province. To confer practical look to the participatory forestry, village level institutions were established in the selected villages for the management of forests and carrying out developmental activities. In this milieu, this paper attempts to assess the net correlation between participation in forest management and livelihood assets of the forest dwellers by using sustainable livelihoods framework. The results showed that there was positive relationship (net correlation) between participation and the access of the respondents to social and natural assets, but other livelihood assets (financial, human and physical) remained unchanged. It is recommended that sustainable management of forest resources necessitates that the forest conservation initiatives should be coupled with the enhancement of financial and human capital of the communities living in or around forest areas.

Key words: Sustainable forest management, Participatory approach, Livelihood assets, Social Capital, Northwest Pakistan.

INTRODUCTION

Sustainable forest governance is one of the major agenda items of international development and environmental debates. In context of the Forest Principles of UNCED's Agenda 21, global community and countries all over the world have committed to take necessary measures for the management of forest resources to ensure the sustained availability of the goods, and environmental/social services provided by the forest and trees (FAO, 2001 and 2007). The Convention on Biodiversity (CBD) has also emphasized that the nation states would develop action plans to conserve the forests and other natural resources for conservation and sustainable use of biodiversity (Zedan, 2000). And as a result there have been various positive changes in the forest policy issues including acknowledgment of the contribution of forests in achieving sustainable development, livelihood and food security, increased international cooperation and development aid for sustainable forestry, emphasize on the participation of stakeholders in forest management etc. (FAO, 2007). Consequently institutional changes in forest management paradigm have been made in many developing countries and participatory or joint forest management became major policy trend in the forestry sector of most of the countries (Agrawal and Gupta, 2005; Nygren , 2005; Shahbaz *et al*., 2007)

Policies and institutions pertaining to the management of natural resources and rural livelihoods are closely associated. Many authors have argued that the access to livelihood assets/opportunities is determined by the policies, institutions and organizations (Baumann and Sinha, 2001; de-Haan and Zoomers, 2005). Policies and institutions (formal and informal) form the milieu in which rural people construct their livelihoods (Hobley, 2001) and adopt different livelihood strategies (Mueller-Boeker, 2004). Forests management policies also have a direct but complex relationship with the rural livelihoods (Fometer and Vermaat, 2001; Kaimowitz, 2002). Forest management paradigms, such as decentralization and community forestry have the potential to contribute positively to the improvement of rural livelihoods – specifically the access to livelihood assets (DFID, 2001) – and alleviation of poverty (Fometer and Vermaat, 2001; Wattoo *et al*., 2010). The present paper attempts to contribute to this important area of research and more explicitly it estimates the relationship between participatory forest management and livelihoods of rural communities living in the forest-rich mountainous regions of Northwest Pakistan.

The mountainous region of Khyber Pakhtunkhwa (KPK) province located in the northwest of Pakistan has the largest area of productive forests of the country's four provinces (40 percent of the total forest area of Pakistan is in KPK). While the natural forests or trees planted on the farm lands cover only about 5% of

the total land area of Pakistan (Government of Pakistan, 2010). The forests of KPK are distributed over the Hindukush and Himalayan mountains and contribute significantly towards the economy of country (Poffenberger, 2000). However forest depletion in this region is one of the most serious environmental issues as according to FAO (2007), the deforestation rate in Pakistan was 2.1% annually. Conversion of forest land into agricultural area, urbanization, roads construction, dependence of rural people on forest wood for fuel, over gazing of land by cattle etc. are some of the causes of high deforestation in (Rome, 2005; Ali *et al*., 2006). Many authors (Geiser and Steimann, 2004; Shahbaz *et al*., 2007 and 2008) have argued that ineffective bureaucratic and non-participatory forest governance strategies and practices are the major causes of deforestation in KPK.

As discussed earlier, joint forest management (JFM) is considered as a key instrument for mitigating the problems of forest depletion and ensuring the sustainable livelihoods of the rural people (Dupar and Badenoch, 2002; Nygren, 2005). In Pakistan the process of institutional changes in forestry sector – from top down bureaucratic to participatory– was started in late nineties through Asian Development Bank's funded forestry sector project (FSP) in KPK (Steimann, 2003; Ali *et al*., 2006). Under this project the administrative system of forestry sector in the province was re-oriented to allow stakeholders' participation in decision-making related to forestry issues.

The major aim of JFM policy was the protection and improvement of the rural areas (particularly mountainous areas of KPK), and increasing the productivity of natural forests through active participation of stakeholders in the planning and implementation of project related activities (ADB, 1995). Decentralized land use planning at village level – known as village land use plan (VLUP) – was introduced for the management of natural resources including forests with the active participation of the local stakeholders in the selected villages (Khattak, 2002; Steimann, 2003). Various village level organizations such as, joint forest management committees (JFMC), women organizations (WO) and village development committees (VDC) were created to govern the natural resources of the village and to monitor the affairs of the village land use plan (VLUP) etc.

In this backdrop, the present paper uses a livelihoods perspective and attempts to find out the net correlation between participation in forest management and livelihoods of local communities. More specifically this paper explores the impact of joint forest management in the study area on livelihood assets of the respondents.

METHODOLOGY

Khyber Pakhtunkhwa (KPK) province of Pakistan (formerly known as North West Frontier Province, NWFP) is known to have the largest area of natural forests than other provinces of Pakistan. Within KPK, Mansehra district was chosen for the study purposes because this district has maximum forest cover than any other district of Pakistan. To select an appropriate sample, "extreme or deviant case sampling" technique was employed (Patton, 1990). For sample selection, an exploratory study was conducted by using qualitative techniques such as key-informant interviews, personal observations and analysis of the related records/published materials. Two extreme case villages were selected viz. i) high participation village (where there was an active participation of local communities in forest management and the provincial Forest Department had carried out maximum activities related to JFM), 2) the low participation village (where there was a passive participant of local people in forest management and the Forest Department had carried out least activities in the context of JFM). The study of conducted in the following 2 villages:

High Participation Village (HPV): It was the high profile village (village Timri in Mansehra district of KPK) where different institutions (JFMC and VDC) were working actively. The frequency of the meetings, participation of villagers and the members of committees and developmental work carried out by the committees were selected as criteria for selection of this village.

Timri village with its coordinates 34º 32' N (latitude) and 73º 17' E (longitude) is situated in Shinkiari forest range of KPK, at an elevation of 4050ft to 6000ft above mean sea level. The village area falls in the zone where summers are considerably hot and winters are quite cold. The snowfall occurs in the upper reaches and stays on ground for few days. The terrain is undulating and the soil is sandy to clayey. In Timri village almost all households belong to *Gujjar* caste.

Low Participation Village (LPV): The village Buzbella in district Mansehra, having the passive activities of the VDC and JFMC was included in the study. In this village, the frequency of holding the meetings and people's participation, both were very low.

The altitude of Buzbela varies from 5300 ft. to 6800 ft. above sea level and it is also in Shinkiari forest range. Its location is 34º 36' N (latitude) and 73º 16' E (longitude). The *Awan* and *Gujjar* tribes are the prime inhabitants the village.

Both quantitative and qualitative methods were used to collect data for this study. Key informant interviews, focus group discussions and participant observations were conducted to obtain qualitative data. The quantitative data were acquired with the help of a

structured questionnaire from randomly selected 110 households from HPV and 104 from LPV. Various indicators of livelihood assets from sustainable livelihoods framework (DFID, 2001) were identified and in most of the cases Likert scale was used.

RESULTS AND DISCUSSION

To find whether there existed significant differences among the existing (present) livelihood assets of the forest users of the high participation village (HPV) and those of the low participation village (LPV) t-tests were applied. While the qualitative data were also used to support and further elaborate the finding of the quantitative data.

Natural capital: The respondents were asked regarding their perceptions about the density as well as institutional access to the forests of their respective village on a 5-point likert scale defined for density (1=very low; 2=low; 3=average; 4=high; and 5=very high), and institutional access (1=very difficult, 2=difficult, 3=average, 4=easy and 5=very easy). The mean value for the perceived level of density of the forests (Table 1) was recorded as 3.82 and 2.79 respectively, indicating that perceived density of the forests in HPV was significantly higher as compared to the LPV. Likewise the institutional access to the forests in HPV was significantly easier than that of LPV (Table 1).

Table 1: Perceptions of respondents regarding natural and social capital.

Villages	Frequency	Mean	t-cal	t-tab	Result
Perceived density of forests					
HPV	110	3.82	13.13	1.96	Highly Significant
LPV	104	2.79			
Institutional access to forest resources					
HPV	110	3.04	11.06	1.96	Highly Significant
LPV	104	2.19			
Relationship with forest staff					
HPV	110	2.99	8.07	1.96	Significant
LPV	104	2.43			
Participation in the activities of JFMC					
HPV	110	2.56	15.92	1.96	Highly Significant
LPV	104	1.17			
Participation in the activities of VDC					
HPV	110	2.58	16.92	1.96	Highly Significant
LPV	104	1.1			

Source: Awais (2005)

It is obvious from the Table 1, that there is better institutional access to the forest resources in HPV and it indicated that the performance of VDC and JFMC in that village was good as compared to the village (LPV) with passive activities of VDC and JFMC. The qualitative interviews revealed that more sense of ownership existed among the people of HPV, leading to the preservation of forests. Many respondents of this village were satisfied with the performance of VDC and JFMC regarding their help in facilitating the villagers to get formal permit from the officials of forest department to access forest resources for their household utilization. It was also observed that people had rights to graze their livestock and herds of sheep and goats in the state forest territories with the permission of the forest staff appointed in the area. They could also get the broken/fallen firewood for their domestic use.

Some of the qualitative remarks are as follows.

A forest guard of the HPV told ".... before the introduction of the participatory forest management people thought of the forest staff as their enemies and never let any chance go missed to cut-down the trees illegally, (but he said it with full confidence) that the people of the village have now started realizing that forests are their wealth and they have to take care of them". Whereas one of the respondents of LPV commented with anger "the VDC was rubbish and nothing else. I don't remember that VDC had done some good work for the protection of the forest resource of the area except telling us how to get permits to access these forests."

Other indicators of natural capital (access to water and land) were also measured and no significant differences were found in the responses of two villages. The results of the qualitative interviews show that the participation of local people in forest governance had elevated their level of awareness regarding forest

protection and forest conservation (Table 1). These findings substantiate the findings of some previous researchers (Dupar and Badenoch, 2002; Prasad and Kant, 2003) who argued that the local stakeholders, if given adequate powers, awareness, capacity building then they can effectively protect the forest resources.

Social capital: The term 'social capital' represents the social resources which people use to accomplish their livelihood objectives. Social capital is developed through membership of formalized groups, networks, relationships of trust etc. (DFID, 2001; Larson and Ribot, 2004). The indicators for social capital were the relationships with forest staff, relationships with the members of VDC and JFMC workers, degree of trust on VDC and JFMC, level of participation in VDC and JFMC. The level of relationship was measured on a 5 point Likert scale (0=Aloof, 1=very reserved, 2=reserved, 3= cooperative, 4= very cooperative), while the degree of trust and level of participation was also recorded on an 5 point Likert scale (representing 1 = very low; 2 = low; 3 = average; 4 = high; and 5 = very high). Significant to highly significant results were found for the social capital.

The relationship of respondents with the forest staff in the HPV was significantly higher than that of the LPV. Similarly the trust and relationship of the respondents of HPV, on the members of VDCs and JFMCs was significantly more than that of the LPV. The level of participation in the activities of the VDC and JFMC were low in both the villages but were comparatively better in the LPV.

Table 1 also shows the level of participation of the respondents in the activities of village level committees measured on five point scale (1 = very low; 2 = low; 3 = average; 4 = high; and 5 = very high). The participation of the respondents in the activities of village level committees in LPV was significantly lower than that of HPV. The qualitative interviews revealed that that the women organizations (WO's) were not working actively in both of the villages because of the social constraints for the women to move or interact freely in KPK. The performance of the WOs was found below par, and it was one of the main factors hindering the effectiveness of the JFM process. The main reasons reported by the key informants were because of the dominance by the males and influence of the religious groups in rural areas of the province. A male is considered disgraced if the female of his house comes out and participates in the meetings. Another factor reported by the participants regarding the disappointing performance of the women organizations was lack of capacity (very low literacy level) and leadership in female population of the rural areas of KPK. For example, a VDC member expressed that there was no specific work defined for WO, secondly no budg*et al*location had ever been made for this organization to get engaged in any activity. Besides, no female representative from Forest Department ever came to organize the WO.

In the LPV, enormous resentment was found amongst the people towards the VDC and JFMC of the village. Reasons noticed behind the spoiled relationships and lack of degree of trust on these institutions were; lack of interaction between the representatives of these institutions themselves, very few meetings of these organizations ever since their formation, and the conflicts between the members of the VDC and JFMC. On the other hand the relationships of the people of the HPV, with JFMC and VDC's members were comparatively better. However, people of this village trusted VDC more than JFMC due to its previously undertaken activities. It was noted that people living close to main village (in the valley) were more familiar with the name and activities of VDC as compared to those living in far off hamlets. There were mainly two reasons observed: VDC normally conducted its weekly meetings in the main hamlet or its vicinity and development activities like nursery raising training programmes and the water supply scheme was started from the same area.

The interaction and relationship of the residents of HPV with their councillors (elected leaders of the local government) was also increased. Although the VDC, JFMC and WO don't have any prescribed interaction with the local governments, but as some councillors were also the members of these institutions therefore the villagers of HPV have more chances of interaction with their elected leaders.

On the basis of overall results it was concluded that there exists a correlation between participation and social capital of the people. The barrier that existed earlier between the forest staff and the local people is gradually being removed by taking people from with in the communities for the management of the forest resource of their area. Duper and Badenoch (2002) stated that decentralized management of forests has the potential to enhance communities' livelihood assets.

Human capital: The human capital indicated the skill, education, knowledge, capacity to work, and good health that allow people to pursue different strategies and achieve their livelihood outcomes (DFID, 2001). The level of education of HPV and LPV is presented in the Table 2. It can be seen from table that most of respondents in HPV and LPV had no formal education. It means the literacy rate in the area was lower than 25% whereas the national literacy rate of Pakistan is higher than 55% (Government Pakistan, 2010). Even among the literate people, there were very few respondents who had an education level of above high school (10^{th} grade level). This situation needs immediate consideration by the government to enhance the literacy rates in the area.

Illiteracy leads to ignorance and ignorance leads to poverty which ultimately may generate multiple issues, sufferings and miseries in the society.

Table 2: Education level of the respondents

Years of Schooling	Percentage	
	HPV	LPV
Illiterate	74.5	67.3
Primary (up to 5 year)	10.0	16.3
Middle (6 to 8 years)	3.6	4.8
High School (10 years)	10.0	8.7
Intermediate (12 years)	0.9	2.9
Graduate (14 years)	0.9	0.0
Total	100.0	100.0

Source: Awais (2005)

The qualitative data revealed that majority of people of the area had the old and traditional knowledge of farming etc. Scarcities of the resources and unfamiliarity with the modern dimensions of cultivation, construction, teaching etc. were the main causes of the low knowledge of the respondents regarding their livelihood strategies. One of the farmers narrated that whatever he had learnt from their forefathers was being practiced by him and would be followed by his children as well. Another respondent was of the opinion that no one had ever come to educate him and improve his level of knowledge on the better means of earnings; secondly, he opined that learning of new methods would also require money for its application what he didn't have". A respondent (van driver) said that he knew how to drive a van because a number of times he had seen drivers driving vans but nobody had educated him about the traffic rules and regulations etc.

Perceived health status of the respondents was measured on a five point Likert scale (1 = very low; 2 = low; and 5 = very high). The health status in both of the villages was between high and very high with their respective mean values of 4.4 and 4.5 for the HPV and LPV, however, there was no significant difference found between the mean values. It was very interesting to note that despite people did not have even the basic facilities of health in the area and had to move to cities to access medical treatment however, majority of the respondents were found full of health and energy. A respondent commented that they had good clean climate, sweet water, unadulterated vegetables and flour, they daily climbed up and down the difficult hilly tracts; and then why should they not be healthy. He added that their good health status didn't imply that government should not provide them the health facilities as their ladies were facing maternity problems and their young kids were dying with fever.

Conclusions and Recommendations: Significant differences were recorded in the calculated means of natural and social livelihood assets (natural and social) of HPV and those of LPV respondents. The means of the perceived assets of HPV respondents were higher than those of LPV respondents. It indicates that a relationship (net correlation) exists between participation in forest management and natural (forest related) and social assets of respondents in HPV. However, no significant difference was observed in other livelihood assets (financial, human and physical assets). It implies that participatory or joint forest management concept has not been introduced in the province in holistic way and it has ensured a partial livelihood security for the forest users of the study area. Some of the livelihood capitals (natural and social) have received more attention than the others, which is not a good indication for the pursuit of a broad based development concept.

The development of human and financial capital is considered by many authors (for example Dupar and Bedenoch, 2002; Prasad and Kant, 2003) as the main expected outcomes of the joint forest management. However there are very few provisions regarding the enhancement of the human and financial capital in KPK's model of JFM. It is therefore recommended that more emphasis should be given to develop human and financial capitals through non-formal education, small business from non-timber forest products etc. The trainings should be given according to the local needs. Lack of female social organizers in the forest department of KPK remains a very common but negative feature to notice. It is recommended that the local educated women should be given appropriate training and afterwards these women may be recruited as female forestry extensionists to mobilize the women organizations.

Acknowledgement: The authors acknowledge the support provided by Swiss National Center for Competence in Research (NCCR North-South) which is being funded by Swiss National Science Foundation (SNSF) and Swiss Agency for Development and Cooperation (SDC).

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