

Socio-Cultural Traditions, Ecological Features and Indigenous Practices in Spiti Valley of Trans-Himalayan Region: Understanding Rationale and Implications for Natural Resource Conservation and Agricultural Development

H.R. Sharma¹ and S.K. Chauhan^{2*}

¹ Central University of Himachal Pradesh, Dharamshala 176 215, India

² CSK Himachal Pradesh Agricultural University, Palampur 176 062, India

Received: March 2013

Abstract: The present study, carried out in trans-Himalayan region of Himachal Pradesh, shows that the most important ecological changes in people's perceptions, *inter alia*, are decrease in area under forests, wastelands, fallow and common lands. The study also shows that while there is no significant change in food habits, the dress culture has witnessed a most conspicuous change. Further, a less number of festivals and fairs are now celebrated as compared to a decade ago. Another most notable positive social change has been a significant increase in the enrolment of boys and girls in schools and positive attitude of people towards small family. However, notwithstanding spread of literacy and increasing awareness among local population, a number of superstitions are still practiced. Among indigenous practices, rules and regulations for maintaining and sharing water resources, sharing labor, crop rotation and the practice of primogeniture have positive implications towards conservation of natural resources and agricultural development.

Key words: Spiti Valley, land use, ecology, education, traditional practices.

Agricultural development in mountainous regions is constrained by inaccessibility, marginality, fragility, niche and human adaptation mechanism created by unique vertical dimensions that distinguish them from the plains and other eco-systems. A number of studies, both from the Indian Himalayas and abroad, have shown that agriculture in the mountains faces serious problems of dwindling crop yields and resource degradation, which may aggravate further if remedial measures are not undertaken immediately (Jodha, 1992; Shrestha, 1992; Dev, 1994). The net result has been the deepening ecological degradation and low level of income manifested in endemic poverty and impoverishment. Therefore, diversification of agriculture towards selective high value cash crops, including fruits and vegetables, compatible with the micro-climatic niches, is suggested as a way forward to stabilize and enhance farm income, augment employment opportunities for the small and marginal farmers, and conserve natural resources, principally land and water (Vyas, 1996; Joshi *et al.*, 2007).

In Himachal Pradesh, agricultural development has made considerable progress since the early 1970s, as is evident from increase in the production of food grains from 9.45 lakh tonnes in 1972-73 to 14.94 lakh tonnes in 2010-11 (Govt. of H.P., 2012). The productivity of different crops has also increased by varying degrees. The most important change has been diversification towards high-value cash crops, including fruits and vegetables, especially in the temperate agro-climatic conditions of Shimla, Solan, Lahaul-Spiti, Kinnaur, and Chamba districts. The fruit and vegetable growing started in the late 1960s, and gathered pace in the next three decades to spread now to many new areas in the low and mid-hill districts. Empirical studies have shown that crop diversification has made significant impact on the income and employment of the cultivating households. Growing of crops like peas, cabbage, cauliflower, capsicum, tomato, etc. is not only economically beneficial, but has also been found to lessen stress on natural resource base (Chand, 1996; Sharma, 1996, 2005, 2011; Vyas, 1996; Joshi *et al.*, 2007; Sharma and Chauhan, 2008).

*E-mail: skchauhan1958@gmail.com

Table 1. Village-wise sampling distribution of households

Name of village	Total households	No. of selected households	Category of selected households	
			Small	Large
Dhankar	45 (7.98)	16 (8.00)	9 (8.82)	7 (7.14)
Gue	45 (7.98)	16 (8.00)	8 (7.84)	8 (8.16)
Hansa	48 (8.51)	17 (8.50)	9 (8.82)	8 (8.16)
Kibber	80 (5.31)	28 (14.00)	9 (8.82)	19 (19.39)
Kungri	30 (14.18)	11 (5.50)	8 (7.84)	3 (3.06)
Lari	50 (8.87)	18 (9.00)	9 (8.82)	9 (9.18)
Losar	45 (7.98)	16 (8.00)	9 (8.82)	7 (7.14)
Poh	78 (13.83)	28 (14.00)	15 (14.72)	13 (13.27)
Sagnam	68 (12.06)	24 (12.00)	14 (13.74)	10 (10.21)
Tabo	75 (13.30)	26 (13.00)	12 (11.76)	14 (14.29)
Total	564 (100.00)	200 (100.00)	102 (100.00)	98 (100.00)

Note: Figures in parentheses indicate percentages.

Source: Field Survey, 2008-09.

The remote and difficult mountainous terrains like the cold desert of Spiti (Kaza) development block in Lahaul & Spiti district have, however, remained inaccessible for a long time. Modern technology is not easily available to the farmers of these areas except a few like use of improved seed, fertilizers and plant protection measures, and diversifying to high-value crops like garden pea and apple. The extent of adoption of these modern agricultural technologies and constraints in terms of availability, socio-cultural practices and marketing has not yet been documented. The present study, therefore, aims to understand the socio-cultural and ecological features of the area, the perception of farmers about changes in the features over time, the role of prevailing socio-cultural and indigenous practices in adoption of new agricultural technology and crop diversification, and the implications of these practices for conservation of natural resources and agricultural development.

Materials and Methods

The study in Spiti sub-division is based on primary data. Ten villages, namely, Kibber, Dhankar, Gue, Sagnam, Losar, Hansa, Poh, Lari, Kungri and Tabo were selected to represent different valleys having different micro-climatic niches and cropping patterns. From these villages, a sample of 200 households was selected randomly through proportional allocation method, and were post-stratified into two categories, i.e. small (102) and large (98), using cube-root cumulative frequency method.

Those owning up to 1 ha land were designated as small households and the remaining as large households. In addition, one key informant from each village was chosen from among the Panchayat Pradhans, branch post-masters, patwaris, school teachers, ex MLAs, etc. (Tables 1 and 2). Two schedules, one village-level and other household-level, were prepared. While the former schedule was used to collect village-level information from key informants, the latter was canvassed among sample households. The data were collected through a personal interview method.

The opinion of the key informants was sought regarding changes during the last one decade especially in forest area, operational area under crops, wastelands, fallow land, crops grown, area under orchards, number of poly-houses, area under sea buckthorn, nature of intervention, NGOs operating in the area, livestock rearing, cultural traditions, important fairs and festivals, dress, birds, number of children, enrolment in schools, food habits, availability of common land, existence of wild animals, practice of sending second son to monasteries, beliefs about treatment of diseases, etc. The household level data were collected on demographic features, land inventory, inventory of farm buildings, implements and machinery, livestock inventory, cropping pattern, inputs use, etc. Data collection pertained to two cropping years (there is only one season for raising crops in a year from March-April to September-October), 2007-08 and 2008-09.

Table 2. Details of village key informants

Name of village	Important characteristics of key informants			
	Name	Age (Years)	Education	Social status
Dhankar	Kalzang	24	Senior Secondary	Panchayat Pradhan
Gue	Devi Butit	44	Matriculation	Branch Post Master
Hansa	Tolke Chemling	56	Matriculation	Pharmacist
Kibber	Mingur Chhering	43	Matriculation	Patwari
Kungri	Namgil Sumdo	48	Matriculation,	JBT Teacher
Lari	Phunchowk Rai	65	Post-graduate	Ex MLA
Losar	Janchuk Gela	27	Senior Secondary	Panchayat Pradhan
Poh	Chhimet Tandum	40	Matriculation	JBT Teacher
Sagmam	Raj Kumar	41	Matriculation	JBT Teacher
Tabo	Bhagat	46	Matriculation	Ex Pradhan

Source: Field Survey, 2008-09.

Results and Discussion

About 70% of the key informants reported that the area under forests, wastelands, fallow land and common lands has reduced over the last one decade because of more area being brought under cultivation, especially for planting apple orchards and also because of allotment of such lands to landless households. All the key informants reported that the number of animals reared has reduced. Yak and *churus*, sheep, goats and horses are the main animals reared by almost all households. Among the milch animals, local cows are more popular though some farmers also keep cross-bred cows due to their high milk yield. The number of crops grown has increased and garden pea and potato are newly introduced crops. The area under sea buckthorn is reported to have increased. About 80% of key informants reported no significant change in the food habit of the local people, and in cultural traditions, despite the fact that people who go outside for higher education and in search of job opportunities, do bring some change in food habits and clothing. Such people also show less interest in local traditions and cultural practices. The most important change is noticed in the dress.

It is also reported that less number of festivals are now celebrated as compared to a decade ago, but the attendance in these festivals and fairs remains fairly high because the tourists show keen interest in them. *Gutor* festival, to celebrate victory of good over evil, is widely celebrated in the Spiti region, particularly in the monasteries at Kee, Tabo, Dhankar and Kungri

in Pin Valley. *Sonchoti* is another unique festival of the Pin Valley, during which a ceremony is performed for the dead, once in every 6-7 years. *Lamas* hold special prayer meetings, and the festivities last for 4-5 days. Another important fair is *Ladarch* which is held annually in July near Kibber. It attracts traders from Ladakh, Lahaul, Rampur Bushahr and Spiti who sell here their products and buy local products. This fair in older times used to attract traders from Tibet also. *Dushehra* and *Diwali* festivals are also celebrated.

One of the most notable social changes is the significant increase in enrolment of boys and girls in schools. While in case of boys it is 100%, among girls it is 95%. Among boys, the highest education received is post-graduation, whereas among girls it is senior secondary level. There has also been a change in the attitude of the people towards small family norms, and family planning is considered good. People still use local herbs to treat human and animal diseases, though the use of allopathic and ayurvedic medicines has also become popular. Although literacy has spread and there is more awareness among the locals about scientific practices, the superstitions still continue. For example, people continue to believe in witches and evil spirits and make animal sacrifices to ward off evil spirits. *Lamas* are consulted in case of illness, diseases or natural calamities like drought or earthquake.

All agricultural operations begin with the permission of local *lamas*. Farmers work together, which in local parlance is called "*Yat*" or "*Adla-Badli*". Since most of the farmers are

poor and risk averters, they do not get easily convinced about the adoption of new agricultural practices posing a huge challenge to extension functionaries. The shortage in fodder is met by following a practice of sending animals, except milking cows and *churies*, to the alpine pastures. The management and distribution of water, which is a scarce commodity, is strictly regulated, especially in those villages where it is relatively scarce, like Lari, Tabo, Poh and Dhankar. More importantly, however, the maintenance of the water sources is the joint responsibility of all the stakeholders.

Most key informants believe that the number and types of birds and wild animals have been reduced, although to conserve and preserve the rare flora and fauna of the region, Pin valley National Park was created in 1984. Among the rare animals, snow leopard is very rarely sighted. Other rare animals include wild yak (occasional), wild sheep and goats, snow cock, snow partridge, golden eagle and Himalayan griffon.

Conclusion

The Spiti valley is witnessing profound socio-cultural and ecological changes. The most important ecological changes according to farmers' perception are decreasing area under forests, wastelands, fallow land and common lands. The fallow and common lands are being allotted to the landless households and are being increasingly brought under apple orchard. The area under sea buckthorn has also reportedly increased significantly. Another perceptible change is the rapid decrease in number of animals and accompanying increase in number of crops grown, creating a huge shortfall of farm-yard manure. The cultural traditions are also changing. The people who go outside for higher education and in search of job bring a change in food habits, clothing and show less interest in local traditions and cultural practices. These changes notwithstanding, there is as yet no significant change in food habits of the local people. Moreover, fewer festivals are now celebrated as compared to a decade ago, but participation in these festivals remains fairly high because the outside tourists exhibit keen interest in them. Among the most notable social

change is the significant increase in enrolment of boys and girls in schools. There has also been a change in the attitude of people towards small family norms. The people still use local herbs to treat human and animal diseases, though the use of allopathic and ayurvedic medicines is also becoming popular. To prevent sub-division and fragmentation of land, the eldest son in a household still inherits the parental properties. A number of superstitions are, however, still practiced.

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