

# ECONOMICS OF SHEEP REARING IN HIMACHAL PRADESH, 1985 by Ranveer Singh and R. Swarup (Mimeograph)

**Abstract:** *Himachal Pradesh is environmentally more suitable to rear sheep than other types of livestock. The steep gorgeous hills afford grazing facilities at varying altitudes during different seasons of the year. Nearly one-sixth of State's sheep are found in its alpine zone which provides excellent grazing facilities during summer months. Sheep in this region have superior fleece with higher percentage of fine undercoat. The sheep in this area depends entirely on grazing. Due to heavy snowfall during winters the flocks are taken to lower hills. The present study analyses the economics of sheep rearing in Himachal Pradesh. A purposive cum multi stage sampling method was used for the selection of district and village. On an average the total cost of rearing a sheep was calculated to be Rs.89.38 per annum whereas the gross returns per sheep worked out to be Rs.128.45. Gross returns per sheep were found to be higher among non-beneficiary than beneficiary households in the village. The net returns per sheep over variable costs were higher among medium size of sheep flocks than large, marginal and small sizes of flocks. In livestock husbandry, sheep rearing is the major enterprise accounting for about 23 per cent of the total time devoted to all the activities. On an average the proportion of working days spent on sheep rearing was higher among beneficiary household than non-beneficiary households. Forty eight percent of the total income among beneficiary households comes from sheep rearing.*

## **Objectives and Methodology**

The present study was undertaken:

- (i) To study changes in the number of livestock particularly sheep and their relationship with land resources,
- (ii) To assess the type of fodder available at home place as well as in the neighbouring areas,

- (iii) To evaluate Sheep Development Programmes,
- (iv) To study the economics of sheep rearing,
- (v) To assess the impact of sheep rearing on income and employment of the people, and
- (vi) To put up suggestions for making sheep rearing a more attractive occupation.

### **Methodology**

District Kinnaur was selected for study on the basis of its having largest proportion of sheep in total livestock. Village Chitkul was selected purposively for the detailed study because it was learnt from officers of State Department of animal Husbandry that this village was a fairly typical one so far as the subject of sheep rearing was concerned. Of the 67 households in the village, only 25 had received benefits of the Sheep Development Programmes – necessary information was however collected from all the households in the village.

### **Main Findings**

The total livestock, numbering 46 lakhs in 1972 in H.P. increased by about 7.9 per cent during the next one decade. In the State cattle is the most important (43 per cent) followed by sheep and goats accounting for 22 and 21 per cent respectively. The pressure of livestock (No. of animals per hectare) on total land, net area sown, and total cropped area during 1972 to 1982 did increase but only slightly but it definitely increased on pastures and grazing land significantly. The later is the result of increase in the number of livestock and decrease of area (by 6.8%) under the head.

Village Chitkul is situated at an altitude of about 3400 metres above MSL on the right bank of Baspa river in Sangla valley near Indo-Tibet border. The valley has rich grazing land, a boon for sheep rearing. The village experiences long winters when snowfall is generally heavy. The entire population of 442 persons comprises of 67 households. Nearly half of the population is literate. The active workers (16-60 years of age) comprised 52 per cent in beneficiary and 57 per cent in non-beneficiary

households. Among total males 58.5 per cent were workers and this figure stood at 52.9 per cent for females in the village.

The productivity of crops is low rendering cultivation an uneconomic proposition. The average size of holding was lesser among beneficiary household than non-beneficiary households but no one is landless in this village. Because of high altitude and cold climate, crop production is possible only during summers when wheat, barley, mustard, peas, potatoes and millets are grown. Food grain crops predominate the cropping pattern.

Animal husbandry is the main source of income of the villagers who keep sheep, goats, cows, yaks, bullocks, horses, mules and donkeys. Sheep and goats have a very dominant role in the economy of this village, constituting about 72 per cent of the total livestock population. Out of 67 households 57 were keeping sheep and/or goats. Proportion of these animals was more among non-beneficiary households than the beneficiaries in the village. Sheep and goats depend entirely on grazing. There is no practice of stall feeding except for those unable to move with the flock. There is no system of their penning also.

### **Sheep Development Programmes:**

Sheep of exotic breed were imported for the first time in H.P. during 1956-57 when 241 sheep of Palworth from Australia were imported. Sheep of Rambouillet breed from U.S.A. and Corriodale from Australia have been successful in the State and maximum animals of these breeds were introduced during the period of 1968-69 to 1980-81. Exotic breeds were distributed to few breeders from Sheep Breeding Farms in the State. A cross-bred sheep yields 100 to 150 per cent more wool than the indigenous ones. Cross-bred sheep were also distributed under different programmes such as RID, SFDA, MFAL, IGAP, Livestock Production Programme, Tribal Development Programme, Special Component Plan for S.C., etc. The maximum number of sheep were distributed in district Kinnaur (about 2228 sheep) as compared to any other district of H.P. during 1980-81 to 1982-83.

In the village 22 households purchased sheep with financial assistance provided by government under different sheep development programmes. Households with annual income below Rs.3500 received the assistance in purchasing crossbred sheep. Under the scheme, Rs.2600/- is the approved cost of a unit consisting of one ram and 10 ewes. Three progressive sheep breeders of this village procured five Australian rams from the Sheep Breeding Farm at Karchham and these were reported to be very successful in this area. A veterinary dispensary was established at this village more than a decade ago. But the people do not have any faith in such services and instead depend on their own knowledge and experience in the use of local herbs, etc. The only veterinary service people appreciated is the sheep dip for controlling skin and foot diseases.

### **Migration**

The sheep of Chhitkul depend entirely on grazing. With the climate becoming inhospitable during winters, the sheep owners drive their flocks to lower hills, both in Himachal Pradesh and to the adjoining areas of Uttar Pradesh.

In Himachal Pradesh they move around Paonta, Sataun and Sarahan areas of Sirmour and Arki in Solan district while in Uttar Pradesh they concentrate around Dehradun. All the 57 flocks of Chhitkul moved down in seven groups formed on mutual understanding. At times, flock owners of neighbouring villages also join to form a group for migration purpose. All the groups leave their village latest by the second week of October and take upto eight weeks to reach the destination. The flocks are kept in lower hills for about three months, start their return journey in the first week of April reaching back at their native place around the end of May. The flocks are grazed in Ranikanda area during summers for about 5 months. This area is situated near the Indo-Tibet border and has vast land under permanent pastures providing luxuriant grazing. Families possessing only a few sheep and goats, send their flock with some other family. Owners of larger flocks generally depute a family member and/or a servant with their flock. The total expenses incurred during migration are shared in proportion to the number of

animals of each household. Sale and purchase of sheep is more during winters than in summers. The flock owners buy and sell amongst themselves too. In many cases exchange of animals takes place involving only nominal monetary transactions. Lambing takes place throughout the year, but it was reported that more than 85 per cent of the lambings occur during winter months of November and December.

Migrants face lot of problems during migration, amongst which main are; non-availability of permit for grazing, harassment by forest officials and by toll tax officials at Chakrata, lack of security arrangement in forest area, lack of grazing land during migration, lack of medical facilities for animals as well as for men and near absence of marketing facilities for wool during winter migration.

### **Flock Composition and Breeding**

The proportion of sheep in the flock decreases as the flock size increases. The proportion of sheep was found to be higher among beneficiary households than that in non-beneficiary households. Sheep above one year in age constitute the major part of a flock. In this age group the proportion of ewes was higher than male sheep in the flock. Male sheep in excess of the need for breeding, are castrated after six months and reared for the purpose of wool and mutton. The rams are used for breeding and one ram is considered sufficient for a flock of 30-40 ewes.

Ewes in this village were reported to be coming into heat at the age of about 18 months. Sheep, as a rule, produce one lamb crop in a year. The lambing percentage during the year was 36 per cent in all the categories of sheep flocks of the village. More lambing was observed in the flocks of beneficiary households. The mortality rate was found to be higher among sheep below one year in age. Mortality was 4.72 per cent in male sheep whereas in females it was somewhat higher and was highest in marginal size of flocks of beneficiary households. In all 7.58 per cent lambs were reported to have died during the reference year. Out of total sheep disposed off (i.e. 10.13 per cent of the total sheep population), nearly one-third were sold, almost equal number were given as wages in kind and the remaining one third were slaughtered for family consumption. In

the acquisition of sheep about 59 per cent were purchased and 41 per cent received as wages in kind in the village.

### **Shearing**

Sheep are sheared twice a year during summer and winter seasons. The production as well as quality of wool during summer is better than that of winter shearing. Manually operated scissors are used for shearing and both family and hired labour is used for the purpose. Depending on the expertise of the person, a man can clip upto 20 sheep in a day. Large flock owners have to necessarily employ more hired labour for shearing. Wages for hired labour are paid in kind, amounting to one fifth share of the wool clipped during winters and one tenth for the summer shearing. For the later shearing about one kilogramme wool is sold to hired labour at about one third the market price. No grading or sorting of wool was observed during the survey in the village. A wether generally yields lesser than a ram but more than an ewe. Lamb is considered to be the superior most.

The domestic need is met from wool sheared in summers as it is superior in quality. There is no organised market for wool in the State. Beoparies or traders from wool markets buy wool from the shepherds. Therefore the present marketing system for wool allows very high profits to traders and does not provide remunerative prices to the flock owners.

### **Costs & Returns**

Value of lambs survived and wool produced comprise the income from sheep rearing. Nearly 52 per cent of the total income from sheep rearing is accounted by the value of lambs survived. The contribution of income from wool in total income was found to be higher among non-beneficiary households than beneficiary households in the village. This is due to higher wool productivity among non-beneficiary households.

Expenditure on maintenance of sheep includes paid out costs on account of forest fees and other grazing charges, concentrates fed, wages paid to hired labour and imputed

value of family labour. All the expenses incurred on sheep and the cost of food items purchased for the persons who were engaged in tending of sheep are, as a rule, divided by total number of animals in a group and per animal costs is accordingly shared by them. Interest on the investment on fixed capital formed the major cost component accounting for about 48 per cent of the total annual cost on sheep rearing. Nearly 35 per cent of the total cost of sheep rearing is accounted by variable costs. Losses due to deaths and theft of sheep formed about 27 per cent of the total cost, the maximum losses being in the case of marginal flocks. This may be due to poor maintenance of sheep by their owners.

On an average the total cost of rearing a sheep was calculated to be Rs.89.38 per annum whereas the gross returns per sheep workout to be Rs.128.45. Gross returns per sheep were found to be higher among non-beneficiary than beneficiary households in the village. The net returns per sheep over variable costs were higher among medium size of sheep flocks than large, marginal and small sizes of flocks. This can be attributed to better management.

### **Employment and Income**

Livestock rearing is the major economic activity in the village. Nearly half of the total time devoted to economic activities is shared by this enterprise. In livestock husbandry, sheep rearing is the major enterprise accounting for about 23 per cent of the total time devoted to all the activities. On an average the proportion of working days spent on sheep rearing was higher among beneficiary households than non-beneficiary households. This shows that the assistance given for the purchase of sheep unit to beneficiary households has been able to make them utilize their surplus labour in this activity. On the other hand, agriculture provides much lesser (15 per cent) employment to the workers. About 26 per cent of the total working days are devoted to service in public/private sector. Workers were also engaged in business, rural artisan and labour, but are not important modes of employment, as indicated by the number of days utilized in these activities.

The village economy is agro-pastoral in nature. Income generating sources in the village were livestock rearing, crop cultivation, weaving, business, service and wage earning; sheep rearing brings more than 30 per cent of the total income. Forty eight per cent of the total income among beneficiary households comes from sheep rearing. Therefore, sheep rearing is of much greater importance to beneficiary households. The proportion of income from this enterprise was higher among large size flock owners of beneficiary households suggesting that the fruits of sheep development programmes were reaped more by rich persons than the poor in the village. About 34 per cent of the total income was earned through service while agriculture contributes only about 12 per cent to total income of the households. Since none of the occupations provides sufficient income to meet the family needs, more than one occupations are followed necessarily.

### **Suggestions**

Exotic rams should be provided at nominal charges during breeding season in this area. These rams can be maintained better at ram depots of Animal Husbandry Department during non-breeding season. Cross breeding with Rambouillet and/or Marino should be undertaken for improvement of fine wool.

In order to reduce the pressure of livestock on land resources fodder and pasture improvement programmes should be undertaken in the State. Productivity of grass in pasture need to be improved through fertilizer application and introduction of high yielding grasses and legumes. Quick growing and high yielding fodder tree species suitable to the area need to be distributed to farmers. The development of village grazing lands should be entrusted to Panchayats or sheep breeders' cooperatives.

Government should provide security to the migrants during their journey. Medical facilities for men and animals should also be provided en-route. To increase productivity and reduce partiality facilities of temporary shelter should be provided to the sheep during winter migration.

Mobile service-cum-training units should be introduced to help the sheep bearers in their enterprise. The breeders have to be weaned away from their traditional methods of treating sick animals and educated on the benefits of using veterinary services.

Sheep and wool extension agencies of the State Animal Husbandry Department should educate the breeders regarding improved shearing practices and also provide the necessary equipment on subsidy.

It is necessary to have organised markets in wool producing areas of the State. All India Radio should broadcast wool prices of important markets in the country. Market yards for sale and purchase of sheep should be set up in the major sheep rearing areas.

There is a greater scope of development of wool based cottage/small scale industries in this area. This will provide good employment to workers during winters when nothing else is possible.

Under the sheep distribution scheme in future it is suggested that a direct link between the financing bank and borrowers be ensured so as to prevent compromises in technical standards. The present unit cost should also be reviewed periodically. In view of the limited production capacity of State Breeding Farms, individual farmers willing to take up breeding of cross-bred sheep should be encouraged to do so to improve the availability of cross-bred sheep. A more effective monitoring at bank level is necessary to prevent misuse of loans and voluntary default in loan repayment.