

IV. RECOMMENDED FUTURE STRATEGIES AND PROGRAMMES

General Strategy for Cattle Development

The aim of cattle development is to create a population of animals showing improved production in each successive generation. In other words, every daughter born should yield more milk than its dam. Attempts have been made to achieve this objective by adopting cross-breeding programmes with Jersey cows throughout the State, as first choice, and Holstein Friesian in selected valley areas. By adopting improved breeding, feeding, and disease control practices, it has been possible to record an overall 200 per cent increase in milk production during the last 11 years.

The increase in milk production that has been recorded in the cross-bred progeny has not made a significant difference to the total per capita availability of milk which has only marginally increased. This is due to the fact that increase in milk production, unfortunately, has not kept pace with the rate of increase in human population, and, unless some bold and large scale measures are taken to increase the milk production at a faster rate, investment in dairy development will not pay corresponding dividends. Himachal Pradesh, fortunately, has a good temperate climate and next to horticulture, the livestock industry is bound to play a pivotal role in the rural economy. Livestock farming can easily be blended with horticulture in the mixed farm economy. In the lower hills, where the population is sparse and where large areas of grassland are available, some areas can be developed into potential milk zones. Here the pastures will have to be improved along with facilities for baling and chaffing, as well as silage making.

Accelerated Cattle Breeding Programme

A tremendous consciousness concerning livestock keeping has grown amongst the farmers. Artificial insemination is practised with frozen semen and necessary facilities, such as door service for animal treatment and artificial insemination, are being provided with nominal service charges.

With all these efforts, however, it has only been possible to cover approximately 150,000 cows out of a breeding population of 670,000. This accounts for only 22.5 per cent of breeding cows. To achieve the target of making available the required per capita amount of milk to the human population of the Himachal, the cattle development programme needs to be accelerated considerably.

To provide 100 per cent coverage to the breeding population of cows, an almost three-fold increase in the number of insemination centres would be required, in addition to establishment of bull centres in the remote and inaccessible areas.

Subsidisation of Cross-bred Calf Rearing

The major problem faced by farmers in rearing cross-bred calves calls for greater attention and adoption of remedial measures on a priority basis. An average cross-bred calf weighs 15 kg at birth and its daily requirement of milk for proper growth is 1.5 kg which is more than the total milk produced by an average hill cow. Further, this requirement increases with the weight of the animal and the hill cow is in no way capable of providing the required nutrition to the growing calf. As a result, the calf becomes a victim of malnutrition, remains stunted in growth, has late maturity, and is not bred at the appropriate age, thus becoming very uneconomical. While rich farmers generally overcome these problems by providing supplementary feeding, poor farmers are unable to do this for lack of finance.

In order to facilitate that poor farmers also benefit from cross-breeding, a feeding subsidy scheme has been operated under the Dhauladhar Project. A cow pregnant through artificial insemination, is provided with late pregnancy rations, at subsidised rates, during the last three months of gestation. The female calf born, is provided with calf starter and later on growth rations up to the age of one year, at subsidized rates. This support, in the form of growth rations, is given for the first cross-bred female calf in a unit of one family. The scale of financial support per animal is given below.

	Qty. (kg)	Total Cost (Rs)	Subsidy Amount (Rs)
1. Late pregnancy ration	150	292.50	219.30
2. Calf starter	100	205.00	221.00
2. Calf growth ration	100	102.50	153.70
Total	350	690.00	594.00

The above arrangement has been successful in bringing down calf mortality and in recording optimum growth and maturity ages and it has been recommended that the scheme be extended to other areas. The State Government can achieve a break-through in milk production if this programme is launched initially in a few areas where there is an Intensive Cattle Development Programme, viz, Key Village Blocks, ICDP, and INLIP areas and later extended to other areas depending upon the experience gained. The stress should be on increasing the per cow milk production and decreasing the numbers; especially of scrub animals.

Proposed Buffalo, Sheep and Goat Development

Development efforts similar to those for cattle with emphasis on A.I., should also be made for buffaloes since these animals utilize the rough fodder types better and can make significant contribution to farmers' economy.

The concept of sheep raising combined with horticultural crop farming should be propagated and should be given research back-up. The sheep being close graziers hardly damage the fully grown fruit trees if a proper system of pruning the branches is practised. By doing so, the manure can be used for fruit production, the wool for cottage industry, and the extra lamb production for meat consumption. In addition this practice will reduce the pressure on pastureland. However, the full benefit of the concept cannot be realised unless stationary flocks are established replacing at least part of the present nomadic flocks.

Evaluation of Artificial Breeding Programmes

"The Sire is half the herd" is as true today as it ever was and in fact much more so. The definition of the herd has changed from 50-100 females to about 100,000 females. This is so, because, with the frozen semen straw-technique, every selected bull is capable of providing 100,000 inseminations in a year and will sire thousands of offsprings transmitting desirable as well as undesirable characteristics. Milk production being a polygenic trait, there is always a danger of the transmission of undesirable traits. It is, therefore, of utmost importance that only the best bulls are used for breeding. The increase in milk production over each generation will also depend upon the genetic capabilities of the bull. Further, conception rate and susceptibility to disease have been correlated to inheritance. It will thus be desirable to start bull improvement schemes in Agricultural Universities.

Pending sire evaluation, which might take a very long time, the best policy would be to guard against transmission of undesirable characteristics, and this is possible by physical examination of the offsprings (female) of a particular bull. At least 50 off springs (female) of each bull must be inspected for various important economic traits to be meaningful. Simultaneously, herd recording and progeny testing programmes should also be conducted in the Intensive Cattle Development areas where sufficient numbers of cross-bred progeny are available. Wherever the exotic inheritance has exceeded 75 per cent, the exotic blood level should be brought down to 50 per cent by back-crossing, for which a sufficient number of cross-bred bulls will be needed.

Feeds and Fodder Development

With land being very scarce, the possibility of increasing fodder production substantially on private land is very slim in the future. Therefore the improvement of public grasslands is very necessary. Priority should be given to the introduction of high quality grasses and legumes - cheapest source of nitrogen - into the pastures. In addition, reseedling of legumes, controlled grazing, reduction in the grazing incidence should be implemented in order to check further degradation of pastures and grazing land. Fodder crops can also be propagated wherever possible e.g. - banks of small streams, bunds and wastelands. Forage crops cultivation along with cereals is another possible option for increasing fodder supply.

Attempts at conservation and better utilization of forage should be linked to the efforts of increasing feed and fodder production. In this context, hay making and baling, as well as silage making, could be effective operational measures among others.

Marketing and Support Services

Production should be effectively integrated with the marketing of produced outputs. The state is running milk supply schemes (MSS) in various districts under which procurement of milk produced by farmers at fixed prices is guaranteed. In order to increase the milk production in the State, milk producers should be provided good incentives in the form of favourable prices for their fluid milk. Appropriate pricing policy for milk and milk products is therefore essential; in addition new milk collection centres should be established in areas which are accessible to the producers.

Efforts to improve livestock research and extension, provision of better animal health services, increasing accessibility to formal credit are some of the other areas that are equally important for overall livestock development in Himachal Pradesh.