

I. INTRODUCTION AND BACKGROUND

Historical Role of Livestock in India

India is principally an agricultural country with a very large livestock population. It accounts for about 15 per cent of the livestock population of the world inhabiting 2 per cent of the world's total geographical area. Livestock are an important component of the rural economy. They constitute about 12 per cent of the agricultural economy. This contribution is made in the form of milk, milk by-products, meat, wool, hides, bones, etc. For centuries, however, livestock has been basically raised for milk, manure, and draft power. Indian literature is full of references to high yielding cows and bullocks with excellent draft power. *Nandi* and *Kamdhenu* are household words in India. The importance of livestock is better summed up in the word *Pashu-dhan*, i.e. cattle wealth. This term connotes the social standing of a person in the rural areas: the more the livestock and the better the cattle, the richer the person. It is also significant that whenever *Rajas* and *Kings* were pleased with warriors, courtiers, thinkers, or social workers, the latter were rewarded with livestock rather than gold or precious jewels. In fact, they were rewarded with high yielding cows, good riding ponies, and even elephants. The early literature of the country contains many references stressing the importance of livestock, especially cows and bullocks, so much so that the cow came to be worshipped as a mother symbol and as a progenator of bullock power.

After the reign of King Ashoka in the fifth century B.C., no significant efforts seem to have been made for the improvement of cattle up to the end of the last century. It appears that a village became a unit in the field of animal breeding, and livestock were intensely inbred. Deterioration in the quality seems to have increased the numbers immensely, so that today the livestock population in India has gone up to 378.5 million (FAO 1985) apart from the 161 million poultry.

Even with this huge population, this country is not in a position to meet the requirements for milk and meat. Per capita availability of milk in India is estimated to be 148g against the recommended requirement of 300g per day. Similarly, per capita availability of meat (3.7 g/day) and eggs (18 eggs/annum) is far below the required level. India has 12.8 per cent of the world's milch cows which produce only about 7 per cent of the world's total milk. Production of milk per cow is 511 kg/lactation in India, as against 5510 kg in the U.S.A. and 5104 kg in Holland.

It is estimated that about 90 per cent of the livestock population in India subsists on natural grasslands. Of a total area of 320 million ha of the Indian Union, 8.80 million ha are classified as grazing lands, i.e. permanent pastures and meadows. In addition to this, 43 million ha of cultivable and non-cultivable land also serves as grazing land for Indian livestock.

Importance of Livestock to Himachal Pradesh

Role in the Economy

The State of Himachal Pradesh as indeed the whole of India, is principally an agricultural State with 94 per cent of its inhabitants depending for their livelihood on agriculture and allied professions. In fact, the farmer's dependence on livestock has increased so much

that in H.P. the livestock population exceeds the human population. While the country supports 15 per cent of the world's livestock on 2 per cent of the world's geographical area; Himachal Pradesh supports 5,000,000 livestock on 55,673 km². Density per km² works out to be 77 for human beings and 89 for livestock.

The rearing of livestock is an integral part of the State's economy, providing a source of livelihood to most of the people, especially those inhabiting the border districts of Lahaul-Spiti, and Kinnaur, and Pangi and Bharmour sub-divisions of Chamba District. In the remaining areas, livestock rearing is practised, generally, within the framework of mixed farming. The total livestock population of the State, according to the 1982 Census, is estimated to be 5 million scattered throughout 12 districts.

The livestock provide wool, meat, milk, hides, skins, motive-power for agricultural operations and transport, manure etc. and are of immense economical value to the farmers of the State, besides providing gainful employment to a large section of the population all the year round. The mechanised system of cultivation is not of much use in the Himachal Pradesh, because of terraced fields and limited holdings, and, thus, the bulk of the power requirement in these hilly terraced fields is provided by bullock-power. In most of the remote and inaccessible areas, situated in the far-flung corners of the State, vehicular traffic is still unknown and most of the commodities of consumption are still transported on pack animals such as ponies, yaks, mules, sheep, goats, etc.

The importance of livestock to the State economy is equally significant. In 1984/85, livestock along with agriculture contributed Rs. 1,379 million to the State income which accounted for 35.11 per cent of the total State domestic income at 1970/71 price levels. At current price levels, the contribution works out to be Rs. 3,738.4 million. No other segment of the State economy contributes as much as the livestock industry.

The necessity for planned development arose out of the principle that better management of such an important sector of the State economy will yield much better returns to the farmers and also to the State. The ultimate objective of this planning is to attain a level of development where each citizen can be provided with 300 g. milk, 90 g. meat, and one egg per day as recommended by the Indian Council of Medical Research (ICMR). This responsibility of the State stems from the directive principles enshrined in the Constitution and further stressed in point 4 of the 20-Point Economic Programme.

Composition of Livestock Population

Average land holdings being very small, Himachal Pradesh is mainly suited for mixed farming. Such a farming system cannot support a very large population of livestock which is still increasing.

From the figures in Table 1, it is evident that there had been a 19 per cent increase in the livestock population during the 1966-82 period. The breeding of cattle had been indiscriminate without proper selection. Due to various religious susceptibilities and orthodox concepts, our farmers are not prepared to follow scientifically acceptable methods of disposal of uneconomic cattle, with the result that the quality of even our good milch breeds has gradually deteriorated in the country as a whole. Any further increase in number will adversely effect the productivity of cattle, sheep, etc and this is already very low.

Table 1: Livestock Population of Himachal Pradesh According to the Quinquennial Census

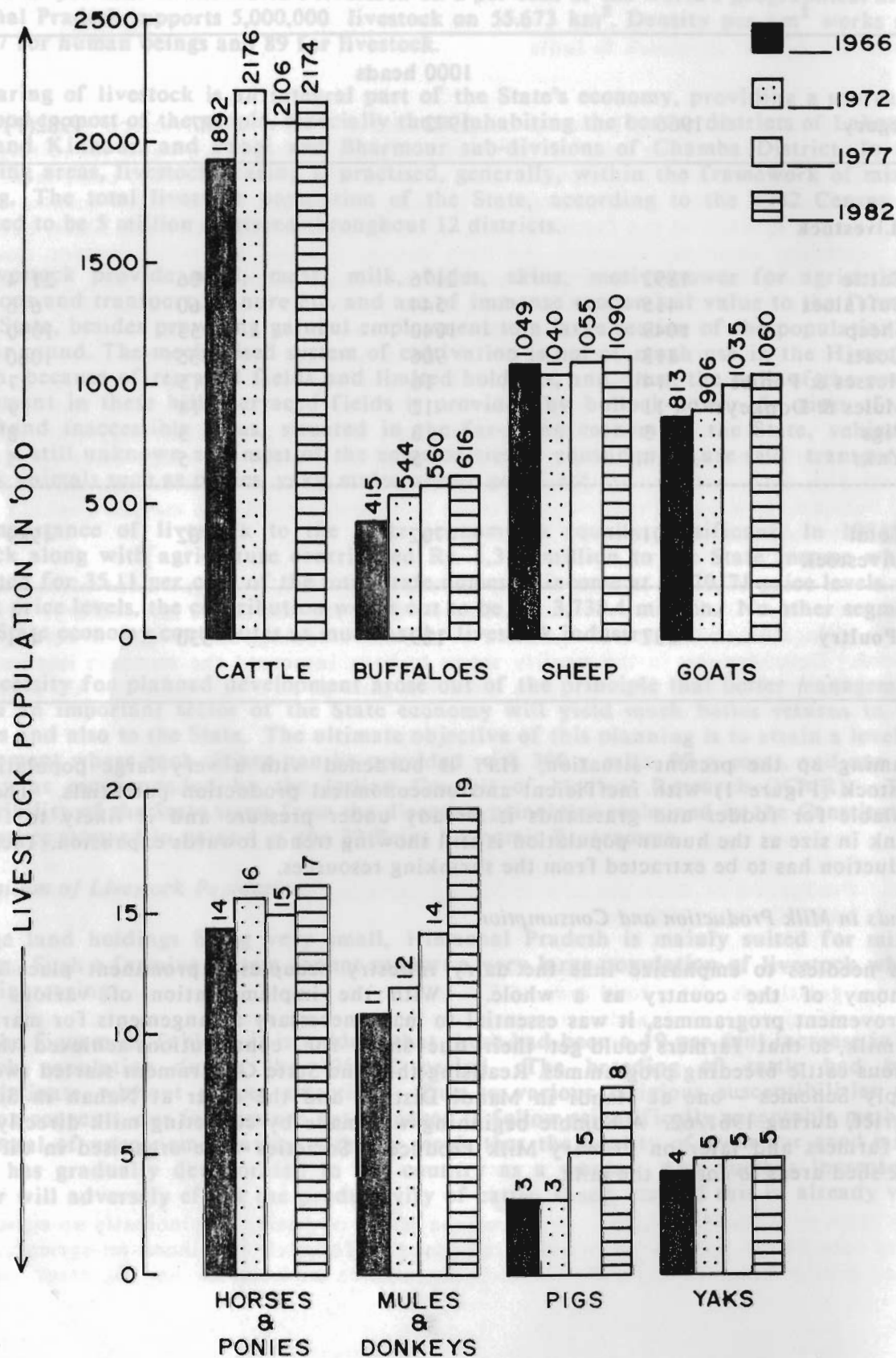
Category	1966	1972	1977	1982(P)
A. Livestock				
Cattle	1892	2176	2106	2174
Buffaloes	415	544	560	616
Sheep	1049	1040	1055	1090
Goats	813	906	1035	1060
Horses & Ponies	14	16	15	17
Mules & Donkeys	11	12	14	19
Pigs	3	3	5	8
Yaks	4	5	5	5
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Total Livestock	4201	4702	4702	4989
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B. Poultry	207	189	330	461

Summing up the present situation, H.P. is burdened with a very large population of livestock (Figure 1) with inefficient and uneconomical production potentials. The area available for fodder and grasslands is already under pressure and is likely to further shrink in size as the human population is still showing trends towards expansion. Increased production has to be extracted from the shrinking resources.

Trends in Milk Production and Consumption

It is needless to emphasize that the dairy industry occupies a prominent place in the economy of the country as a whole. With the implementation of various cattle improvement programmes, it was essential to make necessary arrangements for marketing the milk, so that farmers could get their due share for contributions achieved through various cattle breeding programmes. Realising this, the State Government started two Milk Supply Schemes - one at Mandi in Mandi District and the other at Nahan in Sirmour District, during 1961/62. A humble beginning was made by collecting milk directly from the farmers and later on Primary Milk Producers' Societies were organised in different milk shed areas to collect the milk.

FIG 1: CHANGING PATTERNS OF LIVESTOCK POPULATION IN H.P.



With growing awareness amongst the farmers, the quantity of milk collected daily increased at a faster pace necessitating the installation of Chilling and Dairy Plants for processing the milk. These Milk Supply Schemes were introduced with an initial daily milk collection of 100 ltrs on one route which rose to approximately 5000 ltr per day in course of time. It was in 1972/73 that a modern Dairy Plant was commissioned at Mandi to process 10,000 ltrs of milk in one shift in collaboration with the West German Government. Two more Milk Supply Schemes were also started - one at Shimla during 1972/73 and the other at Kangra in 1973/74.

Modern Dairy Plants with sophisticated equipment have also been installed in both these places to handle 10,000 ltr of milk per shift (1975/76 at Shimla and 1986 at Dagwar near Kangra). Thus, at present, there are four Dairy Plants functioning in the State which can handle 80,000 ltr of milk per day. In order to feed these four Dairy Plants, twenty Chilling Plants (all of 2000 ltr capacity) have been installed in the milk shed areas where intensive cattle development work has been taken up.

So far, 136 Anand Pattern Primary Milk Producers' Societies have been registered in H.P. There are 13,000 producers in these Societies and they collect 11,000 ltr of milk daily. The State has registered a progressive increase in milk production during the last two Five Year Plan periods. The total milk production was estimated to be 240.3 thousand tons in 1974 and it increased to 404.13 thousand tons in 1984/85. Figure 2 shows the percentage of milk production in Himachal Pradesh by different species.