



## Chapter 12

# Livestock

Livestock sector is a major factor in fulfilling the fat and protein requirement of a growing population. Against a world average of 25 grams per person per day of animal protein in diet, the Indian diet contains just 10 gm. As such, the development of livestock is essential for maintaining the nutritional level, particularly of growing children and nursing mothers.

Livestock sector contributes 5.59 per cent of India's GDP. It provides regular employment to about 11 million in principal status and 8 million in subsidiary status. Women constitute 69 per cent of the labour force in livestock section (Economic Survey, India, 2002-03, p. 163).

In India, livestock population is recorded quinquennially, for example in 1992, 1997 and 2002. It does not coincide with human census, which is conducted after every ten years, for example 1981, 1991 and 2001. The first livestock census in Himachal Pradesh, was conducted in 1972. It completed its seventh count in 2002. The available data, as projected, is only up to the year 1997.

A total of 5.2 million livestock was estimated by the livestock census of 1997 (Table 12.1). This number was close to that of human population in the state. It accounted for one per cent of the total livestock population in the country.

Livestock-keeping is very common in Himachal Pradesh. 19 out of every 20 households keep at least one of the species of livestock. Bovine is most common species. Of the total households in the state, 91.39 per cent have bovine. Goat is the next important livestock. Nearly one-fourth of the total households keep goat. Similarly, two out of every five households keep a sheep. Rearing of pigs is rare. However, households keeping poultry accounted for 5.54 per cent of the total households in the state. In 1992, the state accounted for

1.1 per cent of India's livestock population while its human population was 0.6 per cent (Table 12.2).

TABLE 12.1

**Himachal Pradesh: Livestock, 1972-1997**

Census Years	Livestock (in million)
1972	4.7
1977	4.8
1982	5.0
1992	5.1
1997	5.2

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, pp.9-10.

TABLE 12.2

**Comparison of Livestock in India and Himachal Pradesh, 1992**

Category	All India ('000)	Himachal Pradesh ('000)	Percentage to total of India
Cattle	204533	2165	1.06
Buffaloes	83499	704	0.84
Sheep	50799	1079	2.12
Goat	115278	1118	0.96
Pigs	12795	-	-
Horses and ponies	826	14	1.70
Others	2415	37	1.54
Total	470145	5117	1.08
Total Poultry	307075	722	0.24

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, pp.9-10.

The composition of the state's livestock population underwent some change during 1972-97 (Table 12.3). While the percentage share of cattle declined from 46.3 to 41.6, that of buffaloes increased from 11.6 to 14.3. Similarly, while the percentage share of sheep went

TABLE 12.3  
Himachal Pradesh: Composition of  
Livestock, 1972 and 1997

Livestock	Total		Percentage to Total Livestock		Trend
	1972	1997	1972	1997	
Cattle	2175690	2173575	46.26	41.60	Decline
Buffaloes	543887	748246	11.56	14.32	Increase
Sheep	1039946	1080464	22.11	20.68	Decline
Goats	906415	1167992	19.27	22.35	Increase
Horses and ponies	16234	12884	0.34	0.24	Decline
Others	20283	40906	0.43	0.78	Increase
Total	4702455	5224067	100	100	

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, pp.9-10.

down from 21.1 to 20.7, that of goats experienced a rise from 19.3 to 22.4. The number of horses and ponies had come down by one-fifth. However, poultry recorded a 4.6 times multiplication from 187 thousand in 1972 to 864 thousand in 1997.

### Distribution Pattern

While there is a general increase in livestock population of the state during 1982-97 period, five out of twelve districts registered an absolute decline. These are Hamirpur, Kullu, Lahaul & Spiti, Shimla and Una. Nearly 20 per cent of the total livestock was concentrated in Mandi. It was followed very closely by Kangra district (Table 12.4).

TABLE 12.4  
Himachal Pradesh: District-wise Concentration  
of Livestock, 1982-1997

Districts	1982		1997		Trend in Proportion to Total Livestock
	Total Population of Livestock	Percentage to Total Livestock in the State	Total Population Livestock	Percentage to Total Livestock in the State	
Bilaspur	237582	4.76	238448	4.56	Decline
Chamba	727149	14.57	739036	14.14	Decline
Hamirpur	250236	5.01	232521	4.45	Decline
Kangra	809434	16.22	981483	18.78	Increase
Kinnaur	93869	1.88	123179	2.35	Increase
Kullu	332314	6.66	327628	6.27	Decline
Lahaul & Spiti	68023	1.36	62172	1.19	Decline
Mandi	871093	17.46	996565	19.7	Increase
Shimla	630695	12.64	560647	10.7	Decline
Sirmaur	410276	8.22	430083	8.2	Unchanged
Solan	317703	6.36	329953	6.3	Unchanged
Una	240166	4.8	202352	3.87	Decline
<b>Total</b>	<b>4988540</b>	<b>100</b>	<b>5224067</b>	<b>100</b>	

Source: Statistical Outline, Himachal Pradesh, 1992, p.85.

**Cattle:** Table 12.5 reveals that more than half of the total cattle in the state are concentrated in Mandi (21.31), Kangra (18.07) and Shimla (14.92) districts. Kinnaur and Lahaul & Spiti have a small number of cattle. In spite of efforts towards improving the quality of cattle, only about one sixth of them are crossbred and rest indigenous.

**Buffaloes:** Kangra, Mandi, and Hamirpur districts show the highest concentration of buffaloes (Table 12.5). These districts share half of the buffaloes in the state. The high altitude areas of Lahaul & Spiti, Kinnaur, Kullu, Shimla and Sirmaur have very few of them.

TABLE 12.5  
Himachal Pradesh: Major Districts Identified  
by Concentration of Livestock, 1997

Category	Dominant Districts in Terms of Proportion of Livestock Population to Total of That Species
Cattle	Mandi (21.31), Kangra (18.07), Shimla (14.92)
Buffaloes	Kangra (20.4), Mandi (15.77), Hamirpur (13.53)
Sheep	Chamba (23.81), Mandi (18.48), Kangra (17.56)
Goat	Kangra (20.24), Mandi (17.94), Chamba (16.79)
Horse	Kangra (28.67), Mandi (15.34), Shimla (14.84)
Yaks	Chamba (41.41), Lahaul & Spiti (35.48)

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, pp.11-12.

Note: Figures in parentheses indicate per cent to total animals in the State under respective category.

TABLE 12.6  
Himachal Pradesh: District-wise Livestock  
Combination, 1997

Districts	Major Species
Bilaspur	Buffalo, Goat, Cattle
Chamba	Sheep, Cattle, Goat
Hamirpur	Buffalo, Cattle, Sheep
Kangra	Cattle, Goat, Sheep
Kinnaur	Sheep, Goat, Cattle
Kullu	Cattle, Sheep, Goat
Lahaul & Spiti	Sheep, Goat, Cattle
Mandi	Cattle, Goat, Sheep
Shimla	Cattle, Sheep, Goat
Sirmaur	Cattle, Goat, Buffalo
Solan	Cattle, Goat, Buffalo
Una	Buffalo, Cattle, Goat
State	Cattle, Goat, Sheep

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, pp.9-10.

TABLE 12.7  
Himachal Pradesh: Animal Produce, 1987-2002

	1984-85	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	2001-02
<b>Milk ('000 tonne)</b>									
Cow	166.58	218.13	242.18	257.56	264.75	260.66	292.27	303.55	350.55
Buffalo	227.63	265.88	278.82	300.84	311.67	319.95	355.39	331.35	380.29
Goat	9.62	15.74	8.19	14.20	20.44	29.47	26.19	28.00	32.02
<b>Total</b>	<b>404.127</b>	<b>499.75</b>	<b>529.19</b>	<b>572.60</b>	<b>596.86</b>	<b>610.08</b>	<b>653.85</b>	<b>662.90</b>	<b>762.86</b>
Wool (in tonne)	1270	1351	1405	1452	1567	1510	1532	1533	1586
Egg (Lakh)	338	485	491	532	580	697	714	669	822
Meat ('000 kg.)	3392	3670	4026	4049	4406	4163	4664	3646	3548

Source: (i) Statistical Outline of different years, Himachal Pradesh.

(ii) Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla.

**Sheep:** Chamba, Mandi and Kangra are the districts of major sheep concentration. Both low altitude relatively agriculturally developed and very high altitude pasture-free lands do not attract this animal. The number of sheep in Una, Solan, Bilaspur and Sirmaur districts is small; these together do not have even six per cent of the total sheep in the state.

**Goats:** Kangra, Mandi, and Chamba districts have the largest concentration. Together, these districts share more than half of the state's goat population. Geographically, the distribution of sheep and goats overlap each other.

**Poultry:** Kangra is the leading district in poultry, followed by Mandi and Solan. Lahaul & Spiti and Kinnaur districts have few poultry birds. Poultry is more popular in districts which adjoin Punjab.

**Livestock combinations:** Livestock combinations presented in Table 12.6 reveal that low altitude gentle sloping terrain of districts adjoining Punjab, such as Bilaspur, Hamirpur and Una, have dominance of buffaloes in their livestock. Kangra, Kullu, Mandi, Shimla, Sirmaur and Solan have dominance of cattle and high altitude cold climate districts of Chamba, Lahaul & Spiti and Kinnaur have a dominance of sheep in their total livestock.

## Produce

**Milk:** Milk is the most important produce of cow, buffalo and goat. In 1984-85, the total milk production of the state was 404 thousand tonnes, which increased to 763 thousand tonnes in 2001-02. This represents a nearly two-fold increase (Table 12.7).

Buffaloes are the major milk producing livestock. They contribute nearly half of the state's milk production and cattle make nearly an equal contribution. The average milk produce per cow is only 2 litres and that of a buffalo is 3 litres. Goats contribute hardly 4 per cent of the total milk production. Kangra is the largest milk-producing district in the state. It is followed by Mandi (Table 12.8).

TABLE 12.8  
Himachal Pradesh: District-wise Annual Milk Production 2000-2001 and 2001-02

District	2000-01 ('000 Tonnes)	2001-02 ('000 Tonnes)
Bilaspur	37.35	35.11
Chamba	55.67	61.57
Hamirpur	74.69	60.33
Kangra	145.35	143.94
Kinnaur	5.59	6.38
Kullu	35.40	30.41
Lahaul & Spiti	6.55	6.91
Mandi	124.06	120.63
Shimla	71.69	79.25
Sirmaur	63.41	71.82
Solan	68.82	73.78
Una	71.78	72.68
Total	760.41	762.86

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, p. 49.

**Wool:** Chamba, with the largest sheep population, is also the biggest producer of wool in the state. Mandi and Kullu are next important producers (Table 12.9). Wool production increased by about 25 per cent during 1984-85 to 2001-02 period. The annual yield per sheep is only 1.2 kgs.

TABLE 12.9

**Himachal Pradesh: District-wise Annual Wool Production 2000-2001 and 2001-02**

District	2000-01 ('000 kg.)	2001-02 ('000 kg.)
Bilaspur	37.34	29.52
Chamba	343.15	381.79
Hamirpur	78.55	65.87
Kangra	224.35	201.63
Kinnaur	93.11	80.58
Kullu	200.23	218.72
Lahaul & Spiti	71.73	60.74
Mandi	261.71	266.92
Shimla	200.38	175.91
Sirmaur	34.78	61.80
Solan	25.93	28.98
Una	7.24	9.96
Total	1578.56	1582.45

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, p. 55.

**Meat:** The meat production in the state recorded a marginal increase from 3392 tonnes in 1984-85 to 3548 tons in 2001-02. Goats contribute two-thirds of the total meat produced. Meat of sheep is next in importance. Pigs are relatively insignificant in this respect. Shimla, Kangra and Mandi are the largest producers of goat meat. The largest producer of sheep meat is Kangra. Pork is produced mostly in Solan and Shimla districts (Table 12.10).

TABLE 12.10

**Himachal Pradesh: Meat Production by Districts, 2001-02**

(in tonnes)

District	Goat	Sheep	Pig	Total
Bilaspur	46.95	10.78	1.84	59.57
Chamba	107.72	76.02	-	183.75
Hamirpur	82.41	36.92	-	119.33
Kangra	415.68	260.51	15.41	691.60
Kinnaur	52.43	40.32	-	92.75
Kullu	179.93	122.85	-	302.78
Lahaul & Spiti	102.00	155.66	-	257.67
Mandi	262.36	122.06	14.00	398.43
Shimla	911.55	113.99	88.86	1114.41
Sirmaur	82.78	19.50	35.80	138.17
Solan	25.03	4.57	115.29	144.90
Una	42.13	2.75	-	44.88
Total	2311.11	965.98	271.20	3548.30

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, p. 64.

**Eggs:** Egg production, which was 38 million in 1984-85 increased to 82.2 million by 2001-02. The production as such, multiplied by more than two times. Kangra is the major egg producer. It accounts for about 42 per cent of the total eggs produced in the state. Kinnaur is the smallest egg producer (Table 12.11).

TABLE 12.11

**Himachal Pradesh: District-wise Annual Egg Production 2000-2001 and 2001-02**

District	2000-01 (million)	2001-02 (million)
Bilaspur	6.8	7.5
Chamba	9.1	10.4
Hamirpur	3.7	2.9
Kangra	33.8	34.5
Kinnaur	0.6	0.5
Kullu	3.0	2.0
Lahaul & Spiti	0.6	1.8
Mandi	12.4	10.3
Shimla	4.7	4.8
Sirmaur	2.3	2.1
Solan	1.6	2.3
Una	2.9	3.1
Total	81.6	82.2

Source: Integrated Sample Survey for Estimation of Animal Products, Milk, Eggs, Wool and Meat, 2001-2002, Directorate of Animal Husbandry, Himachal Pradesh, Pasudhan Bhawan, Shimla, p. 60.

**Veterinary Facilities**

Healthy animals, like healthy human beings, are an asset for any state. Better health of livestock denotes qualitative improvement in livestock. It is ensured through provision of veterinary services.

Himachal Pradesh has in all 1927 different centres providing veterinary care. There were only nine veterinary hospitals functioning in 1948. The number of centres has multiplied manifold since then. The distribution is, however, highly uneven. Of the 303 veterinary hospitals in the state, 52 are confined to Kangra district alone (Table 12.12).

**Major Thrust Areas**

**Strengthening of animal health care services:** Improved health care facility would ensure not only quality produce but also raise the productivity.

**Upgradation of genetic stock of cattle and buffaloes:** The state has yet very limited crossbred cattles. Steps to improve the indigenous stock by extension services from veterinary institutions are desired.

TABLE 12.12  
District-wise Hospital & Dispensaries, 2001-02

Districts	Hospitals*	Dispensary	Mobile Dispensary	Total
Bilaspur	20	86	1	107
Chamba	33	143	1	177
Hamirpur	17	104	1	122
Kangra	59	301	2	362
Kinnaur	20	37	1	58
Kullu	16	79	1	96
Lahaul & Spiti	13	39	1	53
Mandi	38	241	1	280
Shimla	44	230	2	276
Sirmaur	29	112	1	142
Solan	22	120	1	143
Una	17	93	1	111
<b>Total</b>	<b>328</b>	<b>1585</b>	<b>14</b>	<b>1927</b>

Source: Annual Administrative Report, 2002-03, Animal Husbandry, Himachal Pradesh, p. 10.

\* Including those run by the Central Government.

**Quality feed and fodder:** Animal food in future shall be more in demand to supplement the protein requirement of our diet. Better feed and quality fodder can be ensured by developing locally-grown maize crops and by following a rotational system in pasture management.

The government is keen to augment the existing infrastructure. In particular, it is going to raise the number of the veterinary hospitals from the existing number of 328 to 550 in 2010. This augurs well for the livestock sector, if things materialise as projected.

**Dairy Co-operation:** Women labour force is the largest in livestock management particularly in cattle and buffaloes. Dairy co-operatives run by women may be promoted.

**Credit and marketing support:** As mentioned earlier, nearly every household has at least one species of livestock; credit from financial institutions at lower rate of interest and liberal terms may promote this potential sector of the economy.

**Disaster management programme:** The western districts where buffaloes are mostly concentrated are unfortunately drought prone also. In the event of drought it is pertinent to have a disaster management programme, which can save the poor from destitution.

### Some Imperatives

The proceeding discussion brings forth two important messages: (i) Productivity of the livestock in Himachal Pradesh is inordinately low and offers a big

scope for its increase, and (ii) livestock sector holds a great promise for the state where landholdings are small, a very high proportion of the population is dependent upon agriculture calling for its diversification, a sizeable number of people are directly linked with livestock through transhumance, and extensive pasture lands are available for grazing of livestock. In that light, livestock cannot be ignored in the scheme of things for this hill state.

As a first step in this direction, it is essential to upgrade the quality of the livestock. This involves two-pronged effort, on the one hand, the indigenous breeds are to be conserved and improved, and on the other hand, crossbreeding is to be propagated on a large scale.

Herein comes the crucial role of the veterinary medical and paramedical staff. Ironically, while considerable veterinary infrastructure has been laid out in the state, there is a gross inadequacy of the professional and technical personnel to manage it. Perhaps veterinary sector is one of the few sectors, which is understaffed and offers vast employment opportunities for the educated youth. It is most desired that intake of students in the veterinary institutions is increased in a big way.

A strategy, which is already being favoured at the government level, calls for reconsideration. The state government is contemplating to arrange veterinary services through private sector. NABARD is being involved to promote this idea. A word of caution is necessary here. Keeping in view the topographic conditions, scatter of habitations and associated livestock, and quite a prominence of transhumance, private sector is not likely to be enthused into entering this area. The proposition is not going to be viable and sustainable for them. Therefore, government will have to continue shouldering this responsibility at their own level.

Feed and fodder management is one of the pre-requisites for improving the quality of livestock. The experience of the Army Dairy Farm of Dagshai is worth quoting here. By mixing the apple peel (which was available free from a nearby government agro-processing plant) with the feed, they could raise the daily milk yield of a cow by two litres. Himachal Pradesh is rich in apples and the use of this byproduct can go a long way in increasing the milk yield. At the same time, scientific research should be geared towards upgradation of the alpine pastures as also of the quality of grass in village common lands. Equally critical here is to clear pasturelands of congress grass and laltana

which have been spreading rapidly in many parts of the state.

A point of special note needs to be highlighted here. Provision of extension services for raising and caring of livestock has emerged as a crucial task. This calls for arranging training courses for proper management of livestock, at the household level. Since it is generally the women who look after the livestock, such training courses should target women. The necessary training exercises can be conducted through the local *Panchayati Raj* Institutions.

As such, the upgradation of livestock requires a concerted co-ordination between the Department of Animal Husbandry and several other departments to achieve the goal: with Forest Department for management of pastures; with Agriculture Department for raising quality fodder; with industry for processing the livestock produce of all variety; with Department of Rural Development for organising training courses. Above all, active links with the Department of Biotechnology and veterinary science education institutions are also no less crucial.