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An Economic Analysis of Livestock Economy of Himachal Pradesh

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***Abstract**: In the present study an attempt has been made to study an economic analysis of livestock economy of Himachal Pradesh. Considering the significant contribution of the livestock sector to the economy of Himachal Pradesh, particularly in terms of manpower, Livestock is an important part of the rural economy. As per the findings, there has been a noticeable increase in the output of various livestock products. Although there has been an increase in the number of veterinary institutions, the shortage of labour in the animal husbandry department is getting increasingly problematic. In the long run, these changes will have an impact on the delivery of high-quality animal health and veterinary services. Valid data are essential at every decision-making stage for the planning and formulation of any programme aimed at bringing additional improvement to this sector, as well as its effective implementation and monitoring. Progress in this sector can be related not only to increased milk, egg, meat, and wool production, but also to the general development of livestock, including disease control, progeny development, and related infrastructure. The total numbers of animals in each of the identified species are very important determinant factor in the growth of livestock sector. A brief analysis is given in this study considering the comparison of the previous census results.*

***Key Words:** Livestock, economy, veterinary services, animal, Himachal Pradesh.*

1. INTRODUCTION:

Agriculture has an impact on overall economic growth in emerging economies like India. Agriculture influences the overall economic growth. For the vast majority of individuals in rural areas, it remains their primary source of income. However, due to its nature of dependency and the presence of numerous organizational and scientific constraints, improving agricultural performance is a challenging endeavor. Due to tough terrain and inaccessibility, these constraints appear to be more daunting in hilly and mountainous places like Himachal Pradesh. Diversifying agricultural output portfolios to include livestock is a good method to boost agricultural growth and reduce rural poverty. Animal husbandry's proportion to total agricultural output in Himachal Pradesh has consistently increased over time. Animal husbandry is a powerful tool for social and economic development that improves the standard of living and quality of life for people from all walks of life. Furthermore, the cattle industry supplies the farming system with long-term stability and economic viability. The composition of livestock population has undergone noticeable changes in Himachal Pradesh. These changes have implications on increased demand for the livestock products. A significant veterinary infrastructure has been created in the state over the years to support livestock farming.

2. METHODOLOGY:

The study has used secondary data from various government publications such as LivestockCensus, various issues of Economic **ANALYSIS A**Survey of H.P., various issues of Statistical Abstract of H.P.

3. DATA ND INTERPRETATION:

1. Livestock population in Himachal Pradesh:

In the rural areas, agriculture and allied pursuits is the mainstay of the people. The development of animal husbandry assumes an added Importance. The livestock population in the state has been presented in Table 1. It is clear from the table that in terms of numbers, livestock population in the state increased marginally from 4740892 in 1997 to 4844431 in 2012. The percentage of Cattle to the total of livestock has been worked out 42.22, 43.53, 43.50 and 44.37 per cent in the year 1997, 2003, 2007 and 2012 respectively. The percentage of Buffaloes to the total of livestock has been worked out 13.76, 15.32, 13.60 and 14.78 per cent in the year 1997, 2003, 2007 and 2012

respectively. The percentage of Sheep to the total of livestock has been worked out 19.17, 17.96, 17.28 and 16.61 per cent in the year 1997, 2003, 2007 and 2012 respectively. While the population of cattle and buffaloes increased, a decline was observed in the sheep population over the period of time.

Table 1 Livestock population in Himachal Pradesh: 1997-2012

S.N.	Period/ Livestock	**1997**	**2003**	**2007**	**2012**
1	Cattle				
	(I) Crossbreed Cattle				
	Bulls	156614	134779	141065	158662
		(3.30)	(2.67)	(2.70)	(3.28)
	Cows	381788	515964	651916	825266
		(8.05)	(10.23)	(12.50)	(17.04)
	(II) Indigenous Cattle				
	Bulls	772639	790356	742280	569961
		(16.30)	(15.66)	(14.23)	(11.77)
	Cows	690785	755439	733917	595370
		(14.57)	(14.97)	(14.07)	(12.29)
	Total Cattle (I+II)	2001826	2196538	2269178	2149259
		(42.22)	(43.53)	(43.50)	(44.37)
2	Buffaloes				
	(I) Male	43820	47140	58179	60175
		(0.92)	(0.93)	(1.12)	(1.24)
	(II) Female	608553	726089	703410	655841
		(12.84)	(14.39)	(13.48)	(13.54)
	Total(I+II)	652373	773229	761589	716016
		(13.76)	(15.32)	(14.60)	(14.78)
3	Sheep	908831	906027	901299	804871
		(19.17)	(17.96)	(17.28)	(16.61)
4	Goats	946529	1115587	1240836	1119491
		(19.97)	(22.11)	(23.79)	(23.11)
5	Horses And Ponies	22026	17144	13155	15081
		(0.46)	(0.34)	(0.25)	(0.31)
6	Mules	24404	23938	18985	23315
		(0.51)	(0.47)	(0.36)	(0.48)
7	Donkeys	6639	8859	7376	7349
		(0.14)	(0.18)	(0.14)	(0.15)
8	Camels	168	137	56	177
		(0.00)	(0.00)	(0.00)	(0.00)
9	Pigs	4670	2795	2493	5033
		(0.10)	(0.06)	(0.05)	(0.10)
10	Yaks	2548	1590	1705	2921
		(0.05)	(0.03)	(0.03)	(0.06)
11	Others	731	200	14	918
		(0.02)	(0.00)	(0.00)	(0.02)
12	Total Livestock (1 to 11)	4740892	5046044	5216686	4844431
		(100.00)	(100.00)	(100.00)	(100.00)
13	Poultry	381650	764136	809546	1104476
14	Dogs	170147	208254	211900	175008

Note:-Figures in parenthesis indicate percentages of total livestock

Source: Directorate of Animal Husbandry, Government of Himachal Pradesh, Shimla.

2. Number of Veterinary Hospitals and Dispensaries:

Successive active policy regimes have constructed huge infrastructure, giving essential services to the state's livestock sector, enabling for substantial achievements in the livestock sector. The number of veterinary hospitals and dispensaries in the state has been presented in Table 2. The number of all veterinary institutions in the state has recorded marginal increase from 2204 in 2009-10 to 2293 in 2019-20.

Table 2Number of Veterinary Hospitals and Dispensaries

Year	Hospitals/ CVD	Dispensaries	Other Institutions	Polyclinic	Total
2009-10	360	1761	76	7	2204
2010-11	360	1764	72	7	2203
2014-15	364	1766	73	7	2210
2015-16	363	1769	73	9	2214
2016-17	401	1772	73	9	2255
2017-18	431	1770	69	9	2279
2018-19	442	1767	71	10	2290
2019-20	454	1760	69	10	2293

Source: Directorate of Animal Husbandry, Government of Himachal Pradesh, Shimla.

3. Veterinary Institutions and Personnel:

Apart from proper veterinary infrastructure, another issue that is critical for increasing livestock production in the state is the availability of staff to run these institutions. The veterinary institutions and personnel in the state have been presented in Table 3. It is revealed from the table that there is shortage of manpower in veterinary services in the state.

Table 3 Veterinary Institutions and Personnel

Year	No. of Senior Veterinary Officer	Veterinary Officer	Chief Veterinary Pharmacist	Animal Husbandry Assistant	Veterinary Pharmacist
2009-10	43	376	43	259	2280
2010-11	50	369	43	259	2280
2015-16	50	380	50	280	2266
2016-17	50	418	50	317	2305
2017-18	66	437	58	341	2333
2018-19	67	451	57	349	2336
2019-20	67	467	57	329	2347

Source: Directorate of Animal Husbandry, Government of Himachal Pradesh, Shimla.

4. District-wise Milk Procurement of H.P. Milkfed:

The district-wise milk procurement of H.P. Milkfed in the state has been presented in Table 4.

Table 4 District-wise Milk Procurement of H.P. Milkfed

District/Year	**2018-19**	**2019-20**
1. Bilaspur	1314144	734113
2. Chamba	36579	39976
3. Hamirpur	121706	96596
4. Kangra	231219	264030
5. Kinnaur	252516	356058
6. Kullu	9938815	10940793
7. L&S	0	0
8. Mandi	8578114	8854640
9. Shimla	3093052	5262073
10.Sirmaur	789066	769660
11.Solan	807763	397292
12.Una	403236	312986
H.P.	25566209	28028220

Source: Directorate of Animal Husbandry, Government of Himachal Pradesh, Shimla.

5. Average Daily Milk Yield Per animal/Total Milk Production:

The major goal of the livestock development program is to increase the productivity of the animals. The average daily milk yield per animal/total milk production in the state has been presented in Table 5. Milk is the main product; the trends in the average daily milk yield were examined species wise in the table. The average cow milk yield in the state increased from 2345 grams in 2003-04 to 4425 grams in 2019-20.

Table 5 Average Daily Milk Yield Per animal/Total Milk Production

Year	Daily Milk Yield (In grams.)			Total Milk Production (In '000 tonnes)					
	Cow	Buffalo	Goat	Cow			Buffalo	Goat	Total
				Cross- Breed	Indigenous	Total			
2003-04	2345	3243	435	132.233	242.656	374.889	378.343	30.85	784.082
2004-05	2527	2695	440	277.9	222.093	499.993	339.461	30.056	869.51
2005-06	2536	2746	499	295.572	210.021	505.593	335.065	28.356	869.014
2006-07	2509	2719	532	280.107	219.898	500.005	345.186	27.204	872.395
2007-08	2672	2704	548	333.359	173.974	507.333	337.378	28.755	873.466
2008-09	2837	2649	527	367.266	161.095	528.361	327.511	28.128	884
2009-10	2828	3334	450	362.534	150.07	512.604	300.307	23.043	835.954
2010-11	3180	3554	488	517.271	152.076	669.347	383.743	49.404	1102.494
2011-12	3261	3423	504	524.569	155.402	679.971	389.968	49.927	1119.866
2012-13	3263	3563	501	531.533	159.433	690.966	398.806	48.84	1138.612
2013-14	3304	3599	448	534.466	163.356	697.822	403.983	49.006	1150.811
2014-15	3362	3639	507	553.806	161.157	714.963	407.548	49.645	1172.156
2015-16	3708	3619	511	715.758	142.57	858.328	380.495	43.822	1282.645
2016-17	3753	3686	506	751.258	152.541	903.799	377.848	46.527	1328.174
2017-18	4035	3780	530	816.825	132.901	949.726	395.474	46.891	1392.091
2018-19	4237	3968	565	877.976	131.04	1009.016	399.411	51.908	1460.335
2019-20	4425	4085	579	945.585	119.171	1064.75	413.193	53.376	1531.325

Source: Directorate of Animal Husbandry, Government of Himachal Pradesh, Shimla.

6. Preventive Measures Undertaken and Animals Treated in Different Veterinary Institutions:

The preventive measures undertaken and animals treated in different veterinary institutions in the state have been presented in Table 6.

Table 6 Preventive Measures Undertaken and Animals Treated in Different Veterinary Institutions

Year	Animals treated	Preventive inoculation	Castration done	Artificial insemination done	Progeny born
2009-10	2806	3877	337	687	270
2010-11	3027	3949	333	714	296
2015-16	2688	7166	297	990	435
2016-17	3043	7555	288	999	417
2017-18	3026	8015	282	1024	420
2018-19	2950	8746	275	993	461
2019-20	2839	5173	253	958	440

Source: Directorate of Animal Husbandry, Government of Himachal Pradesh, Shimla.

7. Veterinary Aid:

The veterinary aid provided to livestock in the state has been presented in Table 7.

Table 7 Veterinary Aid

Year	Hospitals/Dispensaries& Veterinary Polyclinic	Animals Treated (In 000)
2004-05	2070	2451
2005-06	2070	2643
2006-07	2139	2914
2007-08	2139	3295
2008-09	2119	3422
2009-10	2128	2806
2010-11	2131	3027
2011-12	2131	2860
2012-13	2131	2632
2013-14	2136	2860
2014-15	2137	2743
2015-16	2214	2688
2016-17	2255	3043
2017-18	2279	3026
2018-19	2290	2950
2019-20	2293	3839

Source: Directorate of Animal Husbandry, Government of Himachal Pradesh, Shimla.

4. FINDINGS:

It has been found that the population of cattle and buffaloes increased, a decline was observed in the sheep population over the period of time. The percentage of Crossbreed Cow to the total of livestock has been worked out 8.05, 10.23, 12.50 and 17.04 per cent in the year 1997, 2003, 2007 and 2012 respectively. It revealed that the percentage of Crossbreed Cow to the total of livestock increasing over the period. The percentage of Indigenous cow to the total of livestock has been worked out 14.57, 14.97, 14.07and 12.29 per cent in the year 1997, 2003, 2007 and 2012 respectively. It revealed that the percentage of Indigenous cow to the total of livestock decreasing over the period. Within cattle, the rise in replacement of indigenous animals by the crossbreds during study period is another revelation. This has resulted in increased milk production in the state along with the enhanced output of other livestock products. The decline in the population of local bulls and a perceptible increase in the crossbred bull population, which is not rated very high as a source of draught power, has implications on the natural resources of hills and its agriculture. The study has suggested that measures should be undertaken to strengthen animal health care and veterinary services for developing a strong livestock economy in the state.

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