

# Structural Growth and Development of Livestock Sector in Karnataka: Appraisal and Performance

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**Paper Number: 240001**

## **Abstract:**

*The livestock sector is an important sub sector of the agriculture activities of Indian economy. It forms an important role of livelihood activities for most of the farmers, supporting agriculture in the form of critical inputs, contributing to the health and nutrition of the household, increasing incomes, offering employment opportunities. It can be leads to improvement of the rural development and growth of livelihoods, creation of employment and income, reduction of poverty, and upflipment of weaker section peoples in the rural areas. For increasing production, the key areas of livestock sector with growth opportunities inter alia include livestock development with new breeds, feed development, organized animal breeding service, veterinary services, extension and training services, meat processing, cold storage facilities, wool processing and cow urine processing and strategies to avoid problems related to diseases and reducing the cost of production of vaccines and medicines. The paper analysed that the growth and development of livestock population and its impact on rural economy.*

**Keywords:** *Growth and Development of Livestock, Impact of Livestock on Rural Economy and Strategies of Livestock Sector.*

## **Introduction**

The livestock sector is emerging as an important growth influence of the Indian economy. It makes multi-faceted contributions to socio-economic development of living in rural and semi-urban areas in India as well as Karnataka. This sector alone contributes nearly 25.6 per cent of value of output at current prices of total value of output in agriculture, fishing and forestry sector. The overall contribution of livestock sector in total GDP is nearly 5 per cent and employees' eight percent of the labour force in 2012-13. Its role in the food and nutritional security has been well recognized since times immemorial. But, in the mixed crop-livestock systems its importance goes beyond direct and indirect food production function. This enterprise provides a flow of essential food and nutrition products, draught power, organic manure, gobber gas, employment and income generation, and export earnings in the country. The distribution of

livestock sector wealth is more democratic, compared to land. Hence, from the equity and livelihood perspective it is considered an important component in poverty alleviation programmes. It is a dominant role in small, marginal landholders and the landless that constitute bulk in the rural and semi-rural population. It is considered to highly livelihood security for backward peoples for especially poor women in the country.

### Objectives of the Study

1. To study the current growth and trends of livestock sector in Karnataka.
2. To examine the livestock sector and its impact on rural development in Karnataka.
3. To analyse the district-wise growth trends of livestock sector in Karnataka.

### III Methodology of the Study

The study was mainly based on secondary data. The secondary data has been collected from various annual reports of 19<sup>th</sup> Livestock Population Census in India and Karnataka, Economic Survey of India and Karnataka 2018, Directorate of Economics and Statistics, Bangalore, published and unpublished journals and articles, etc. The study has statistical tools carried out like percentage, average, Annual Growth Rate and Compound Annual Growth Rate.

### Strategies of Value of Output: Livestock Sector

In this sector is one of the dominantly and dynamically role in the agriculture and allied activities in the Karnataka economy. It is playing have been growth and development of the agricultural sector in rural areas in the state. It is performance of value of output in the exchange earning and other activities, the livestock sector.

**Table-1 Value of Output: Livestock Sector in Karnataka**

(Rs in Million)

Year	Livestock (At Current Prices)	Growth Rate	Livestock (At Constant Prices)	Growth Rate
2004-05	74	-	74	-
2005-06	79	6.76	77	4.05
2006-07	84	6.33	79	2.60
2007-08	92	9.52	80	1.27
2008-09	113	22.83	86	7.50
2009-10	139	23.01	92	6.98
2010-11	155	11.51	96	4.35

<b>Total</b>	<b>736</b>		<b>584</b>	
<b>CAGR</b>	<b>13.90</b>		<b>4.46</b>	

**Source:** A Statistical Profile of Dairying in Karnataka (2015), Government of Karnataka.

**Graph-1 Value of Output: Livestock Sector**

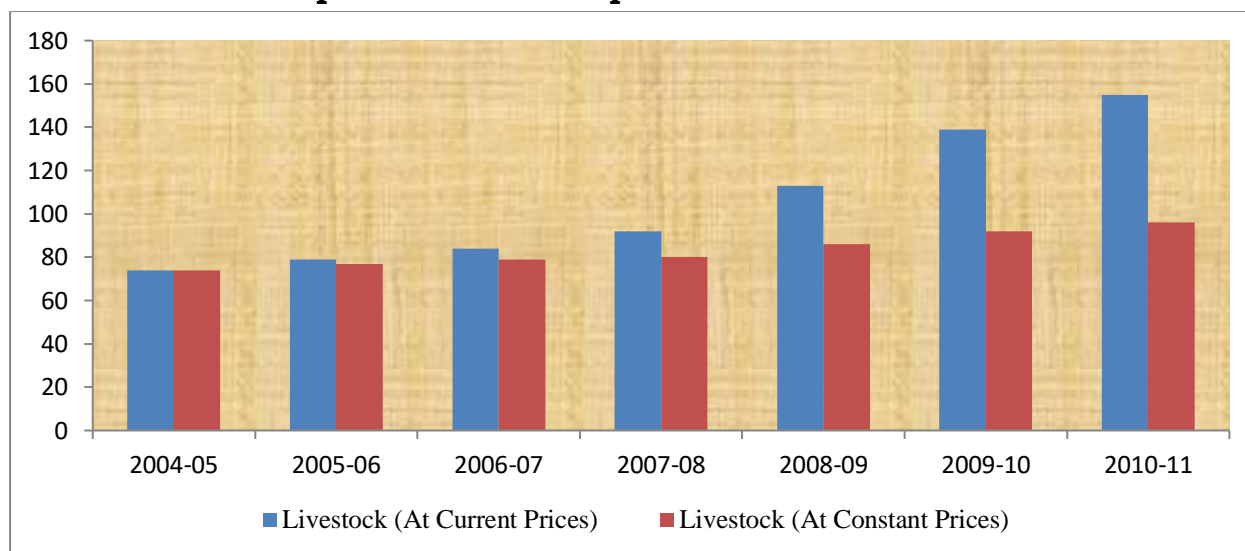
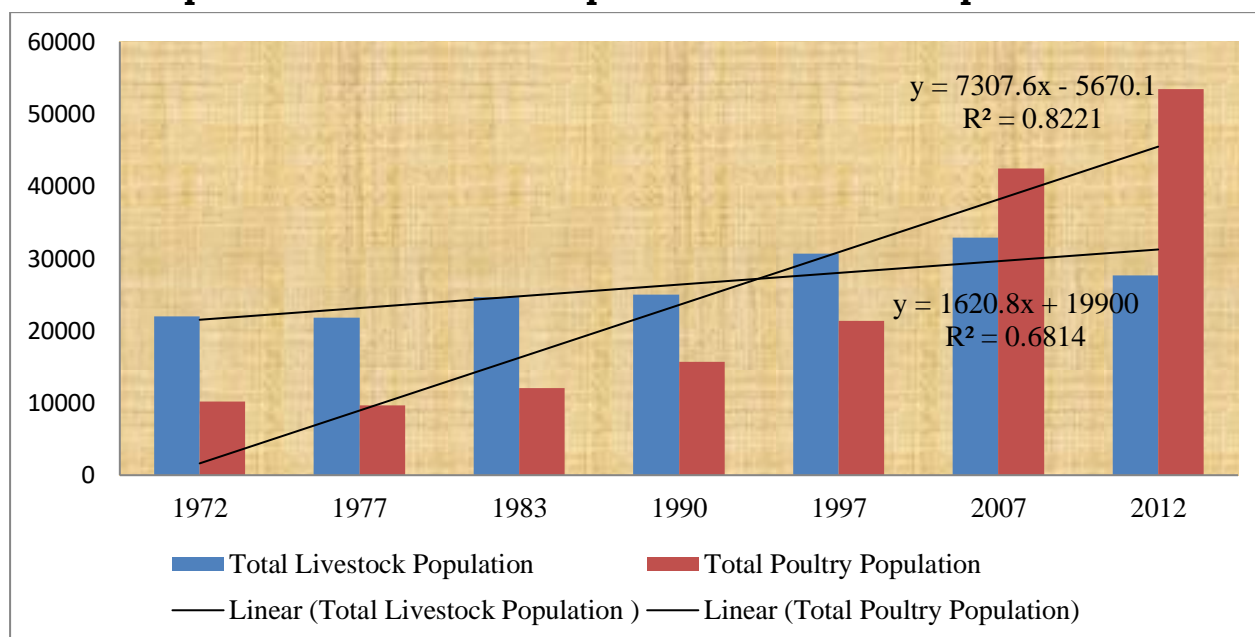


Table-1 and Graph-1 revealed that the information about value of output livestock sector in Karnataka during the period from 2004-05 to 2010-11. This data reveals that livestock sector have been contribute of value of output, in terms of million. During the 2004-05, livestock value of output at current price is Rs.74 million which increased to Rs.155 million in 2010-11. The livestock value of output at constant prices is Rs.74 million which increased to Rs.96 million in 2010-11. It is seen from that the above table, the AGR and CAGR for the livestock value of output at both current price and constant price during the period from 2004-05 to 2010-11. The AGR for the livestock value of output at current price is 6.76 per cent, it has changed to 11.51 per cent in 2010-11 and at constant price is 4.05 per cent in 2005-06, it has changed to 4.35 per cent in 2010-11. The CAGR for livestock value of output at current price is 13.90 per cent and about 4.46 per cent of constant price. Table-2 details of the growth and development of livestock and poultry population in Karnataka.

**Table-2 Growth and Development of Livestock Population in Karnataka (000's)**

Livestock Census	Total Livestock Population	Total Poultry Population
<b>1972</b>	21965	10163
<b>1977</b>	21800	9696
<b>1983</b>	24680	12096
<b>1990</b>	24968	15694
<b>1997</b>	30688	21399
<b>2007</b>	32883	42433
<b>2012</b>	27701	53442
<b>Mean</b>	<b>26383.57</b>	<b>23560.43</b>
<b>CAGR</b>	<b>6.40</b>	<b>35.48</b>

**Source:** Economic Survey of Karnataka, (2015-16), Department of Planning, Programme Monitoring & Statistics, Government of Karnataka.

**Graph-2 Growth and Development of Livestock Population**

### Population of Livestock and Its Importance

Livestock is a major role in the rural development aspects in Karnataka. It is increasing day by day due to its importance as an alternative source of income and food also. The importance of livestock in India goes beyond the function of food production. It is an important source of draught power, manure for crop production and fuel for domestic use. Thus, by minimizing use of nonrenewable energy, livestock make a positive contribution to the economic development. Livestock sector is an important source of income for the farmers and rural poor peoples. The growth in the livestock subsector is expected to contribute to poverty alleviation, as the

livestock elements are largely concentrated among the marginal and small farmers in rural areas.

### Strengths of Livestock Sector in Karnataka

The Livestock sector is an important component of Karnataka economy in terms of income and employment generating, and women work participation rate, equity and foreign exchange earnings. It is a sustained economic growth and rising domestic incomes, the demand for livestock food and products has increased tremendously. This has encouraged the rapid expansion of livestock output during the last two decades, particularly for exports. It plays an important dominantly role in agriculture and allied sector in both rural and semi-rural in Karnataka state.

**Table-3 Livestock Census-wise Livestock Population in Karnataka (1951 to 2012) (In Number)**

Year	Cattle	Buffalo	Sheep	Goat	Pig	* Others	Total livestock	AGR of Total Livestock	Poultry
1951	8815269	2565959	4192078	2676408	161889	134580	18546183	-	5705132
1956	8965693	2668713	4059473	2583995	185493	102851	18566218	0.11	7667845
1961	9673001	3025890	4764972	2894355	206513	103456	20668187	11.32	8840927
1966	9685581	2946027	4747964	2813682	207078	115160	20485462	-0.88	8276797
1972	10018717	3036873	4662420	3726016	261125	82211	21965362	7.22	10163177
1977	10221960	3278128	4536481	3388139	296368	79128	21800204	-0.75	9696012
1983	11300223	3647967	4791650	4546928	318862	1542755	26148385	19.95	12096535
1990	10175501	4037193	4727238	3888799	303969	1835301	24968021	-4.51	15693580
1997	10831134	4367184	8003078	4874759	405444	2206468	30688067	22.91	21398756
2003	9595930	4023832	7272241	4491473	320433	2654625	28358534	-7.59	24450809
2007	10507325	4329076	9565696	6157134	279763	2044257	32883251	15.96	42433692
2012	9516484	3470505	9583761	4796147	304798	1329089	29000784	-11.81	53442030
<b>CAGR</b>	<b>1.03</b>	<b>4.50</b>	<b>8.18</b>	<b>7.42</b>	<b>6.36</b>	<b>42.78</b>	<b>5.33</b>		<b>20.53</b>

**Source:** Government of Karnataka (2018-19), Economic Survey of Karnataka, Department of Planning, Programme Monitoring & Statistics, Government of Karnataka. Bangalore.

**Note:**\* Others includes Horse, Donkey, Mules and Camels.

**Graph-3 Livestock Census-wise Livestock Population in Karnataka (1951 to 2012)**

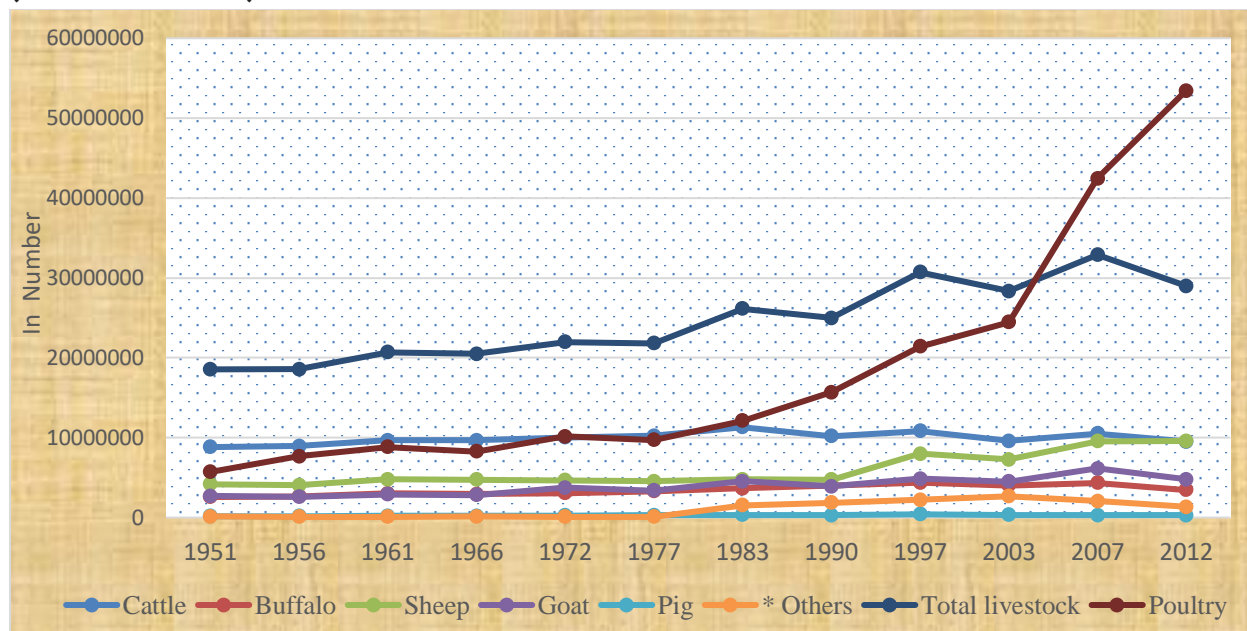


Table-3 and Graph-3 revealed that the livestock-wise livestock population in Karnataka census period from 1951 to 2012. The number of cattle is 8815263 in 1951 which increased to 9516484 in 2012. The number of buffaloes is 2565959 in 1951, which increased to 3470505 in 2012. In 1951, the number of sheep population is 4192078 which increased to 9583761 in 2012. From 1951 to 2012, the number of goats is 2676408 to 4796147 respectively. The number of pigs is 161889 in 1951, which increased to 304798 in 2012. The other livestock population like horse, donkey, mules, and camels was 134580 in 1951, which increased to 1329089 in 2012.

The overall total of livestock population is gradually increased from 1951 to 2012. The poultry population also positive growth trend was 5705132 in 1951, it has increased to 53442030 in 2012. The AGR and CAGR for the livestock population census period from 1951 to 2012 as given in Table-. The AGR for the total of livestock population is 0.11 per cent in 1956, it has changed to -11.81 per cent 2012. However, the AGR is slowdown in the livestock population during period from 1951 to 2012. The CAGR for the livestock wise of livestock population in Karnataka as cattle is 1.03 per cent; buffalo is 4.50 per cent; sheep is 8.18 per cent; goat is 7.42 per cent; pig is 6.36 per cent; the others population is 42.78 per cent, the



overall total livestock population is 5.33 per cent; and poultry is 20.53 per cent during period from livestock census of 1951 to 2012.

### **Impact of the Livestock Sector in Rural Economy**

The livestock plays an important role in the rural economy of farmers. The farmers in India maintain mixed farming system i.e. a combination of crop and livestock where the output of one enterprise becomes the input of another enterprise thereby realize the resource efficiency. The livestock serve the farmers in different ways.

**Income Generation in Rural Area:** Livestock sector is a source of subsidiary income for various families in Karnataka especially the resource poor who maintain few heads of animals. Cows and buffaloes if in milk will provide regular income to the livestock farmers through sale of milk. Animals like sheep and goat serve as sources of income during emergencies to meet exigencies like marriages, treatment of sick persons, children education, repair of houses etc. The animals also serve as moving banks and assets which provide economic security to the owners.

**Employment Generation in Rural Areas:** A wide number of people in Karnataka being less literate and unskilled depend upon agriculture for their livelihoods. But agriculture being seasonal in nature could provide employment for a maximum of 180 days in a year. The land less and less land people depend upon livestock for utilizing their labour during lean agricultural season.

**Development of Food System:** In this sector is nutrition sector for human being. Its products such as milk, meat and eggs are an important source of animal protein to the members of the livestock owners.

**Improve the Social Security:** The animals offer social security to the owners in terms of their status in the society. The families especially the landless which own animals are better placed than those who do not. Gifting of animals during marriages is a very common phenomenon in different parts of the country. Rearing of animals is a part of the Indian culture. Animals are used for various socio religious functions.

**Improve the Draft:** The bullocks are the back bone of Indian agriculture. The farmers especially the marginal and small depend upon bullocks for ploughing, carting and transport of both inputs and outputs.

**Uses of Dung for Agriculture Development:** In rural areas dung is used for several purposes which include fuel (dung cakes), fertilizer (farm

yard manure), and plastering material (poor man's cement). It is useful for grown of agriculture crops.

### **Growth of Livestock Population in Karnataka: A Inter-District Analysis**

Karnataka is the 9<sup>th</sup> largest state in cattle and buffalo population in the country, accounting for 4.3 per cent of the total population as per the latest Livestock Census, 2012. About half of the total bovine population is indigenous cattle and the rest is almost equally shared by crossbred cattle and buffalo population. The share of crossbreds to bovine population has increased from 4 per cent in 1992 to 22 per cent in 2012, while that of buffalo has marginally increased from 24 per cent to 27 per cent. Both indigenous cattle and buffalo population registered an annual decline of 4.5 per cent and 4.3 per cent respectively between 2007 and 2012 census periods, while that of crossbred cattle increased by 5.8 per cent. Farmers in the districts of Bangalore, Kolar, Chikkaballapura, Dakshina Kannada, Chamarajanagar, Mandya, Ramanagara etc have more than 40 per cent crossbred animals in their herds, which have helped them generate substantial income through dairying. During the 2017-18, the share of Animal Husbandry to Gross State Domestic Product (GSDP) of Agriculture and Allied activities was 20.36 per cent. As per 19<sup>th</sup> Livestock Census, the share of Karnataka to all India livestock and poultry population was 5.41 per cent and 7.33 per cent respectively. The density of livestock in the State was estimated 151.21 per sq.km and 47468 per lakh human population. Table-4 details of the district-wise growth and development of livestock and poultry population in Karnataka as per 2012 census.



**Table-4 District-wise Growth Trends of Livestock Population in Karnataka 2012**

District	Cattle	Buffaloes	Sheeps	Goats	Pigs	Rabbits	Dogs	Others	Total Livestock Population	% of Total Livestock Population	Poultry	% of Poultry
Bangalore	3828	3160	205	6052	18114	3506	127120	1336	417138	0.99	2421151	4.53
Bangalore (R)	158820	24381	124870	80740	6052	3967	26177	79	425086	1.00	8165758	15.28
Ramanagara	259897	30619	152938	120238	2050	1262	12694	247	579945	1.37	1284545	2.40
Chitradurga	275889	152852	940038	231279	3160	1491	37256	5131	1647096	3.89	2411780	4.51
Davanagere	332075	17896	343178	103187	3828	386	23486	169	982205	2.32	3193472	5.98
Kolar	229036	45876	445100	86263	4257	312	36016	125	846985	2.00	4275529	8.00
Chikkaballapura	246339	47140	432691	137050	4738	518	26894	143	895513	2.12	1660703	3.11
Shivamogga	568476	149515	36791	58034	4007	685	70201	191	887900	2.10	1739272	3.25
Tumkuru	527067	181118	1061330	326890	7122	1065	49673	5837	2160102	5.11	2107798	3.94
Chikkamagal	33757	70870	91312	46068	2158	1059	42577	299	591919	1.40	11783	2.20

uru	6										82	
Dakshina Kannada	25371 5	3700	265	24628	6463	1166	46510	20	436467	1.03	17219 08	3.22
Udupi	25206 7	8846	70	6600	3098	1396	92845	11	364933	0.86	11937 72	2.23
Hassan	60646 0	14126 4	16068 5	99405	2155	924	42657	812	1054362	2.49	25785 99	4.83
Kodagu	88428	14476	1401	7785	1694 8	723	47131	146	177038	0.42	20788 6	0.39
Mandya	36674 0	14551 6	34177 4	26130 0	6802	341	25961	721	1149155	2.72	12937 79	2.42
Mysuru	54955 2	45419	21381	16829 9	5476	1157	33191	290	1021765	2.42	30652 18	5.74
Chamarajana gar	26252 0	20887	12848 3	10285 4	1049	254	12321	152	528520	1.25	37746 3	0.71
Belagavi	29283 3	82937 0	78892 9	49154 5	2567 6	161	75232	5363	2809109	6.64	27382 92	5.12
Vijayapura	25302 5	15686 0	30927 8	36756 3	2267 2	24	45305	1984	1156711	2.73	30001 8	0.56
Bagalkot	27941 5	23480 2	73360 0	32474 1	3346 7	908	37774	1603	1646310	3.89	13721 96	2.57
Dharwad	19378 1	79513	73982	62140	3162	351	20378	98	433405	1.02	90442 1	1.69
Gadag	14265 5	60989	25904 7	10635 3	6569	341	16711	322	592987	1.40	15627 0	0.29
Haveri	28460	98468	25470	12775	6453	298	26866	931	800090	1.89	88523	1.66

	9		8	7							2	
Uttara Kannada	33695 5	87816	4783	8961	1491	508	57544	106	498164	1.18	53703 7	1.00
Ballari	34407 7	14225 5	75627 0	18727 0	1497 1	494	26030	347	1471714	3.48	27236 80	5.10
Bidar	23451 9	13078 1	88402	14594 2	1871 2	15	9295	2822	630488	1.49	40266 1	0.75
Kalaburgi	47311 7	91254	10006 1	37295 1	2391 5	35	31792	504	1093629	2.59	36275 4	0.68
Yadgiri	31072 7	76855	46348 2	25736 0	2350 4	126	19621	396	1152071	2.72	27530 7	0.52
Raichur	35912 4	13685 4	64754 9	28171 0	1407 2	45	31458	107	14770919	34.92	37268 8	0.70
Koppal	26040 8	77860	54706 1	15650 9	1265 7	40	24406	117	1079058	2.55	35344 59	6.61
<b>Total</b>	<b>9083 730</b>	<b>33072 12</b>	<b>93096 64</b>	<b>4757 474</b>	<b>3047 98</b>	<b>2355 8</b>	<b>1175 122</b>	<b>3040 9</b>	<b>4230078 4</b>	<b>100.00</b>	<b>53442 030</b>	<b>100.00</b>

**Source:** Government of Karnataka (2017-18), Karnataka At a Glance, Directorate of Economics and Statistics, Bangalore.

**Graph-4 Share of Percentage Livestock and Poultry Population in Karnataka (2012)**

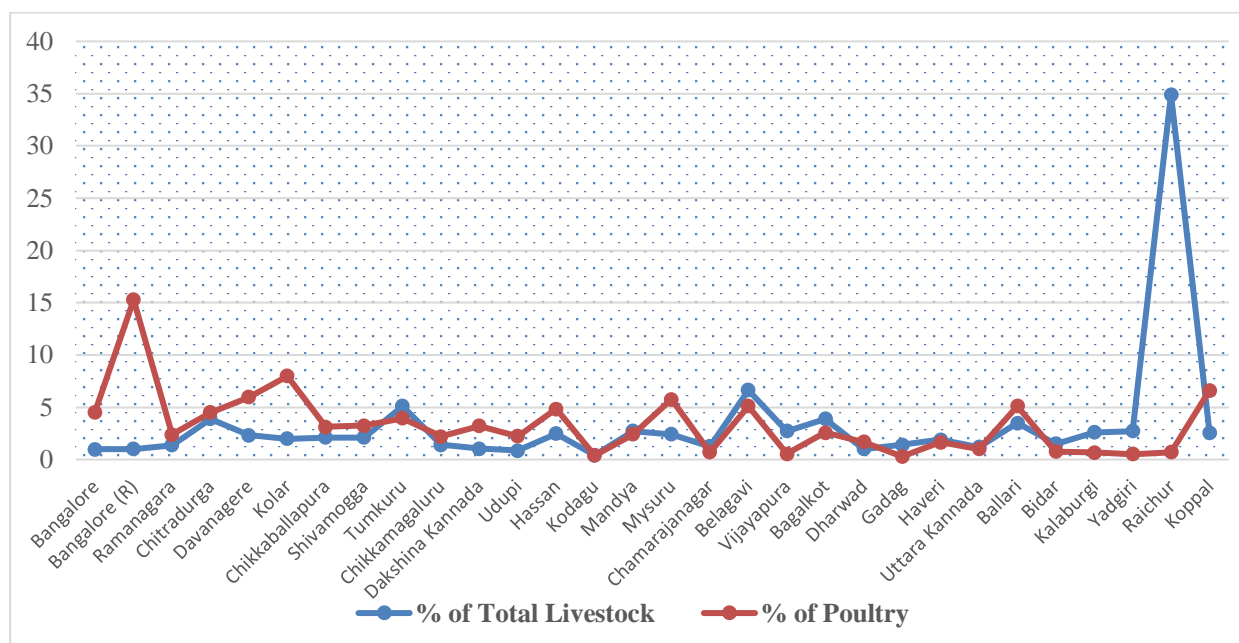


Table-4 gives the livestock census data of district-wise growth trends of livestock population in Karnataka as per 2012 livestock census. Raichur district has the highest number of livestock population is 14770919 (34.92%) with Bangalore district has the number of poultry population is 8165758 (15.28%). Belagavi and Kolar have the highest position of the livestock and poultry population is 2809109 (6.64%) and 4275529 (8%) respectively. Tumakuru has the third position of the livestock population is 2160102 (5.11%) and with Davanagere has the third position of the poultry population is 3193472 (5.98%). Chitradurga has the fourth largest of the livestock population is 1647096 (3.89%) and with Mysuru has the third position of the poultry population is 3065218 (5.74%). Livestock and poultry population is 1646310 (3.98%) and 2738292 (5.12%) are fifth position is in Bagalkot and Belagavi districts respectively. This is followed by in order number of livestock and poultry population in both Ballari (1471714) and Ballari (2723680). The other details of the livestock population as per census of 2012 as given in Table-.

### Conclusion

The present study has undertaken to provide a reflection of the status of livestock and poultry industry in Karnataka as a sub sector of agriculture. In Karnataka, livestock Sector has been playing a significant role in rural economy. During the 2017-18, the share of Animal Husbandry in Gross State Domestic Product (GSDP) of Agriculture and Allied activities was 20.36 per cent. As per the 19<sup>th</sup> Livestock Census, the share of Karnataka in all India

livestock and poultry population was 5.41 per cent and 7.33 per cent respectively. The density of livestock in the state was estimated at 151.21 per sq.km and 47468 per lakh human population. The livestock plays an important role in the rural economy of farmers. The farmers in Karnataka maintain mixed farming system i.e. a combination of crop and livestock where the output of one enterprise becomes the input of another enterprise thereby realize the resource efficiency. The livestock serve the farmers in different ways. They are income and employment generation, improve the food system, improve the social security, etc.

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