

An Overview of Livestock Sector in India

Bhoomi Suthar¹, Rachana K. Bansal^{2*} and Pooja Gamit³

^{2*} Assistant Professor, ^{1&3} PhD Scholar,

Department of Agricultural Economics, B. A. College of Agriculture,
Anand Agricultural University, Anand-388110 Gujarat, India

*Corresponding Author E-mail: rachi.bansal22@gmail.com

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ABSTRACT

Apart from socio-economic development of rural households, Livestock sector has emerged as an important segment of an expanding and diversifying agricultural sector in the Indian economy. The livestock sector contributes 4.6% to total GVA. Hence, the study analyzed the status and growth trend of livestock production and population in India as well as in different states. The entire study was based on secondary sources. Data were compiled from various publications on livestock GVA, value of livestock output, livestock production, species wise contribution in production, state-wise production and state with maximum growth rate in livestock production. The share of livestock sector has shown a rising trend in terms of total GVA. Milk production has increased from 112.2 million tones in 2008-09 to 176.3 million tones in 2017-18. At current prices, the value of livestock products produced in the country in 2016-17 was Rs 9,17,910 crores, in which milk and milk products accounting 66.93% highest share. Uttar Pradesh ranked first in terms of milk and meat production in India with 16.50% and 15% share respectively. Andhra Pradesh registered maximum growth rate in milk production. In meat production, poultry contributes maximum followed by buffalo and goat. Overall, it shows the growing importance of livestock sector in country. Therefore, this sector has to be allocated with more funds in the coming periods for hastening the growth of livestock products.

Keywords: GVA, Households, Production, Trend, Value

INTRODUCTION

In recent years, the livestock sector has emerged as an important segment of an expanding and diversifying agricultural sector in the Indian economy (Tisdell & Gali, 2000). The livestock sector is a very important productive activity in Indian agriculture, as milk is the second largest agricultural commodity contributing to GNP, next only to

rice (Sarkar & Ghosh, 2010). About 20.5 million people depend upon livestock for their livelihood particularly women in principal and subsidiary status. 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.

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It generates a continuous stream of income and reduces seasonality in livelihood patterns particularly of the rural poor (Birthal & Ali, 2005).

The livestock provides food items such as milk, meat and eggs for human consumption. India is number one milk producer in the world. It also contributes to the production of wool, hair, hides, and pelts. Livestock are considered as “moving banks” because of their potentiality to dispose off during emergencies. They serve as capital and in cases of landless agricultural laborers many time it is the only capital resource they possess (Dash, 2017).

In the recent decade, demand for various livestock based products has increased significantly due to increase in per capita income, urbanization, taste and preference and increased awareness about food nutrition. Livestock sector is likely to emerge as an engine for agricultural growth in the coming decades. It is also considered as a potential sector for export earnings. Livestock can be used as an effective tool for reducing rural poverty (Ali, 2017). Livestock help improve food and nutritional security by providing nutrient-rich food products, generate employment and act as a cushion against crop failure, provide draught power and manure inputs to the crop subsector and contribute to foreign exchange through exports. This study

has been undertaken to provide an overview of Indian livestock sector.

MATERIALS AND METHODS

The data used for the study was entirely based on secondary source from the various publications. The data on agriculture and allied sector's GVA and livestock sector's GVA for a period of 6 years *i.e.* 2011-12 to 2016-17, group-wise output value from livestock sector for a period 3 years (2014-15 to 2016-17) were taken from the National Accounts Statistics, published by Central Statistics Organization (CSO), Govt. of India. The data related to livestock population in states, production of different livestock products (milk, meat, egg and wool), species wise production of different livestock products in India as well as in states for a period of 10 years (2008-09 to 2017-18) were compiled from Annual Report, 2018-19 and Basic Animal Husbandry and Fisheries Statistics, 2018, published by Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmer's Welfare, Govt. of India and Livestock Production Statistics of India, 2017.

The data were compiled and analyzed by using simple statistical tools like percentage, rank and CGR. The CGR was calculated by fitting the exponential function given below:

$$Y = a b^t \dots\dots\dots (1)$$

Where, Y= milk/egg/meat/wool production

a = constant

b= regression coefficient

t= time variable

Thus, natural log on both the sides of eq (1) was taken to convert it in to linear form.

$$\text{Log } Y = \text{log } a + t \text{ log } b \dots\dots\dots (2)$$

and, CGR (%) was worked out by using following formula:

$$\text{CGR } (\%) = (\text{antilog of } b-1) * 100 \dots\dots\dots (3)$$

RESULTS AND DISCUSSION

Importance of Livestock sector:

It can be better understood by looking at share of agriculture and livestock sector in total

GVA of India, analyzed in Table 1. GVA of agriculture and allied sector declined from 18.50% in 2011-12 to 18.20% in 2014-15 and further to as low as 17.90% in the year 2016-

17, while interestingly the share of livestock sector has shown a rising trend in terms to total GVA, which increased from 4.00% in 2011-12 to 4.60% during the year 2016-17 due

to dependence of millions of farmers resulted in development of animal husbandry and dairying over time.

Table 1: Share of Agriculture and Livestock Sector in GVA

At current prices in Rs Crores					
Year	GVA(Total)	GVA (Agriculture and allied sector)		GVA (Livestock sector)	
		Rs Crores	% Share to total GVA	Rs Crores	% Share to total GVA
2011-12	81,06,946	15,01,947	18.50	3,27,334	4.00
2012-13	92,02,692	16,75,107	18.20	3,68,823	4.00
2013-14	103,63,153	19,26,372	18.60	4,22,733	4.10
2014-15	115,04,279	20,93,612	18.20	5,10,411	4.40
2015-16	125,66,646	22,25,368	17.70	5,84,070	4.60
2016-17	138,41,591	24,84,005	17.90	6,39,912	4.60

Source: National Account Statistics 2016, Central Statistical Organization, Govt. of India

Table 2 shows that at current prices, the value of livestock products produced in the year 2016-17 was Rs 9,17,910 crores. Among the different livestock components, major share of value comes from the milk and milk products as it has registered about 67% of total livestock value during the year 2014-17. Meat group comprise of beef, mutton, pork, hides,

skins with second largest contributor of value *i.e.* it was 21.18%. Apart from these, dung, eggs, silk worm cocoons wool and hair form minor components of value. This is an indication of growing importance of livestock sector in overall agricultural development in the country.

Table 2: Value of Output from Livestock Sector (At current prices in Rs Crores)

Sr. No.	Items	2014-15	2015-16	2016-17
1.	Milk groups	4,95,835 (66.751)	5,60,777 (67.146)	6,14,387 (66.933)
2.	Meat groups	1,54,152 (20.752)	1,73,840 (20.815)	1,94,454 (21.184)
3.	Eggs	24,382 (3.282)	26,274 (3.145)	29,557 (3.220)
4.	Wool & hair	578 (0.077)	542 (0.0648)	606 (0.066)
5.	Dung	45,455 (6.119)	48,451 (5.801)	50,883 (5.544)
6.	Silk worm cocoons & honey	6,930 (0.932)	7,419 (0.888)	7,774 (0.846)
7.	Increment in stock	15,474 (2.083)	17,854 (2.137)	20,249 (2.205)
	Value of output from Livestock Sector	7,42,807 (100.00)	8,35,157 (100.00)	9,17,910 (100.00)

Values in parentheses indicate percentage to the total value of output from livestock

Source: National Account Statistics 2018, Central Statistical Organization, Ministry of Planning & Programme Implementation, Govt. of India GOI

Growth of Livestock Production in India:

The production performance of livestock sector has been analyzed in the Table 3. Milk production has been increased gradually from 112.2 million tones in the year 2008-09 to 176.3 million tones in the year 2017-18 with 5.24 % growth rate to assert India as the largest producer in the world. The credit for this healthy scenario should also go to various development projects, which have been simultaneously undertaken to give a fillip to agriculture and dairy production. Egg production has been also increased during the year 2008-09 to 2017-18 with 5.82 % growth rate. India is the third largest producer of eggs in the world. The growth in egg production is much faster in India as compared to milk

production. The per capita availability of milk and egg showed improvement or upward trend in India due to various schemes introduced by the Government and improved performance in cooperatives. In the year 2008-09 meat production, which was only 4.3 thousand tones, has increased gradually over the years to reach around two times higher 7.7 thousand tones in the year 2017-18 with 6.83 % growth rate. Wool production has been declining from 42.8 million kg to 41.5 million kg over the study period, which may be due to decreasing camel and sheep population as their rearers shift their occupation toward dry farming and other activities. India ranks ninth in wool production during the year 2017-18.

Table 3: Growth Trend in Livestock Production in India

Year	Milk Production (million tones)	Per Capita Milk Availability (gms/day)	Egg Production (billion no.)	Per Capita Egg Availability (No./annum)	Meat Production ('000t)	Wool Production (million kg)
2008-09	112.2	266	55.6	48	4.30	42.8
2009-10	116.4	273	60.2	51	4.60	43.1
2010-11	121.8	281	63	53	4.80	43.0
2011-12	127.9	290	66.5	55	5.50	44.7
2012-13	132.4	299	69.73	58	5.90	46.1
2013-14	137.7	307	74.8	61	6.20	47.9
2014-15	146.3	322	78.5	63	6.69	48.1
2015-16	155.5	337	82.9	66	7.00	43.6
2016-17	165.4	355	88.1	69	7.4	43.5
2017-18	176.3	375	95.2	74	7.7	41.5
CGR	5.24	3.98	5.82	4.65	6.83	-0.20

Source: Annual Report 2018-19, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmer's Welfare, Govt. of India

Table 4: Livestock Production in India (2017-18)

Sr. No.	Product	Quantity (Million tones)	Ranking in world Production
1	Milk	176.3	First
2	Egg	95200	Third
3	Meat	7.7	-
4	Wool	41.5	Ninth

Source: Annual Report 2018-19, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmer's Welfare, Govt. of India

The milk production is seen to vary considerably across different states of the country. Among various states during the year 2017-18, Uttar Pradesh ranks first in terms of milk production in India with 16.50% share followed by Rajasthan (12.70%), Madhya

Pradesh (8.30%), Andhra Pradesh (7.80%) and Gujarat (7.70 %). In Andhra Pradesh, maximum growth rate was observed in milk production. Uttar Pradesh (15.00%) also ranks first in terms of meat production in India followed by Maharashtra (12.10%), West

Bengal (10.10%), Andhra Pradesh (9.30%) and Telangana (8.40%). Andhra Pradesh (18.70%) stands first in egg production followed by Tamil Nadu (18.30%), Telangana (13.30%), West Bengal (8.00%) and Maharashtra (6.00%). Wool production is maximum in the state of Rajasthan (34.50%) followed by Jammu & Kashmir (18.10%), and

Telangana (10.90%). Uttar Pradesh state was having maximum livestock population with 13.42% share while Andhra Pradesh was highest in poultry population with 22.12% share. States West Bengal (16.6%), Tripura (14.3%) and Bihar (6.3%) recorded highest growth rate respectively in egg, meat and wool production.

Table 5: States with Maximum Livestock Production and Population in India

Particulars	Five major states				
	Milk	Uttar Pradesh (16.50%)	Rajasthan (12.70%)	Madhya Pradesh (8.30%)	Andhra Pradesh* (7.80%)
Egg	Andhra Pradesh (18.7%)	Tamil Nadu (18.30%)	Telangana (13.30%)	West Bengal (8.00%)	Maharashtra (6.00%)
Meat	Uttar Pradesh (15.00%)	Maharashtra (12.10%)	West Bengal (10.10%)	Andhra Pradesh* (9.30%)	Telangana (8.40%)
Wool	Rajasthan (34.50%)	Jammu & Kashmir (18.10%)	Telangana (10.90%)	Karnataka (10.40%)	Gujarat (5.40%)
Total Livestock Population	Uttar Pradesh (13.42%)	Andhra Pradesh* (10.96%)	Madhya Pradesh (7.10%)	Bihar (6.43%)	Maharashtra (6.34%)
Total poultry population	Andhra Pradesh* (22.12%)	Tamil Nadu (16.09%)	Maharashtra (10.67%)	Karnataka (7.33%)	West Bengal (7.25%)

*indicates Telangana is not included in Andhra Pradesh

Values in parentheses indicate percentage to the total

Source: Basic Animal husbandry & Fisheries Statistics, 2018

Table 6: States with Maximum Growth Rate in Livestock Production (2017-18)

Livestock production	State
Milk Production	Andhra Pradesh (12.7%)
Egg Production	West Bengal (16.6%)
Meat Production	Tripura (14.3%)
Wool Production	Bihar (6.3%)

Values in parentheses indicates percentage growth rate

Source: Basic Animal husbandry & Fisheries Statistics 2018, Department of Animal Husbandry and Dairying, Ministry of Agriculture, Govt. of India

Species wise contribution to the respective production has been analyzed in the Table 7. Buffalo indigenous ranked first with share 35% in total milk production followed by cow cross-breed (26%), buffalo non-descript (14%), cow indigenous (11%), cow non-descript (9%). In

egg production, improved fowl ranked first with 86.80% share followed by desi fowl (11.96%), desi duck (0.96%) and improved duck (0.28%). For meat production, poultry contributes maximum with 47.05% followed by buffalo (19.80%).

Table 7: Species Wise Contribution to Production

Livestock products	Species	% Share in production
Milk	Buffalo indigenous	35
	Cow cross-breed	26
	Buffalo non-descript	14
	Cow indigenous	11
	Cow non-descript	9
	Cow exotic	1
	Goat	3
Egg	Improved fowl	86.80
	Desi fowl	11.96
	Desi duck	0.96
	Improved duck	0.28
Meat	Poultry	47.05
	Buffalo	19.80
	Goat	14.25
	Sheep	7.68
	Pig	6.50
	Cattle	4.72

Source: Livestock Production Statistics of India, 2017

CONCLUSION

Livestock sector plays an important role in socio-economic development of rural households. The livestock sector contributes 4.6% to total GVA. Among the different livestock components, major share of value comes from the milk group followed by meat group. Besides offering great potential (increase in value of output of livestock sector) and outstanding contribution in agricultural sector (increasing share in agri-GDP) over the past years, livestock sector is performing well in the manner of production (milk, egg and meat), value addition and per capita availability of different livestock products. Andhra Pradesh registered maximum growth rate in milk production. In meat production, poultry contributes maximum followed by buffalo and goat. The robust growth in the livestock sector in recent years indicates that if managed properly, livestock could be a driving force in the growth of agricultural sector in the coming decades. Apart from its immense and rising contributions to agricultural gross domestic product and food and nutritional security, livestock has the capacity to reduce inter-personal and inter-regional economic disparities, as there exists considerable scope to enhance its income and employment contributions.

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