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### Status and Growth of the Livestock Production and Export of India

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**Abstract:** Livestock sector plays an important role in socio-economic development of rural households and considered as one of the potential sector for export earnings. Livestock production a very important component of agricultural economy of the country contributes 3.9% to total GDP and 32.9% to agricultural GDP. The data (Livestock population, production, state-wise production, livestock GDP, value of livestock output and export/ import of livestock products) used for the study was entirely based on secondary source from the various publications and web sites. The growth of bovine population (1.57%) has been much lower compared to total livestock population (3.33%) between 2007 and 2012 census. Milk production has increased gradually from 102.6 million tones in 2006-07 to 155.5 million tones in 2015-16 with 4.54% growth rate to assert India as the largest producer in the world. Livestock export shares only 3.09 per cent of India's exports and 0.3 per cent imports. Besides offering great potential (increase in value of output of livestock sector) over the past years, livestock sector is performing well in the manner of production (milk, egg and meat), value addition, per capita availability and export of different livestock products. Therefore, this sector has to be allocated with more funds in the coming periods for hastening the growth and for exploring the export potential of livestock products.

**Key words:** Export, GDP, Livestock, Output.

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## INTRODUCTION

Livestock sector plays an important role in socio-economic development of rural households. It is also considered as one of the potential sector for export earnings. The importance of livestock goes beyond its food production function (Birthal *et al.*, 2002 [2]). It provides draught power and organic manure to crop sector and hides, skin, bones, blood and fibers to the industrial sector. Livestock sector also makes significant contributions towards conservation of environment. Livestock sector supplements income from crop production and other sources and absorbs income shocks due to crop failure. It generates a continuous stream of income and employment and reduces seasonality in livelihood patterns particularly of the rural poor (Birthal and Ali, 2005 [1]).

The major components through, which livestock contributes to agricultural income are milk and milk products, meat and eggs. These products contribute about one-sixth of the calories and one-third of the proteins in the per capita food supplies of the world; the balance comes from vegetable products (Sharma and Patrick, 1985 [6]). The per capita consumption of livestock products is higher in developed countries compared to developing countries. Although India has huge livestock population, in terms of trade it stands insignificant in the world trade of livestock products. However, it is to be noted that India has tremendous potential to produce and export various livestock products. The high potential of the domestic market coupled with marketing opportunities abroad under WTO regime now render India to an enviable position to cater to the huge global market for these products (Shah and Pundir, 2013 [7]). This paper analyses the performance of livestock sector in terms of population, production, trade.

## MATERIALS AND METHODS

The data used for the study was entirely based on secondary source from the various publications and web sites. The data related to livestock population, production of different livestock products and state-

wise production of different livestock products were compiled from Indiastats and Basic Animal Husbandry Statistics, 2015 published by Department of Animal Husbandry, Dairying and Fishing, Ministry of Agriculture and Farmers Welfare, Govt. of India for a period of 10 years (2006-07 to 2015-16). The data on GDP, Ag GDP and livestock GDP, output value from livestock sector were taken from the National Accounts Statistics published by Central Statistics Organization (CSO), Govt. of India for a period of 3 years (2011-12 to 2013-14). The data on exports and imports of livestock products, agricultural exports and imports and total merchandise export and import were collected from Statistics of Foreign Trade, published by DGCIS, Ministry of Commerce and Government of India for the year 2013-14. Percentage, sum were computed wherever necessary for the above variables.

The data were compiled and analyzed using standard statistical tools. The CGR (Compound Growth Rate) was calculated by using the following formula:

$$\text{CGR (\%)} = (\text{Antilog } b - 1) \times 100$$

and Growth % was calculated by using the following given formula:

$$\text{Growth (\%)} = \frac{\text{current year} - \text{previous year}}{\text{previous year}} \times 100$$

## RESULTS AND DISCUSSION

### Dairy Development

In fact, India's dairying scene has witnessed certain major changes in the last 35-40 years, especially after the inception of the Operation Flood Programme launched in 1970 by National Dairy Development Board (NDDB). Dairying is considered as the secondary source of income for millions of rural households. It is most preferred activity among small and marginal farmers and even landless due to low capital intensity, higher dependence on common grazing and forest land, short operating cycle with steady returns emanating throughout the year.

The share of agriculture in total GDP of India declined steadily from 34.72 % in 1980-81 to 25.43% in 1997-98 and further to as low as 11.80% in 2013-14, while interestingly the share of livestock sector has shown a rising trend in terms of share in agricultural GDP, which increased from 13.88% in 1980-81 to 32.91% during the year 2013-14.

The share of livestock in gross output of agriculture and allied activities has been showing a growing trend due mainly to dependence of millions of farmers resulted in development of animal husbandry and dairying over time. At current prices, the value of livestock products produced in the country in 2013-14 was Rs 623861 crores with milk

**Table 1**  
**Share of Agriculture and Livestock Sector in GDP (at current prices in Rs Crores)**

Year	GDP (Agriculture)			GDP (Livestock)		
	GDP (Total)	Rs Crores	% Share to Total GDP	Rs Crores	% Share to Total GDP	% Share to Agri. GDP
2011-12	8195546	986604	12.0	324013	4.0	32.84
2012-13	9252051	1080421	11.7	367318	4.0	34.00
2013-14	10477140	1233595	11.8	406035	3.9	32.91

Source: National Accounts Statistics, CSO [4].

and milk products accounting 65.30% share in this value. The second largest contributor of value is the meat group comprising meat, meat products, hides and skins with around 21 per cent value. Apart from these, dung, eggs and wool and hair form minor components of value. The value of livestock products produced in the country has been steadily growing over the past three decades. This is an indication of growing importance of livestock sector in overall agricultural development in the country.

### Livestock Population in India

During the last four to five decades, the livestock economy of India witnesses a number of changes in terms of its size, composition and productivity. The size of livestock herd increased from 307 million in 1956 to 445 million in 1987, 485 million in 2003, 530 million in 2007 and 512 million in 2012, indicating a significant slowing down in growth of population (3.33%) between 2007 and 2012. The slowing down in growth of bovine population (1.57%) has been much lower compared to total livestock population. While the buffalo and chicken population was increased with 3.19% and 12.13% growth.

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

Sr. Items	2011-12	2012-13	2013-14
No.			
1. Milk groups	324895 (66.97)	368997 (66.23)	407396 (65.30)
2. Meat groups	96287 (19.85)	114402 (20.54)	132360 (21.22)
3. Eggs	16470 (3.40)	19352 (3.47)	22423 (3.59)
4. Wool and Hair	512 (0.11)	581 (0.10)	569 (0.09)
5. Dung	32754 (6.75)	36936 (6.63)	41443 (6.64)
6. Silk Worm Cocoons and Honey	4331 (0.89)	5227 (0.94)	6707 (1.08)
7. Increment in Stock	9854 (2.03)	11609 (2.08)	12964 (2.08)
Value of output from Livestock Sector	485103 (100.00)	557103 (100.00)	623861 (100.00)

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

Source: National Accounts Statistics, CSO, Ministry of Planning and Programme Implementation, Govt. of India [4].

At present (census 2012), India ranks first in respect of buffalo, total bovines and goat, second in cattle and sheep, fifth in chicken, seventh in total poultry, eighth in duck and ninth in camel population in the world.

**Table 3**  
**Livestock Population in India (Millions)**

		<i>Number (in millions)</i>			
<i>Sr. No.</i>	<i>Species</i>	<i>2007 Census</i>	<i>2012 Census</i>	<i>% Growth</i>	<i>Rank in the world population (2012)</i>
1.	Cattle	199.08	190.9	-4.1	Second
2.	Buffaloes	105.34	108.7	3.19	First
	Total Bovines (including Mithun and Yak)	304.42	299.98	-1.57	First
3.	Sheep	71.56	65.07	-9.07	Second
4.	Goat	140.54	135.17	-3.82	First
5.	Pig	11.13	10.29	-7.54	-
6.	Horses and Ponies	0.61	0.62	2.12	-
7.	Mules	0.14	0.20	43.07	-
8.	Donkeys	0.44	0.32	-27.17	-
9.	Camels	0.52	0.40	-22.63	Ninth
	Total Livestock	529.7	512	-3.33	-
10.	Chicken	617.73	692.65	12.13	Fifth
11.	Duck	27.64	23.54	-14.85	Eighth
12.	Turkeys and Others		3.45	13.02	277.32
	Total Poultry	648.83	729.21	12.39	Seventh

*Source:* Basic Animal Husbandry Statistics, 2015, Department of Animal Husbandry and Dairying, Ministry of Agriculture, Govt. of India [5].

### Livestock Production in India

There is no iota of doubt that since the inception of operation Flood Programme the total milk production has been increasing in all the states of the country. 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.

The production performance of livestock sector has been analyzed in the Table 4. Between 2006-07 and 2015-16, milk production has increased gradually from 102.6 million tones to 155.5 million tones with 4.54% growth rate to assert India as the largest producer in the world. Egg production has been also increased during the same period to reach 83 billion with 5.66% 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. Meat production, which was only 2.3 '000 tones in 2006-07, has increased gradually over the years to reach three times higher 7.0 '000 tones in 2015-16 with 10.40% growth rate Ironically, wool production has been declining from 45.1 million kg to 43.6 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.

The milk production is seen to vary considerably across different states of the country. Among various starts, Uttar Pradesh ranks first in terms of milk production in India with 17% share followed by Rajasthan (12%) and Gujarat (8%). Uttar Pradesh (13%) also ranks first in terms of total livestock population followed by Andhra Pradesh (11%) and Madhya Pradesh (7%). Tamil Nadu (19%) produces maximum eggs in India followed by Andhra Pradesh (17%), Telangana (14%), West Bengal (7.25%) and Maharashtra (6.37%). Uttar Pradesh produces maximum total meat in India (20%) followed by West Bengal (10%) and Maharashtra (10%).

Wool production is maximum in the state of Rajasthan (31%) followed by Karnataka (19%) and Jammu and Kashmir (16%).

### Food and Nutritional Security

Diet of an average Indian is cereal based. Lack of diversification towards nutrient-rich foods is considered

**Table 4**  
**Growth Trend in Livestock Production in India**

Year	Milk Production (million tones)	Per Capita Milk Availability (gms/ day)	Egg Production (million no.)	Per Capita Egg Availability (No./ annum)	Meat Production ('000t)	Wool Production (million kg)
2006-07	102.6	251	50663	45	2.30	45.1
2007-08	107.9	260	53583	47	4.00	43.9
2008-09	112.2	266	55562	48	4.30	42.8
2009-10	116.4	273	60267	51	4.60	43.1
2010-11	121.8	281	63024	53	4.80	43.0
2011-12	127.9	290	66450	55	5.50	44.7
2012-13	132.4	299	69731	58	5.90	46.1
2013-14	137.7	307	74752	61	6.20	47.9
2014-15	146.3	322	78484	63	6.69	48.1
2015-16	155.5	337	82929	66	7.00	43.6
CAGR	4.54	3.18	5.66	4.41	10.40	0.69

Source: Basic Animal Husbandry Statistics, 2015, Department of Animal Husbandry and Dairying, Ministry of Agriculture, Govt. of India [5].

**Table 5**  
**Livestock Production in India (2013-14)**

Sr. No.	Product	Quantity (Million tonnes)	Ranking in world Production
1.	Milk	137.7	First
2.	Egg	74.75	Third
3.	Meat	8.89	–
4.	Wool	47.9	–
5.	Fish	95.79	Second

Source: Annual Report 2014-15, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.

to be the main cause of malnutrition and under-nutrition. In 1993-94, 30 per cent of the population was undernourished. The problem is more severe to the population having less access to land for crop and livestock production.

Animal food is rich in protein and other vital nutrients, and has potential to contribute towards alleviation of nutrition related health impairments. Consumption of animal products is low (Table 7).

In 2011-12, per capita monthly milk consumption expenditure was only 7.8% and 9.1% in urban and rural areas. Out of total expenditure, per capita consumption expenditure on milk and meat was low in urban areas (10.6%) as compared to rural area (12.7%). Per capita availability of milk and meat is increasing continuously from 251 to 337 gms/day and 45 to 66 no./annum respectively in the last decade (2006-07 to 2015-16).

### Trade

Livestock products account for about one-fifth of the Indian trade of agricultural products. India, however, does not have a significant presence in global livestock trade. Livestock export shares only 3.09 per cent of India's exports and 0.3 per cent imports. The global market for animal based foods has been expanding rapidly (Birthal and Taneja 2006 [3]).

India's export earnings from livestock products was Rs 589109 million. India is a net exporter of livestock exports as exports exceeded total livestock

**Table 6**  
**States with Maximum Livestock Production and Population in India**

Particulars	Five major states				
Milk	Uttar Pradesh (16.97%)	Rajasthan (11.90%)	Gujarat (7.89%)	Madhya Pradesh (7.81%)	Andhra Pradesh*
Egg	Tamil Nadu (19.44%)	Andhra Pradesh*	Telangana (13.51%)	West Bengal (7.25%)	Maharashtra (6.37%)
Meat	Uttar Pradesh (20.20%)	West Bengal (9.79%)	Maharashtra (9.63%)	Andhra Pradesh*	Tamil Nadu (7.76%)
Wool	Rajasthan (30.78%)	Karnataka (18.80%)	Jammu and Kashmir (15.75%)	Telangana (10.47%)	Gujarat (5.24%)
Total Livestock Population	Uttar Pradesh (13.42%)	Andhra Pradesh*	Madhya Pradesh (7.10%)	Bihar (6.43%)	Maharashtra (6.34%)
Total poultry population	Andhra Pradesh*	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: Annual Report 2014-15, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India [5].

**Table 7**  
**Monthly Per Capita Consumption Expenditure**  
**(68<sup>th</sup> NSSO Round 2011-12)**

Sr. No.	Items	Rural (Rs)	Urban (Rs)
1.	Milk and milk products	116.38 (9.1)	187.14 (7.8)
2.	Meat, Egg and Fishes	46.04 (3.6)	67.18 (2.8)
3.	Total food expenditure	621.56 (48.6)	923.71 (38.5)
4.	Total Non-food expenditure	657.38 (51.4)	1475.53 (61.5)
5.	Total expenditure	1278.94 (100.00)	2399.24 (100.00)

Values in parentheses indicate percentage to the total.

Source: National Sample Survey Organization.

imports successfully. Among total livestock exports, meat and edible meat offals and animal fodder and feed registered a remarkable share 46% and 32% during the year 2013-14. But the import of meat and its products was very meager. The maximum import among livestock product was of leather products. The export of live animals was very less.

**Table 8**  
**Performance of Livestock Exports and Imports in India (2013-14)**

Sr. No.	Particulars	Export Value (Rs in Million)	Import Value (Rs in Million)
1.	Livestock (live animals)	693.0	615.55
2.	Meat and edible meat offals	272128.7	118.85
3.	Dairy and Poultry products and Honey	42741.0	2259.22
4.	Animal fodder and Feed	185973.6	17394.55
5.	Leather	78025.2	34965.08
6.	Raw wool and Animal hair	9547.6	22780.19
	Total livestock export/import	589109.1	78133.44
	Total agricultural export/import	2627789.6	874656.6
	% share of livestock export/import to agri-export/import	22.42%	8.93%
	Total National export/import	19050110.9	27154339.1
	% share of livestock export/import to national export/import	3.09%	0.29%

Source: DGCIS, Calcutta.

There was wide fluctuation in export of hides, skin and animal fats.

### CONCLUSION

Livestock sector plays an important role in socio-economic development of rural households and considered as one of the potential sector for export earnings. 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, per capita availability and export of different livestock products. Therefore, this sector has to be allocated with more funds in the coming periods for hastening the growth and for exploring the export potential of livestock products.

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