

## SCENARIO OF LIVESTOCK AND POULTRY IN INDIA AND THEIR CONTRIBUTION TO NATIONAL ECONOMY

M.M. Islam<sup>1\*</sup>, Shabana Anjum<sup>2</sup>, R.J. Modi<sup>1</sup> and K.N. Wadhvani<sup>1</sup>

<sup>1</sup>Department of Livestock Production Management  
College of Veterinary Science & Animal Husbandry  
Anand Agricultural University, Anand (Gujarat)

<sup>2</sup>G.H. Patel PG Institute of Management Studies  
Sardar Patel University, Vallabh Vidyanagar, Anand (Gujarat)  
E-mail: drislam37@gmail.com (\*Corresponding Author)

**Abstract:** Livestock sector plays a significant role in the welfare of India's rural population as it employs a major section of the countries labour force and also provides a large share of draft power being used to cultivate crop land. India's livestock sector is one of the largest in the world with a holding of 11.6% of world livestock population. Contribution of livestock and fisheries sectors to the national economy in terms of Gross Domestic Product (GDP) is 4.1 and 0.8%, respectively. Agriculture and allied sector contributed about 15.1% to the total GDP. Out of the total agricultural GDP, livestock sector contributed about 27.25% during 2012-13. The livestock sector is an important source of foreign exchange too and is performing well in the manner of production, value addition and export of dairy, fishery, wool, poultry and other products.

**Keywords:** Livestock, Poultry, Economy, Population, Production, Trade.

### INTRODUCTION

Mankind has been utilizing different animal species from the dawn of civilization for a variety of purposes viz. production of milk, meat, wool, egg and leather. Apart from these, various animal species are also used for draught power, companionship, entertainment, research experimentation, sports, security etc. Livestock sector plays a crucial role in rural economy and livelihood. As per report of the working group on animal husbandry and dairying- 11<sup>th</sup> five year plan: 2007-12, the livestock sector employs eight percent of the countries labour force, including many small and marginal farmers, women and landless agricultural workers. Milk production alone involves more than 30 million small producers, each raising one or two cows or buffaloes. The organic fertilizer produced by the sector is an important input to crop production, and dung from livestock is widely used as fuel in rural areas. Livestock also serves as an insurance substitute, especially for poor rural households; it can easily be sold during time of distress.

## **METHODS AND DATA**

The present paper is based on extensive perusal of secondary data from various published research articles, proceedings of conferences, annual reports and data published by Department of Animal Husbandry Dairying & Fisheries (DAHDF) from time to time. Report of the Working Group on Animal Husbandry and Dairying for the Eleventh Five Year Plan (2007–2012) and Twelfth Five Year Plan (2012-2017) by Planning Commission, Government of India were also used as a source of information. Basic Animal Husbandry Statistics (2014) served as a major source of information. Report of National Accounts Division published by Ministry of Statistics and Programme Implementation and Annual Report (2011-12) of Ministry of Agriculture, Govt. of India were reviewed for the present compilation.

## **LIVESTOCK POPULATION IN INDIA**

As per 19<sup>th</sup> Livestock census, 2012 (GOI, 2014) India's livestock sector is one of the largest in the world with a holding of 11.6% of world livestock population which consists buffaloes (57.83%), cattle (15.06%), sheep (7.14%), goats (17.93%), camel (2.18%), equine (1.3%), pigs (1.2%), chickens (4.72%) and ducks (1.94%). India has huge livestock population of 512 million nos. which mainly includes cattle, buffaloes, goats, sheep and pigs. The total livestock population in India has decreased by 3.33% over the previous census. Contribution of cattle, buffalo, sheep, goat, pig and others in total livestock population is 37.28, 21.23, 12.71, 26.4, 2.01 and 0.5%, respectively. Livestock population in India has increased substantially in Gujarat (15.36%), Uttar Pradesh (14.01%), Assam (10.77%), Punjab (9.57%), Bihar (8.56%), Sikkim (7.96%), Meghalaya (7.41%) and Chhattisgarh (4.34%). During the last inter-censal period, there was decrease in the population of cattle, sheep, goats and pigs by 4.1, 9.07, 3.82 and 7.54%, respectively while the population of buffalo and poultry increased by 3.19 and 19%, respectively. Population of exotic and crossbred cattle registered a significant increase of 20.18% while the indigenous cattle decreased by 8.94%. Total poultry population in India is 729.21 million, which includes 692.65, 23.54 and 13.02 million chickens, duck and turkeys & other poultry, respectively. It is observed that growth trend in total poultry population is quite more as compared to total livestock population (Fig 1). Table 1 shows detailed livestock and poultry population during first livestock census after independence (1951), 18<sup>th</sup> livestock census (2007) and 19<sup>th</sup> livestock census (2012) while the rank of countries in world livestock population and position of India is depicted in Table 2. Table 3 shows the states with maximum livestock population and products.

## LIVESTOCK AND POULTRY PRODUCTS

India has a competitive advantage in production of different livestock products (Kumar *et al.*, 2001; Birtal and Taneja, 2006). As per report of the working group on animal husbandry & dairying- 12<sup>th</sup> five year plan: 2012-17, demand for animal food products is responsive to income changes, and is expected to increase in future. By the end of 12<sup>th</sup> Plan, demand for milk is expected to increase to 141 million tons and for meat, eggs and fish together to 15.8 million tons. Global market for animal products is expanding fast, and it is an opportunity for India to improve its participation in global market. During the year 2012-13, livestock sector produced 132.4 million tones of milk, 69.7 billion nos. of eggs, 46.1 million kg of wool and 5.9 million tones of meat (BAHS, 2014).

### Milk Production

The growth in the milk production remained stagnant for more than two decades after independence (around 1% per annum) whereas the growth of population was closer to 2% (BAHS, 2014). The gap between demand and production was widening. Substantial increment in milk production was achieved with the launch of a nationwide dairy development programme (operation flood) in the year 1970 (Gautam *et al.*, 2010). It has been estimated that demand of milk will rise to 156 million tons by 2020 (Parthasarathy *et al.*, 2004). Estimates by the Planning Commission of India indicate still higher demand increases (182 million tons by the year 2021–22).

With annual milk production of 132.4 million, India ranks first in the world and contributes about 16% to the world milk production (BAHS, 2014). India's milk production continuously increased right from 1950-51, when the total milk production was 17 million tones. In India, Uttar Pradesh produces maximum milk followed by Rajasthan, Andhra Pradesh, Gujarat and Punjab. Tamil Nadu is the largest producer of exotic/crossbred cow milk in the country followed by Maharashtra. The state of Uttar Pradesh is the largest producers of indigenous/non descript cow milk followed by Rajasthan. Buffalo milk production predominates in the states like Uttar Pradesh, Andhra Pradesh, Rajasthan, Punjab, Haryana, Gujarat, Madhya Pradesh and Maharashtra with highest buffalo milk production by Uttar Pradesh. Uttar Pradesh also produced maximum goat milk followed by Rajasthan. The share of milk production in 2012-13 was highest by buffaloes followed by exotic/crossbred cows, indigenous/non descript cows and goats with 51, 24, 21 and 4 % of total milk production, respectively.

The per capita availability of milk in India has increased from 130g per day in 1950-51 to 299g per day in 2012-13 which is little above the recommendation of ICMR i.e. 285g per day. Per capita per day availability of milk is maximum in Punjab (961g) followed by Haryana (767g), Rajasthan (555g), Tamil Nadu (541g) and Gujarat (476g).

### **Egg production**

The total egg production in the country was just 1.83 billion in the year 1950 -51 and since then the production of egg continues to rise over the period. There was a steady increase in production of egg upto the year 1999-2000. From the year 1999-2000 onwards the production of egg improved substantially and it reached to 69.73 billion in the year 2012-13. About 94% of total egg produced in India is contributed by chickens while remaining 6% is equally contributed by ducks and other poultry. Andhra Pradesh produces maximum eggs in India followed by Tamil Nadu, West Bengal, Maharashtra and Haryana. West Bengal ranks first in terms of total duck egg production (BAHS, 2014). Per capita availability of eggs in India has also increased from just 5 eggs per annum in 1950-51 to 58 eggs per annum in 2012-13 which is still far below the ICMR recommendation of 365 eggs/ annum. Per capita availability of eggs in maximum in Tamil Nadu (336) followed by Andhra Pradesh (261), Lakshadweep (189), Haryana (168) and Andaman & Nicobar Island (165) (BAHS, 2014).

### **Meat Production**

Total meat production including poultry meat was 5.9 million tonnes in 2012-13 as compared to 1.9 million tonnes in 2001-02. Nearly 45% of the production of meat is contributed by Poultry alone. Buffalo, Goat, Pig, Sheep and Cattle contribute 19, 16, 8, 7 and 5% of total meat production, respectively (BAHS, 2014). Uttar Pradesh produces maximum total meat in India followed by Andhra Pradesh, West Bengal, Maharashtra and Tamil Nadu. Maximum meat from buffalo and pig are produced by Uttar Pradesh. Andhra Pradesh produces maximum meat from sheep and poultry while West Bengal ranks first in goat meat production. The availability of meat in India is only about 15g/person/day against the ICMR recommendation of 30g/person/day.

### **Wool production**

In India, total wool production has increased from 27.5 million kg (1950-51) to 46.1 million kg (2012-13). Nearly 71% of the production of wool is contributed by Ram while Ewe and Lamb contributes 25% and 4%, respectively. Wool production is maximum in the state Rajasthan followed by Karnataka, Jammu & Kashmir, Andhra Pradesh and Gujarat. (BAHS, 2014).

## **GROWTH RATE OF LIVESTOCK PRODUCTS**

Among the different livestock products, growth rate during 2011-12 and 2012-13 was maximum for meat (7.87%) followed by egg (4.94%), milk (3.54%) and wool (2.95%). Annual growth rate was recorded maximum in the state Madhya Pradesh, Kerala, Delhi and Uttarakhand for the production of milk, egg, meat and wool, respectively (BAHS, 2014). Growth trend of important livestock products has been depicted in Fig. 2.

## **GROWTH OF LIVESTOCK SECTOR AND THEIR CONTRIBUTION TO NATIONAL ECONOMY**

Contribution of livestock and fisheries sectors to the national economy in terms of GDP at current prices is 4.1 and 0.8% for livestock and fisheries sector, respectively during 2012-13. Agriculture and allied sector alone contributed about 15.1% to the total GDP. Out of the total agricultural GDP, livestock sector contributed about 27.25% during 2012-13 (National Accounts Division). Year wise contribution of agriculture and livestock sector in countries GDP and share of livestock to agricultural GDP are shown in Fig 3.

As per the report of working group on animal husbandry & dairying- 12<sup>th</sup> five year plan: 2012-17, livestock sector grew at an annual rate of 5.3% during 1980s, 3.9% during 1990s and 3.6% during 2000s. Despite deceleration, growth in livestock sector remained about 1.5 times higher than in the crop sector which implies its critical role in cushioning agricultural growth. The value of output in 2012-13 from livestock sector was Rs. 5375370 million at current prices. Table 4 shows the different items along with its value which contributes to the national economy.

Livestock has been an important source of livelihood for small farmers. They contributed about 16% to their income, more so in states like Gujarat (24.4%), Haryana (24.2%), Punjab (20.2%) and Bihar (18.7%) (Planning Commission, 2012). The Livestock sector is an important source of foreign exchange too. During triennium ending 1998, average value of livestock product was Rs. 13500 million per annum which was 1% of total export earnings and 6.2% of agricultural export earnings (Kumar *et al.*, 2008). Meat and meat products are the main livestock products exported, accounting for above 90% of total export earnings from the livestock sector. In recent years the export performance of livestock products has improved due to trade liberalization. Total export earnings from livestock, poultry and related products were Rs. 254088.6 million during 2010-11 (Annual Report, 2011-12).

## **TRADE IN LIVESTOCK SECTOR**

India is a net exporter of buffalo meat (deboned frozen buffalo meat). In the last few years, exports have grown to record levels. India is third country after Brazil and U.S. in the world to export more than 1 million tonnes of bovine meat annually. Increased exports are primarily the result of lower cost of Indian buffalo meat. In 2012 buffalo meat exports reached to 1.15 million tons as compared to 1.02 million tons in 2011 which is 12 percent higher. India is still a small player in global market of livestock trade, though India ranks in the top tier of producers of different livestock commodities. India does not even contribute 1 per cent to the world export of the livestock products, except for bovine meat and eggs (Kumar, 2010).

## **FUTURE OF TRADE IN LIVESTOCK PRODUCTS**

The most important aspect on which future export potentiality of India would depend could be traced in the domestic requirement of various livestock based products and their expected production levels in the future. In case India generates sufficient production surpluses of these products after meeting the domestic demand, the residual could be made available for exports, provided international prices remain favorable. The future growth in exports for India will also depend on production deficit realized in various developed and developing nations of the world. In fact, production deficit of other countries would act as engine of export growth for India.

## **CONCLUSION**

Indian livestock industry makes up for a significant amount of world's livestock resources. Both the national economy as well as socio-economic growth of country is backed by the livestock sector. Besides offering great potential and outstanding contribution in agricultural sector over the past years, livestock sector is performing well in the manner of production, value addition and export of dairy, fishery, wool, poultry and other products. Apart from its performance there are some threats also exist like social taboo, unorganized livestock market etc. and we need to re-correct it and take the global market opportunities.

## **REFERENCES**

- [1] Annual Report. 2011-12. Department of Animal Husbandry, Dairying and Fisheries. Ministry of Agriculture, Govt. of India, New Delhi.
- [2] Birthal, P.S. and Taneja, V.K. 2006. Livestock sector in India: Opportunities and challenges for smallholders. In: Proceedings of an ICAR-ILRI International Workshop, National Centre for Agricultural Economics and Policy Research, New Delhi and International Livestock Research Institute, Nairobi.

- [3] Gautam, Dalal, R.S. and Pathak, V. 2010. Indian Dairy Sector: Time to revisit operation flood. *Livestock Science*. **127**: 164-175.
- [4] Government of India (GOI). 2014. Basic Animal Husbandry Statistics. Ministry of Agriculture. Department of Animal Husbandry, Dairying and Fisheries. New Delhi.
- [5] Kumar, A., Jha, D., Pandey, U.K., 2005. Total factor productivity of the livestock sector in India. In: Joshi, P. K., Pal, S., Birthal, P. S., Bantilan (Eds.), Impact of Agricultural Research: Post-Green Revolution Evidence from India. M.C.S. National Centre for Agricultural Economics and Policy Research, New Delhi.
- [6] Kumar, Anjani 2010. Export of livestock products from India: Performance, Competitiveness and Determinants. *Agricultural Economics Research Review*. **23**: 57-67.
- [7] Kumar, Anjani, Ali, Jabir and Singh, Harbir. 2001. Trade in livestock products in India: Trends, performance and competitiveness. *Indian Journal of Agricultural Economics*. **56(4)**: 653-667.
- [8] Kumar, Shantanu, Krishan, Radha. and Nigam, S. 2008. Contribution of livestock in Indian scenario. *Agricultural situation in India*. 25-28.
- [9] National Accounts Division. Central Statistical Office. Ministry of statistics and programme implementation.
- [10] Parthasarathy, Rao, P., Birthal, P.S., Kar, D., Wickramaratne, S.H.G., Shrestha, H.R., 2004. Increasing livestock productivity in mixed crop–livestock systems in South Asia. International Crops Research Institute for the Semi-Arid Tropics, Patancheru, India.
- [11] Planning Commission. 2006. Report of the Working Group on Animal Husbandry and Dairying for the Eleventh Five Year Plan 2007–2012. Government of India, New Delhi.
- [12] Planning Commission. 2012. Report of the Working Group on Animal Husbandry and Dairying for the Twelfth Five Year Plan 2012–2017. Government of India, New Delhi.

**Table 1: Livestock and Poultry Population (million nos.) as per 1951, 2007 and 2012**  
**Livestock census in India**

Sr. No.	Livestock/ Poultry	Livestock Census (1951)	Livestock Census (2007)	Livestock Census (2012)	% Increase / Decrease (2007-2012)
1	Crossbred cattle	-	33.06	39.73	20.18
2	Indigenous cattle	-	166.02	151.2	-8.94
<b>Total cattle</b>		<b>155.3</b>	<b>199.08</b>	<b>190.9</b>	<b>-4.1</b>

3	Buffaloes	43.4	105.34	108.7	3.19
4	Yaks	-	0.083	0.077	-7.64
5	Mithuns	-	0.26	0.29	12.88
<b>Total bovines (Cattle, Buffalo, Yak &amp; Mithun)</b>		<b>198.7</b>	<b>304.42</b>	<b>299.98</b>	<b>-1.57</b>
6	Sheep	39.1	71.56	65.07	-9.07
7	Goats	47.2	140.54	135.17	-3.82
8	Pigs	4.4	11.13	10.29	-7.54
9	Horses & ponies	1.5	0.61	0.62	2.12
10	Mules	0.06	0.14	0.20	43.07
11	Donkeys	1.3	0.44	0.32	-27.17
12	Camels	0.6	0.52	0.40	-22.63
<b>Total livestock</b>		<b>292.8</b>	<b>529.7</b>	<b>512</b>	<b>-3.33</b>
13	Chicken	-	617.73	692.65	12.13
14	Duck	-	27.64	23.54	-14.85
15	Turkey and others	-	3.45	13.02	277.32
<b>Total Poultry</b>		<b>73.5</b>	<b>648.83</b>	<b>729.21</b>	<b>12.39</b>

Source: BAHS (GOI). 2014

**Table 2: Position of countries in world population**

<b>Livestock population</b>	<b>First rank country in world</b>	<b>India's position in world</b>
Cattle	Brazil	2 <sup>nd</sup>
Buffalo	India	1 <sup>st</sup>
Sheep	China	2 <sup>nd</sup>
Goat	India	1 <sup>st</sup>
Camel	Somalia	9 <sup>th</sup>
Duck	China	8 <sup>th</sup>
Chicken	China	5 <sup>th</sup>
Horse	USA	-

Source: BAHS (GOI). 2014



**Table 3: States with maximum livestock population and livestock products in India**

States with maximum livestock population		States with maximum production of different livestock products	
Species	States	Products	States
Buffalo	Uttar Pradesh	Cow milk	<b>Indigenous-</b> Uttar Pradesh <b>Exotic/Crossbred-</b> Tamil Nadu
Milch cow and bulls	<b>Indigenous-</b> Madhya Pradesh <b>Exotic/Crossbred-</b> Tamil Nadu	Buffalo milk	Uttar Pradesh
Sheep	Andhra Pradesh	Goat milk	Rajasthan
Goats	Rajasthan	Total milk	Uttar Pradesh
Pigs	Assam	Buffalo and Pig meat	Uttar Pradesh
Horse and Ponies	Uttar Pradesh	Sheep and Poultry meat	Andhra Pradesh
Mules	Jammu & Kashmir	Goat meat	West Bengal
Yak	Jammu & Kashmir	Total meat	Uttar Pradesh
Mithun	Arunachal Pradesh	Fowl egg	Andhra Pradesh
Donkeys	Rajasthan	Duck egg	West Bengal
Camel	Rajasthan	Total egg	Andhra Pradesh
<b>Total Livestock</b>	Uttar Pradesh	Ram wool	Rajasthan
Fowl (Chicken)	Andhra Pradesh	Ewe wool	Andhra Pradesh
Duck	Assam	Lamb wool	Gujarat
<b>Total Poultry</b>	Andhra Pradesh	Total wool	Rajasthan

Source: **BAHS, GOI (2014)**

**Table 4: Value of output from livestock sector in Indian Economy**

Items	Value (million rupees) in 2012-13 at current prices	Percent (%) of total values
Milk and milk products	3496720	65.05
Meat and meat industry byproducts	1066050	19.83
Eggs	202510	3.77
Wool and Hair	5280	0.1
Dung	372340	6.93
Silk worm cocoons and honey	52320	0.97
Increment in stock	180150	3.35
<b>Total</b>	<b>5375370</b>	<b>100</b>

Source: **Government of India (GOI), 2014**

