Demographic Distribution of livestock

Problems and prospects of livestock industry in India

What is livestock census?

Under the livestock census, various species of animals possessed by households, household enterprises or non-household enterprises and institutions are counted at site — both in rural and urban areas. In other words, it covers all domesticated animals in a given period of time. India has been conducting livestock censuses periodically since 1919-20. *First livestock census in India was conducted as Dairy Cattle Census in 1919. Livestock Census 2019 was 20th Livestock Census. Livestock Census takes place at every five years (Quinquennial)*

The last 20th livestock census was conducted in 2019.

Livestock Census is carried out by Ministry of Agriculture & Farmers Welfare, Department of Animal Husbandry , Dairying & Fisheries(Animal Husbandry Statistics Division),Govt. of India in participation with state govt. dept. such as Dept. Animal Resource Development (Govt. of West Bengal) and Union Territories.

For proper planning & formulation of any programme in the livestock sector, its effective implementation & monitoring, data is required at every possible administrative and geographic level. The Livestock Census is the main source of such data in the country.

Which animals and birds are counted in this census?

The census tracks the population of various species of domesticated animals such as cattle, buffalo, mithun, yak, sheep, goat, pig, horse, pony, mule, donkey camel, dog, rabbit and elephant and poultry birds (fowl, duck, emu, turkeys, quail and other poultry birds). The breed-wise headcount of animals and poultry birds in 20th livestock census has been carried out in about 6.6 lakh villages and 89,000 urban wards across the country covering more than 27 crore households and non-households.

20th Livestock Census

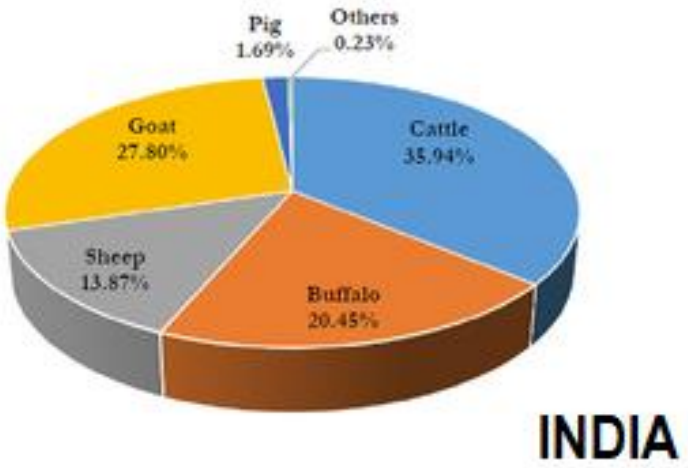
Key Highlights

- The total Livestock population is 535.78 million in the country showing an increase of 4.6% over Livestock Census,2012

- Total Bovine population (Cattle, Buffalo, Mithun and Yak) is 302.79 Million in 2019 which shows an increase of 1.0% over the previous census.
- The total number of cattle in the country is 192.49 million in 2019 showing an increase of 0.8 % over previous Census.
- The Female Cattle (Cows population) is 145.12 million, increased by 18.0% over the previous census (2012).
- The Exotic/Crossbred and Indigenous/Non-descript Cattle population in the country is 50.42 million and 142.11 million respectively.
- The Indigenous/Non-descript female cattle population has increased by 10% in 2019 as compared to previous census.
- The population of the total Exotic/Crossbred Cattle has increased by 26.9 % in 2019 as compared to previous census.
- There is a decline of 6 % in the total Indigenous (both descript and non-descript) Cattle population over the previous census. However, the pace of decline of Indigenous Cattle population during 2012-2019 is much lesser as compared to 2007-12 which was about 9%.
- The total buffaloes in the country is 109.85 Million showing an increase of about 1.0% over previous Census.
- The total milch animals (in-milk and dry) in cows and buffaloes is 125.34 Million, an increase of 6.0 % over the previous census.
- The total sheep in the country is 74.26 Million in 2019, increased by 14.1% over previous Census.
- The Goat population in the country in 2019 is 148.88 Million showing an increase of 10.1% over the previous census.
- The total Pigs in the country is 9.06 Million in the current Census, declined by 12.03% over the previous Census.
- The total Mithun in the country is 3.9 Lakhs in 2019, increased by 30.0% over previous Census.
- The total Yak in the country is Fifty Eight Thousand in 2019, decreased by 24.67% over previous Census.
- The total Horses and Ponies in the country is 3.4 Lakhs in 2019, decreased by 45.6% over previous Census.
- The total population of Mules in the country is Eighty Four Thousand in 2019, decreased by 57.1% over previous Census.
- The total population of Donkeys in the country is 1.2 Lakhs in 2019, decreased by 61.23% over previous Census.
- The total Camel population in the country is 2.5 Lakhs in 2019, decreased by 37.1% over previous Census.
- The total Poultry in the country is 851.81 Million in 2019, increased by 16.8% over previous Census.
- The total Backyard Poultry in the country is 317.07 Million in 2019, increased by 45.8% over previous Census.

- The total Commercial Poultry in the country is 534.74 Million in 2019, increased by 4.5% over previous Census.

Graph 1: Livestock Population 2019 - Share of Major Species



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CATTLE MARGINALLY UP, GOATS AND SHEEP RISE SHARPLY

CHART 1: LIVESTOCK POPULATION (MAJOR SPECIES)

Category	2019 Population (in million)	% Growth
Cattle	192.49	0.83
Buffalo	109.85	1.06
Sheep	74.26	14.13
Goat	148.88	10.14
Pig	9.06	-12.03
Mithun	0.38	26.66
Yak	0.06	-25
Horses & Ponies	0.34	-45.58
Mule	0.08	-57.09
Donkey	0.12	-61.23
Camel	0.25	-37.05
Total Livestock	535.78	4.63

CHART 2: CATTLE POPULATION (MAJOR STATES)

Category	2019 Population (in million)	% Growth
West Bengal	19.0	15.18
Uttar Pradesh	18.8	-3.93
Madhya Pradesh	18.7	-4.42
Bihar	15.3	25.18
Maharashtra	13.9	-10.07
Rajasthan	13.9	4.41
Jharkhand	11.2	28.16
Assam	10.9	5.29
Chhattisgarh	10.0	1.63
Odisha	9.9	-15.01

CHART 3: CROSSBRED POPULATION GROWING FAST; INDIGENOUS DECLINING

Category	2019 Population (in million)	% Growth
Total Exotic/Crossbred	50.42	26.9
Total Indigenous/Non-Descript	142.11	-6

What are the changes since the last census?

In 2019, the total livestock population is 535.78 million; cattle (192.90 million) is the largest animal group in the country followed by goats (148.88 million), buffaloes (109.85 million), sheep (74.26 million) and pigs (9.06 million). All other animals taken together contribute just 0.23 per cent of the total livestock population in the country.

As Chart 1 shows, in 2019, the total livestock population has registered a growth of 4.6 per cent over the last census in 2012 (512.06 million). The total population was 529.70 million at the time of 18th census in 2007.

However, the numbers of some animals such as pig, yak, horses and ponies, mule, donkey and camel have come down drastically.

The cattle population has grown marginally by 0.83 per cent, and the buffalo population by 1.06 per cent. The populations of sheep (14.13%), goat (10.14%) and mithun (26.66%) have risen significantly, underlining the preference of farmers for keeping milch animals.

What are the population trends for different kinds of cattle?

As Chart 2 shows, while the overall cattle population has increased by 0.8 per cent between 2012-19, the population of indigenous cattle has come down by 6 per cent — from 151 million to 142.11 million. However, this pace of decline is much slower than the 9 per cent decline between 2007 and 2012.

In contrast, the population of the total exotic/crossbred cattle has increased by almost 27 per cent to 50.42 million in 2019.

In Uttar Pradesh, the number of cattle is down from 19.6 million in 2012 to 18.8 million (down 3.93 per cent). The buffalo population in the state has gone up by 7.81 per cent — from 30.6 million in 2012 to 33 million.

Apart from Uttar Pradesh, the cattle count is down in Madhya Pradesh (by 4.42 per cent), Maharashtra (10.07 per cent) and Odisha (15.01 per cent).

On the other hand, West Bengal has seen a rise in cattle population by 15.18 per cent, Bihar by 25.18 per cent, and Jharkhand by 28.16 per cent between 2012 and 2019.

According to the latest livestock census data, the number of cattle in West Bengal has gone up to 19 million in 2019 from 16.5 million in 2012. In the same period, the number of cattle has gone up from 12.2 million to 15.3 million in adjoining Bihar.

Jharkhand has seen a rise in cattle population from 8.7 million to 11.2 million during this period.

What are the implications of the decline in the numbers of indigenous cattle?

Due to continuous fall in productivity, indigenous breeds of cattle have become liabilities for farmers, forcing them to desert the unproductive cows. Farmers find other animals such as buffaloes, goats and sheep much more productive. Unlike cows, if these animals become unproductive, they can be sold and slaughtered for further processing.

Experts believe this could have long term health and environmental impacts because the milk of indigenous breed has higher nutritional value than that of crossbreeds. Moreover, there is a danger of losing these indigenous breeds, which have been developed and sustained by generations from time immemorial.

What are the trends in the population of livestock other than cattle?

The total population of buffaloes in the country has gone up from 108.70 million in 2012 to 109.85 million in 2019. States which have seen a rise in the buffalo population during this period include Uttar Pradesh, Rajasthan, Gujarat, Madhya Pradesh, Bihar, Maharashtra and Telangana. However, some states including Andhra Pradesh, Haryana and Punjab have seen a decline in their respective buffalo populations.

In 2019, the total poultry in the country is 851.81 million — of which, 317.07 million are backyard poultry and 534.74 million are commercial poultry. While the total poultry has registered an increase of 16.8 per cent over the previous census, the backyard poultry has increased by around 46 per cent and commercial poultry by just 4.5 per cent.

Tamil Nadu is the leading state in poultry population followed by Andhra Pradesh, Telangana, West Bengal, Maharashtra, Karnataka, Assam, Haryana, Kerala and Odisha. Assam had registered the largest (71.63%) growth in poultry population.

Standings of India in the World ,2020

Ranking	Sector
1st	Total Livestock Population, Milk Production, Buffalo Population, Carabeef Production, Goat Milk Production, Total Bovine Population
2nd	Cattle Population, Goat Population, Bristle Production (a pig industry by-product), Aquaculture, Goat Meat Production
3rd	Egg Production, Sheep Population, Fisheries Production
5th	Poultry Production, Meat Production
6th	Poultry Meat Production
8th	Duck Production
9th	Camel Population, Wool Production

India has the world's largest livestock population accounting for over 37.28 per cent of cattle, 21.23 per cent of buffalo, 26.40 per cent of goats and 12.17 per cent of sheep.

West Bengal at a glance

Species	**Population(In million)**		**% Change**
	2012	**2019**	
Cattle	16.5	19.0	**+15.18**
Goat	11.51	16.28	**+41.49**
Poultry	52.8	77.3	**+ 46.34**
Total Livestock	30.3	37.4	**+23.32**

Animal Products Statistics

Commodity	Total Production (per year)	Per capita Availability	ICMR Recommendations
Milk	198.44 MT	406 grams/day	280 grams/day
Meat	8.60 MT	6.45 kg/year	11 kg/year
Eggs	114.38 billion	86 eggs/year	182 eggs/year
Wool	36.76 million kg	–	–

Comparison with Previous Year

- Increase in milk production compared to previous year: 5.69%
- Increase in egg production compared to previous year: 10.19%
- Increase in meat production compared to previous year: 5.98%
- Decrease in poultry meat production compared to previous year: 6.93% (may be due to COVID-19)
- Decrease in wool production compared to previous year: 9.05%

Average Yield per In-Milk Animal in 2019-20

Type of animal	Average yield
Exotic cow	11.88 kg/day
Cross-bred cow	8.09 kg/day
Indigenous cow	3.90 kg/day
Non-descript cow	2.57 kg/day
Indigenous buffalo	6.43 kg/day
Non-descript buffalo	4.51 kg/day
Goat	0.44 kg/day

Average Yield per Year per Bird in 2019-20

Type of bird	Average yield
Desi fowl (Backyard)	108.86 eggs/year
Improved fowl (Backyard)	227.88 eggs/year
Desi duck (Backyard)	112.47 eggs/year
Improved duck (Backyard)	138.28 eggs/year
Desi fowl (Commercial)	112.31 eggs/year
Improved fowl (Commercial)	287.78 eggs/year

Desi duck (Commercial)	213.43 eggs/year
Improved duck (Commercial)	197.62 eggs/year

Leading States in India for Livestock Production

Feature	State
Largest livestock population	Uttar Pradesh
Largest poultry population	Tamil Nadu
Highest milk producing state	Uttar Pradesh
State with highest per capita availability of milk	Punjab (1221 g)
Highest egg producing state	Andhra Pradesh
State with highest per capita availability of eggs	Andhra Pradesh (420 eggs)
Highest meat producing	Uttar Pradesh
State with highest per capita availability of meat	Telangana (22.79 kg/annum)
Highest wool producing state	Rajasthan
Highest goat milk production	Rajasthan
Highest goat meat production	West Bengal
Highest sheep meat production	Telangana
Highest poultry meat production	Maharashtra

Highest pig meat production	Bihar
Highest indigenous milch cows	Uttar Pradesh
Highest cross-bred or exotic cows	Tamil Nadu
Highest cattle population	West Bengal
Highest buffalo population	Uttar Pradesh
Highest sheep population	Telangana
Highest goat population	Rajasthan
Highest pig population	Assam
Highest camel population	Rajasthan
Highest mithun population	Arunachal Pradesh
Highest yak population	Jammu & Kashmir
Highest horses and ponies population	Uttar Pradesh
Highest number of mules	Uttarakhand
Highest donkey population	Rajasthan
Highest fish production	Andhra Pradesh

Annual Growth Rate of Livestock Products in 2019-20

Product	Growth Rate
Milk production	5.69 per cent
Meat production	6.93 per cent
Broiler production	-6.93 per cent
Egg production	10.19 per cent
Wool production	-9.05 per cent

Value Output from Livestock Rearing

Sector	Percentage of total output
Milk and Milk Products	66.55 per cent
Meat and Meat Products	23.26 per cent
Dung	4.85 per cent
Eggs	3.13 per cent
Increment in Livestock	1.34 per cent
Wool and Hair	0.05 per cent

Species Wise Milk Contribution to Total Milk Production in India

Species	Percentage of Total Milk
Buffalo indigenous	34.51 per cent
Buffalo non-descript	13.83 per cent
Cow non-descript	10.42 per cent
Cow indigenous	9.63 per cent
Cow cross-bred	27.68 per cent
Cow exotic	0.98 per cent
Goat	2.95 per cent

Species Wise Egg Contribution to Total Egg Production in India

Species	Percentage of Total Eggs
Improved fowl	88.03 per cent
Desi fowl	10.89 per cent
Desi duck	0.86 per cent
Improved duck	0.21 per cent

Egg production from commercial poultry: 95.17 billion (83.20% of total egg production)

Livestock provides livelihood to two-third of rural community. It also provides employment to about 8.8 % of the population in India. India has vast livestock resources. **Livestock sector contributes 4.11% GDP and 25.6% of total Agriculture GDP**.

Role of Livestock Industry in India

- Livestock industry plays an important role in the Indian economy. About 2.5-3 crore people depend on it for food.
- It Provides employment.
- Distribution of livestock is more equitable than that of land.
- The livestock sector contributes to low income, small farm, households etc.
- More than three-fourths of the labour demand in livestock production is met by women. The share of women employment in the livestock sector is around 90% in Punjab and Haryana where dairying is a prominent activity and animals are stall-fed.

Contribution of livestock to people

- **Food:** The livestock provides food items such as Milk, Meat and Eggs for human consumption. India is the number one milk producer in the world.
- **Fibre and skins:** The livestock also contribute to the production of wool, hair, hides, and pelts. Leather is the most important product which has very high export potential.
- **Draft:** Bullocks are the backbone of Indian agriculture. Despite lot of advancements in the use of mechanical power in Indian agricultural operations, the Indian farmer, especially in rural areas, still depends upon bullocks for various agricultural operations.
- **Dung and other animal waste materials:** Dung and other animal wastes serve as very good farmyard manure and the value of it is worth several crores of rupees
- **Storage:** Livestock is considered as ‘moving banks’ because of their potentiality to dispose off during emergencies.
- **Weed control:** Livestock is also used as Biological control of brush, plants and weeds.

Role of livestock in Farmers’ economy

Income: Livestock is a source of subsidiary income for many families in India especially the resource-poor who maintain few heads of animals.

Employment: A large number of people in India being less literate and unskilled depend upon agriculture for their livelihoods.

Social security: The animals offer social security to the owners in terms of their status in society.

Food: The livestock products such as milk, meat and eggs are an important source of animal protein to the members of the livestock owners.

Challenges to the livestock industry in India

- The land is only common resource acting as the platform for the development of human and animals. Ever-increasing competition between human and animal for food is a critical challenge in animal rearing.
- The improper and unscientific management of resource like water in animal husbandry makes the increased usage of virtual water in the export market. Virtual water is **the water embodied in the production of food and fiber and non-food commodities, including energy**.
- The percolation of extension services regarding animal husbandry is less and negligent
- The low production potential of the indigenous verities of animals is also an added issue.
- Devastating pastures, increased climatic changes, decrease in monsoon rains also makes the animal husbandry vulnerable
- Improper awareness about the vaccination and lack of research in the diseases occurring to animals is also another factor.
- Lack of infrastructure facilities in rural areas like veterinary clinics, breeding centres.
- The absence of credit facilities and insurance coverage schemes makes the farmers show less interest in animal rearing.
- The proper quality checking and standardization of animal products is absent.

To be done for livestock industry

- Culling of burdening animals.
- Licensing for animal rearing.
- Rejuvenation of Natural Pastures and Grasslands.
- Ensure proper credit facilities.
- Ensure effective veterinary extension services.

- Promote Research in organic livestock Farming.
- Special economic zone for the animal husbandry with common facilities must be created for greater export potential.

The livestock sector has emerged as a vital sector for ensuring a more inclusive and sustainable agriculture system. Indian livestock industry makes up for a significant amount of the world's livestock resources. Both the national economy as well as the socio-economic growth of the country is backed by the livestock sector. Besides, offering great potential and outstanding contribution to the agricultural sector over the past years. The 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 we need to re-correct it and take the global market opportunities.

Further, biodiversity of livestock, which is so crucial for sustaining long-term productivity, is also under jeopardy. The genetically uniform systems are vulnerable to external shocks under extreme weather conditions, emerging diseases and pathogens. In livestock sector, due to continued focus on exotic germplasm based cross breeding, the number of indigenous breeds with better adaptability, disease-resistance and feed efficiency ratio is declining.

Livestock sector plays a significant role in the rural economy of India. The sector is unique in terms of employment opportunities as two-third of female workforce in rural India is engaged in livestock rearing. Livestock is an integral part of mixed farming systems that characterise Indian agriculture. Livestock manure is the major source of nutrients for crop production and for sustaining soil fertility. Livestock wealth is more equitably distributed than that of land and the importance of livestock for the poorer households is even more. Besides, contributing food and inputs for crop production, livestock are important as savings or investments for the poor household and provide security or insurance through various ways in different production systems . Further, livestock rearing contributes to on-farm diversification and intensification, which could be one of the strategies for poor households to escape poverty and to maintain some stability in their earnings. The importance of livestock is much greater in marginal areas like arid and rainfed regions because of higher concentration of poor, limited benefits of green revolution technologies, climatic uncertainties, etc. However the nature of contribution of livestock has been changing over time and it varies from place to place. The analysis of livestock sub-sector at agro-ecoregional level would help in planning for livestock development based on resource endowments of the specific regions and will help in better targeting for region specific intervention.