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# ANNUAL REPORT 2024-25

*Agriculture PS Rajput  
Chitrakoot*

## Annual Report 2024-25

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Released by- Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying

### About the report-

This summary of the **Annual Report 2024–25** of the **Department of Animal Husbandry and Dairying (DAHD)** is crafted to serve as a focused resource for students preparing for the **NABARD Grade A Examination**. The report offers detailed insights into the role of the livestock sector in India's rural economy, key schemes and programmes, institutional initiatives, and performance statistics—all of which are directly relevant to the examination's Agriculture and Rural Development sections.

### 1. Sectoral Importance and Economic Contribution:

- The livestock sector contributes **30.23%** to the Agricultural Gross Value Added (GVA) and 5.5% to the national GVA.
- It plays a critical role in ensuring **nutritional security**, **income stability**, and **employment**, particularly in rural and semi-rural regions.

### 2. India's Global Livestock Standing:

- 1st** in global **milk production** with **239.30 million tonnes** in 2023–24.
- 2nd** in **egg production** (**142.77 billion eggs**).
- 4th** in **meat production** (**10.25 million tonnes**).

### 3. Key Government Schemes and Missions:

- Rashtriya Gokul Mission**: Focus on genetic upgradation through IVF labs (**22 functional labs**) and **sex-sorted semen technology** for increasing female calf ratio.
- National Programme for Dairy Development (NPDD)**: Strengthening **dairy infrastructure** and **milk** processing.
- National Livestock Mission (NLM)**: Employment-oriented livestock development.
- Livestock Health and Disease Control Programme (LHDCP)**: Includes NADCP for FMD and Brucellosis eradication.
- AHIDF**: Animal Husbandry Infrastructure Development Fund for private investment support.

### 4. Digital and Grassroots Innovations:

- Bharat Pashudhan** portal launched for **unified livestock database**.
- A-HELP Programme**: Engaging women from **Self Help Groups (SHGs)** as para-veterinary workers and awareness agents.
- Gopal Ratna Awards** to promote quality practices and recognise dairy excellence.

### 5. Institutional and Training Support:

- Capacity building through **Mission Karmayogi** and DAHD's training initiatives.
- Development of **indigenous IVF media** for bovine reproduction.

## 6. Labour and Employment Insights

- As per **PLFS 2022–23**, an increase in mixed farming (crop + livestock) households indicates rising dependence on livestock for rural livelihoods.
- Women's participation in the livestock sector remains significant, especially in dairying and backyard poultry.

## Chapter I - OVERVIEW OF ACHIEVEMENTS

### 1. Economic Role of Animal Husbandry and Dairying:

- Animal husbandry and dairying are vital to the Indian economy, contributing **30.23% to agricultural Gross Value Added (GVA)** and **5.5% to the national economy**.
- India holds the distinction of being the **world's largest milk producer**, and the livestock sector plays a crucial role in ensuring food security, generating employment, and fostering rural development by providing a steady income and insurance against crop failures.
- Moreover, it empowers women, enhances foreign exchange earnings through exports, and promotes sustainability through integrated farming systems.
- The sector also supports a wide range of rural enterprises, thereby strengthening livelihoods and socio-economic stability across the country.

### 2. Integration with Sustainable Agricultural Systems:

- Livestock production and agriculture are deeply interlinked, forming a symbiotic relationship essential for sustainable food systems.
- The livestock sector has evolved beyond its traditional role to emerge as a key driver of innovation and resilience in rural economies.
- Adoption of modern practices such as **climate-smart livestock farming**, **biogas-based renewable energy generation**, and **regenerative grazing systems** reflects its growing contribution to environmental sustainability.
- In addition, the sector has become a significant platform for **entrepreneurship**, particularly among **women and marginalised communities**, enabling **financial inclusion** and **equitable growth** in rural India.

### 3. Soil Health and the Role of Livestock Manure:

- Livestock manure plays a **vital role in enhancing soil health by improving** its **chemical**, **physical**, and **biological properties**.
- It increases **nutrient availability**, enriches **organic matter**, and improves the **cation exchange capacity** of soil.
- The application of manure also reduces **soil bulk density**, enhances porosity, and improves **water retention, infiltration, and erosion resistance**.

- Additionally, manure promotes microbial diversity and biological activity essential for nutrient cycling and soil productivity.
- However, the impact of manure depends on factors such as its type, application rate, and prevailing environmental conditions.
- While it serves as a sustainable alternative to synthetic fertilizers, proper management is necessary to mitigate risks such as nutrient runoff and inconsistent outcomes.

#### 4. Labour Force Participation Trends (PLFS 2022–24):

- According to the Periodic Labour Force Survey (PLFS) conducted during July 2022–June 2023 and July 2023–June 2024, there has been a slight decrease in the percentage of workers engaged in animal production (Industry Group 014 under NIC-2008) — from 6.45% in 2022–23 to 6.34% in 2023–24.
- Conversely, mixed farming (Industry Group 015) witnessed an increase in workforce participation from 3.63% to 4.34% during the same period.
- This trend indicates a gradual shift towards agricultural diversification, signalling a potential need for targeted interventions to address stagnation in the animal production segment.

#### Livestock and Poultry Population:

S. No.	Species	19th Livestock Census 2012 (no. in millions)	20th Livestock Census 2019 (no. in millions)	Growth Rate 2012-19 (in percent)
1	Cattle	190.90	193.46	1.34
2	Buffalo	108.70	109.85	1.06
3	Yaks	0.08	0.06	-24.90
4	Mithun	0.30	0.39	29.52
	<b>Total Bovines</b>	<b>299.98</b>	<b>303.76</b>	<b>1.26</b>
5	Sheep	65.07	74.26	14.13
6	Goat	135.17	148.88	10.14
7	Pigs	10.29	9.06	-12.03
8	Other animals	1.54	0.79	-48.70
	<b>Total Livestock</b>	<b>512.06</b>	<b>536.76</b>	<b>4.82</b>
9	Poultry	729.21	851.81	16.81

#### Livestock production:

##### Gross Value Added (GVA) – Livestock Sector (FY 2022–23):

Parameter	Value
GVA at Current Prices	₹13,55,460 crore
% Share in Agricultural & Allied Sector GVA	30.23%
% Share in Total GVA (National Economy)	5.50%
GVA at Constant Prices (2011–12 base year)	₹6,90,268 crore
Growth Rate (Constant Prices over previous FY)	5.02%

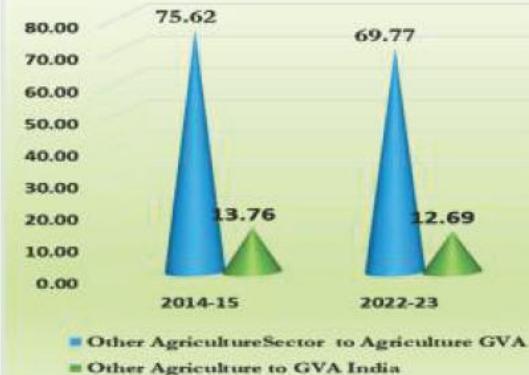
## Inference:

- The livestock sector continues to play a significant role in the Indian economy.
- In FY 2022–23, it contributed a substantial ₹13.55 lakh crore at current prices, forming 30.23% of the total agricultural GVA and 5.50% of the national GVA.
- In real terms (constant prices), the sector witnessed a 5.02% annual growth, reflecting its resilience and expanding economic relevance within the rural and agricultural landscape.

**Figure 1.1: % Contribution of Livestock Sector to GVA**



**Figure 1.2: % Contribution of Other Agriculture to GVA**



## Inference from the charts: Contribution to GVA

### 1. Rise in Livestock Sector's Economic Share:

- Between 2014–15 and 2022–23, the **livestock sector's contribution to Agriculture GVA** increased from 24.38% to 30.23%, indicating a substantial rise in its share within the agricultural economy.
- Simultaneously, its contribution to **India's overall GVA** also rose from 4.44% to 5.50%, reflecting enhanced national economic relevance of livestock.

### 2. Decline in Other Agriculture's Relative Contribution:

- The contribution of **other agricultural sub-sectors** to Agriculture GVA fell from 75.62% in 2014–15 to 69.77% in 2022–23, showing a relative shift of economic weight towards livestock within the agri-sector.
- Similarly, their share in **total national GVA** declined from 13.76% to 12.69%, indicating either stagnation or slower growth compared to the livestock segment.

### 3. Structural Shift within Agriculture:

- These trends clearly suggest a **structural shift within Indian agriculture**, with the **livestock sector emerging as a growth leader**, both in terms of **sectoral and national economic contribution**.
- The data supports the policy emphasis on livestock as a **resilient, income-generating, and sustainable component** of the agricultural ecosystem.

This interpretation aligns with NABARD's exam themes on rural diversification, sustainable livelihoods, and agri-allied sector development.

### Milk production:

#### India's Dairy Sector: Sustained Growth in Milk Production:

- India has reaffirmed its dominance in the global dairy sector through sustained and robust growth in milk production. Between **2018–19 and 2023–24**, the country's milk output recorded a **Compound Annual Growth Rate (CAGR) of 4.97%**, underscoring the sector's strength and resilience.
- In **2023–24**, India reached an **all-time high milk production of 239.30 million tonnes**.
- According to the **Food and Agriculture Organization (FAO)**, India continues to be the **world's largest milk producer**, outperforming major producers like the **USA, Pakistan, China, and Brazil**.
- This achievement is a testament to the success of India's **White Revolution**, rural dairy infrastructure, and **farmer-driven cooperative models**.

**Figure 1.3 : Milk Production with Corresponding Annual Growth Rate(%) from 2014-15 to 2023-24 (All India)**



#### Inference from Figure: Milk Production and Annual Growth Rate (2014–15 to 2023–24):

##### 1. Consistent Growth in Milk Production:

India's milk production increased steadily from **146.31 million tonnes in 2014–15** to **239.30 million tonnes in 2023–24**, marking a **cumulative increase of over 93 million tonnes** over a 10-year period.

##### 2. Peak Growth Period (2016–17 to 2018–19):

The highest annual growth rates were observed between **2016–17 and 2018–19**, with rates above **6.3%**, peaking at **6.62% in 2017–18**.

##### 3. Gradual Decline in Growth Rate Post-2018–19:

After reaching **187.75 million tonnes in 2018–19**, the annual growth rate started to decline:

- **5.69% in 2019–20**
- **5.81% in 2020–21**
- **5.77% in 2021–22**

#### 4. Sharp Deceleration After 2021–22:

The growth rate dropped significantly to **3.83% in 2022–23** and further declined to **3.78% in 2023–24**, even though absolute milk production rose to **239.30 million tonnes**.

#### 5. Overall Trend:

While milk production has shown consistent year-on-year increases, the rate of growth has slowed down considerably in the last two years. This indicates a maturing sector that may require productivity-focused interventions to maintain its momentum.

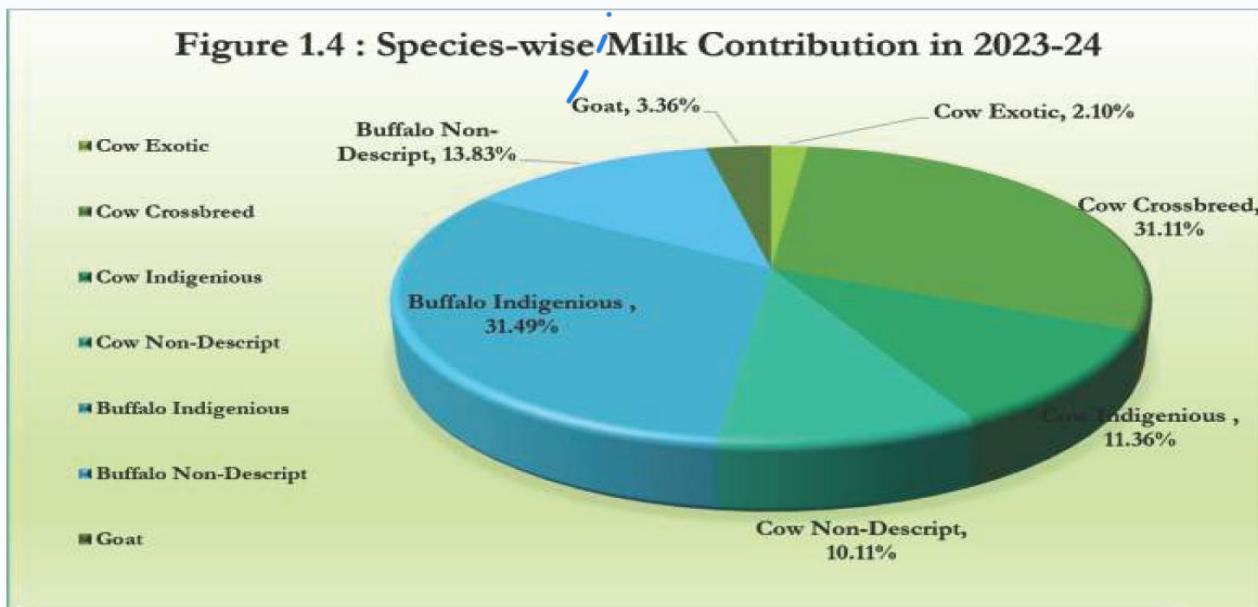
**Average Yield Rate for Milk: The average yield of milk per day per animal in milk at National level from different species during 2023-24 is given below:**

Exotic Cows (kg/day/ animal)	Crossbre d Cows (kg/day/ animal)	Indigenou s Cows (kg/day/ animal)	Non- Descript Cows (kg/day/ animal)	Indigenou s Buffalo (kg/day/ animal)	Non- Descript Buffalo (kg/day/ animal))	Goat (kg/day/ animal)
9.82	8.35	4.20	3.00	6.63	4.73	0.48

Source: Basic Animal Husbandry Statistics-2024

**Percentage Share of Milk Production during 2023-24:**

**Figure 1.4 : Species-wise Milk Contribution in 2023-24**



#### 1. Species-Wise Contribution to Milk Production:

- The chart analysis reveals that **Indigenous/Non-Descript Buffaloes** are the leading contributors to India's milk production, accounting for **45.32%** of the total.
- This is followed by **Crossbred/Exotic Cattle**, which contribute **33.21%**. **Indigenous/Non-Descript Cattle** contribute **21.47%**, while **Goat milk** constitutes a smaller but notable share of **3.36%** in the total milk output.

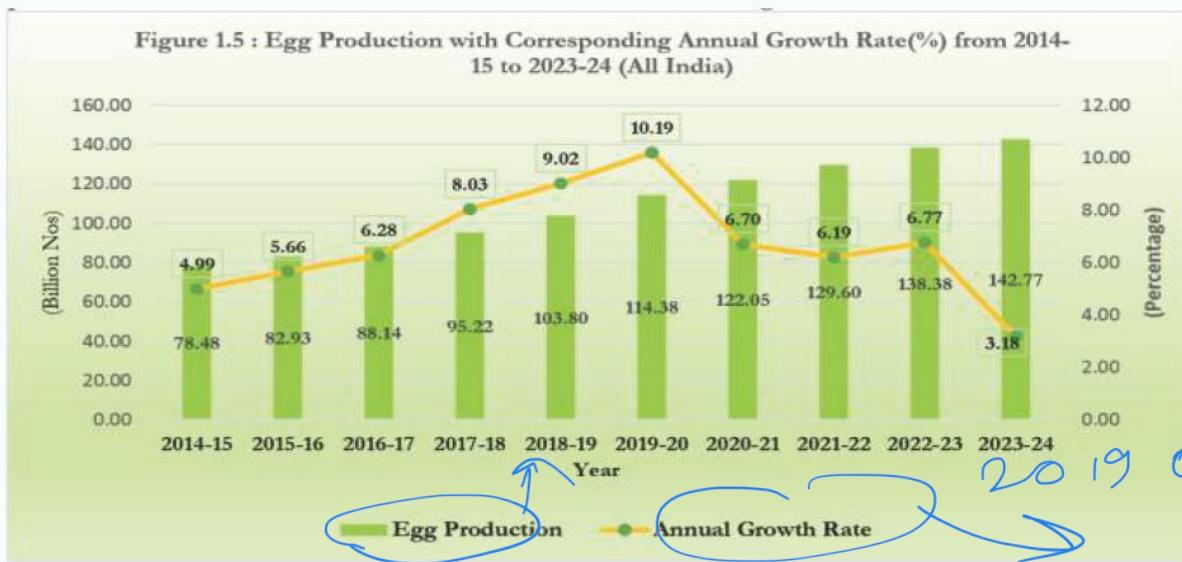
- This distribution underscores the importance of buffaloes in India's dairy ecosystem, alongside the growing role of genetically improved cattle breeds.

### Egg production:

8105 → 2024 → 2023-24

### India's Egg Revolution: Breaking Global Records:

- India has achieved a significant milestone in egg production, marking a **Compound Annual Growth Rate (CAGR) of 6.58%** between **2018–19 and 2023–24**.
- This consistent growth has culminated in a record output of **142.77 billion eggs** in **2023–24**, positioning India as a dominant player in the global poultry industry.
- With this achievement, India retains its position as the **world's second-largest egg producer**, after **China**, surpassing other major producers such as the **United States, Indonesia, and Brazil**.
- This performance highlights India's growing agricultural efficiency and its success in scaling up **nutritional and protein sources** for its vast population.



### Inference from Figure: Egg Production and Annual Growth Rate (2014–15 to 2023–24):

#### 1. Consistent Rise in Egg Production:

India's egg production increased steadily from **78.48 billion eggs** in **2014–15** to **142.77 billion eggs** in **2023–24**, reflecting sustained growth over the decade.

Doubt

#### 2. Peak Growth Rate in 2019–20:

The highest annual growth rate was recorded in **2019–20** at **10.19%**, when production jumped from **103.80 billion** to **114.38 billion eggs**.

#### 3. Strong Growth Phase (2015–16 to 2019–20):

Between **2015–16** and **2019–20**, annual growth rates remained above **6%**, peaking consecutively—**5.66%, 6.28%, 8.03%, 9.02%, and 10.19%**—signifying a phase of robust expansion.

#### 4. Stabilisation and Decline in Growth Rate:

post-2019–20, the growth rate moderated:

- 6.70% in 2020–21

- **6.05% in 2021–22**
- **6.77% in 2022–23**
- Dropped sharply to **3.18% in 2023–24**, despite reaching the highest production level of **142.77 billion eggs**

## 5. Overall Trend:

While egg production has maintained a steady upward trend in quantity, the **annual growth rate has shown a clear decline in recent years**, especially in **2023–24**, indicating **maturity of the sector** and a possible need for productivity enhancement measures.

## Meat production:

### India's Meat Production Saga: Growth with Global Impact:

- India has shown robust progress in meat production, recording a **Compound Annual Growth Rate (CAGR) of 4.80%** between **2018–19 and 2023–24**.
- This growth has led to a significant milestone of **10.25 million tonnes** of meat produced in **2023–24**, marking a notable rise in the sector's output over recent years.
- With this performance, India has secured its position as the **fourth-largest meat producer globally**, following **China, the United States, and Brazil**.
- This achievement highlights India's growing stature in the global meat industry and reflects its capacity to meet domestic demand while expanding its presence in international markets.



### Inference from Figure: Meat Production and Annual Growth Rate (2014–15 to 2023–24):

#### 1. Overall Growth in Meat Production:

India's meat production has consistently increased from **6.69 million tonnes** in **2014–15** to **10.25 million tonnes** in **2023–24**, marking a steady expansion of the sector over the decade.

#### 2. Peak Growth Year – 2014–15

The highest annual growth rate was observed in **2014–15 at 7.31%**, with production recorded at **6.69 million tonnes**.

### 3. Moderate Growth Phase (2015–16 to 2019–20):

- Growth rates ranged between **3.66%** and **5.99%**, with production steadily rising from **7.02** to **8.60 million tonnes**.
- 2017–18 recorded the lowest growth in this phase at **3.66%**.

### 4. Sharp Dip in 2020–21:

A significant slowdown occurred in **2020–21**, with the growth rate dropping to **2.30%**, possibly reflecting pandemic-related disruptions. Production increased only marginally to **8.80 million tonnes**.

### 5. Recovery and Stabilisation (2021–24):

- The sector rebounded in **2021–22** with a **5.62% growth rate** and **9.29 million tonnes** production.
- Growth remained stable at **5.13% in 2022–23** and **4.95% in 2023–24**, with production peaking at **10.25 million tonnes**.

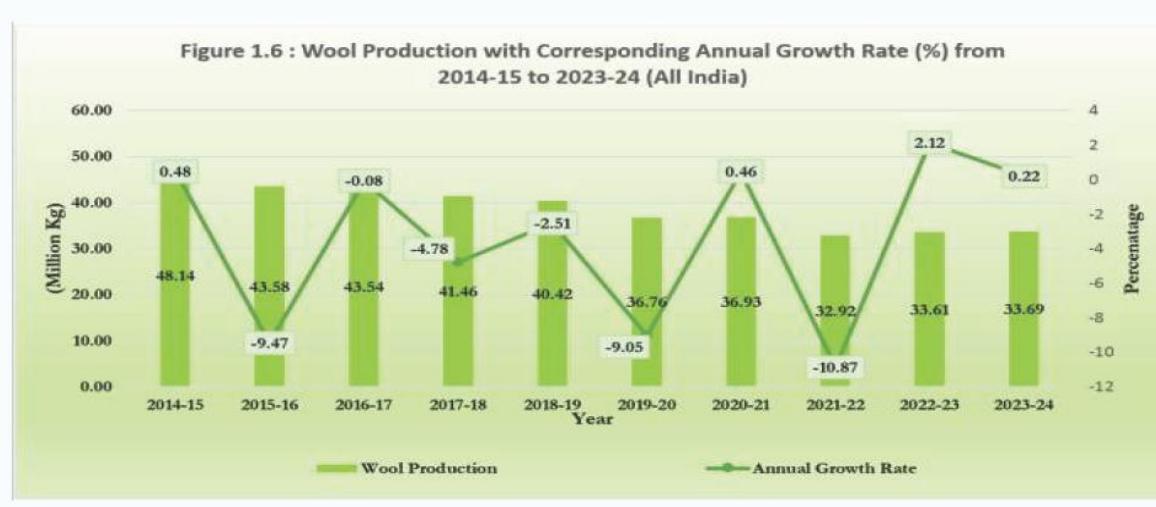
### 6. Trend Summary:

Despite fluctuations, the meat sector has shown **resilient and positive growth**, especially in the post-COVID years, with a consistent upward trend in output and a stabilised growth rate around **5%** in the last three years.

### Wool production:

#### India's Wool Sector: A Declining Trend Amidst Agricultural Growth:

- Unlike the upward trajectories seen in dairy, meat, and egg production, India's **wool industry** is undergoing a period of sustained decline.
- Between **2018–19 and 2023–24**, the sector recorded a **negative Compound Annual Growth Rate (CAGR) of -3.58%**, highlighting a concerning trend in traditional fibre production.
- By **2023–24**, wool production had dropped to **33.69 million kilograms**, reflecting structural changes in India's wool-producing regions.
- This decline signals shifting patterns in demand, climate suitability, and possibly reduced interest in sheep rearing, marking the wool sector as an outlier among India's agri-allied segments



Inference from Figure: Wool Production with Corresponding Annual Growth Rate (2014–15 to 2023–24):

## 1. Overall Declining Trend in Wool Production:

Wool production in India declined from **48.14 million kg** in **2014–15** to **33.69 million kg** in **2023–24**, reflecting a significant downward trend over the ten-year period.

## 2. Frequent Negative Growth Rates:

The industry witnessed multiple years of negative growth, with major contractions seen in:

- **2015–16: -9.47%**
- **2017–18: -4.78%**
- **2018–19: -2.51%**
- **2019–20: -9.05%**
- **2021–22: -10.87%** (largest drop in the decade)

## 3. Short-Lived Recoveries:

Intermittent growth spurts were recorded but remained modest:

- **2016–17: -0.08%** (almost flat)
- **2020–21: +0.46%**
- **2022–23: +2.12%** (only significant positive rebound)
- **2023–24: +0.22%**

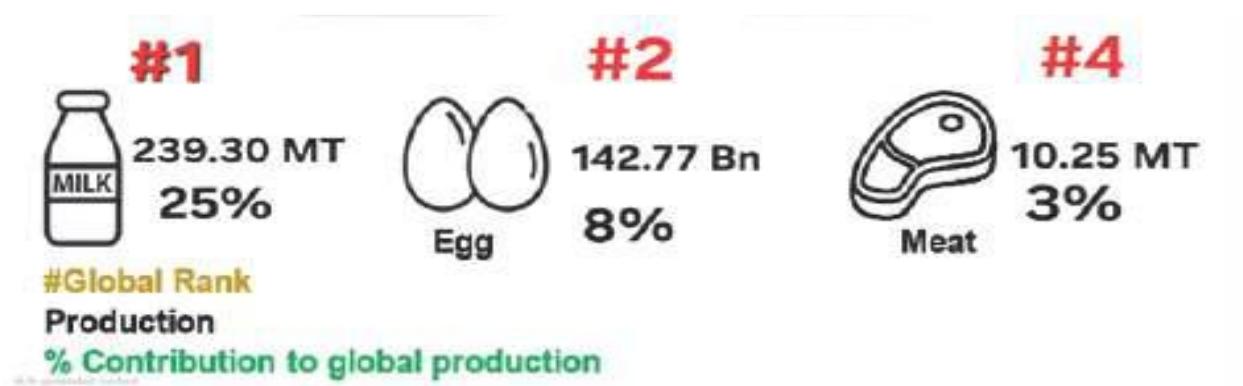
## 4. Lowest Production Year:

The lowest production level was in **2021–22 at 32.92 million kg**, coinciding with the sharpest annual decline of **-10.87%**.

## 5. Trend Summary:

The wool sector has shown **persistent volatility and structural decline**, with growth rates remaining largely negative and production gradually falling. Even in years of recovery, the improvement has been marginal.

### Global Positioning of India's Livestock Products:



### Source: FAO website and BAHS 2024

#### • Milk Production:

India ranks **1st globally** with an annual production of **239.30 million tonnes**, accounting for **25% of the world's total milk output**. The **USA** is the second-largest producer.

#### • Egg Production:

India holds the **2nd position** globally with an output of **142.77 billion eggs per annum**, following **China**.

- **Meat Production:**

India ranks **4th globally** in meat production with an output of **10.25 million tonnes per annum**, which contributes approximately **3% of global meat production**.

#### Annual Financial Allocations and Expenditures – FY 2023–24 and FY 2024–25:

Financial Year	BE (₹ Crore)	RE (₹ Crore)	Actual Expenditure (₹ Crore)
2023–24	4687.85	4183.93	3485.50
2024–25 (as on 31.12.2024)	4931.24	4014.25	2116.77

## Chapter II – Cattle and Development

### Rashtriya Gokul Mission (RGM): Reviving Indigenous Bovine Wealth:

#### 1. Objective and Launch:

- Launched: December 2014
- Purpose: Scientific and holistic development and conservation of indigenous bovine breeds.
- RGM was introduced to address the gap created by earlier crossbreeding-focused schemes and aims to uplift rural livestock holders—especially small/marginal farmers and landless labourers, who own over 80% of low-producing indigenous animals.

#### 2. Impact on National Milk Production and Productivity:

- The scheme has played a pivotal role in enhancing both production and productivity of bovines.
- Annual Growth Rate of Milk Production (2014–15 to 2023–24): 5.69%, much higher than the global average of 2%.

#### 3. Rise in Animal Productivity:

Animal Type	Productivity in 2014–15 (kg/animal/year)	Productivity in 2023–24 (kg/animal/year)	% Increase
All categories (descript, non-descript cattle, buffaloes, crossbred)	1647	2071	25.74%
Buffaloes	1792 (2013–14)	2161 (2023–24)	20.60%

- India has registered the highest bovine productivity growth rate globally, outpacing countries like **China, Germany, and Denmark**.

#### 4. Increase in Animal Population and Milk Output:

- **Animals in Milk:**

Increased from **84.08 million (2013–14)** to **111.76 million (2023–24)** — a growth of **32.93%**.

- **Indigenous Cattle Population:**

Increased by 25% between 2013–14 and 2023–24.

- **Milk Output from Indigenous Cattle:**

Rose from **28.13 million tonnes** to **49.91 million tonnes**, registering a growth of **77.42%**.

### 5. Per Capita Milk Availability:

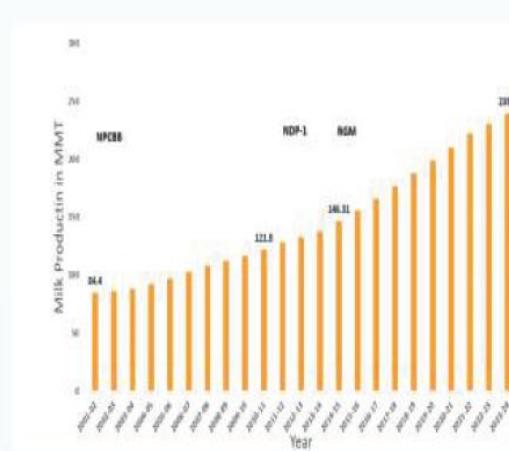
- **2023–24: 471 grams/day**, exceeding the **global average of 394 grams/day**.

Growth since 2014–15: From **319 grams/day** to **471 grams/day**, marking a **47.64% increase**.

### 6. Comparative Global Standing:

- India's productivity improvement of **27.39% (2014–22)** surpasses the **world average increase of 13.97%**, placing India at the top globally in terms of productivity enhancement.

The Rashtriya Gokul Mission has emerged as a **transformative livestock policy**, catalysing improvements in milk productivity, indigenous breed preservation, rural livelihoods, and per capita nutritional availability. The scheme stands as a model of **indigenous breed-led dairy development** rooted in inclusive growth and sustainability.



Milk Production in MMT over the years



Enhancement in productivity Comparison

### Inference from the above figure:

#### 1. Milk Production in India (2001–02 to 2023–24):

- Milk production in India has shown a **consistent and sharp increase** from **84.4 million metric tonnes (MMT)** in **2001–02** to **239.3 MMT** in **2023–24**.
- Major policy interventions marked in the graph include:
  - **NPCBB** (National Project for Cattle and Buffalo Breeding)
  - **NDP-I** (National Dairy Plan Phase I)
  - **RGM** (Rashtriya Gokul Mission), which aligns with the sharpest acceleration post-2014.

## 2. Global Comparison of Productivity Enhancement (2014–2022):

- India recorded the **highest enhancement in bovine productivity at 27.39 kg/year**, significantly outpacing:
  - China: 15.84 kg/year
  - Germany: 12.77 kg/year
  - Denmark: 10.42 kg/year
  - USA: 8.5 kg/year
  - New Zealand: 8.18 kg/year
  - Israel: 7.84 kg/year
- The **world average improvement stood at 13.97 kg/year**, making India's performance nearly double the global average.

## Rashtriya Gokul Mission (RGM) – Summary:

### I. Overview:

- Launched: December 2014
- Revised Allocation (2021–2026): ₹2400 crore over 5 years
- Focus Shift: From physical breeding infrastructure to **doorstep delivery of quality breeding services** using:
  - Artificial Insemination (AI)
  - In Vitro Fertilization (IVF)
  - Sex-sorted semen
  - Promotion of private sector participation

### II. Objectives:

- a. Improve bovine productivity and milk yield through **advanced technologies**
- b. Promote use of **high genetic merit bulls**
- c. Strengthen AI coverage and delivery at **farmer's doorstep**
- d. Scientifically conserve and promote **indigenous cattle and buffalo breeds**

### III. Funding Pattern:

- Most components are on a **100% grant-in-aid basis**
- Subsidised Components:
  - ₹5000/IVF pregnancy (Accelerated Breed Improvement)
  - Up to **50% subsidy on sex-sorted semen**
  - Up to **₹2 crore or 50% of capital cost for Breed Multiplication Farms**

### IV. Major Achievements:

- India remains the largest milk producer globally since 1998, contributing **25% of global milk output**.
- Milk Production (2023–24): **239.30 MMT**, with output value of **₹11.16 lakh crore**

- Livelihoods supported: 8.5 crore rural households
  - Bovine population grew marginally from 29.96 crore (2012) to 30.22 crore (2019).
  - In-milk bovine population rose from 8.4 crore (2013–14) to 11.17 crore (2023–24) – a 32.97% increase
- AI Services (under NAIP):**
- Implemented in 605 districts
  - 8.30 crore animals covered
  - 12.20 crore AIs performed
  - 5.19 crore farmers benefitted

#### V. Technological Advancements:

- 22 IVF laboratories established
- 10.32 million doses of sex-sorted semen produced; 70 lakh doses distributed
- 38,736 MAITRIs (AI technicians) inducted in last 4 years
- 3,747 progeny-tested bulls produced (target: 4,111 bulls in 5 years)
- 132 Breed Multiplication Farms sanctioned
- **Digital Ecosystem Developed:**
  - Bharat Pashudhan System launched on 2nd March 2024
  - Over 75 crore transactions recorded by field-level workers (FLWs)

#### VI. Core Components of RGM:

##### 1. High Genetic Merit Germplasm:

- Bull Production through:
  - Progeny Testing
  - Pedigree Selection
  - Genomic Selection
  - Germplasm Import

##### 2. Support:

As part of the Rashtriya Gokul Mission, five semen stations operated by the Government sector are currently functional in the following states:

- I. Uttarakhand
- II. Gujarat
- III. Madhya Pradesh
- IV. Uttar Pradesh
- V. Tamil Nadu

- These stations are critical for ensuring the availability of high genetic merit germplasm for artificial insemination services. Their functions include:
- Collection, processing, and distribution of quality semen doses
- Supporting breed improvement programmes across the country

- Enabling timely and quality breeding services under the **National Artificial Insemination Programme (NAIP)**
- These government-run facilities form the backbone of the public-sector breeding infrastructure, working in synergy with private entities and IVF labs to enhance productivity of indigenous and crossbred cattle. *proj (NAIP)*

### Grading of semen stations over the years

Grades	2005	2009	2011	2013	2016	2018-19	2022-23
A	2	12	20	30	37	36	41
B	12	15	17	15	14	13	9
C	12	7	3	-	-	-	-
Not Graded (NG)	33	13	7	5	2	2	3
Not Evaluated (NE)	-	2	2	2	5	5	3
Total	59	49	49	52	58	56	56

### 3. Implementation of IVF Technology:

- Establishment of IVF Labs
- Use of In Vitro Embryo Production
- IVF for assured pregnancy outcomes

### Progress in Genomic Selection under Rashtriya Gokul Mission:

In a significant scientific advancement, the **Rashtriya Gokul Mission (RGM)** has facilitated the **development of indigenous genomic selection tools** to improve breed quality and productivity of bovines in India.

#### 1. Development of Genomic Chips:

- Indus Chip (for cattle) and Buff Chip (for buffalo) have been developed by the National Dairy Development Board (NDDB).
- A low-density genomic chip has also been developed by NBAGR (National Bureau of Animal Genetic Resources).

#### 2. Convergence for Enhanced Reliability:

- These chips—Indus, Buff, and the one developed by NBAGR—are being converged into a unified tool for more accurate genomic selection of indigenous breeds.
- This integration ensures higher reliability in identifying superior genetic traits and selecting high genetic merit animals.

#### 3. First-Ever Launch of Indigenous Genomic Chip:

- For the **first time in India**, a **genomic chip tailored to indigenous cattle and buffalo breeds** has been successfully developed and launched under the RGM framework.
- This milestone strengthens India's capability in **scientific animal breeding** and aligns with the mission's goal of **self-reliant livestock development**.

### **National Digital Livestock Mission (NDLM):**

#### I. Launch and Objective:

- The **Department of Animal Husbandry and Dairying (DAHD)**, in collaboration with the **National Dairy Development Board (NDDB)**, has launched a comprehensive digital database named **'Bharat Pashudhan'**. *+ NDDB*
- This digital livestock ecosystem was **formally dedicated to the nation by the Hon'ble Prime Minister on 2nd March 2024**.
- The system has been designed to promote **real-time, integrated livestock management** using **digital identity**, data tracking, and open API-based architecture.

#### II. Key Features and Infrastructure:

- Unique Identification System:** Each livestock animal is allocated a **12-digit unique Tag ID**, which serves as the **primary identification key**.
- Scale of Implementation:** So far, **34.12 crore animals** have been **digitally registered** under the Bharat Pashudhan system.
- Architecture:** Built using **open-source, API-based architecture**, enabling **seamless integration** among all stakeholders.

#### III. Major Achievements:

- Creation of Bharat Pashudhan Database**
  - Core database with **12-digit unique animal IDs**
- 1962 Mobile Applications**
  - Deployed for use by **livestock farmers** to access services and data
- Disease Surveillance Tools**
  - Sero-surveillance** and **sero-monitoring applications** developed for monitoring animal health
- Traceability Solutions Implemented**
  - Enabled traceability for **premium livestock products** like:
    - Gir cow ghee**
    - Badri cow ghee**
    - Pashmina wool**, and others
- Transaction Scale**
  - Over **70 crore transactions** have been logged into the system by **field-level officers and workers**

#### IV. Significance:

- The Bharat Pashudhan initiative represents a **landmark digital transformation in India's livestock sector**, improving:
  - Animal health monitoring
  - Breeding management
  - Product traceability
  - Service delivery efficiency

This initiative aligns with India's goal of building a **digitally empowered livestock economy**, supporting transparency, traceability, and accountability at scale.

#### Central Cattle Breeding Farms (CCBFs):

##### Objective:

- Established during **1968–1976** under various **Five-Year Plans** across agro-climatic zones.
- Aim: To supply **high genetic merit (HGM) germplasm** of indigenous and exotic breeds (Holstein Friesian & Jersey) to support long-term genetic improvement in dairy animals.

##### Functions:

- Production of **disease-free HGM bulls and frozen semen doses**.
- Scientific breeding of cattle and buffaloes.
- Conducting **training and awareness programs** for farmers and breeders.

##### Locations (7 CCBFs):

- Alamadhi (Tamil Nadu)
- Andeshnagar (Uttar Pradesh)
- Chiplima & Sunabeda (Odisha)
- Dhamrod (Gujarat)
- Hessarghatta (Karnataka)
- Suratgarh (Rajasthan)



#### Chapter III – Dairy Development:

#### Status and Economic Significance of Dairy Sector in India:

##### 1. National Milk Production:

- 2023–24:** India produced **239.30 million tonnes** of milk, up from **230.58 million tonnes** in 2022–23, registering a **growth rate of 3.78%**.
- India ranks **1st globally** in milk production.
- 2024–25 Estimate:** Milk production expected to reach **254.19 million tonnes**, with a projected **growth rate of 6.22%**, surpassing the **global average of 1.5%** (FAO Dairy Market Review 2024).

## 2. Socio-Economic Impact:

- Dairy serves as a **vital secondary income source** for millions of **rural families**.
- It is especially significant for **women, marginal farmers, and landless labourers**.
- Per capita milk availability in India reached **471 grams/day** in 2023–24, compared to the **world average of 329 grams/day** (Food Outlook, Nov 2024). *329 World 471/904 days*

## 3. Livestock and GVA Contribution:

- Livestock sector's contribution to total GVA (2022–23): **5.50%**
- Livestock contribution to Agriculture & Allied GVA: **30.23%**
- While the overall agriculture sector's GVA share has declined from **25.17% (1999–2000)** to **18.19% (2022–23)**, the **livestock sector's share increased from 4.7% to 5.5%**, highlighting its growing economic role. *18.19%*

## 4. Milk Supply Chain:

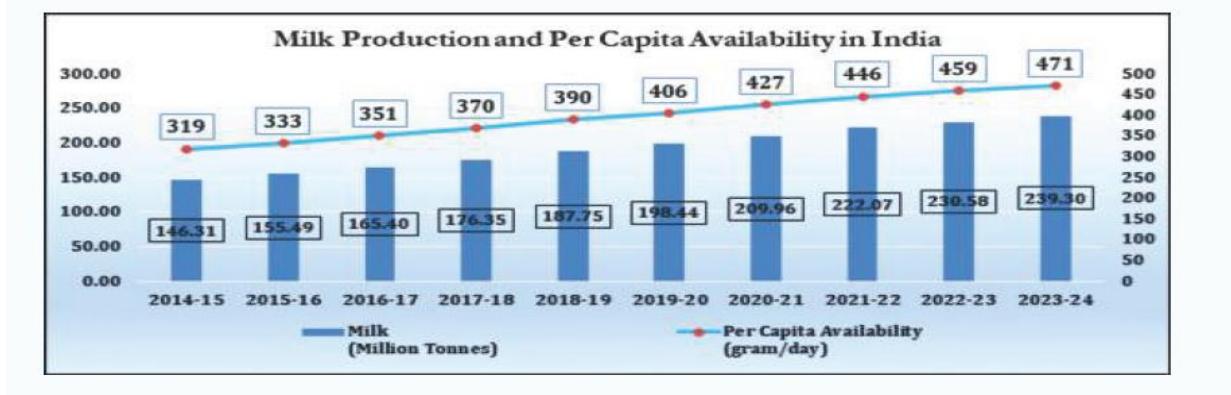
- 37% of milk is retained or sold within rural communities**, while **63% enters the market for sale**.
- The **organized sector** includes:
  - Government agencies
  - Milk cooperatives and producer organisations
  - Private players
- These entities ensure **year-round, fair and transparent collection systems** at village level.

## 5. Market Size and Outlook:

- Current market size (2024): **₹18.98 lakh crore**
  - Projected market size (by 2033): **₹57.00 lakh crore**
- (Source: IMARC 2025 Report)

## 6. Demand Drivers:

- Rising demand is fuelled by:
  - Population growth**
  - Urbanization**
  - Increasing per capita income**



Inference from the figure: "Milk Production and Per Capita Availability in India (2014–15 to 2023–24)":

#### 1. Steady Growth in Milk Production:

- Milk production in India has shown consistent annual growth over the decade.
- It increased from 146 million tonnes in 2014–15 to 239 million tonnes in 2023–24.
- This represents an absolute increase of 92.99 million tonnes over the 10-year period.

#### 2. Rise in Per Capita Availability of Milk:

- Per capita milk availability rose steadily from 319 grams/day in 2014–15 to 471 grams/day in 2023–24.
- The increase in daily per capita availability is 152 grams over the decade, reflecting enhanced accessibility and nutritional potential.

#### 3. Correlation Between Production and Availability:

- The graph reflects a direct positive correlation between overall milk production and per capita availability.
- As production increased year by year, per capita availability followed a matching upward trend.

#### 4. Notable Milestones:

- 200 million tonnes mark crossed in 2020–21 (209.96 MMT).
- Per capita availability surpassed 400 grams/day in 2019–20 (406 g/day).

Parameters	Year (2021 -22)	Year (2022 -23)	Year (2023 -24)	% Growth
India's milk production (MMT) [Cumulative annual growth rate(CAGR)]	222.07	230.58	239.30	3.78
World milk production (MMT)* [Cumulative annual growth rate(CAGR)]	951.6 (2022)	966.6 (2023)	981.1 (2024)	1.5
India's Per capita Availability (grams/day)[Cumulative annual growth rate(CAGR)]	446	459	471	2.61

\*Source- Food Outlook Nov '2024

#### National Programme for Dairy Development (NPDD):

→ CCS, 2014

**Central Sector Scheme | Operational Since: February 2014**

### Scheme Objective:

To establish and strengthen infrastructure for:

- **Production of quality milk**
- **Procurement, processing, and marketing of milk and milk products**
- **Cold chain development** from farmer to consumer
- **Training of dairy farmers** on clean milk production
- **Awareness generation** on quality and hygiene standards
- **Research & development** on milk and dairy products

### **Scheme Restructuring (July 2021):**

5 GPN

- Realigned NPDD is being implemented for **2021–22 to 2025–26**
- **Total Outlay:** ₹1790 crore
- **Implementation Agency:** State Cooperative Dairy Federations/ Unions/ SHG-run dairies/ Milk Producer Companies/ FPOs

### **Component 'A':**

- Focus on infrastructure development for:
  - **Milk testing equipment**
  - **Primary chilling facilities**

### **Funding Pattern:**

Category	Cost Sharing Ratio
General States	60:40 (GoI : State/SIA/EIA)
NE & Hilly States	90:10 (GoI : State/SIA/EIA)
UTs	100% GoI
R&D, ICT, Training, Monitoring	100% GoI

This scheme plays a crucial role in modernizing India's dairy ecosystem and ensuring **quality assurance**, **cold chain efficiency**, and **farmer empowerment**.

### Chapter IV – Animal Husbandry:

#### National Livestock Mission (NLM):

**Launched:** 2014–15 | **Revised:** 2021–22 onwards | **Outlay:** ₹2300 crore (for five years)

#### **Mission Objective:**

To ensure **sustainable and inclusive growth** of the **livestock sector**, particularly in **meat, goat milk, wool, and egg production**, by:

- Promoting **entrepreneurship** and **employment generation** at the local level
- Improving **per animal productivity** through breed development
- Enhancing availability of **quality feed and fodder**
- Ensuring **risk coverage**, credit access, and **extension services**
- Creating robust **linkages** between unorganized and organized livestock sectors

#### Recent Modification (Feb 21, 2024):

The scheme now includes:

- Breed upgradation of camel, horse, and donkey
- Fodder production from wasteland/degraded forest land

#### Sub-Missions under NLM

1. Breed Development of Livestock & Poultry
2. Feed and Fodder Development
3. Extension and Innovation

The National Livestock Mission is steering India towards a **self-reliant and export-ready livestock economy** by empowering grassroots entrepreneurs and ensuring inclusive, technology-driven animal husbandry development.

The Annual Report 2024–25 of the Department of Animal Husbandry and Dairying reflects a performance-oriented and reform-driven approach towards strengthening the livestock sector as a pillar of rural livelihood and national economy. The year was marked by intensified efforts in disease control through NADCP, institutional strengthening under LDF and AHIDF, breed improvement via digital tools like INAPH and e-Pashuhaar, and real-time health surveillance using the NAH Portal. Strategic convergence with flagship schemes such as Rashtriya Gokul Mission, National Livestock Mission, and Livestock Health and Disease Control ensured comprehensive outreach. Notably, the successful digital integration of livestock databases and the scale-up of the e-GOPALA platform point towards a modernised, transparent, and data-backed delivery system. The department's commitment to doubling farmers' income, ensuring nutritional security, and promoting indigenous breeds remains evident, as it moves forward with a vision of resilient, self-reliant, and technology-enabled animal husbandry in India.

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