



India's Dairy Sector

“Anchoring Nutrition and Income Security”

Key Takeaways

1. India continues to hold **1st position** in **global milk production** and contributes nearly a **quarter** of the world's supply.
2. **Currently, dairy is the largest agricultural product in India, contributing 5 percent to the national economy and directly employing more than 8 crore farmers.**
3. Milk production rose by **63.56%** from **146.3 million tonnes** to **239.30 million tonnes in 10 years**. Per capita supply has gone up by **48%**, with more than **471 grams a day in 2023–24**.
4. In 2024-25, a total of **565.55 lakh** artificial inseminations were carried out across the country.

Introduction

*Smt. Gurvinder Kaur of Ajoli village in Rupnagar, Punjab, chose dairy as her path to progress. After receiving training from the Dairy Development Department in 2014, she started with a single Holstein Friesian cow. Holsteins are large capacious animals with colour patterns of black and white or red and white. This breed originated in Holland. With persistence and scientific practices, she expanded to 4 **Holstein Friesian** milching animals () and started*

*producing about **90 litres** of milk each day. The milk is supplied to Verka dairy and to local consumers, giving her steady income and recognition. She invested in a chaff cutter, milking machine and silage unit showing how technology can maximise profits. Silage is fermented green fodder that ensures nutritious feed for livestock year-round. Switching a promising career from a teacher to a dairy farmer, she proved that with knowledge, family support and determination, a woman farmer can build a thriving dairy enterprise and inspire many others.*



Milk is central to nutritional security, offering quality animal protein and a rich mix of essential nutrients. It is considered a near-complete food, supplying proteins, minerals, vitamins, lactose, and milk fat. Dairy products provide nourishment across all age groups, supporting growth, bone health, and active living. Packed with calcium, magnesium, potassium, and other micronutrients in readily absorbable forms, milk plays a vital role in healthy development, particularly during childhood.

India holds the **1st position in global milk production** for several years now, and contributes nearly a **quarter** of the world's supply. The dairy sector has grown into one of the strongest pillars of the rural economy and has become central to food and nutritional security. **Currently, dairy is the largest agricultural product in India, contributing 5 percent to the national economy and directly employing more than 8 crore farmers** (as per National Accounts Statistics). The sector touches more than **8 crore** rural households, many of whom are small and marginal farmers. Women play a significant role in production and collection, which makes dairy a strong driver of inclusive growth.

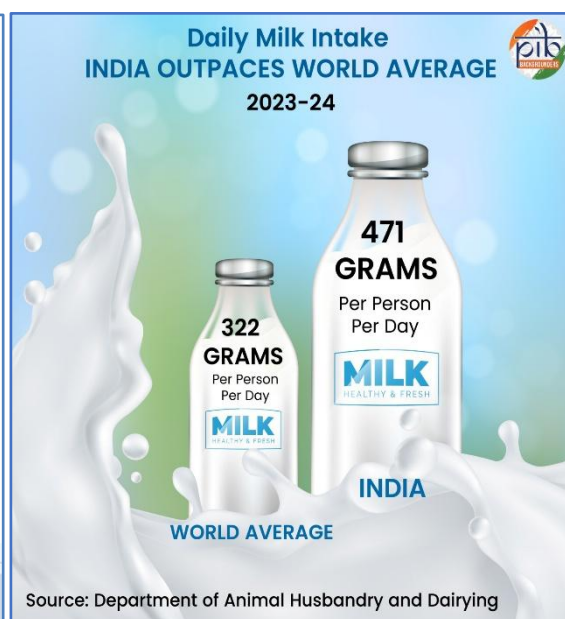
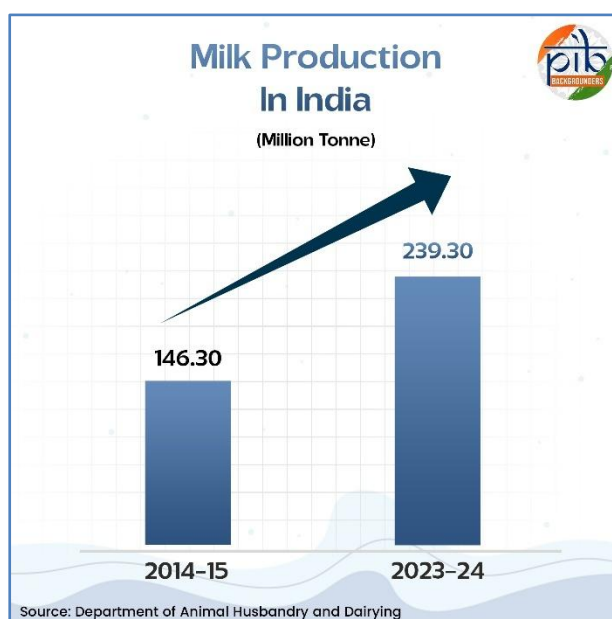
Growth of the Sector: An Overview

Overall Production

Over the past decade, India's dairy sector has shown a remarkable growth. Milk production rose by **63.56%** from **146.30 million tonnes in 2014–15** to **239.30 million tonnes in 2023–24**. This means the country has maintained an impressive annual growth rate of **5.7%** over the last 10 years. Figures from the Food and Agriculture Organization confirm that **India continues to be the largest milk producer** in the world, well ahead of countries such as the **United States, Pakistan, China and Brazil**.

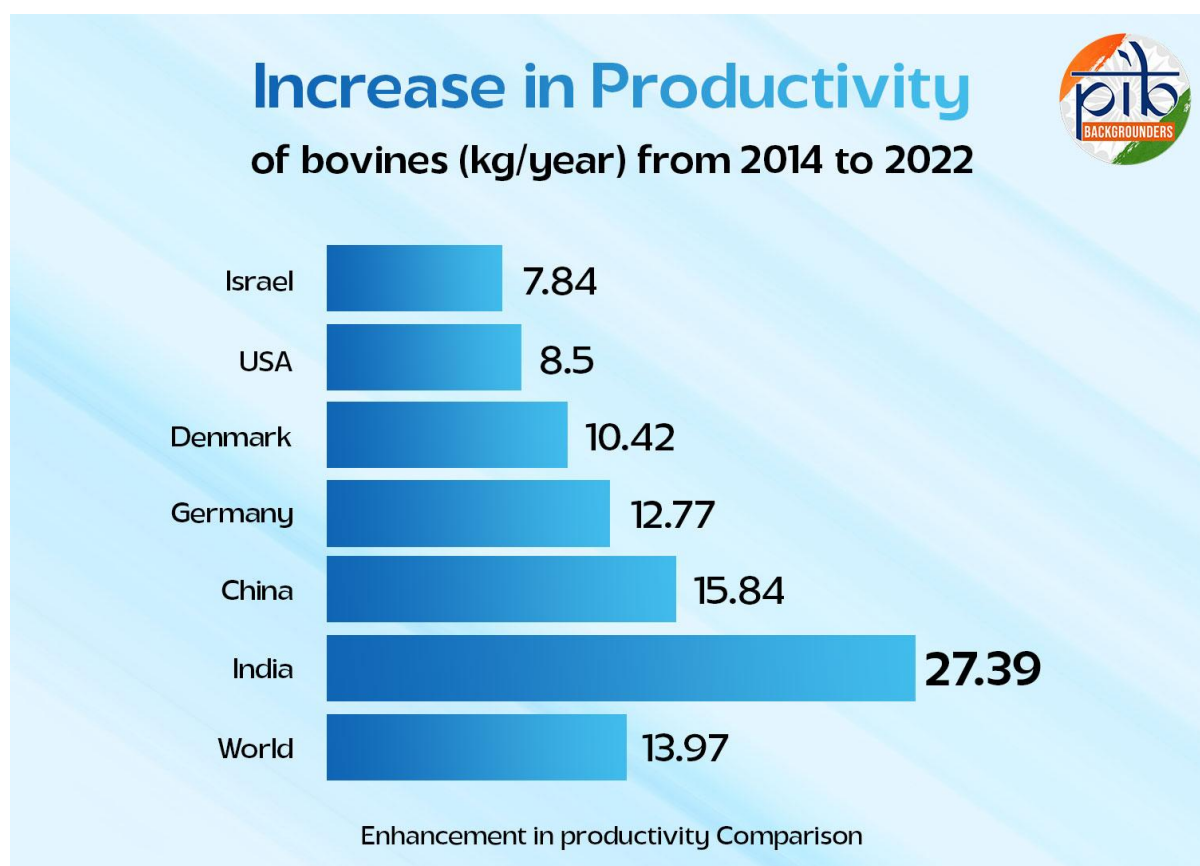
Per capita availability

The availability of milk for each person in India has risen sharply over the past decade. Per capita supply has gone up by **48%**, with more than **471 grams/person a day in 2023–24**. This is far above the world average of around **322 grams/person a day**.



Growth in Bovine Population

India's **303.76 million** bovines, which include cattle, buffalo, mithun and yak, form the backbone of both dairy production and draught power in agriculture. Sheep, with a population of **74.26 million**, and goats, numbering **148.88 million**, also play a vital role, especially in milk production in arid and semi-arid regions. Between **2014 and 2022**, India recorded a **27.39%** growth in productivity of bovines (Kg/year), the ***Highest in the World***, ahead of China, Germany and Denmark. This growth is well above the global average increase of **13.97%**.



This growth in bovine population is the result of schemes like **Rashtriya Gokul Mission** that focuses on bovine breeding, genetic upgradation, enhancing productivity of breeds. Also, under the **Livestock Health Disease Control Programme (LHDCP)**, Mobile Veterinary Units (MVUs) have been established for delivery of veterinary healthcare services including disease diagnosis, treatment, vaccination, minor surgical interventions, audio-visual aids and extension services at farmers doorstep for animals' treatment.

Further, ayurveda is being intergrated with modern veterinary practices for sustainable livestock health. Ethno Veterinary Medicine (EVM) is a cost-effective, eco-friendly option to tackle antibiotic resistance. Its use in treating bovine mastitis shows promise in reducing dependence on synthetic drugs and supporting healthier, more resilient dairy systems.

Strength of the Cooperative Dairy Network

The cooperative dairy sector in India is extensive and well organised. As of 2025, It includes **22 milk federations**, **241 district cooperative unions**, **28 marketing dairies** and **25 Milk Producer**

Organisations (MPOs). Together, they cover about **2.35 lakh** villages and have **1.72 crore** dairy farmers as members.

Women at the Heart of Dairy Development

A defining feature of India's dairy sector is the strong role played by women. Nearly **70%** of the workforce in dairy farming consists of women, and about **35%** are active in dairy cooperatives. Across the country, more than **48,000 women-led dairy cooperative societies** operate at the village level, bringing inclusive growth and empowerment to rural communities.

NDDB Dairy Services (NDS) has also supported **23 Milk Producer Organisations**, of which **16** are entirely run by women. In these, all producer directors on the boards are women, making them role models for inclusive growth in the sector. These **MPOs** also bring together nearly **1.2 million** milk producers across **35,000 villages**, making cooperatives a strong pillar of the country's dairy growth.

The impact of this transformation is visible. The **all-women Shreeja Milk Producer Organisation** received the prestigious **Dairy Innovation Award** from the **International Dairy Federation** at the **World Dairy Summit in Chicago** for its pioneering work in empowering women.

Why India Leads?

The Indian dairy sector has long been a pillar of rural growth. Its strength lies in the smallholder model that connects millions of farmers through cooperative networks. Over time, this approach has ensured steady incomes and better nutrition for households across the country. Government schemes designed around farmers have added further momentum. Support for breeding, feed management and animal health has helped raise productivity and improve quality. Training, infrastructure and market linkages have also widened opportunities for farmers. India now stands as the largest producer and consumer of milk in the world. With new technologies in breeding, nutrition and health management, the sector is ready for its next phase of growth. These advances open the way for India to take a stronger place in the global dairy value chain.

Journey of India's Dairy Revolution

The dairy journey of modern India began with the setting up of the National Dairy Development Board (NDDB) in Anand in 1965. The objective was to replicate the Anand experiment of organizing the dairy farmers of Kaira district of Gujarat into the Kaira District Cooperative Milk Producers' Union Limited, the precursor of Amul. Verghese Kurien, was made the first chairman of NDDB. **Operation Flood** was launched in 1970 with the aim of setting up Anand-pattern cooperatives in milk-producing areas across the country, from where milk collected by these cooperatives would be supplied to cities. This eventually transformed India into the world's largest milk producer. NDDB was later declared an Institution of national Importance through an Act of parliament in 1987.

*NDDB has carried forward this mission by implementing key government programmes across the country. Initiatives such as the **National Dairy Plan Phase I** and the **Rashtriya Gokul Mission** have placed farmers at the centre, with cooperation as the core principle. The **National Dairy Plan Phase I** was implemented with notable success and earned a “**Highly Satisfactory**” rating, the highest grade given to **World Bank-funded projects**.*

Timeline of Schemes in Dairy Sector



Source: Department of Animal Husbandry and Dairying

Rashtriya Gokul Mission – An Important initiative supporting Dairy Sector

The Department of Animal Husbandry and Dairying is implementing **Rashtriya Gokul Mission (RGM)** since **2014** for development and conservation of indigenous cattle and buffalo breeds, genetic upgradation of bovine population and enhancement of milk production and productivity of bovines. The revised Rashtriya Gokul Mission has been introduced in **March 2025**, to accelerate the growth of the livestock sector. It is being implemented as a Central Sector component of the Development Programmes scheme with an additional outlay of Rs. **1000 crore**, making the total allocation Rs. **3400 crore** for the 15th Finance Commission cycle from **2021-22 to 2025-26**.

The scheme continues the earlier activities of the Rashtriya Gokul Mission. It focuses on strengthening semen stations, expanding the Artificial Insemination network, and implementing bull production and accelerated breed improvement programmes through sex sorted semen etc.

With the implementation of the Rashtriya Gokul Mission and other efforts of the Government, milk production has increased by **63.56%** in the last ten years. Productivity has also increased by **26.34%** in the last ten years.

Artificial Insemination Coverage

Artificial insemination is one of the most effective technologies for improving milk production and the productivity of bovines. At present, **33%** of breedable bovines in India are covered through this method. Nearly **70%** of the animals are still serviced by scrub bulls of unknown genetic merit.

In 2024-25, a total of **565.55 lakh** artificial inseminations were carried out across the country. This marks an important step towards expanding scientific breeding practices and improving the quality of livestock.

Nationwide Artificial Insemination Programme (NAIP)

The National Artificial Insemination Programme (NAIP) under the RGM has made strong progress in recent years. Under NAIP, free AI services are being delivered at the farmers' doorstep across districts. As of August 2025, the programme has covered **9.16 crore** animals, **14.12 crores** Artificial Insemination have been performed benefitting **5.54 crore** farmers.

Advanced Reproductive Technologies

To boost productivity, **22 IVF labs** have been set up. Over **10.32 million** doses of sex-sorted semen have been produced, of which **70 lakh** doses have been used for artificial insemination. This helps farmers secure more female calves and strengthen milk output.

Multipurpose AI Technicians in Rural India (MAITRIs)

To bring breeding services closer to farmers, Multipurpose AI Technicians in Rural India, known as MAITRIs, have been introduced. These technicians are trained for three months at accredited institutes and receive grants of up to **50,000 rupees** for necessary equipment. After 3 years, they become self-reliant through the recovery of costs. Over the last 4 years, **38,736 MAITRIs** have been inducted and are now delivering services directly at farmers' doorsteps.

Progeny Testing and Breed Multiplication

Milk production is a sex-limited trait, so the genetic worth of a bull is judged by the performance of its daughters. This scientific process, called progeny testing, helps in estimating the transmitting ability of bulls.

During 2021-2024, **3,747 progeny-tested bulls** have been produced against the 5-year target of **4,111**. Alongside this, **132 breed multiplication farms** have been sanctioned to strengthen the availability of quality animals.

Future Vision: White Revolution 2.0

The launch of Standard Operating Procedure (SOP) for **White Revolution 2.0** on 19.09.2024, and the formal launch on 25.12.2024, marks a fresh push to strengthen dairy cooperatives, generate jobs and empower women. The White Revolution 2.0 initiative will be implemented for five years during 2024-25 to 2028-29. By 2028-29, milk procurement by dairy cooperatives is expected to reach **1007 lakh kg per day** from current levels. The plan includes: -

- i. Expanding the coverage by dairy cooperatives by the formation of **75,000 new Dairy Cooperative Societies**. Women farmers will be drawn into the organized dairy sector by setting up cooperatives in every uncovered village.
- ii. Strengthening of **46,422 existing Dairy Cooperative Societies**.
- iii. Embedding sustainability and circularity in the dairy sector by formation of three exclusive **Multi-State Cooperative Societies (MSCS)** to undertake the following activities: -
 - a. To supply cattle feed, mineral mixtures and other technical inputs.
 - b. To promote organic manure production and sustainable waste utilization through cooperative efforts, contributing to natural farming and a circular economy by utilization of cow dung and agricultural waste for conversion into organic fertilizers and biogas, in response to rising demand for eco-friendly soil inputs and national sustainability goals.
 - c. For Management of hides, bones and horns of fallen animals.

Conclusion

India's dairy sector is the backbone of rural livelihoods and a symbol of inclusive growth. As the largest milk producer in the world, the country has combined farmer-led cooperatives, women's participation and scientific practices to achieve remarkable progress. With the momentum of White Revolution 2.0, the sector is poised to boost productivity, expand opportunities and continue transforming rural prosperity.

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