

Livestock Entrepreneurship: A Way to Enhance Socio - Economy of the Country

Samreen Kaur*

Student (Roll No. 81) of B.V.Sc. 4th year at Khalsa College of Veterinary and Animal Sciences, Amritsar, India

ABSTRACT

Livestock enterprises play a vital role in the Indian rural economy. It provides subsistence to millions of households involved in dairy farming and also ensures supply of quality milk and its products in rural and urban areas. The approach of dairying in India has been an aid for dairy farmers including small landholders, landless workers and women. The dairy sector endows 80 million rural households with the advantages of nutrition, more income and productive family labour employment especially for women. Higher profits further depend upon the breed of milch animals, good management practices, and market demand. India is the largest milk producer (24% of world's milk production) as well as having world's largest dairy herd. Dairy Industry contributes more than 4% of India's gross domestic product (GDP) and 20 % of agricultural production. In terms of dairy products, India is not counted as an active importer or an exporter. India with more consumers, export special dairy products like casein for food processing or pharmaceuticals. As India gives importance to both buffaloes and cattle milk, which makes Indian dairy industry different from other countries. It is also suggested to include milk and milk-based products in the diet being provided through the Midday Meal Schemes for primary school children and under Poshan Abhiyan Projects to enhance the dairy sector development and reduce inequalities in the consumption pattern of dairy products in India. To meet out the increasing demand for milk products, having their importance in food and nutritional security, the Government of India should continue to focus for its persistent growth. There is further need for significant infrastructure investment in processing, chilling, cattle feed, logistics etc. for higher growth in Dairy sector. Govt. is also providing financial support under Animal Husbandry Infrastructure Development Fund (AHIDF).

*Corresponding author

Samreen Kaur, Student (Roll No. 81) of B.V.Sc. 4th year at Khalsa College of Veterinary and Animal Sciences, Amritsar, India.

Received: May 12, 2026; **Accepted:** May 19, 2026; **Published:** May 26, 2026

Keywords: Dairy Industry, Rural Economy, Food and Nutritional Security, Gross Domestic Product (GDP)

Introduction

Indian livestock sector plays an important role in the national economy and in the socioeconomic development of the country through generating rural livelihood, employment, and income generation. Major livestock products like milk and milk products, meat and eggs contribute around one-sixth of the calories and one-third of the proteins in the per capita food supplies of the world. Livestock rearing is the best insurance against the impulses of natural calamities (drought, famine etc.).

Animal husbandry is the second largest economic activity of rural India. In Arid and semi- arid regions, livestock sector ranks first in earnings to skilled, semi- skilled and unskilled populations. Growth rate of dairy @5%/ annum and poultry@ 10/ annum is acting as a growth to alleviate the rural poverty and upliftment of the rural farmers. India is the largest milk producer (24% of world's milk production) as well as having world's largest dairy herd. Dairy Industry contributes more than 4% of India's gross domestic product (GDP) and 20 % of agricultural production. If the country has to sustain economically, livestock sector has to be strengthened to enhance the income as well as nutritional requirements e.g. the availability of per capita animal protein is 10.8g whereas the requirement as per world average is 25g.

The demand for animal sourced foods (ASF) is increasing both quantitatively and qualitatively. During the past five years, the milk and meat sectors are growing at about six percent, annually. The government of India is now pegging on livestock to increase the economy from the current value of US \$ 3 trillion to US \$ 5 trillion by the year 2025. Under "Make in Rural India Initiative" NDDB will provide the financial assistance to private dairy units for processing in order to double the milk processing capacity by the year 2025, increasing the outreach in the unexplored market and improving milk quality at the milk collection centres.

Besides this Government of India is also taking measures to improve the meat and egg production through small ruminants and backyard poultry since the growth rate in meat and egg sector is more than 5 and 10 percent, respectively. The policy announced by the Prime Minister of India on decentralized food production and processing systems is a great opportunity for generation of the employment in rural India besides better lives for livestock owning farmers through promotion of micro and small entrepreneurship in livestock sector in rural India. Hence, the proposed training program is designed to share knowledge and technologies in milk, meat and egg production and processing, improving the efficiencies of livestock production systems, products making, financing, marketing and branding the products so as to promote entrepreneurship in rural livestock sector for employment generation and double the farmers income and helping the Indian

economy to become US \$ 5 trillion by the year 2025.

India, the world's second-most populous country is home to over 1.32 billion people, 512 million livestock and more than 1 billion poultry in a much-diversified ecosystem spread across 3.3 million sq. km. These interconnected system of human, animal and environment is under tremendous pressure to increase livestock production for a growing human population in our developing economy.

The last two decades have witnessed significant growth in the poultry and dairy sectors in India, mainly dominated by intensive livestock production by organized commercial farmers, cooperatives and organizations. This development in the organized and commercial livestock production sector is well supported in the supply of veterinary products and services by private companies and government policies. Such supports are good for bringing production efficiency in organized sector and livestock products (milk, meat and egg) for large population.

The Indian Dairy market is the world's fastest-growing and second-largest consumer market globally if looking at the statistics where India existed from 1991-92, with 55.6 million tonnes of milk production and 178 gram/day availability per capita but now the scenario has changed in the year 2021-22, 221.06 million tonnes milk production and per capita milk availability it has been increased 444 grams/ day. According to the DAHD Annual Report 2022-23, the cattle population in India is 193.46 followed by buffalo 109.86 number in million as for data total bovine population is 303.76 million number and the total livestock population is 536.76 million number 20th Livestock Census 2019, and the annual growth of 5.29 % respectively Milk production during the year 2020-21 and 2021-22 is 209.96 million tonnes to 221.06 million tonnes. India continues to be the largest producer of milk globally. More than 67 percent of dairy animals are owned by marginal and small farmers which is the core milk production sector in India. There is a changing lifestyle pattern, and increasing health consciousness is the main growth driver for milk and high-milk-value products in India. The high demand for dairy products

Entrepreneurship

An entrepreneur is a person who has possession of an enterprise or venture and accepts significant accountability for the inherent risks and the outcome.

The word "Entrepreneur" is derived from the French word *entrepredre*. It means 'to undertake'. The term is used to refer to anyone who undertakes the organization and management of an enterprise involving independence and risk as well as the opportunity for profit.

A broader point of view, we can define an entrepreneur as 'someone who organizes, manages, and assumes the risk of a business/enterprise'. Entrepreneurs create new ideas which leads to new businesses and new industries. Value is created by an entrepreneur through their products/ services for the customers as well as for his enterprise.

Entrepreneurship depends upon factors such as innovation, decision-making, implementation, independency, and forecasting/prediction of the future and success. It may be considered as a discipline founded on knowledge-based theory. It is as a result of complex socioeconomic, psychological, legal, technological, and other factors. It is a blend of capital, human talent, and technology;

and is a dynamic process involves risks. Entrepreneurship is applicable to both small and big businesses and to non-economic and economic activities [1].

Mostly degree of entrepreneurship is measured by three factors i.e. (1) the degree of innovativeness, (2) the degree of risk-taking, and (3) the degree of pro-activeness. One can further depict this through plotting the degree of entrepreneurship versus the frequency at which this occurs to define the entrepreneurial intensity of an organization [2].

There are two parts to entrepreneurship namely, managerial skills, which are required to initiate/ start and run a profitable venture/ business and the second is 'entrepreneurial spirit'. Both are essential and important.

Livestock Entrepreneurship

Livestock is a livelihood of the underprivileged communities in India [3]. Livestock farming has been one of the most important value-adding farming systems adopted in different countries [4]. The livestock sector has emerged as an important segment of an expanding and diversifying agricultural sector in the Indian economy [5].

Dairy processing is an emerging market in the dairy sector which is highly profitable and market-oriented. because India is the largest milk producer and has the potential to cope with the all-livestock sector.

As far as dairy entrepreneurship is concerned, development of the dairy through the application of modern science and technology will greatly contribute to improving the socio-economic conditions of rural masses by making dairy farming more productive and remunerative [6].

Livestock rearing has a significant positive impact on equity in rural areas as the distribution of livestock is more egalitarian as compared to land [7]. Cattle and buffalo rearing play an important role in improving the socio-economic condition of the rural masses by providing additional income as well as complementing agriculture. [8].

The rapidly expanding demand for livestock products offers an opportunity as well as a challenge to livestock production [9]. The occupational and family income from animal husbandry had a positive and highly significant influence on problems of livestock rearing [10]. Livestock ownership requires significant investments of household time and labor [11]. Raising small livestock and fish can improve income and nutrition [12].

Before Operation Flood

- British Rule established military dairy farms to ensure the supply of milk and butter to the colonial army.
- The first of farms were set up in Allahabad in 1913, followed by Bangalore, Ooty and Karnal.
- Artificial Insemination --- Dairy farms.
- Modernization of the dairy industry became a priority for the government after first Five-Year Plan in 1951 and it was put in place.
- The goal to provide hygienic milk to the country's growing urban population. At the outset, 'milk schemes' were set up in large cities.
- The government implemented programmes such as the Integrated Cattle Development Project (ICDP), Key Village

Scheme (KVS) and several others to stimulate milk production.

Operation Flood Programme (OFP)

- set up with the objectives to enhance milk production, increase the rural income and to ensure reasonable price to the farmers for the milk they produce.
- OFP implemented in three phases. The first phase (1970-1980) financed by the sale of 1,26,000 MT of skimmed milk powder (SMP) and 42,000 MT of butter oil gifted by the European Union (then European Economic Community – EEC) through the World Food Programme.
- India currently has 133349 village dairy cooperatives federated into 177 milk unions and 15 federations that procured on an average 25.1 million litres of milk every day.
- Village dairy cooperatives have nearly 14.11 million farmers as members (www.nddb.org).
- **The dairy sector is a significant contributor to our economy:** 4% share in the economy, the sector is the largest single agricultural commodity.
- **The dairy sector is also a significant contributor towards farmer's income:** Directly involves more than 70 million (Mn) farmers in the sector.
- The dairy industry in India was estimated to be worth INR 10 lakh crore (\$14.2 bn) in 2019.

S. No.	Species	19th Livestock Census 2012 (no. in millions)	20th Livestock Census 2019 (no. in millions)	Growth Rate (%) 2012-19	Ranking in the world population
1	Cattle	190.90	193.46	1.34	Second
2	Buffalo	108.70	109.85	1.06	First
3	Yaks	0.08	0.06	-24.90	First (includ. Mithun and Yaks)
4	Mithun	0.30	0.39	29.52	
Total Bovines		299.98	303.76	1.26	
5	Sheep	65.07	74.26	14.13	Third
6	Goat	135.17	148.88	10.14	Second
7	Pigs	10.29	9.06	-12.03	-
8	Other animals	1.54	0.79	-48.70	-
Total Livestock		512.06	536.76	4.82	

Source: Annual Report 2022-23, Department of Animal Husbandry and Dairying Ministry of Fisheries, Animal Husbandry and Dairying Government of India

- The sector has portrayed a healthy growth of 12% in value and 7% in volume over the past 5 years. The organized dairy sector is worth INR 3.1 bn and constitutes 30% of the market.
- An increasing organized sector gives way to multiple benefits for the dairy industry such as
 - Improved quality due to stringent Food Safety and Standards Authority of India (FSSAI) guidelines,
 - Increased demand in domestic and urban exports markets
 - Higher value creation by value added dairy products.
- Overall, the organized sector is expected to contribute 15-16% towards market growth in the next 5 years.
- In 1970 India was a milk deficient country with a mere production of 20 million tonnes, now developed as the world's largest milk producers with more than 160 million tonnes which accounts for 18.5 % of the global milk production.
- and began celebrating November 26 as National Milk Day in the memory Dr Verghese Kurien, the Father of India's White Revolution since 2014.
- India has about 12.7 % of the global cattle population [13].
- However, in spite of this large cattle wealth and India's position as the highest producer of milk, productivity per animal is only 987 kg/lactation as compared to the world average of 2038 kg/lactation [14].
- India's model of milk production is based on feeding crop residues and agricultural by-products and using family labour to add value to resources which otherwise have limited alternative economic value. Animal husbandry practices play a vital role in the improvement of animal productivity and livestock.
- In the advanced dairying countries, milk is produced from comparatively fewer, but high producing animals.
- In countries such as Denmark and Israel, though the total number of bovine populations has steadily declined over the past decade, the total milk production has gone up, thus pointing to increased productivity of animals.

Why Dairy Entrepreneurship is Important in India

- India ranks first in respect of cattle and buffalo, second in goat and third in sheep population in the world.
- India has joined the fervor of celebrating milk consumption

Parameters	Year (2019-20)	Year (2020-21)	CAGR % Growth
India's milk production (MMT)	198.4	209.9	5.80
World milk production (MMT)	895.9 (2019)	914.3 (2020)	2.05
India's Per capita availability (grams/ day)	406	427	5.17

Harmonisation of Standards

- NDDB and BIS have been involved in certification of Process and Products respectively.
- NDDB has been awarding 'Quality Mark' to the dairy plants of cooperatives adhering to the process standards across the dairy value chain.
- BIS has a product certification scheme for manufacturers, including dairy product processors which also ensured food safety at product level allowing licensees to use 'ISI Mark' on their products.
- Hon'ble Prime Minister Sh Narendra Modi has launched a portal and logo dedicated to the Conformity Assessment Scheme (CAS) of milk products developed by the Bureau of Indian Standards (BIS) with the help of National Dairy Development Board (NDDB). The Unified Dairy Mark was launched under the CAS, which was notified by the BIS on December 8, 2021.

Hindrance to the Development of Livestock Sector

Some of the reasons causing hindrance to the development of livestock sector are:

- Large number of non-descript animals with poor genetic productivity,
- Shortage in feed and fodder resources
- Lack of awareness of farmers on scientific management practices

Some Suggestions

- Understanding of livestock management practices followed by farmers in a region is necessary to identify the strengths and weaknesses of the rearing systems and to formulate suitable intervention policies
- Providing Five Freedoms in Animal Housing:
 - I. Dairy animals should have freedom from hunger and thirst by provision of ready access to fresh water and diet to maintain full health and vigour.
 - II. They should have freedom from discomfort by providing an appropriate environment including shelter and a comfortable resting area.
 - III. Animals should have freedom from pain, injury or disease by prevention or rapid diagnosis and treatment.
 - IV. Freedom should be given to animals to express normal behaviour by providing sufficient space, proper facilities and company of the animal's own kind.
 - V. They should have freedom from fear and distress by ensuring conditions and care which avoid mental suffering.
- In order to prevent the adverse effects of climate proper housing for dairy animals becomes necessary. Thermal humidity index (THI) under animal houses may exceed moderate and severe heat stress conditions. Severe stress to dairy animals may drastically deteriorate their physiological status. Proper animal housing facilitates optimal health, production and welfare of dairy animals.
- In addition to shelter provision, proper roofing material; roof angle; bedding material; ventilation; micro environment; structure for proper manger and watering facility; gaseous and microorganism load; temperature and constructing materials should be kept in mind. There may be several types of animal

housing systems that suit to different climatic conditions e.g. Open housing facilities are suggested for tropical type of climate.

- It is also suggested to include milk and milk-based products in the diet being provided through the Midday Meal Schemes for primary school children under Poshan Abhiyan Projects to enhance the dairy sector development and reduce inequalities in the consumption pattern of dairy products in India.
- Almost all regions of India are suitable for setting up dairy farming businesses. The ease of doing business facilities in India:
 - Investor friendly incentives
 - Highly skilled manpower pool
 - Proactive Government policies
- **Automated Machinery:** Autonomous systems can work in the field of Dairy Farming with minimal human intervention for increasing productivity. In case of livestock, Pedometer allows monitoring of both walking and milking activity. Pedometer also measures the lameness earlier than the appearance of clinical signs. Automatic Milking Machine can also identify colour, impurities and quality of milk.
- **Artificial Intelligence:** Artificial Intelligence can play a vital role in precision livestock farming, disease management, animal behaviour analysis, and genetic improvement

Artificial Intelligence can also help for better Management in Dairy Farming

Machine Learning	Electronic Sensor	Electronic Data Processing
<ul style="list-style-type: none"> • Milk Machine • Automated Feed Pusher • Manure Removal Robot 	<ul style="list-style-type: none"> • Animal Tracking System • Ruminant Sensor • Activity Sensor • Electronic Ear Tag • Neck Collar Sensor • Camera Monitoring • Concentrate Feeding Station 	<ul style="list-style-type: none"> • Disease detection • Oestrus detection • Data transfer into herd management system • Concentrate feed allocation depending on milk yield

- Participating in different Govt Schemes: There is further need for significant infrastructure investment in processing, chilling, cattle feed, logistics etc. for higher growth in Dairy sector. Different Government's financial supporting schemes like Animal Husbandry Infrastructure Development Fund (AHIDF) and National Programme for Dairy Development (NPDD) are very fruitful for dairy entrepreneurs.
- It is also suggested to include milk and milk-based products in the diet being provided through the Midday Meal Schemes for primary school children and under Poshan Abhiyan Projects to enhance the dairy sector development and reduce inequalities in the consumption pattern of dairy products in India

- **Developing Strategies to Link Livestock Farmers to Market:** There is a need to develop strategies for linking livestock farmers with markets, e.g.
 - Creating market infrastructure – Animal markets, Slaughter houses
 - Organizing the farmers – FPOs, FPCs, Cooperatives, Contract
 - Empowering them with market related information and skills – Media, Portals, Exposure to successful systems.
- Developing livestock entrepreneurship temperament amongst students and farmers through providing trainings, linking with Govt Schemes, and showcasing successful stories.

Some successful Entrepreneurships in Dairy

1. **Gujarat Co-operative Milk Marketing Federation (Amul):** Amul, the company that was formed in 1946 by Dr Kurien himself is a brand managed by a cooperative body, the Gujarat Co-operative Milk Marketing Federation Ltd (GCMMF), which today is jointly owned by 3.6 million milk producers in Gujarat. The company which became the largest food brand in India and has ventured into markets overseas.
2. **Milk Mantra:** The Odisha-based startup dairy firm started 13 years ago and has a strong presence in eastern India. The company boasts of one processing unit in Konark in Odisha and an extended processing unit near Mumbai.
3. **Mother Dairy:** Mother Dairy, which was established in 1974 under the Operation Flood Program, is now a subsidiary company of a wholly owned company of the National Dairy Development Board (NDDB).
4. **Parag Milk Foods:** Founded in 1992, Parag is one of the India's largest Private dairy products manufacturers and is located in the milk belts at Manchar, Maharashtra and Palamner, Andhra Pradesh in India. he companies also has its own dairy farm called Bhagyalaxmi, where it hosts 3,000 specially bred Holstein Freisens cows and equipped with one of India's first Rotary Parlors, which has mechanized the whole milking process and in turn ensured high quality and hygiene.
5. **Cowboys.desi:** Cowboys is the retail arm of Trunks and Roots, a company dedicated to dairy activities and allied agriculture. The company provides pure untouched cow milk along with many other organic products. Founded by 28-year-old Aalekh Agarwal who got his inspiration to start the brand after witnessing manipulation and malpractices of food products in the market, Cowboys delivers milk to consumers' doorstep.

References

1. Jayawarna D, Jones O, Macpherson A (2015) Entrepreneurship, innovation and business growth. Edward Elgar Publishing 26-29.
2. Morris MH, Kuratko DF, Covin JG (2008) Corporate entrepreneurship & innovation: Entrepreneurial development within organizations (2nd ed.). Cengage Learning 35-46.
3. Rangnekar S (2006) Livestock in the livelihoods of the underprivileged communities in India: A review. ILRI (International Livestock Research Institute) 98-104.
4. Khan MS, Iqbal A (2008) Livestock production and its role in economic development. University of Agriculture Faisalabad 22.
5. Singh Khushpreet, Ravdeep Singh, YS Jadoun, Bharti Deshmukh, SK Kansal (2020) Role of livestock in Indian economy - A review. International Journal of Current Microbiology and Applied Sciences 9: 432-436.
6. Chandraker KP, AK Oraon, J Sinha, Yadav A (2019) Case

- study of an entrepreneur involved in livestock farming. The Pharma Innovation Journal 8: 181-184.
7. Ali J (2007) Livestock sector development and implications for rural poverty alleviation in India. Livestock Research for Rural Development 19: 156-230.
 8. Kalash P, Rathore RS, Kumar M (2009) Livelihood improvement of farm women through cattle and buffalo rearing in Jhunjhunu District of Rajasthan. International Journal of Rural Studies 16: 39-41.
 9. Birthal PS, Jha AK (2005) Review on emerging trends in India's livestock economy: Implications for development policy. The Indian Journal of Animal Sciences 75: 150-225.
 10. Kumar S, Pareek D, Singh F (2019) Determinants of problems of tribal livestock farmers. Journal of Krishi Vigyan 7: 194-198.
 11. Dumas SE, Kassa L, Young SL, Travis AJ (2018) Examining the association between livestock ownership typologies and child nutrition in the Luangwa Valley, Zambia. PLOS ONE 13: 0191339.
 12. Blackmore I, Lesorogol C, Iannotti L (2018) Small livestock and aquaculture programming impacts on household livelihood security: A systematic narrative review. Journal of Development Effectiveness 10: 197-248.
 13. Smith AB (2019) Title of the summary or report. Publisher 35.
 14. Vet Extension (2024) Livestock production statistics of India - 2024. Retrieved from <https://www.vetextension.com/livestock-production-statistics-of-india-2024/>.

Copyright: ©2026 Samreen Kaur. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.