

EMPOWERING RURAL INDIA THROUGH DAIRY: ROLE OF YOUTH AND WOMEN IN SHAPING INDIA'S DAIRY FUTURE

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DOI: <https://doi.org/10.5281/zenodo.15705785>

ABSTRACT

Dairy farming in India has evolved into a powerful tool for rural empowerment, offering consistent income, nutritional support, and community resilience. With India leading global milk production, the sector holds immense potential for smallholder farmers and especially rural women, who form the backbone of livestock care. Cooperative models such as Amul have demonstrated how structured milk marketing can drive economic inclusion. Veterinary support, breed improvement, and integration of modern technologies are further enhancing productivity and animal welfare. This article explores how dairy farming not only boosts rural livelihoods but also strengthens veterinary engagement, contributing to sustainable development and food security in India.

KEYWORDS: Rural livelihoods, Women empowerment, Nutrition security, Dairy cooperatives, Veterinary interventions.

INTRODUCTION

In the heart of rural India, where agriculture remains a lifeline, dairy farming has emerged as a powerful tool for empowerment, especially among smallholder farmers and women. More than just a glass of milk, the dairy sector provides income, nutrition, and stability to millions across the country. As India celebrates its leadership in global milk production, the role of dairy farming in shaping rural progress has never been more relevant. In villages across the country, cows and buffaloes are not just livestock—they are financial assets, nutrition providers, and sources of social dignity. Dairy farming offers daily returns and has proven more resilient than many crop-based livelihoods, especially for marginal and landless farmers. Veterinarians and animal health workers play a vital role in supporting this ecosystem. From disease prevention and reproductive management to fodder advice and vaccination drives, veterinary services directly impact productivity and animal welfare. Moreover, women—who account for over 70% of labor in the dairy sector—are gaining financial independence and leadership through dairy cooperatives and self-help groups.

In this article, we discuss how dairy farming empowers rural India, the role of veterinary science in sustaining it, and how innovation, policy, and grassroots participation are shaping the future of India's dairy economy.

DAIRY: THE BACKBONE OF RURAL LIVELIHOODS

India is the largest milk producer in the world, contributing over 23% of global milk production (FAO, 2022). Rural households, particularly those with small landholdings or no land at all, rely heavily on dairy as a daily source of income. Unlike seasonal crops, milk provides year-round returns, making it a dependable source of livelihood. In India's rural economy, dairy farming is not merely an agricultural activity, it is a lifeline. It sustains over 80 million rural households, most of whom own just one or two milch animals. Unlike crop farming, which is seasonal and risk-prone, dairy provides a steady, daily income, making it one of the most reliable livelihood options for smallholder and marginal farmers.

Milk production requires low initial investment, utilizes family labor efficiently, and ensures quick returns, especially when linked to a

cooperative or local milk collection centre. The economic resilience provided by dairy farming has proven crucial during crises, such as droughts or the COVID-19 pandemic, when income from crops or labor dwindled but milk continued to flow. Additionally, the integrated nature of dairying with links to fodder cultivation, veterinary services, feed supply, and local markets, it creates a web of rural employment and entrepreneurship. It supports not only farmers, but also paravets, veterinarians, AI technicians, transporters, and processors, thus generating a multiplier effect across the rural economy.

As a source of both income and nutrition, dairy farming forms the bedrock of rural sustenance, deserving focused investment, policy support, and veterinary extension to unlock its full potential for inclusive growth.

WOMEN AT THE FOREFRONT

In the quiet early hours of rural India, it is often women who begin the day with the sound of milking pails and the rustle of fodder. Across the country, women are not just participants in dairy farming, they are leaders, caregivers, and managers of the livestock economy. Over 70% of the labor force in India's dairy sector comprises women (NDDDB, 2023). From feeding and milking animals to administering basic health care, women handle critical responsibilities that sustain dairy production. Yet, much of this work goes unrecognized and unpaid, despite its direct impact on family income and food security. Dairy cooperatives and self-help groups (SHGs) have begun to change this narrative. By promoting collective ownership, access to credit, training, and fair market linkages, these models have enabled women to earn independently and gain a voice in household and community decision-making.

For instance, in states like Bihar, Rajasthan, and Gujarat, women-led dairy cooperatives have not only improved milk yields and incomes but also empowered women to invest in education, sanitation, and healthcare. Programs like the National Programme for Dairy Development (NPDD) and Rashtriya Mahila Kisan Diwas further emphasize the centrality of women in livestock development.



Veterinary professionals and extension workers play a vital role in this transformation by offering training in animal husbandry, disease prevention, and value-added dairy practices, specifically tailored for women farmers. Investing in the skills and leadership of rural women in dairying is not just about equity, it is about enhancing productivity, improving livelihoods, and building resilient rural communities.

DAIRY COOPERATIVES: A MODEL FOR SUCCESS

The Amul model, built on a cooperative framework, revolutionized Indian dairying by eliminating middlemen and giving fair prices directly to producers. Such cooperatives ensure that farmers receive a major share of the consumer's rupee, while also offering veterinary care, feed, and training.

As of 2023, India has over 1.9 lakh dairy cooperative societies with more than 17 million farmer members (DAHD Annual Report, 2023). These cooperatives not only enhance income but also foster community development and social equity. Cooperatives like MILMA in Kerala, Sudha in Bihar, and Aavin in Tamil Nadu have become household names by linking rural milk producers directly with urban markets. Importantly, they also serve as platforms for delivering veterinary care, artificial insemination, vaccination programs, and training on fodder management.

The role of veterinarians and para-vets in this model is indispensable. Regular deworming, mastitis management, reproductive health care, and nutritional guidance help increase milk yield, improve animal welfare, and reduce economic losses from preventable diseases. Mobile veterinary units and tele-vet services are now being introduced in several states to extend last-mile services. In addition, public-private partnerships (PPP) and government schemes like the National Animal Disease Control Programme

(NADCP) and Rashtriya Gokul Mission are enhancing breed improvement and disease eradication efforts.

NUTRITION AND FOOD SECURITY: MILK AS A PILLAR OF RURAL HEALTH

Milk is not just an economic commodity—it is a nutritional powerhouse, providing essential proteins, calcium, vitamins, and fats crucial for growth and development. In rural India, where access to balanced diets is often limited, dairy products serve as an affordable and readily available source of nutrition security, particularly for children, pregnant women, and the elderly. Regular milk consumption has been linked to lower rates of malnutrition, stunting, and anemia, issues that still affect a significant portion of the rural population (NFHS-5, 2021). Programs like the Mid-Day Meal Scheme and Integrated Child Development Services (ICDS) have incorporated milk and milk-based products to address these concerns effectively. Beyond household consumption, dairy farming ensures food sovereignty; families can meet their nutritional needs from their own livestock before selling surplus milk. This dual role of milk, as food and income, makes dairying a vital contributor to both economic and dietary stability in villages.

Furthermore, surplus milk is often converted into curd, ghee, buttermilk, or paneer, which not only improves shelf life but also enhances diet diversity. Women's self-help groups and rural entrepreneurs have increasingly engaged in value-added dairy processing, further contributing to family nutrition and community-level food security. In the larger context of national food planning, the dairy sector plays a central role in achieving the United Nations Sustainable Development Goals (SDGs), particularly SDG 2: Zero Hunger and SDG 3: Good Health and Well-being.

TECHNOLOGY AND YOUTH INVOLVEMENT: DRIVING THE FUTURE OF DAIRYING

With nearly 65% of India's population under 35, youth are key to transforming the dairy

sector. Tech-savvy and entrepreneurial, they are reshaping rural livelihoods through digital tools and innovation. Apps like e-Gopala provide real-time veterinary support, breeding records, and market insights. Automated milking machines, chilling units, and solar-powered equipment are now accessible via government schemes, improving efficiency and hygiene. Youth-led dairy-tech startups are introducing IoT livestock trackers, AI heat detectors, and blockchain-based milk traceability, bringing modern solutions to age-old practices. Training programs through KVKs, Rural Livelihood Missions, and Rashtriya Gokul Mission are equipping young farmers with essential skills. By blending tradition with technology, India's youth are making dairying smarter, more profitable, and future-ready.



CHALLENGES AND THE ROAD AHEAD

Despite its successes, the sector faces challenges like fodder scarcity, low productivity, and climate change impacts. Continued investment in breed improvement, cold chain infrastructure, and training programs is essential.

CONCLUSION

Dairy farming in rural India is more than just an economic activity—it's a catalyst for empowerment, equity, and sustainable development. On this World Milk Day, let us celebrate the silent revolution that dairy farming has brought to our villages and recognize the farmers, especially women, who keep our country nourished, one drop at a time.

REFERENCES

- FAO. (2022). *FAOSTAT – Milk Production Data*. Food and Agriculture Organization of the United Nations.
- NDDDB. (2023). *National Dairy Development Board – Dairy Statistics*.

Department of Animal Husbandry & Dairying (DAHD). (2023). *Annual Report 2022–23*. Ministry of Fisheries, Animal Husbandry & Dairying, Govt. of India.
Rashtriya Gokul Mission. (2022). <https://dahd.nic.in/rashtriya-gokul-mission>
Amul India. (2023). <https://amul.com>

Cite this article:

Futarmal Longesha*, Sarjna Meena, Ganga Devi, Deepika. (2025). Empowering rural india through dairy: role of youth and women in shaping india's dairy future. *Vet Farm Frontier*, 02(05), 57–60. <https://doi.org/10.5281/zenodo.15705785>

