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An analytical review of White Revolution 2.0's contribution for strengthening dairy farmers towards Viksit Bharat @2047

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Abstract

The cooperative dairy movement, spearheaded by the White Revolution (Operation Flood), has played a transformative role in India's rural economy by enhancing farmer incomes, ensuring food security, and promoting inclusive growth. This review paper examines the evolution, impact, and future prospects of dairy cooperatives in India, with a special focus on their contribution towards achieving the vision of Viksit Bharat @2047. Drawing upon recent literature, policy documents, and empirical data, the study highlights the role of cooperatives in strengthening rural livelihoods, empowering women, and fostering sustainable dairy development. It also discusses emerging initiatives such as White Revolution 2.0 and outlines policy recommendations.

Keywords: White Revolution, dairy cooperatives, operation flood, rural development, Viksit Bharat 2047

1. Introduction

India's dairy sector is one of the largest in the world, contributing significantly to agricultural GDP and rural livelihoods. The success of this sector is largely attributed to the cooperative movement initiated during the White Revolution, led by Dr. Verghese Kurien. The White Revolution transformed India from a milk-deficient country into the largest milk producer globally, with production exceeding 230 million tonnes in 2022-23. This transformation was achieved through a decentralized, farmer-centric cooperative model that eliminated intermediaries and ensured fair pricing (Sharma, 2023) ^[10]. Today, the dairy sector supports over 8 crore people and contributes substantially to rural income and employment. With the vision of Viksit Bharat @2047, the dairy cooperative model is being reimagined to achieve sustainable and inclusive growth (Malik *et al.*, 2024) ^[6].

Gulati and Juneja, 2023 ^[4] concluded that White Revolution 2.0 strengthens dairy farmers towards Viksit Bharat @2047 by targeting a 50% increase in milk procurement (660 to 1,007 LKgpD by 2029) via 75,000 new village cooperatives, boosting income for 8 crore farmers. It focuses on productivity via genetic improvement (IVF/ET) and formalizing women-led (70% workforce) dairy value chains.

2. Key Contributions to Strengthening Dairy Farmers **Institutional Strengthening & Expansion**

The initiative aims to set up 75,000 new Dairy Cooperative Societies (DCS) in uncovered, particularly in rural and remote areas, strengthening 46,422 existing societies. This increases formal, structured procurement, reducing dependence on middlemen and ensuring fairer prices for producers. Technological & Genetic Advancement: Focus on increasing per-animal productivity through crossbreeding, sex-sorted semen, and Embryo Transfer Technology (ET) under the Rashtriya Gokul Mission. This reduces input costs (feed/fodder) while improving yield, crucial for farmer profitability.



Fig 1: Key Indicators of Progress in India's Dairy Sector (2023–25)

Empowerment of Women farmers: With women constituting approx. 70% of the dairy workforce, White Revolution 2.0 integrates them into formal cooperatives, improving their decision-making power and income security (Scholten, 2015) ^[9].

Financial inclusion: Implementation of RuPay Kisan Credit Cards for dairy farmers and installation of micro-ATMs in cooperative societies enhances direct financial access and digital literacy.

Value addition: Focus on encouraging farmers to produce high-margin products like cheese and yogurt (20% margins vs. 3-5% for raw milk) to diversify income streams.

3. Strategic alignment with Viksit Bharat @2047

Nutritional security: Elevating per capita milk availability (already at 471g/day) to combat malnutrition, enhancing human capital for a developed India.

Sustainability: Promoting climate-smart dairy farming to create a resilient rural economy.

Inclusive growth: By targeting small and marginal farmers and women, it ensures growth is equitable, strengthening the economic backbone of rural India.

4. Challenges and Focus areas

Productivity gaps: Addressing low productivity in certain regions through better fodder management and health services.

Infrastructure: Strengthening cold chain logistics to reduce spoilage and improve quality.

Input Costs: Managing rising costs of cattle feed to ensure competitive pricing.

White Revolution 2.0 acts as a comprehensive, technology-driven, and inclusive strategy designed to turn the dairy sector into a high-productivity, sustainable pillar of the rural economy, essential for achieving Viksit Bharat by 2047.

5. White Revolution 2.0: A Step towards Viksit Bharat @2047

5.1 Objectives

The Government of India launched White Revolution 2.0

(2024) to:

- Increase milk procurement by 50%
- Expand cooperative coverage
- Improve infrastructure

5.2 Key targets

- Increase procurement from 660 lakh kg/day to 1007 lakh kg/day by 2028-29
- Establish 75,000 new dairy cooperatives
- Strengthen existing cooperative societies

5.3 Focus areas

- Digital dairy systems
- Genetic improvement of livestock
- Women-led cooperatives
- Sustainability and circular economy

6. Role in achieving Viksit Bharat @2047

The cooperative dairy model aligns strongly with India's long-term development goals:

6.1 Inclusive growth

- Integrates small and marginal farmers
- Reduces rural inequality

6.2 Atmanirbhar Bharat (Self-Reliance)

- Strengthens domestic production
- Reduces import dependency

6.3 Sustainable development

- Promotes organic manure and biogas production
- Encourages climate-resilient practices

6.4 Digital transformation

- Adoption of automation and data-driven systems
- Improved efficiency and transparency

7. Conclusion

The White Revolution and cooperative dairy movement

have transformed India's rural economy by empowering farmers, enhancing food security, and promoting inclusive growth. As India moves towards Viksit Bharat @2047, strengthening dairy cooperatives through innovation, infrastructure, and policy support will be crucial. The success of White Revolution 2.0 will determine the future trajectory of India's dairy sector.

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