
Nutrition and Developed India 2047: Nursing the Future

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Abstract

Nutrition is the foundation of human development and national progress. In India's vision of becoming a Developed Nation by 2047, nutrition emerges as a vital driver of health, productivity, and economic growth. This paper explores the significance of nutrition from a Home Science perspective, focusing on its role in improving community health, empowering women, enhancing food security, and supporting sustainable development. It reviews national initiatives such as Poshan Abhiyaan, Mid-Day Meal Scheme, National Food Security Act, and Eat Right India, and discusses innovations in nutrition technology, policy integration, and behavioural change communication. The study concludes that a nutritionally secure population is essential for realizing the Viksit Bharat @ 2047 goals of inclusivity, sustainability, and resilience.

Keywords: Nutrition, Home Science, Developed India 2047, Sustainable Development, Poshan Abhiyaan, Women Empowerment, Food Security, Health, Community Nutrition, India Vision 2047

Introduction

Nutrition is central to the growth, well-being, and productivity of individuals and societies. A nation's ability to achieve sustainable development is directly linked to the nutritional health of its citizens (WHO, 2022). India's vision of Viksit Bharat 2047—a self-reliant, inclusive, and developed nation—requires not only economic advancement but also a nutritionally empowered population. The Home Science discipline provides a scientific foundation for achieving this goal by integrating food science, human physiology, public health, and community welfare. Through applied nutrition education and community outreach, it addresses both micro-level dietary behaviours and macro-level policy needs (Kumar & Singh, 2021). In India, where malnutrition and lifestyle diseases coexist, ensuring nutrition security is a multifaceted challenge. The National Family Health Survey (NFHS-5, 2021) indicates that 35.5 percent of children under five remain stunted, while urban obesity is increasing rapidly. These trends underline the urgency of developing holistic, sustainable nutrition strategies that combine education, access, and innovation.

2. Nutrition as the Basis of National Development

Nutrition is both an outcome and a determinant of development. A healthy population enhances workforce productivity, reduces healthcare costs, and fosters educational attainment. The Global Nutrition Report (2021) estimated that every dollar invested in nutrition yields up to sixteen dollars in economic returns. From a Home Science standpoint, nutrition serves as the bridge between scientific knowledge and human welfare. Nutrient adequacy affects not only physical growth but also cognitive development, thereby influencing national human capital. Malnutrition, in contrast, limits learning capacity, increases morbidity, and perpetuates poverty cycles (World Bank, 2022). The pursuit of Developed India 2047 demands that nutrition be viewed as a strategic investment in the nation's future rather than merely a social welfare concern.

3. India's Nutritional Landscape

3.1 Historical Context

Following independence, India struggled with widespread food scarcity. The Green Revolution of the 1960s increased grain production, achieving self-sufficiency in calories but not in balanced nutrition (Swaminathan,

2018). Over time, policy priorities shifted toward combating hidden hunger—deficiencies of essential vitamins and minerals.

3.2 Current Challenges

India's nutritional profile reveals stark contrasts. The Global Hunger Index (2023) ranks India 111th of 125 countries. Despite improvements in food availability, dietary diversity remains low. Iron-deficiency anaemia affects 57 percent of women aged 15–49 and 67 percent of children aged 6–59 months (NFHS-5, 2021). Meanwhile, obesity and diabetes are increasing among urban and affluent groups, illustrating a dual burden of malnutrition (Popkin, 2020). Addressing these complex issues requires the integration of agriculture, health, education, and social welfare—a principle well rooted in Home Science.

4. Role of Home Science in Promoting Nutrition

Home Science integrates applied nutrition, family resource management, and community development. It equips individuals, particularly women, with practical skills to ensure healthy food choices and sustainable consumption.

4.1 Nutrition Literacy and Behaviour Change

Nutrition education fosters awareness about balanced diets, portion control, and meal planning. Home scientists use behavioural change communication (BCC) methods—demonstrations, visual aids, and participatory learning to translate scientific facts into daily habits (Kumar & Singh, 2021). These approaches align with Poshan Abhiyaan's Jan Andolan model, which treats citizens as active participants in nutritional transformation.

4.2 Community Nutrition Interventions

Community engagement is central to Home Science. Nutrition camps, self-help group training, and school-based health programs create grassroots awareness. In rural areas, home scientists promote kitchen gardens, food preservation, and value-added products to ensure year-round food security (Nair, 2022). Such micro-level initiatives support macro-level national goals of Atmanirbhar Bharat (self-reliant India).

5. Policy Framework Supporting Nutrition in India

5.1 Poshan Abhiyaan: Launched in 2018, Poshan Abhiyaan (National Nutrition Mission) is India's flagship program to reduce stunting, wasting, and anaemia among women and children. It adopts a convergent approach linking ministries of Health, Women and Child Development, and Education. The mission's use of technology, including the Poshan Tracker app, enhances monitoring and accountability (Ministry of WCD, 2022).

5.2 Integrated Child Development Services (ICDS): Since 1975, ICDS has provided supplementary nutrition, health check-ups, and preschool education through Anganwadi centres. It targets the "first 1,000 days" of life a critical period for preventing malnutrition and ensuring cognitive development (Sinha & Agarwal, 2020).

5.3 Mid-Day Meal Scheme: Renamed PM POSHAN in 2021, the Mid-Day Meal Scheme provides cooked meals to schoolchildren, enhancing both nutrition and attendance rates. Studies show improved micronutrient intake and learning outcomes where the scheme is effectively implemented (FAO, 2022).

5.4 National Food Security Act (2013): The NFSA guarantees subsidized grains to nearly two-thirds of India's population. However, experts emphasize the need to complement calorie sufficiency with micronutrient diversity through pulses, millets, and fortified foods (FAO, 2023).

5.5 Eat Right India and Millets Mission : The Eat Right India movement encourages safe, healthy, and sustainable diets. Similarly, the International Year of Millets (2023), led by India, revived interest in traditional grains such as ragi and jowar that are rich in fiber, minerals, and climate resilience (FAO, 2023).

6. Nutrition, Women, and Child Development

Women's nutrition influences family and community well-being. Malnourished mothers are more likely to give birth to low-birth-weight infants, perpetuating intergenerational malnutrition (UNICEF, 2022). Home Science education empowers women by providing knowledge in meal planning, child care, and household resource management. Programs like Saksham Anganwadi and Kuposhan Mukh Bharat highlight women's central role in nutrition governance. Women's self-help groups are vital agents of change—producing fortified foods, managing local kitchens, and promoting breastfeeding and complementary feeding practices. Such community-based leadership contributes directly to Developed India 2047 goals of gender equity and health for all.

7. Technological Innovations and Sustainable Nutrition

Technological innovation is transforming nutrition monitoring and delivery. Mobile-based applications track dietary intake, while artificial intelligence aids policy planning. Digital platforms like Poshan Tracker and Anaemia Mukh Bharat Dashboard enable real-time assessment (NITI Aayog, 2023).

Food technology research within Home Science departments focuses on fortification iron, iodine, vitamin D and on developing eco-friendly packaging and minimal-waste processing methods. These innovations reduce nutrient loss and environmental impact. Sustainability in nutrition also includes encouraging plant-based diets, reducing food waste, and supporting local food systems all aligned with SDG 12: Responsible Consumption and Production.

8. Nutrition and Sustainable Development Goals (SDGs)

India's nutrition agenda directly contributes to multiple SDGs:

- i. **SDG 2: Zero Hunger** – ending all forms of malnutrition.
- ii. **SDG 3: Good Health and Well-being** – reducing mortality and disease through adequate diets.
- iii. **SDG 5: Gender Equality** – empowering women as change agents.
- iv. **SDG 12: Sustainable Consumption** – promoting responsible food production.

Home Science education integrates these goals into practice through curriculum innovation, community projects, and entrepreneurship. By linking local knowledge with scientific methods, it ensures both nutrition security and environmental sustainability.

9. Challenges and Gaps

- i. **Persistent Malnutrition:** Despite comprehensive programs, malnutrition persists due to poverty, low literacy, and inadequate sanitation. Regional disparities—especially in tribal and remote areas continue to hinder progress.
- ii. **Policy Convergence:** Effective nutrition improvement requires convergence between health, education, agriculture, and social justice ministries. Fragmented implementation often limits impact (World Bank, 2022).

- iii. Data and Monitoring:** Reliable data are essential for targeted interventions. Strengthening nutritional surveillance and ensuring transparent evaluation systems will enhance accountability.
- iv. Climate Change and Food Systems:** Climate variability threatens crop yields and food diversity. Climate-smart agriculture and the promotion of resilient crops such as millets and pulses are critical for future nutrition security.
- v. Awareness and Behavioural Barriers:** Cultural preferences and misinformation often impede dietary change. Continuous community-based education by home scientists remains crucial for long-term impact.

10. Future Directions: Nutrition for Developed India 2047: Achieving Developed India 2047 demands integrating nutrition across all sectors. Key strategies include: **(i) Strengthening Home Science Education:** Updating curricula to include public health nutrition, sustainable diets, and digital nutrition tools. **(ii) Promoting Local Food Systems:** Encouraging farm-to-fork approaches and the use of indigenous ingredients. **(iii) Investing in Women's Nutrition Entrepreneurship:** Supporting small-scale enterprises producing fortified foods or local supplements. **(iv) Scaling Nutrition Awareness:** Utilizing mass media, social platforms, and school programs to normalize healthy eating habits. **(v) Expanding Research and Innovation:** Encouraging universities and industries to collaborate on food fortification, bio-fortified crops, and sustainable packaging.

By aligning scientific knowledge with community participation, India can create a resilient, nutritionally empowered population ready to drive national development.

11. Conclusion

Nutrition is the invisible infrastructure of development. As India moves toward its centenary of independence in 2047, achieving a developed status will depend not only on economic growth but also on the health and vitality of its citizens. Home Science offers a holistic framework to connect food, health, and sustainability. Its integration into education, community outreach, and policy planning ensures that nutrition becomes everyone's responsibility from households to national institutions.

A Viksit Bharat will thus be one where no child suffers from hunger, no woman from anaemia, and no community from dietary neglect. By investing in nutrition today, India will indeed be nursing the future a future that is healthy, equitable, and self-reliant.

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