



# Food and nutritional security in India

Solutions to bring zero hunger, ensure food and nutritional security



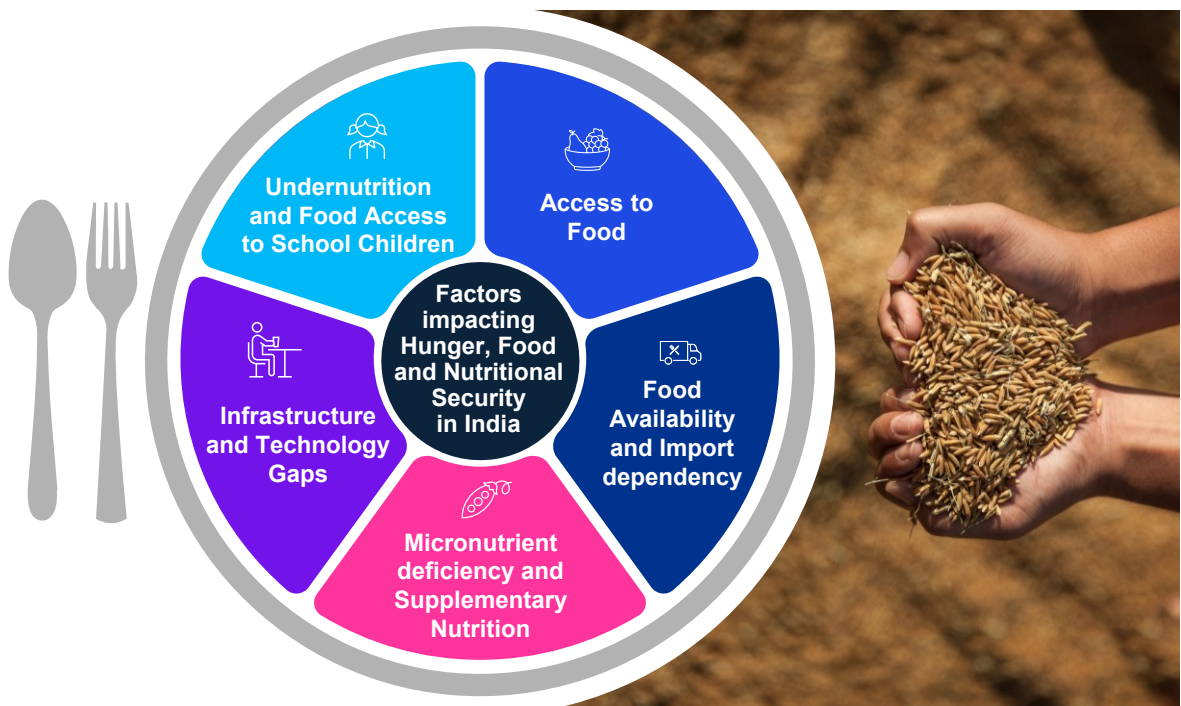
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The topic of food security has been at the forefront of Indian public policy since the eve of its independence. Even though India holds strong position in food production and export markets, there are problems in providing access to food and balanced nutrition to all. Global Hunger Index (GHI) report of 2024 (where India ranks 105th among 127 countries) and State of Food Security and Nutrition in the World (SOFI) report from UN over 19.46 crore (~13.4 per cent) people are chronically undernourished in India reflects the seriousness of the food insecurity, malnutrition, and hunger. Addressing food insecurity, malnutrition, and hunger requires a multi-scale, multi-level, and multi-stakeholder approach across inter-linked segments such as agriculture and public food distribution.

## Undernutrition

India's GHI score has improved from 29.3 in 2016 to 27.3 in 2024<sup>3</sup>, showing considerable progress despite the pandemic lockdowns of 2020-2021. Undernutrition is a grave issue in India, with one-third of the world's malnourished children residing in the country. Children under five years<sup>4</sup> show high prevalence of malnutrition, with 13.7 per cent undernourished, 35.5 per cent stunted, 18.7 per cent wasted and child mortality at 2.9 per cent. As per National Family Health Survey (NFHS) published in 2021, anaemia<sup>5</sup> affects 67.1 per cent of children (6-59 months) and 52.2 per cent of pregnant women (15-49 years) in India. The Integrated Child Development Services (ICDS) program, initiated in 1975, aims to improve the health, nutrition, and development of children under six years, pregnant women, and lactating mothers through Anganwadi centers. These centers provide supplementary nutrition, nutritional guidance, immunisation, basic health care, and preschool education.



1. Global Hunger Index Scores by 2024, Concern Worldwide, Welthungerhilfe, and the Institute for International Law of Peace and Armed Conflict (IFHV)
2. The State of Food Security and Nutrition in the World (SOFI) Report – 2024, World Food Programme
3. Global Hunger Index Scores, Concern Worldwide, Welthungerhilfe, and the Institute for International Law of Peace and Armed Conflict (IFHV), 2016 and 2024
4. Malnutrition-Free India, Press Information Bureau, Ministry of Women and Child Development, December 2021
5. Anaemia mukt Bharat, Press Information Bureau, Ministry of Health and Family Welfare, February 2022

Iron and folic acid supplementation is provided for pregnant and lactating mothers to prevent and combat anaemia. POSHAN Abhiyan (earlier National Nutrition Mission) including ICDS aims at improving the nutritional status of adolescent girls, pregnant women and lactating mothers across the country since 2018.

Over 69.4 lakh pregnant women and 42.5 lakh lactating women<sup>7</sup> are benefitting from the POSHAN Abhiyan scheme. Leveraging technology such as ICT based platform (Poshan Tracker), providing diversified diet including

millets, developing regional meal plans for addressing anaemia and micro-nutrient deficiencies have been used to improve the efficiency of the mission. Establishing local community gardens and sourcing fresh produce, developing iron rich diet, meal plan and appointing village and/or district level qualified nutritionist for regular counselling and consultation will improve the nutritional status and overall well-being of children and mothers in India. These health and nutrition schemes can be integrated with National Health Mission for holistic healthcare services.

## Access to food for school children

The Mid-Day Meal (MDM) scheme, rebranded as Pradhan Mantri Poshan Shakti Nirman (PM POSHAN)<sup>8</sup>, has been instrumental in addressing the nutritional needs of school-age children since 1995. Serving free lunches to 12.16<sup>9</sup> crore school children annually, it is one of the world's largest school feeding programs. This initiative ensures that poverty does not hinder education, addressing hunger and malnutrition while promoting local food production through the School Nutrition Garden Scheme. This initiative also complements Sustainability Development Goal (SDG) 4 – Quality and inclusive education along with Zero hunger SDG 2 goal.

Countries like USA<sup>10</sup>, European countries (Sweden<sup>11</sup>, Finland<sup>12</sup>, Estonia<sup>13</sup>), Brazil<sup>14</sup>, Kenya<sup>15</sup> and Rwanda<sup>16</sup> are providing free school meals to ensure access to healthy diets and micronutrient sufficiency. For example, USA<sup>17</sup> and Brazil<sup>18</sup> source fresh produce from local farms, promoting local agriculture and ensuring fresh meals. Finland<sup>19</sup> and Japan<sup>20</sup> incorporate nutrition education into their meal program that covers healthy eating habits and balanced diet.

Some of the state governments have taken initiative to include eggs, fortified salt, fortified cooking oil and millets in the school meals as part of Mid-Day Meal Scheme. Karnataka<sup>21</sup> introduced Ragi milk thrice a week in November 2024, and Odisha<sup>22</sup> implemented fortified milk (Vitamin A and D) for 44.5 lakh children as pilot project in January mid, 2025. Andhra Pradesh<sup>23</sup> extended the mid-day meal scheme to junior college students, benefiting 1.5 lakh students in addition to 36.6 lakh primary school students, to curb dropouts.



6. Poshan Abhiyaan 2024, Ministry of Women and Child Development, Accessed on 13 February 2025

7. 7th Rashtriya Poshan Maah, Press Information Bureau, Ministry of Women and Child Development, September 2024

8. Pradhan Mantri Poshan Shakti Nirman (PM POSHAN), Ministry of Education, Accessed on 13 February 2025

9. Improvement in nutritional status of girls and mothers, Press Information Bureau, Ministry of Women and Child Development, August 2023

10. School meals and food programs for children, USAGov, Accessed on 13 February 2025

11. School lunches, Swedish Food Agency, Accessed on 13 February 2025

12. School meals in Finland, Finnish National Agency for Education, Accessed on 13 February 2025

13. School meal/feeding program(s) – Republic of Estonia, The Global Child Nutrition Forum, April 2022

14. Brazil: National School Feeding Program (PNAE), Global Alliance against Hunger and Poverty, Accessed on 13 February 2025

15. Kenya's school feeding programme: A vital safety net for the most vulnerable learners, African Cities Research Consortium (ACRC), October 2024

16. Rwanda School Feeding Operational Guidelines Summary, Ministry of Education, Republic of Rwanda, May 2021

17. From Farm to Table: Exploring the Journey of the Farm-to-Table Movement, American Fruit and Vegetable, Accessed on 13 February 2025

18. Entenda como funciona o Programa de Aquisição de Alimentos, Agricultura e Pecuária, Government of Brazil, April 2020 (Translated: Understand how the Food Acquisition Program works, Agriculture and Livestock, Government of Brazil, April 2020)

19. School Meals in Finland, Finnish National Agency of Education, Accessed on 13 February 2025

20. School Lunches: The Key to Children's Health and Prosperity, The Government of Japan, November 2021

21. Karnataka announces ragi malt three days a week at govt schools from Feb 22, Bangalore News - The Indian Express, February 2021

22. Nourishing Futures: The 'Gift Milk' Initiative for School Children, OdishaPlus Bureau, January 2025

23. Mid-day meal scheme returns to government junior colleges in Andhra Pradesh, The Hindu, January 2025

# Access to food for all

Vulnerable rural and urban households face limited access to markets and income disparity, restricting their ability to purchase sufficient and nutritious food. The SOFI report states that 74 per cent of the population cannot afford healthy diet and 39 per cent lack nutrient-adequate diet in India. The National Food Security Act (NFSA) of 2013 was a landmark policy reform to drive the Public Distribution System (PDS), guaranteeing subsidised food grains for 75 per cent of the rural and 50 per cent of the urban population, with additional provisions for the poorest households under the Antyodaya Anna Yojana.

PDS<sup>24</sup>, the world's largest food subsidy programme covers 80.67 crore people across India via over five lakh Fair Price Shops (FPS), providing access to essential commodities such as wheat, rice, sugar, and kerosene at subsidised rates. Similar food subsidy schemes are provided by developing nations such as Brazil (Zero Hunger Programme or Fome Zero), Ethiopia (Productive Safety Net Programme) and Bangladesh (Vulnerable Group Development (VGD) Programme), however India's PDS remains one of the largest in the world.

Indian PDS is evolving towards targeted public distribution system focusing on Below Poverty Line (BPL) households, with INR2.05 lakh crores allotted for food subsidies in 2024-25 budget. The use of electronic Point of Sale (ePoS) devices, Aadhaar-based authentication, digitalisation of records are critical in eliminating duplicate ration cards and reducing leakages. Going forward, Scheme for Modernisation and Reforms through Technology in Public Distribution System (SMART-PDS)<sup>25</sup> will leverage data analysis and cloud technology. This scheme will issue smart ration cards and authenticate the beneficiary through fingerprint recognition. Centralisation of databases of all food stock warehouses, distribution centers, and direct beneficiaries will be the key for the digitalization and SMART-PDS.



24. Public Distribution System (PDS), Department of Food and Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution, Accessed on 13 February 2025

25. SMART-PDS, a technological driven initiative should be implemented in all States/UTs, Press Information Bureau, Ministry of Consumer Affairs, Food and Public Distribution, March 2023



Ensuring transparency and efficiency is challenging of PDS due to leakages. PDS leakages has decreased from 41.7 per cent in 2011 to 22 per cent in 2022<sup>26</sup>, yet over 2.8 crore MT of food grains was estimated to be either stolen or wasted through PDS leakages in 2024. Lack of moisture and temperature control, pest infestation, poor record-keeping and improper handling impacts food quality while storing food grains in the warehouses. Addressing these issues require inventory and route optimisation, geographical planning, investments and maintenance of the storage and transportation facilities, integrating technology in managing, tracking, storing and distributing food grains such as GPS tracking from farm-warehouse-ration shops, along with easier and quicker RTI litigation measures for the public. Initiatives such as PM Gati Shakti and Anna Chakra are helpful tools that could be implemented to optimise of food grains movement across supply chain points, minimise transportation costs and delivery times.

Rural regions face bigger challenges in food distribution due to transportation, storage, and resource limitations. Some states<sup>27</sup>, including Andhra Pradesh<sup>28</sup>, Punjab<sup>29</sup> and Delhi<sup>30</sup>, have initiated doorstep delivery of food grains at no extra cost to beneficiaries. This approach can be carefully assessed and scaled up to specific regions with vulnerable populations in remote and inaccessible areas, reducing their need to visit FPS.

Economic disruptions and movement of workers to cities and urban regions makes it difficult for migrant workers and their families to access subsidised food grains. One Nation, One Ration Card (ONORC), which began in 2019 provides ration card access from any fair price shops (FPS) across the country. ONORC has helped reduce mobility costs for migrant workers and ensured portability of ration cards. Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) scheme implemented from April 2020 to December 2022 provided food grains free to beneficiaries during the COVID-19 period. Awareness and education about the ONORC<sup>31</sup> scheme benefits, provision of technology and infrastructure such as internet, robust ePoS devices for biometric authentication could improve the PMGKAY and ONORC schemes uptake by all the eligible beneficiaries.

26. The Food Security Act has revamped the PDS, The Hindu, September 2024
27. Home Delivery of Foodgrains, Press Information Bureau, Ministry of Consumer Affairs, Food and Public Distribution, July 2018
28. Andhra Pradesh CM Jagan Mohan Reddy launches MDUs for door delivery of ration supplies, The Hindu, January 2021
29. Punjab Doorstep Delivery Services Scheme 2024, PM Modi Yojana.org, December 2023
30. Delhi Doorstep Delivery of Public Services, Department of Food & Civil Supplies, Accessed on 13 February 2025
31. One Nation One Ration Card, Ministry Of Consumer Affairs, Food And Public Distribution, Accessed on 13 February 2025

Extensive FPS network<sup>32</sup> across the country can be leveraged as one-stop solutions for community needs, acting as sales channel for multiple commodities, providing additional services such as Common Service Centre (digital payments), banking services, etc., Andhra Pradesh successfully sells wider

commodity range such as pulses, cooking oils in its over 29,500 FPS<sup>33</sup> with ePoS. The Government of India has partnered with Small Industries Development Bank of India (SIDBI)<sup>34</sup> to improve the viability of FPS across cities such as Hyderabad, Ghaziabad, Jaipur, and Ahmedabad by providing working capital.



32. Fair Price Shops Dashboard, National Food Security Portal, Department of Food And Public Distribution, Accessed on 13 February 2025

33. Fair Price Shops Dashboard, National Food Security Portal, Department of Food And Public Distribution, Accessed on 13 February 2025

34. Department of Food and Public Distribution, Government of India signs Memorandum of Understandings with SIDBI and NIESBUD for transformation of Fair Price Shops, Press Information Bureau, Ministry of Consumer Affairs, Food and Public Distribution, March 2024

# Food imports dependency & availability

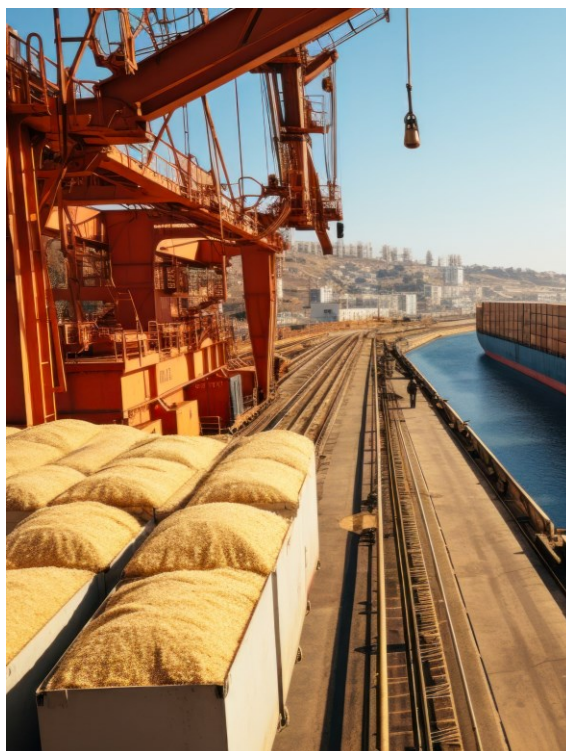
India is being a large importer of pulses, oil seeds, vegetable oils, fruits, and nuts with a substantial gap between domestic supply and demand. Maintaining sufficient stocks of essential staple foods (rice, wheat, and pulses) is essential for guaranteeing the food security during uncertain situations crisis and natural disasters. National Food Security Mission (NFSM)<sup>35</sup> boosts food production, mainly staple crops such as rice, wheat, pulses, and coarse cereals by enhancing the area of production and crop productivity. NFSM targets rice production around one crore MT, wheat at 80 lakh MT to stabilise prices, coarse cereals (maize, barley) at 30 lakh MT, nutri-cereals (millets) at 20 lakh MT, enhancing targets for pulses as 40 lakh MT and oilseeds at 20 lakh MT.

However, over dependency on imports<sup>36</sup> for pulses and oil seeds risks the food security. In 2023, agricultural imports were valued at USD3300 crores, with vegetable oils accounting for USD1710 crores, representing a heavy dependence on imported sources. Despite being a major producer of pulses, India's imports have increased by 44 per cent in 2023 compared to 2022. This highlights the need for improvement in domestic agricultural practices and infrastructure to ensure food security. Strategies to tackle inflation and food insufficiency include close monitoring of food prices, agricultural partnerships for imports, and incentivising pulse production through initiatives such as the Price Support Scheme (PSS) and the Price Stabilisation Fund (PSF). PSF helps control price volatility by maintaining a buffer stock of pulses and PSS ensures farmers receive a minimum support price for their produce including pulses.

NFSM-Pulses, PM-AASHA, crop insurance, crop rotation, and subsidies for seeds, fertilisers, and agri inputs support boosting pulse production. NFSM assists farmers with high-yielding variety seeds and demonstration programmes, while PM-AASHA offers MSP price support and compensation if market prices fall below MSP. Research on resilient pulse varieties, hybrid seeds, crop insurance

schemes, and crop rotation promotion are crucial for achieving self-sufficiency in pulse production. Climate change monitoring teams and climate-resilient sustainable agriculture and irrigation technologies are needed to mitigate climate change risks.

Achieving food and nutritional security in India calls for a holistic and integrated approach that addresses the diverse needs of its population. By leveraging existing programmes, technology, and fostering community participation, India can make noteworthy progress towards zero hunger, food security and improved nutrition. Collaborative efforts across agriculture, livestock, education, and public distribution systems are essential to create a resilient and sustainable food system that can adapt to climate change, consumer preferences and ensure their well-being. This comprehensive strategy aligns with the Sustainable Development Goals (SDGs) and paves the way for a healthier and more prosperous future for India.



35. National Food Security Mission - Operational Guidelines, Department of Agriculture & Cooperation, Ministry of Agriculture, 12th Five year plan, Accessed on 13 February 2025

36. India's Agriculture Trade 2023, Global Trade Research Initiative Report, December 2023

# KPMG in India contacts:

## **Akhilesh Tuteja**

Head

Clients & Markets

E: [atuteja@kpmg.com](mailto:atuteja@kpmg.com)

## **Nilachal Mishra**

Partner and Head

Government & Public Services

E: [nilachalmishra@kpmg.com](mailto:nilachalmishra@kpmg.com)

## **Himanshu Rattan**

Partner and Lead

Food, Agri & Allied Services

Government & Public Services

E: [himanshurattan@kpmg.com](mailto:himanshurattan@kpmg.com)

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KPMG Assurance and Consulting Services LLP, Lodha Excelus, Apollo Mills Compound, NM Joshi Marg, Mahalaxmi, Mumbai - 400 011  
Phone: +91 22 3989 6000, Fax: +91 22 3983 6000.

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