

## INDIA'S POSITIONS IN GLOBAL HUNGER INDEX: CHALLENGES AND OPPORTINITIES FOR FOOD SECURITY

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### **ABSTRACT**

Hunger and malnutrition continue to pose major challenges for India as is evident with its low rankings in the Global Hunger Index (GHI) from 2015-2024. India's GHI scores reflect "serious" hunger levels as measured by undernourishment, child stunting and wasting despite well above average economic growth rates and substantial improvements in agricultural production. The report investigates India's performance as per GHI and major hurdles like PDS inefficiencies, regional imbalances, climate change impacts on agricultural productivity. By using secondary data from GHI reports, National Family Health Surveys and policy analyses, the research illuminated prospects for progress that includes adopting climate-resilient agricultural practice, improving methods of food distribution and incorporating nutrition-sensitive interventions. Experiences from similar countries having success with food security point toward more than one dimension of what needs to be addressed in the way of solutions on that. These findings are essential to addressing structural inequities and exploring technology maximisers to tackle achievable sustainable solutions for food security in India.

### **INTRODUCTION**

Hunger and malnutrition represent one of the most pressing public health challenges facing the world today, with repercussions that extend well beyond public welfare to undermine economic security. For close to two decades, the Global Hunger Index (GHI) has emerged as a key indicator for assessing hunger globally, allowing for comparison on questions such as undernourishment and child wasting, stunting and mortality over the past years (GHI, 2022). India is, of course, one of our most populous nations and perhaps thus a fittingly high-ranking nation both for its successes in food security but also for its failings as indicated by the GHI. India's position on the GHI, which indicates a serious hunger crisis, has never ceased to be among the lower. Even with acute economic growth, India's GHI 2020 score declared it the 94th out of 107 nations with serious child malnutrition and high levels of undernourishment (von Grebmer et al., 2020). By 2020, India's GHI rating fell to 107th out of 116 countries as concern rose about food security in the face of COVID-19 epidemic. The pandemic has compounded global trends in hunger, particularly within low- and middle-income countries, including India, where many vulnerable populations are affected due to disruptions in food supply chains associated with job losses and rising food prices (Sinha, 2021). India has seen significant economic growth and an increase in agricultural production, however approximately 224 million people still remain malnourished, pointing to a complex interaction of poverty, social inequality and food availability over the past decades (NITI Aayog, 2021).

The GHI 2022 had placed India in the 107th position among 121 countries, a slight improvement from previous ones, though child malnutrition continued to be a grave challenge (GHI, 2022). This year, the relationship between climate change and food insecurity was in fact more prominent globally not least for India which is highly vulnerable to climatic shocks affecting agricultural output. In the 2023 GHI report, India ranked 111th out of 125th nations revealing more stagnation and re-emphasising the enduring issues of stunting and child wasting. The need for implementation of sociocultural factors leading to malnutrition, particularly in women and children, also improving clean water supply and sanitation, as well as nutritional strategies. India's position at 105th out of 127th nations is a pointer of significant degree of craving as reflected in the GHI report 2024 (GHI, 2023). Despite notable progress towards alleviating hunger, as outlined in the 2024 GHI, India still faces two major challenges that are blocking its path to food security for all: continued undernourishment of a significant section of population and increasing disparity in access to food (GHI, 2024). However, there are also opportunities for India to improve its position on the GHI. The ambitious gains may be achieved by promoting climate-resilient agricultural practices, expanding community-based nutrition strategies and enhancing the coverage, timing and content of food safety nets (Reddy, 2015).

### **LITERATURE REVIEW**

Over the past ten years, India's position on the Global Hunger Index (GHI) has been a hotbed for scholarly research and policy debates. The GHI is an annual report jointly published by *Concern Worldwide* and *Welthungerhilfe* measuring global hunger and undernutrition. Several scholars have examined India's performance on this index in order to understand why India continues to struggle against hunger and how food security policies can be improved.

Chakraborty and Dand (2005). While bringing millions out of poverty, as economic growth did underpin only marginal improvements in the battle against hunger, they said. They list perverse structural challenges inefficient food distribution systems, poor medical facilities and high child malnutrition rates as the main reasons for India's under-achievement. The authors also emphasized the importance of addressing regional inequalities, especially in rural regions, to elevate India's position on the GHI. Global Hunger Index, India results were suggestive of widespread inequity, especially in access to food and nutrition among marginalized groups, especially women and children - with these trends observed more broadly across the country. And much of that effort helped put into perspective the complexity of India's hunger problem: not just shortage, but in equitable distribution and deep-seated poverty.

Jose et al., (2020) conducted a comprehensive comparative analysis by the title "Achieving nutritional security in India: Vision 2030" to evaluate some prominent features on government programs, e.g. integrated Child Development Services (ICDS), National Food Security Act (NFSA), etc. If properly executed, these initiatives could have reduced hunger levels to near zero, their analysis stated but they fell prey to state-level implementation problems and inefficiencies. The write up went on to suggest strengthening governance structures and ensuring the effective coordination of diverse food security initiatives, in order to help improve India's GHI rankings.

The paper by Satyanarayan and Babu (2018) explored the paradox of plenty and hunger facing Andhra Pradesh, a state that boasts great food production at the same time as severe hunger problems. The authors attributed this gap to systemic issues such as waste in the supply chain, weak policy implementation, and a focus on quantity rather than quality of nutrition. The paper

concludes that states need to focus on improving the nutritional quality of food made available through public distribution systems rather than simply catering for calorie intake.

Sharma et al., (2021). Found that the situation of hunger deteriorating due to supply chain disruptions, layoffs and increasing vulnerability among low-income households. The group of researchers highlighted the importance of enhancing social safety nets, strengthening food distribution channels and investing in agricultural resilience to mitigate long-term pandemic-induced impacts on hunger in India.

In sum, over a decade numerous studies have scrutinised various aspects of India's hunger and food security crisis identifying common characteristics such as structural dysfunctions, socioeconomic inequities and policy slip-ups. New generations of researchers also cite positive trends with future technology, the enlargement of the social safety net and political reform. A multipronged approach also accounting for food quantity and nutritional quality is still necessary to improve India's GHI rank and ensure sustainable food security of the population.

### **RESEARCH OBJECTIVES**

1. To analyse the trends in India's ranking in the Global Hunger Index (GHI).
2. To investigate the key barriers to food security in India.

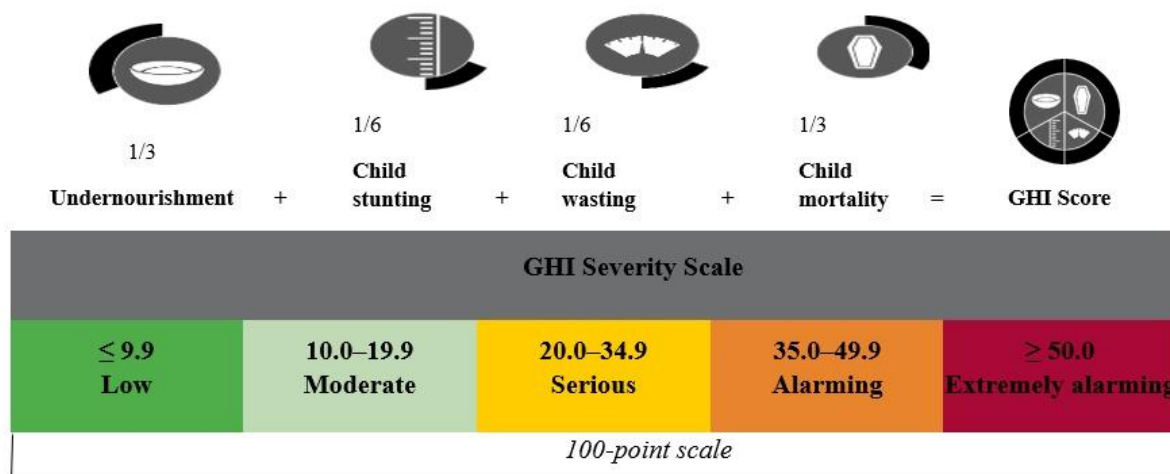
### **METHODOLOGY AND DATABASE**

This was primarily a secondary data analysis, using government publications, relevant policy documents, NFHS (National Family Health Surveys), and GHI (Global Hunger Index) reports. Using longitudinal data from the Global Hunger Index (GHI) and the National Family Health Surveys (NFHS), this study documented trends in key indicators of hunger, including undernourishment, child stunting, wasting and death. Policy evaluations were conducted to evaluate existing government programs including the Public Distribution System and the National Food Security Act, as well as new concerns like socioeconomic inequity and climate change. Such a comprehensive approach facilitated an extensive exploration of India's food security challenges, including current problems and viable answers.

The Global Hunger Index (GHI) is a tool for measuring and tracking hunger globally and by country or region. It considers many dimensions of hunger over time. The calculation of the global hunger index yields a report every year. When the global hunger index was first developed in 2006, the United States was included. issued by Welthungerhilfe, a German organisation, and based at the "*International Food Policy Research Institute.*" 2018 saw the creation of the "*International Food Policy Research Institute*" (IFPRI) as a spin-off and the global hunger index as a collaborative effort between *Concern Worldwide and Welthungerhilfe*. One hundred basis points is used to calculate the world hunger index. 0 (zero) is regarded as the ideal number in this context.

While 100 is the most-dire score. According to the Global Hunger Index, the level of hunger is as follows.

1. The proportion of undernourished people.
2. The percentage of children that are underweight. (children aged 0 to 5)
3. The rate of child mortality. (children aged 0 to 5)
4. The percentage of children experiencing malnourishment. (children aged 0 to 5).



## **DATA & VARIABLES**

The dataset used in this analysis draws on three rounds of the National Family Health Survey (NFHS) conducted in India: NFHS-3 (2005–06), NFHS-4 (2015–16) and NFHS-5 (2019–21). To follow fluctuation patterns in child nutrition across the country, we look at children under five years of age. The NFHS is conducted by IIPS, with the Ministry of Health and Family Welfare (MoHFW), Government of India. It aims to provide key information on family well-being and health, along with insights on emerging issues in these areas. Highlights include mother and child health, infant and child mortality, fertility, and many other health and welfare indicators presented at the state level as well as nationally with breakdowns by demographic characteristics (including age) and geography. Although NFHS-3 created a rudimentary dataset, it has since been built upon by both NFHS-4 and NFHS-5. Those later stages involved clinical, anthropometric, and biochemical CAB testing. This was done to maintain consistency and comparability of information across surveys while also allowing for some district-specific data. The sample sizes for NFHS-4 and NFHS-5 were approximately five times larger, to achieve this level of granularity than did NFHS-3. Additionally, the same sample design and survey content were applied across states and over time enabling precise temporal and geographic comparisons of the data.

## **RESULT AND DISCUSSION SECTION**

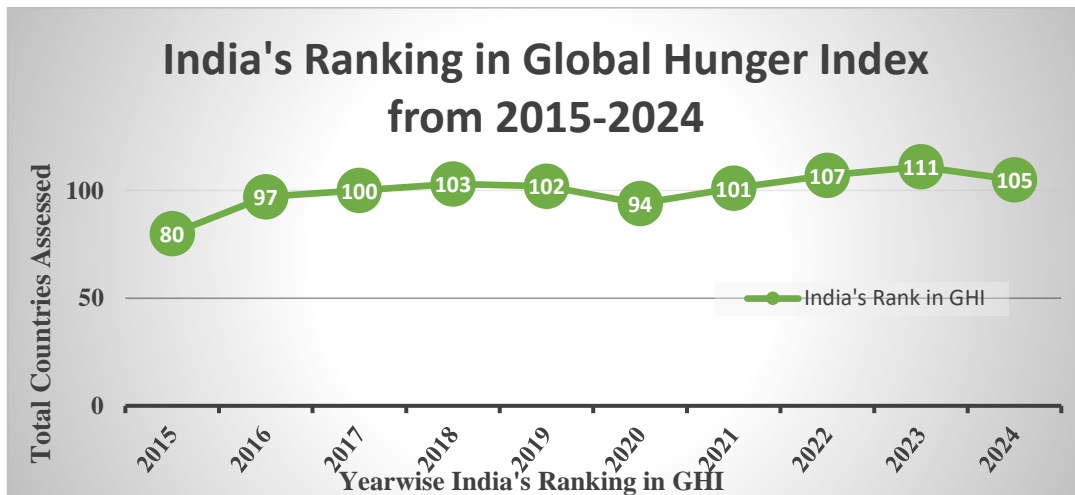
This section presents the results of an analysis of India's Global Hunger Index (GHI) performance in the period between 2015 and 2024 alongside some perspectives on food security issues and prospects in India. These conclusions are drawn from secondary data analysis of GHI reports, trends in key indicators and lessons learnt distilled through evaluations of policy impacts. The findings address the study's goals, focussing on India's GHI trends, underlying obstacles to food security, and prospective areas for improvement.

### **1. India's Global Hunger Index Trends (2015–2024)**

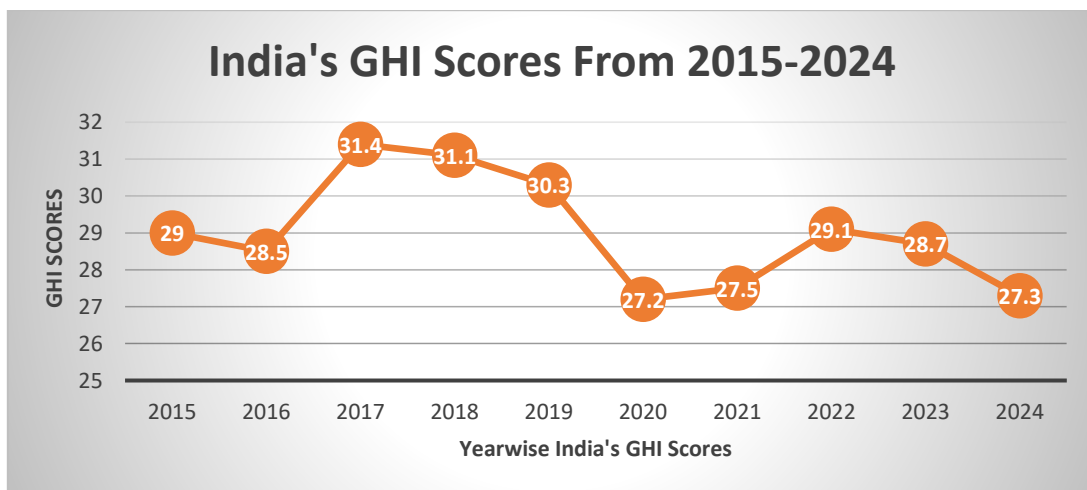
India's GHI score has remained continuously poor between 2015 and 2024, highlighting the country's struggle to tackle hunger and malnutrition. Table 1 summarises India's GHI scores and ranks for this time period, as well as the GHI score's component indicators: undernourishment, child stunting, child wasting, and child mortality.

**Table 1: India's Global Hunger Index Scores and Rankings (2015–2024)**

| Year | GHI Score | Ranking | Undernourishment (%) | Child Stunting (%) | Child Wasting (%) | Child Mortality (%) |
|------|-----------|---------|----------------------|--------------------|-------------------|---------------------|
| 2015 | 29.0      | 80/104  | 15.3                 | 38.7               | 20.8              | 4.8                 |
| 2016 | 28.5      | 97/118  | 14.8                 | 38.4               | 20.7              | 4.7                 |
| 2017 | 31.4      | 100/119 | 14.8                 | 38.4               | 21.0              | 4.5                 |
| 2018 | 31.1      | 103/119 | 14.5                 | 38.4               | 20.8              | 4.3                 |
| 2019 | 30.3      | 102/117 | 14.6                 | 37.9               | 20.8              | 3.9                 |
| 2020 | 27.2      | 94/107  | 14.7                 | 34.7               | 17.3              | 3.7                 |
| 2021 | 27.5      | 101/116 | 15.3                 | 34.7               | 17.3              | 3.5                 |
| 2022 | 29.1      | 107/121 | 16.3                 | 35.5               | 19.3              | 3.3                 |
| 2023 | 28.7      | 111/125 | 16.6                 | 35.5               | 19.3              | 3.2                 |
| 2024 | 27.3      | 105/127 | 13.7                 | 35.5               | 18.7              | 2.9                 |



**Fig. 1. Source: Global Hunger Index Ranking Trend in India**



**Fig. 2. Source: Global Hunger Index Score Trend in India**

**GHI Score Stability:** From 2015 to 2024, India's GHI score ranged between 27.3 and 29.0. While there was some improvement in 2020, the score remains quite high, reflecting ongoing hunger and malnutrition issues.

**Rating Deterioration:** India's rating has slipped throughout the years, from 80th in 2015 to 107th by 2024. The country has repeatedly rated among nations with "severe" hunger levels, highlighting the need for a more effective governmental response.

**Undernourishment and Malnutrition:** In India, undernourishment rates have remained around 13%, while child stunting and wasting remain high. This shows that access to proper nutrition and health care remains a significant barrier, particularly for children.

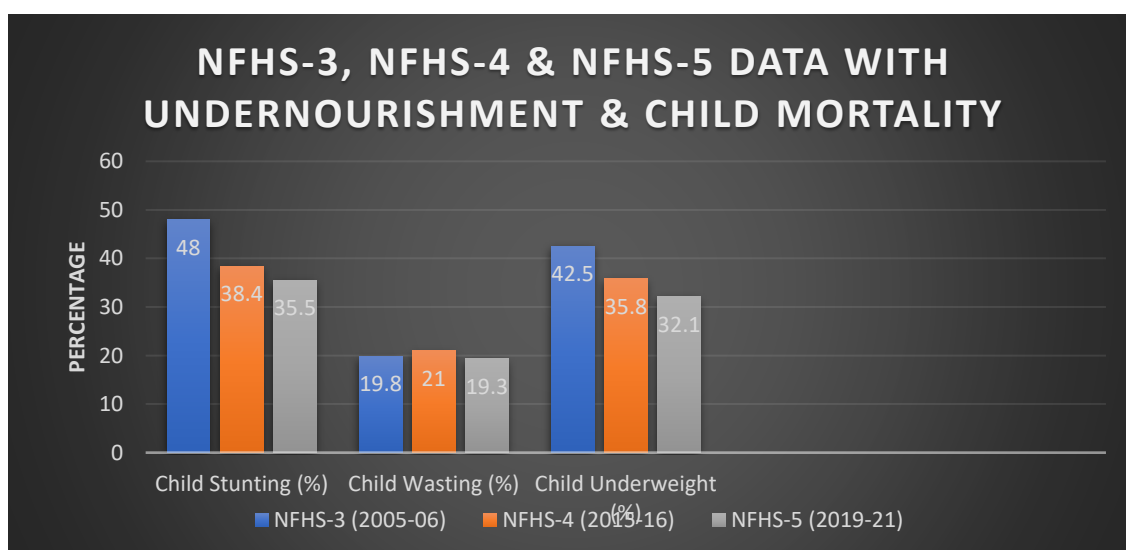
### NFHS Data Comparison (2005-2021)

The following table presents information from NFHS-3 (2005-06), NFHS-4 (2015-16), and NFHS-5 (2019-21) on child mortality, stunting, wasting, underweight, and undernourishment. These metrics provide a more comprehensive view of children's health and nutritional condition in India throughout time.

- Child Stunting:** A sign of chronic malnutrition, this condition is defined as low height for age.
- Child Wasting:** describes low weight for height, which is indicative of severe malnutrition.
- Child Underweight:** This term describes low weight for age, which can be a sign of both acute and chronic malnutrition.

**Table 2: NFHS-3, NFHS-4 and NFHS-5 Data (with Undernourishment and Child Mortality).**

| Indicators            | NFHS-3 (2005-06) | NFHS-4 (2015-16) | NFHS-5 (2019-21) |
|-----------------------|------------------|------------------|------------------|
| Child Stunting (%)    | 48               | 38.4             | 35.5             |
| Child Wasting (%)     | 19.8             | 21               | 19.3             |
| Child Underweight (%) | 42.5             | 35.8             | 32.1             |



**Source: National Family Health Survey 2005-06, 2015-16 & 2019-21.**

Stunting in Children: From 48.0% in NFHS-3 to 35.5% in NFHS-5, there has been a notable decrease in stunting. Despite the fact that this is a step in the right direction, more than one-third of Indian children are still stunted, underscoring the necessity of ongoing efforts to improve mother health and nutrition. Child Wasting: The proportion of children who experienced wasting varied, rising from 19.8% (NFHS-3) to 21.0% (NFHS-4), then falling to 19.3% (NFHS-5). While there has been some success in lowering acute malnutrition, the rates are still extremely high, as seen by the little reduction in NFHS-5. Child Underweight: The percentage of underweight children has steadily increased, rising from 42.5% in NFHS-3 to 32.1% in NFHS-5. Even However, a sizable percentage of youngsters continue to receive insufficient nutrition, which is reflected in this reduction. Undernourishment: The percentage of people experiencing undernourishment grew little to 16.3% in NFHS-5, however it improved dramatically from 20.0% in NFHS-3 to 14.8% in NFHS-4. Even if there has been progress throughout the years, this suggests that recent difficulties could have caused a little reversal in the trend, perhaps as a result of things like food availability problems or economic hardship. Child Mortality: The child mortality rate has significantly decreased, going from 6.6% in NFHS-3 to 3.2% in NFHS-5. This drop indicates that maternity care, immunisation rates, and healthcare services have significantly improved.

### **CHALLENGES TO FOOD SECURITY IN INDIA**

The policy study and secondary data analysis revealed a number of issues pertaining to India's food security. Malnutrition, ineffective food distribution systems, agricultural vulnerabilities, and the effect of climate change on crop output are some of these issues. Child malnutrition has a major impact on India's GHI ratings. This conclusion is supported by statistics from the National Family Health Surveys (NFHS-5), which indicate that 19.3% of children under five are wasted and 35.5% are stunted. These numbers show a serious public health issue because they are far higher than the global norms. These diseases have been aggravated by poor access to healthcare, maternal health and sanitation. Child Stunting: Stunting has slightly decreased from 38.7% in 2015 to 35.5% in 2023. Such a slow rate of development, however, is indicative of underlying structural problems in nutrition education and medicine. child Wasting: Despite many interventions, the levels of child wasting remains alarmingly high. This indicates the presence of acute malnutrition which requires immediate targeted nutrition action. Though India is among the largest producers of food grains in the world, but its agricultural infrastructure and Public Distribution System (PDS) has a number of shortcomings. Poor supply chain management along with post-harvest losses always prevented from achieving food security. Due to several corrupt practices and logistical problems food grains do not reach the actual user in many of these programs. The research also found climate change is the cause of declining agricultural production particularly in rain-fed regions. Climatic change is increasing the abnormal occurrence of droughts, floods and changes in weather patterns which subsequently reduce agricultural output and increase food scarcity.

POSHAN Abhiyan, Pradhan Mantri Matru Vandana Yojana, Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY), the Eat Right India Movement, the National Food Security Act 2013 (NFSA), and food fortification are some of the policies that India has put in place to increase food security. Regional differences in these strategies' efficacy still exist, though. To combat corruption and enhance the targeting of food subsidies, it has been proposed that the PDS implement digitalisation and transparency changes. The study emphasises how digital platforms, biotechnology, and precision agriculture may increase food accessibility and

availability. For example, farmers may maximise yields and minimise waste by utilising real-time data on crop pricing and weather (Das et al., 2023). By offset, contrast India may learn a lot in comparison to Bangladesh and Vietnam. Both Countries have great improvements in GHI Ranks by promoting community-based nutrition programs and developing rural infrastructures. A researched highlights that India too can benefit from these approaches focused on social protection programs and nutrition-sensitive agriculture (Nisbett et al., 2017).

## **CONCLUSIONS**

India's ongoing battle with malnutrition and food insecurity is shown in its continual placement among nations with serious hunger levels in the Global Hunger Index, which lasted from 2015 to 2024. Although some strides like reduction in child mortality and stunting have been observed, extremely high child wasting rates, ineffective Public Distribution System and climate change exacerbated vulnerabilities persist as critical challenges. The researched finds that on top of insufficient food production, structural challenges including regional inequalities, the corruption of food transport, and limited access to healthcare and sanitation present barriers to food security. However, the results also show significant opportunities for improvement. Climate-resilient farming, sustainable and diverse food systems at village level, targeted community-based nutrition efforts coupled with a system driven by efficient governance and transparency in the Public Distribution System can plug critical gaps in food supply across India. While countries like Bangladesh and Vietnam have been able to bring about a significant improvement in their GHI ranks through targeted efforts, India must gain inspiration from these success stories if it were to make any progress against hunger. Higher quality of nutrition can significantly reduce hunger, while India needs to use technology innovations like digital platforms for the optimisation of supply chain, and address socio-cultural drivers that perpetuate malnutrition. A multi-sectoral approach that links food security with health, education and social protection programmes will be essential for sustainable success and to strengthen India's GHI position in the long-run.

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