Academe *Journal of Education & Psychology* *ISSN: 2249-040X*
Volume-16, (Special Issue: March 2026) *Peer Reviewed & Refereed Journal (IF: 6.25)*
PP: 43-52 *Journal Website:* www.academejournal.in

MEASURING HUNGER IN INDIA: AN ANALYTICAL PERSPECTIVE ON THE GLOBAL HUNGER INDEX

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ABSTRACT

According to the 2025 Global Hunger Index (GHI), India is placed 102nd among 123 countries, with a score of 25.8, indicating a "serious" level of hunger. Although India is one of the world's largest food producers, persistent challenges such as child undernutrition—reflected in high rates of stunting, wasting, and child mortality—continue to affect its overall performance. Structural issues including poverty, inadequate sanitation, and significant regional inequalities further contribute to the problem.

The Global Hunger Index evaluates hunger using four key indicators: undernourishment, child wasting, child stunting, and child mortality. A review of GHI reports from recent years highlights ongoing concerns despite policy interventions and welfare schemes aimed at improving food security. The paradox of modern development is evident in the coexistence of food abundance and widespread hunger. While many countries have achieved overall food sufficiency, unequal distribution of resources and income disparities prevent vulnerable populations from accessing adequate nutrition. Addressing these structural barriers is essential for achieving sustainable development goals related to hunger and poverty reduction.

Keywords: Global Hunger Index (GHI), India, food security, child undernutrition, stunting, wasting, child mortality, undernourishment, poverty, sanitation, regional disparities, income inequality, sustainable development goals (SDGs), hunger alleviation.

''Measuring Hunger in India: An Analytical Perspective on the Global Hunger Index''

1. Introduction

In the Global Hunger Index (GHI) 2023, India was ranked 111th out of 125 countries, declining from its 107th position in 2022. The index is released annually in October through a joint effort of Concern Worldwide and Welthungerhilfe. Since its first publication in 2006, the 2023 edition marks the 18th release of the report.

The GHI assesses hunger using four key indicators: undernourishment, child wasting, child stunting, and child mortality. These components collectively capture both inadequate calorie intake and the broader consequences of malnutrition. The report draws upon data from internationally recognized sources, including United Nations agencies such as the Food and Agriculture Organization (FAO), World Health Organization (WHO), and UNICEF, along with nationally representative surveys. A country's rank reflects its relative performance; a higher rank indicates a more severe hunger situation.

Hunger remains a significant global concern, affecting millions across different socio-economic and geographic contexts. Despite improvements in global food production, unequal access to food continues to leave large populations vulnerable. In 2023, hundreds of millions of people worldwide remained undernourished, with South Asia accounting for a considerable share. India, despite being one of the largest food producers, continues to face substantial challenges related to food insecurity and malnutrition.

Although the country has experienced notable economic growth over the past two decades, nutritional outcomes have not improved proportionately. As a signatory to the United Nations Sustainable Development Goals, India is committed to achieving Zero Hunger (SDG 2) by 2030. However, persistent structural barriers complicate progress toward this objective.

2. What is the Global Hunger Index?

The Global Hunger Index is a multidimensional tool designed to measure and monitor hunger at global, regional, and national levels. Originally developed by the International Food Policy Research Institute, the GHI provides a comprehensive picture of hunger by combining four indicators:

- **Undernourishment** – the proportion of the population with insufficient caloric intake.
- **Child Stunting** – the percentage of children under five with low height for their age, indicating chronic undernutrition.
- **Child Wasting** – the percentage of children under five with low weight for their height, reflecting acute undernutrition.
- **Child Mortality** – the under-five mortality rate, which represents the most severe consequence of inadequate nutrition and unhealthy living conditions.

Together, these indicators reflect deficiencies in both macronutrients and micronutrients. The index uses a 100-point scale, where 0 represents no hunger and higher scores indicate more serious levels of hunger.

The GHI report is peer-reviewed and produced collaboratively by Concern Worldwide and Welthungerhilfe. The analysis is supported by data from international organizations and authorized national surveys to ensure reliability and comparability.

3. India's Position in the Global Hunger Index

Among South Asian nations, India performs better only than Afghanistan and lags behind countries such as Bangladesh, Nepal, Pakistan, and Indonesia in recent assessments. In earlier editions, several countries—including China, Belarus, and Turkey—achieved top rankings with scores below 5, reflecting very low levels of hunger.

India's hunger situation is shaped by its large population and diverse socio-economic conditions. Variations in income levels, rural–urban disparities, agricultural productivity, sanitation infrastructure, dietary practices, and public policy implementation contribute to significant regional differences. These complexities make hunger reduction a multifaceted challenge.

Although the Government of India has implemented various initiatives—such as the Integrated Child Development Services (ICDS), the Mid-Day Meal Scheme, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), and the National Food Security Act (NFSA)—nutritional improvements have been uneven. Policy measures such as the National Nutrition Strategy have aimed to address malnutrition, yet issues such as undernourishment and child wasting remain areas of concern.

4. Regional Disparities and State-Level Studies

Given India's internal diversity, state-level analysis is crucial for understanding hunger patterns. Over the past decade, several researchers have developed State Hunger Indices using data from the National Family Health Survey (NFHS) and the National Sample Survey

Office (NSSO). These studies highlight considerable regional disparities and emphasize the influence of socio-economic, environmental, and demographic factors.

Recent research has also introduced multidimensional food security indices to better capture variations across states. However, findings suggest that macro-level indicators often fail to fully explain localized nutritional outcomes. This underscores the need for region-specific policy interventions and more granular analysis to effectively address hunger and malnutrition.

5. Objectives of the Study

- To examine the different dimensions and indicators used to measure the Global Hunger Index (GHI).
- To understand the methodology and procedures involved in calculating the GHI.
- To evaluate the status and trends reflected in the GHI over time.
- To analyze the major findings and interpret their implications.
- To assess government initiatives and policy interventions aimed at reducing multidimensional poverty and hunger.

5. Methodology and data base

The study based on secondary data. The data collected from UNDP Report, GHI Reports A Progress Review 2023, HDI Reports Of India, Economic Survey, Census of India from 1901 to 2011, Newspapers, Journals, The Times of India, Books, The Hindu, Research Reports, Web Source etc.

6. Technique of analysis

The secondary data has been analyzed with the help of percentage, average, ratio analysis, etc.

7.The GHI incorporates 4 indicators:

child stunting,

child wasting,

undernourishment and

child mortality.

The Global Hunger Index (GHI) is constructed using four indicators that together capture both insufficient calorie intake and broader forms of malnutrition. The first indicator, undernourishment, represents the share of the population whose dietary energy consumption falls below the minimum requirement for a healthy and active life. Child stunting refers to the percentage of children under five years of age who have low height for their age, reflecting prolonged or chronic undernutrition. Child wasting measures the proportion of children under five who have low weight relative to their height, indicating acute undernutrition. The fourth indicator, child mortality, represents the proportion of children who die before reaching five years of age, often linked to inadequate nutrition and unhealthy living conditions.

Although child mortality is influenced by multiple factors, poor nutrition plays a substantial role. Global estimates suggest that nearly 45 percent of deaths among children under five are associated with undernutrition (Black et al., 2013). Evidence from India further indicates that malnutrition has been a leading risk factor for under-five mortality across states (Swaminathan et al., 2019). These child-focused indicators are included because young

children are particularly vulnerable to nutritional deprivation, which can result in long-term developmental impairments or even death. Chronic undernutrition, as reflected in stunting, is associated with delayed cognitive and physical development, while wasting represents a severe and life-threatening form of acute malnutrition (Bhutta et al., 2017). Together, these measures capture deficiencies in both macronutrients and essential micronutrients.

The estimation of GHI components at the district level relies on multiple data sources. Information on undernourishment is derived primarily from large-scale consumption surveys that record food intake among representative household samples. These surveys provide data on per capita dietary energy consumption, which can be used—along with household size and food consumption patterns—to estimate the prevalence of inadequate calorie intake (Naiken, 2002). For district-level analysis, data from the 68th Round (2011–12) of the National Sample Survey (NSS) have been utilized to estimate undernourishment.

Data on child stunting, wasting, and mortality are obtained from the National Family Health Survey (NFHS-5, 2019–21). The NFHS is a large-scale, multi-round, cross-sectional survey conducted across India to collect information on population health, nutrition, and family welfare indicators. The survey generates data at the individual, household, district, and state levels. In addition to the primary GHI indicators, district-level data from NFHS-5 fact sheets can also be used to examine related socio-economic and demographic factors influencing nutritional outcomes.

8. CALCULATION OF THE GLOBAL HUNGER INDEX (GHI)

The Global Hunger Index (GHI) score is calculated by standardizing and aggregating four key indicators: prevalence of undernourishment, child stunting, child wasting, and child mortality. Each indicator is first converted into a standardized value using predetermined threshold levels. These standardized scores are then combined using specific weights to obtain the final GHI score.

Step 1: Standardization of Indicators

Each indicator is standardized using the following formula:

Standardized Value=(Actual Indicator Value×100/Threshold Value)

Where the threshold values are:

- **Undernourishment:** 80
- **Child Stunting:** 70
- **Child Wasting:** 55
- **Child Mortality:** 35

Thus,

PUNs=PUN×100/80

CSTs=CST×100/70

CWAs=CWA×100/55

CMs=CM×100/35

Where:

- PUNPUNPUN = Prevalence of Undernourishment
- CSTCSTCST = Child Stunting Rate

- CWACWACWA = Child Wasting Rate
- CMCMCM = Child Mortality Rate
- The subscript sss denotes standardized values

Step 2: Aggregation

After standardization, the GHI score is calculated using weighted averages:

GHI=1/3(PUNs)+1/6(CSTs)+1/6(CWAs)+1/3(CMs)

Interpretation

The final GHI score ranges from 0 to 100, where:

- **0** represents no hunger
- Higher scores indicate more severe levels of hunger

  This method ensures that both calorie deficiency and child-related malnutrition outcomes are adequately reflected in the final index score.

8. 1 Calculation of Global Hunger Index(GHI)

GHI is calculated as below:

Prevalence of undernourishment*100 = standardized undernourishment value

80

Child stunting rate *100 = standardized stunting rate value

70

Child wasting rate *100 = standardized wasting rate

55

Child mortality rate *100 = standardized Child mortality rate

35

Table – 1

Status of GHI Iin India

Years	India' rank	Out of countries
2018	**103**	**119**
2019	**102**	**117**
2020	**94**	**107**
2021	**101**	**116**
2022	**107**	**121**
2023	**111**	**125**
2024	**105**	**127**
2025	**102**	**123**

Source :https;//www.globalhungerindex.org.

Global Hunger Index (GHI) 2019

The 2019 GHI report highlighted an increase of about 37 million hungry people worldwide compared to 2015. In several countries, hunger levels had either stagnated or worsened since

2010. It was also projected that nearly 45 countries would fail to achieve even a "low" level of hunger by 2030.

In 2019, India ranked 102nd out of 117 countries. With a score of 30.3, India fell into the "serious" hunger category. This showed little improvement from 2018, when India ranked 103rd among 119 countries.

Global Hunger Index (GHI) 2020

Key Global Findings

- The global hunger score was 18.2 ("moderate"), improving from 28.2 ("serious") in 2000.
- Around 690 million people were undernourished worldwide.
- About 144 million children were stunted.
- Nearly 47 million children suffered from wasting.
- In 2018, about 5.3 million children died before the age of five.
- The highest hunger levels were reported in Sub-Saharan Africa and South Asia.
- Countries with alarming hunger levels included Chad, Timor-Leste, and Madagascar.
- Around 37 countries were unlikely to achieve the Zero Hunger target by 2030.

India's Performance in 2020

- India's hunger level remained in the "serious" category.
- India's GHI score was 27.2.
- Neighbouring country ranks: Nepal (73), Bangladesh (75), Pakistan (88), Afghanistan (99).
- 14% of India's population was undernourished.
- 17.3% of children were wasted.
- 34.7% of children were stunted (down from 54% in 2000).
- 3.7% of children died before age five.

  India showed improvement in reducing stunting but continued to face high levels of child wasting.

Global Hunger Index (GHI) 2021

In 2021, India ranked 101st out of 116 countries with a score of 27.5, indicating a "serious" hunger level. India dropped seven places compared to 2020.

Neighbouring country ranks were:

- Pakistan – 92
- Sri Lanka – 65
- Nepal – 76
- Bangladesh – 76

India had the highest child wasting rate among all countries in the index. However, improvements were observed in child mortality, stunting, and undernourishment.

Government's Response (2021)

The Government of India questioned the ranking and criticized the methodology used in the report. It argued that the estimates of undernourishment did not reflect ground realities and described the methodology as flawed.

Global Hunger Index (GHI) 2022

Global Situation

Global progress against hunger remained largely stagnant. The global score was 18.2 in 2022 compared to 19.1 in 2014, showing only slight improvement. Major reasons for slow progress included:

- Armed conflicts
- Climate change
- Economic effects of the COVID-19 pandemic
- The Russia–Ukraine war, which increased food and fuel prices

Top-performing countries included Belarus, Bosnia and Herzegovina, Chile, China, and Croatia. Countries at the bottom included Chad, the Democratic Republic of Congo, Madagascar, Central African Republic, and Yemen. Around 44 countries faced "serious" or "alarming" hunger levels.

India's Performance in 2022

India ranked 107th out of 121 countries with a score of 29.1, remaining in the "serious" category.

- Child stunting declined from 38.7% (2014) to 35.5%.
- Child mortality dropped from 4.6% to 3.3%.
- Undernourishment increased from 14.6% to 16.3%.
- Child wasting rose to 19.3%, higher than in 2014 and 2000.

Among South Asian countries, only Afghanistan ranked lower than India.

Government's Response (2022)

The Government rejected the ranking, stating that the index did not accurately measure hunger and ignored efforts made to improve food security, especially during the pandemic.

Global Hunger Index (GHI) 2023

In 2023, India ranked 111th out of 125 countries, with a score of 28.7, again classified as "serious." This marked a further decline from 2022.

Global Highlights

- The global GHI score was 18.3 ("moderate").
- 9.2% of the world's population was undernourished.
- South Asia and Sub-Saharan Africa had the highest hunger levels (score of 27 each).
- Europe and Central Asia had the lowest score (6.0, "low").
- Hunger reduction has slowed due to COVID-19, climate change, and global conflicts.

India's Situation

- Progress since 2015 has been minimal.
- Child wasting remained high.
- The Government rejected the ranking, calling it a flawed measure.
- The dispute mainly concerned child wasting data, with the government citing different national data sources.
- The GHI clarified that it uses standardized international data sources for all countries to maintain consistency.

9. KEY FINDINGS AND ANALYSIS

- **Ranking and Score:** In 2025, India received a GHI score of 25.8 on a 0–100 scale (where lower scores indicate better performance), placing the country in the "serious" category. This follows a ranking of 111th out of 125 countries in 2023.
- **Role of Child Indicators:** The GHI is calculated using four indicators—undernourishment, child stunting, child wasting, and child mortality. Since three of these focus on children under five years of age, child nutrition significantly influences India's overall score. In particular, the high rate of child wasting remains a major concern.
- **Government's Viewpoint:** The Government of India has questioned the credibility of the index in recent years, stating that it contains methodological limitations. Officials argue that the index places excessive emphasis on child-related indicators and does not fully capture the overall food security situation of the entire population.
- **Regional Differences:** Hunger and malnutrition levels vary widely across Indian states. While some states have shown progress in reducing underweight and stunting rates, others—particularly in the eastern and north-eastern regions—continue to report high levels of wasting and undernutrition.
- **Underlying Challenges:** Several factors continue to affect India's performance, including poverty, unemployment, climate change, food wastage, weak implementation of welfare schemes, and the absence of fully sustainable food systems.

10. Drivers of Food Security Challenges

- **Poverty and Unemployment:** Limited income opportunities restrict access to nutritious food in many regions.
- **Health and Sanitation Issues:** Poor sanitation, unsafe drinking water, and inadequate healthcare directly affect child nutrition and survival rates.
- **Distribution Gaps:** Inefficiencies in the Public Distribution System (PDS) and leakages in welfare delivery reduce the effectiveness of food security measures.

Reasons for India's "Serious" Ranking

One of the key reasons for India's low ranking has been its high child wasting rate. Earlier reports highlighted that wasting levels rose sharply over certain periods. Since child wasting is closely linked to mortality risk among children under five, it significantly affects India's GHI score. Despite improvements in some indicators such as stunting and child mortality, wasting continues to remain a critical issue.

11. Government Initiatives and Flagship Programmes

The Government of India has implemented several programmes aimed at reducing hunger, malnutrition, and multidimensional poverty:

- **Poshan Abhiyan** and **Anaemia Mukt Bharat**, focused on improving maternal and child nutrition.
- **Eat Right India**, promoting safe and healthy dietary practices.
- **Pradhan Mantri Matru Vandana Yojana (PMMVY)**, which provides maternity benefits to pregnant and lactating women to support nutritional needs.
- **National Food Security Act (NFSA), 2013**, ensuring subsidized food grains to nearly two-thirds of the population.
- **Swachh Bharat Mission (SBM)** and **Jal Jeevan Mission (JJM)**, improving sanitation and access to clean drinking water.
- **Pradhan Mantri Ujjwala Yojana (PMUY)**, offering subsidized LPG connections to low-income households.
- Other supportive schemes such as **Saubhagya**, **Pradhan Mantri Awas Yojana (PMAY)**, **Pradhan Mantri Jan Dhan Yojana (PMJDY)**, and **Samagra Shiksha**, which address housing, electricity, financial inclusion, and education—factors indirectly linked to nutrition and poverty reduction.

CONCLUSION

India's position in the Global Hunger Index reflects the complex and multidimensional nature of hunger and malnutrition in the country. Despite being one of the world's leading food producers and achieving considerable economic growth, India continues to face serious nutritional challenges, particularly among children under five years of age. High levels of child wasting, along with persistent stunting and undernourishment, significantly influence the country's overall GHI score. Regional disparities further complicate the issue, as progress is uneven across states, with some regions performing far better than others.

Over the years, the Government of India has introduced several targeted interventions to address food insecurity, improve maternal and child health, and strengthen social protection systems. Programmes focusing on nutrition, sanitation, clean drinking water, financial inclusion, and subsidized food distribution have contributed to measurable improvements in certain indicators such as child mortality and stunting. However, structural challenges—including poverty, unemployment, climate vulnerability, and gaps in policy implementation—continue to hinder faster progress.

Addressing hunger in India therefore requires an integrated and region-specific approach that combines economic development with improved healthcare, sanitation, education, and sustainable food systems. Strengthening data-driven policymaking and ensuring effective delivery of welfare schemes will be crucial for reducing malnutrition and achieving long-term food and nutrition security.

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