

A Study on Food Security and Nutritional Status in India: Current Scenario

Jyoti Kant

Research Scholar, Department of Home Science, Ranchi University, Ranchi, India
Email ID- [jyotikant2019\[at\]gmail.com](mailto:jyotikant2019[at]gmail.com)

Abstract: ***Introduction:** The Global Hunger Index (GHI) is a tool designed to comprehensively measure and track hunger at global, regional, and national levels. GHI scores are calculated each year to assess progress and setbacks in combating hunger. Hunger is usually understood to refer to the distress associated with a lack of sufficient calories. **Objective:** To study about the current scenario of food security and nutritional status in India. **Research Methodology:** The secondary data regarding food security and nutritional aspects were collected and analysed from various published and unpublished resources to arrive at results and conclusions. **Result and Discussion:** In the 2019 Global Hunger Index, India ranks 102nd out of 117 qualifying countries. With a score of 30.3, India has a level of hunger that is serious. The data showed 38.4 % of under five years children were stunted, 21 % wasted, 7.5 % were severely wasted and 35.7 percent were underweight whereas 48 % were stunted, 19.8 % were wasted, 6.4 % were severely wasted and 42.5 % were underweight according to NFHS 4 and NFHS 3 report respectively.*

Keywords: Hunger, Food Security, Nutritional Status, Children

1. Introduction

Global Hunger Index

The Global Hunger Index (GHI) is a tool designed to comprehensively measure and track hunger at global, regional, and national levels. GHI scores are calculated each year to assess progress and setbacks in combating hunger. The GHI is designed to raise awareness and understanding of the struggle against hunger, provide a way to compare levels of hunger between countries and regions and call attention to those areas of the world where hunger levels are highest and where the need for additional efforts to eliminate hunger is greatest. Measuring hunger is complicated. To use the GHI information most effectively, it helps to understand how the GHI scores are calculated and what they can and cannot tell us. GHI is published by the International Food Policy Research Institute (IFPRI) and focuses on multidimensional aspects of hunger, which uses proxy indicators for measuring food security in countries as well as regions within countries.

Hunger

Hunger is usually understood to refer to the distress associated with a lack of sufficient calories. The Food and Agriculture Organization of the United Nations (FAO) defines food deprivation, or undernourishment, as the consumption of too few calories to provide the minimum amount of dietary energy that each individual requires to live a healthy and productive life, given that person's sex, age, stature, and physical activity level.

Assembling the GHI

How are the GHI scores calculated? GHI scores are calculated using a three-step process that draws on available data from various sources to capture the multidimensional nature of hunger.

First, for each country, values are determined for four indicators:

- 1) UNDERNOURISHMENT: the share of the population that is undernourished (that is, whose caloric intake is insufficient)
- 2) CHILD WASTING: the share of children under the age of five who are wasted (that is, who have low weight for their height, reflecting acute undernutrition)
- 3) CHILD STUNTING: the share of children under the age of five who are stunted (that is, who have low height for their age, reflecting chronic undernutrition)
- 4) CHILD MORTALITY: the mortality rate of children under the age of five (in part, a reflection of the fatal mix of inadequate nutrition and unhealthy environments)

Second, each of the four component indicators is given a standardized score on a 100-point scale based on the highest observed level for the indicator on a global scale in recent decades.

Third, standardized scores are aggregated to calculate the GHI score for each country, with each of the three dimensions (inadequate food supply; child mortality; and child undernutrition, which is composed equally of child stunting and child wasting) given equal weight.

Food Security

Food security is a measure of the availability of food and individuals' ability to access it. India is the world's second-most populous country and third-largest economy, in purchasing power parity. Despite the recent strong economic growth in the country, access to adequate nutritious food for about a fourth of the population is still a concern. Also, despite improvements in the nutritional status of children, still too many are malnourished, and a significant number of pregnant and lactating women suffer from iron deficiency anaemia.

The government of India enacted the National Food Security Act (NFSA) in 2013 to ensure food and nutrition security for the most vulnerable groups of the population, through its associated schemes and programs, thus making access to

food a legal right. The NFSA 2013 ensures affordable access to an adequate quantity of quality food so all people can live a life with dignity.

As a nation, India is committed to achieving its targets under the ambitious Sustainable Development Goals (SDG), and many concerted efforts are being implemented to reach this end. To develop needs-based interventions that can effectively achieve the SDG 2 targets by 2030, there is first a need to comprehensively measure the current status of food and nutrition security in the country and then monitor the progress on specific targets set under SDG 2 for India.

"Food security, at the individual, household, national, regional and global levels is achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life", (FAO, 1996a).

This definition is again refined in The State of Food Insecurity Report 2001: "Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2001).

Indicators of Food Security The multiple dimensions and interlinked variables associated with food security make it difficult to evolve a single indicator to represent food security. Braun et.al (1992) has suggested the following indicators to capture the various dimensions at the country, household, and individual levels:

- 1) Food Security at the country level can be monitored, to some extent, in terms of demand and supply indicators.
- 2) Food Security at the household level is best measured by direct surveys of dietary intake. It is important to note that the current situation does not take care of the risk aspects, and also the changes in socio-economic and demographic variables such as wage rates, employment, and price ratios.
- 3) Anthropometric information can be useful to represent individual-level measures.

Objectives

To study about the current scenario of food security and nutritional status in India.

2. Research Methodology

The secondary data regarding food security and nutritional aspects were collected and analysed from various published and unpublished resources to arrive at results and conclusions.

3. Result and Discussion

This calculation results in GHI scores on a 100-point scale, where 0 is the best score (no hunger) and 100 is the worst. In practice, neither of these extremes is reached. A value of 100 would signify that a country’s undernourishment, child wasting, child stunting, and child mortality levels each exactly meets the thresholds set slightly above the highest levels observed worldwide in recent decades. A value of 0 would mean that a country had no undernourished people in the population, no children younger than five who were wasted or stunted, and no children who died before their fifth birthday.

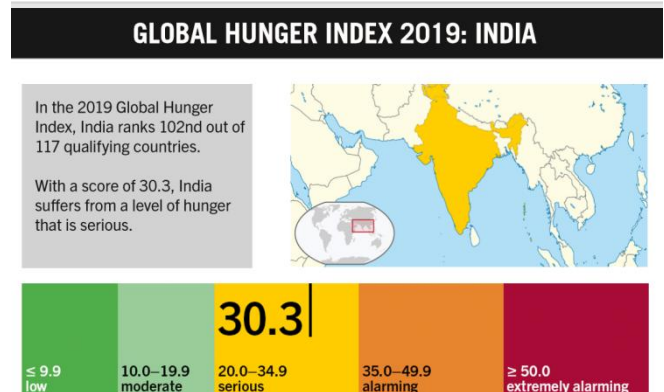


Figure 1: Global Hunger Index 2019: India
Source : www.globalhungerindex.org

Table 1: India’s performance over the Years 2014 in Global Hunger Index: 2019

India’s performance over the years since 2014		
Year	Ranking	Total Countries
2014	55	76
2015	80	117
2016	97	118
2017	100	119
2018	103	119
2019	102	117

India specific finding in GHI 2019
Source: www.globalhungerindex.org

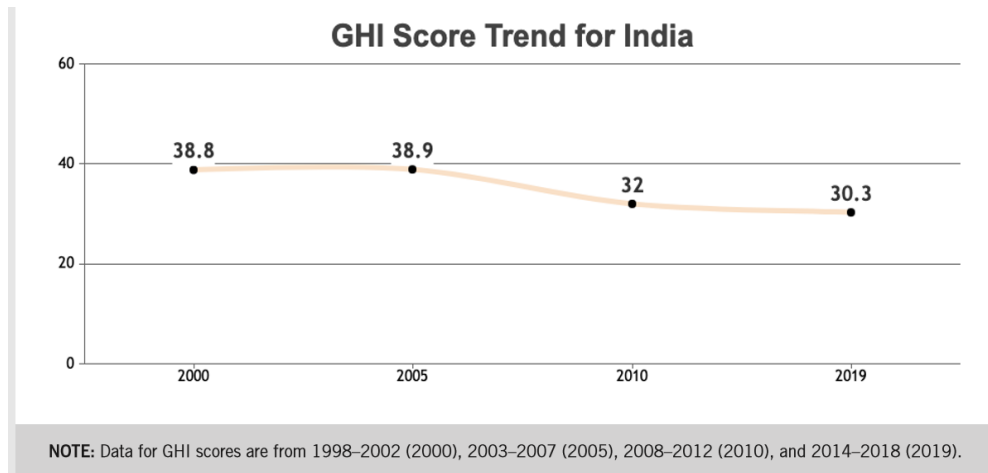


Figure 2: Global Hunger Index for India: 2019

Source: www.globalhungerindex.org

Table 2: Performance of India in global hunger index

Years	Proportion of undernourished children in the population (%)	Years	Prevalence of wasting in children under five years (%)	Years	Prevalence of stunting in children under five years (%)	Years	Under-five mortality rate (%)
1999-2001	18.2	1998-2002	17.1	1998-2002	54.2	2000	9.2
2004-2006	22.2	2003-2007	20	2003-2007	47.8	2005	7.5
2009-2011	17.5	2008-2012	16.5	2008-2012	42	2010	5.8
2016-2018	14.5	2014-2018	20.8	2014-2018	37.9	2017	3.9

Source: <https://www.globalhungerindex.org/download/all.html>

4. Food Security and Malnutrition

Food grains Availability in India

Production: Over the last 20 years, total food grain production in India increased from 198 million tonnes to 269 million tonnes. Wheat and rice are the staple foods of Indians and are a major portion of food grain production, constituting around 75 percent of the total food grain production and thus serving as a major source of income and employment to millions of people. The state of Uttar Pradesh leads in the production of wheat, cereals, and Foodgrains, closely followed by Punjab and Madhya Pradesh. West Bengal is the ‘rice bowl’ of India, followed by Uttar Pradesh, Punjab, and Bihar.

Net Availability: Since 1996, the per capita net availability of food grains has increased from 475 to 484 gm/capita/day

in 2018, while per capita availability of pulses has increased from 33 to 55 gm/capita/day. Although there has been a huge increase in the production of rice, wheat, and other cereals, their per capita net availability has not increased at the same level, due to population growth, food wastage and losses, and exports.

Nutritional Intake: Between 1993-94 to 2011-12, the average daily per capita consumption of both energy and protein decreased in rural India while in urban areas, there was no consistent trend. This decline has happened despite the increase in household income. For energy consumption alone, the trend suggests that despite increases since 1983, the overall energy intake is marginally lower than the minimum requirement. For protein intake, despite the declining trends, per capita consumption in both rural and urban areas is higher than the minimum daily requirement. However, fat intake has increased steadily since 1983 and is much higher than the minimum daily requirement.

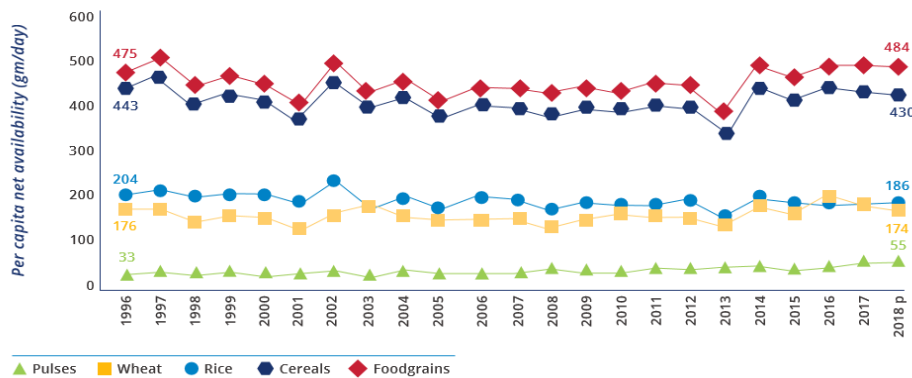


Figure 3: Per capita net availability of food grains (gm/ day), India, 1996-2018

Source: Ministry of Agriculture and Farmers Welfare, GOI

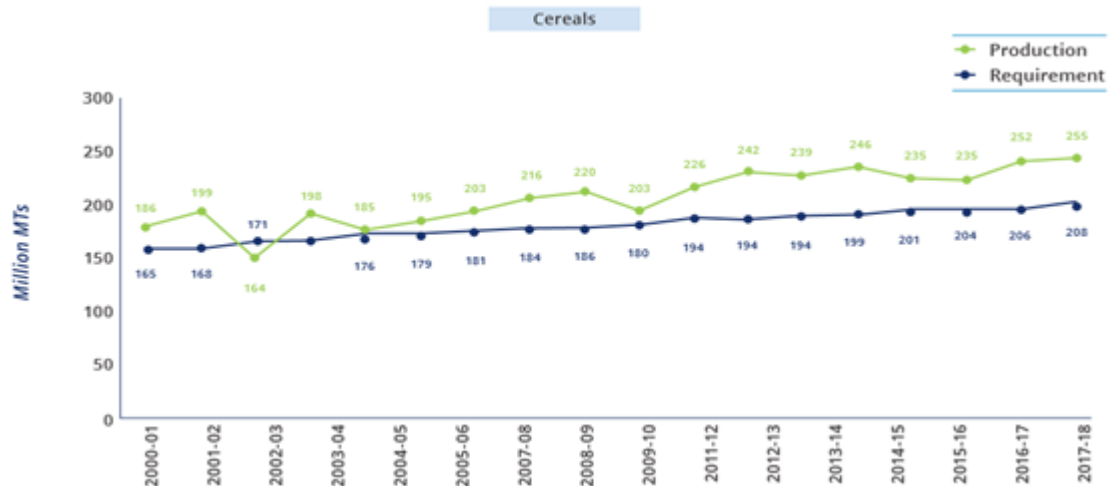
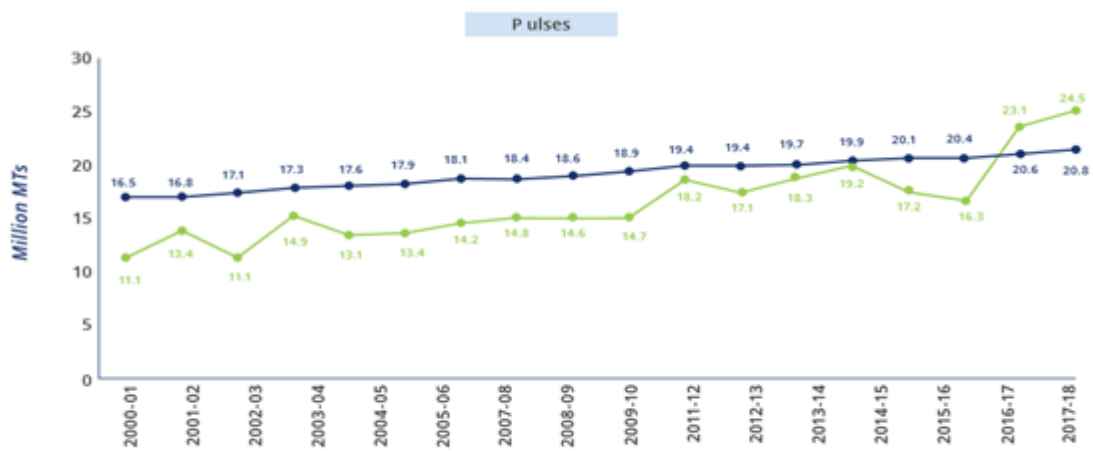


Figure 4: Trends of production and requirement of cereals in India, 2000-2018

Source: Ministry of Agriculture and Farmers Welfare, GOI



Source: Cereals and pulses production figures for India are obtained from the Ministry of Agriculture & Farmers Welfare, Government of India. Consumption requirement for cereals and pulses were estimated based on @ 500 gms/adult unit and @50 gms (dal)/adult unit per day respectively. Total population was converted into adult equivalent by adjusting with 88 percent of the total population.

Figure 5: Trends of production and requirement of pulses in India, 2000-2018

Source: Ministry of Agriculture and Farmers Welfare, GOI

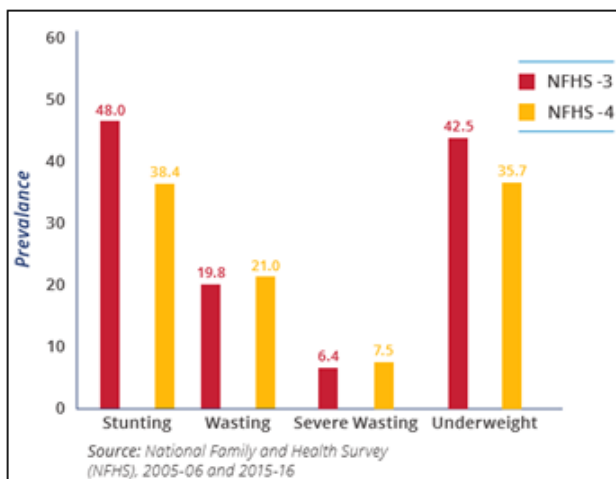


Figure 6: Malnutrition among under -five children in India, 2005-06 and 2015-16

The data showed 38.4 % under five years children were stunted, 21 % wasted, 7.5 % were severely wasted and 35.7 percent were underweighted whereas 48 % were stunted, 19.8 % were wasted, 6.4 % were severely wasted and 42.5

% were underweighted according to NFHS 4 and NFHS 3 report respectively.

5. Government Initiatives

Central Initiatives

- The National Food Security Act, 2013 (NFSA 2013) converts into legal entitlements for existing food security programs of the Government of India. It includes the Midday Meal Scheme, Integrated Child Development Services scheme, and the Public Distribution System.
- The NFSA 2013 also recognizes maternity entitlements. Pregnant women, lactating mothers, and certain categories of children are eligible for daily free cereals.

State Initiatives

- Karnataka has launched 'Indira Canteen', which serves breakfast lunch, and dinner at a very low price. This scheme was brought by the Congress govt led by Siddaramaiah as CM so that no-one in the state should be hungry and everyone gets healthy food.
- Tamil Nadu has launched 'Amma Unavagam' (Mother's canteen), or more commonly known as Amma canteen.

The genesis of this program could be traced to the scheme proposed by the Nimbkar Agricultural Research Institute in 2012.

- The State of UP in 2013 passed a food bill. Food that is going to be wasted from parties will be preserved and distributed to poor and needy people.
- The Chhattisgarh Food Security Act, 2012 law was enacted by the Chhattisgarh government. It was passed on 21 December 2012, by the State Assembly unopposed to ensure "access to adequate quantity of food and other requirements of good nutrition to the people of the State, at affordable prices, at all times to live a life of dignity."
- The level of food security is very low while the level of hunger is very high in India. Besides a faster and more democratic political system, India is still unable to provide two times food to its population. The outcomes of hunger and food insecurity can be understood by viewing statistics of malnutrition level. Considering the level of hunger, food insecurity and level of undernourishment, the importance of the Food Security Bill 2013 cannot be ignored.

6. Challenges

The availability of food depends upon a combination of factors, such as domestic production, trade, and stocks. It is a continuous effort to ensure that the country has enough food to meet increasing demand, be it increasing domestic production, playing on the global food markets, or carrying an inventory of food grain. The emphasis has been on re-energizing the food grain sector, against a backdrop of stagnating or declining productivity of food grain crops (varying across regions) owing to technology fatigue, climate change effects, and the like.

Climate change affects not only agricultural production systems and thereby food availability, but also people's ability to access food, which in turn has implications on nutritional concerns. It is observed that the frequency of droughts and erratic climatic conditions are increasing, and one wonders if this is an outcome of climate change.

7. Conclusion

In view of the above phenomena the problem of food security seems to be an important parameter for economic stability, humanity, and as well for feeding the future of living things. It requires a multi-level approach:

- 1) Use of safe Genetically Modified crops and the use of better Biotechnological seeds and pesticides.
- 2) Rehabilitation of barren land into cultivation with the fewer use of water resources, use of those crops which requires less water as a prime source as far as India is concerned due to more pressure of use of water comes from community supply for human beings (even at the cost of production activities).
- 3) Use of increasing income policies by strategic planning of deployment of natural resources, availability of finance, and by the trade-off of information technology through bilateral policies with the help of Government.

8. Recommendation for tackling hunger and undernutrition

- Continue to promote inclusive economic growth, with attention to the segments of the population that struggle most with poverty, hunger, and undernutrition.
- Develop a comprehensive national strategy on nutrition advocacy and communication by aligning advocacy, social mobilization, and behavior change communication interventions.
- Continue to prioritize nutrition in national policy. Develop systems for multi-sectoral cooperation on food and nutrition security from the national to local levels.
- Promote nutrition-sensitive agriculture, including the production of nutrient-rich crops such as fruits and vegetables as well as fish and other animal-source foods, and the development of markets and infrastructure to support the farmers who commit to producing these products.
- Increase efforts to promote women's empowerment and well-being, including women's food and nutrition security, land rights, access to education, and delay of early marriage. Facilitate adolescents' and women's knowledge and awareness of sexual and reproductive health rights and laws.
- Support policies and programs to build resilience and preparedness for the adverse impacts of climate change, particularly as it affects agriculture and food security.
- Ensure continued progress in water, sanitation, and hygiene (WASH), with a particular focus on providing improved latrines and increasing the standard of people's hygiene and handwashing practices.

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