

FOOD INSECURITY IN INDIA; THREATS AND INDICATORS

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ABSTRACT

This paper examines mainly present scenario, threats and indicators of food insecurity in India in terms of availability, access, and absorption or nutrition and Production of certain cereals has increased in India and now the country is one of the largest producers of cereals like rice and wheat. However, the number of people who are struggling with hunger and malnutrition remains very high. India's strategy of agricultural development and approach to food security has proved its resilience in the wake of recent global food crisis, which has created political and social unrest in several countries of the developing world. The same had earlier helped India tide over the severe food crisis. Though India's performance in terms of reducing hunger and malnutrition has not been remarkable given the political and socio-cultural milieu, the achievements have indeed been significant. Indian agriculture has undergone a phenomenal transformation during the past five decades but on the other hand India has also malnutrition levels almost the double those of many countries in Africa. This problem needs a multi-disciplinary approach covering diet diversify including micronutrients. Food security both at the national and household levels has been the focus of agricultural development in India .Government programmes such as TPDS including AAY, nutrition programmes like mid-day meals, and ICDS to improve food and nutrition security. NREGS and self employment programmes can also increase access to food and nutrition. Social protection programmes in India also helped in improving incomes and providing protection from shocks for the population, particularly the poor. However, there are a number of gaps and inefficiencies in social protection programmes for food grain access.

"Food Insecurity exists when all people, at all time, do not have physical and economics access to sufficient ,safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life"

Keywords:- Food Insecurity, Challenges, Threats, Indicators, Agriculture, TDPS, FCI.

I. INTRODUCTION

Food security is "access by all people, at all times, to enough and appropriate food to provide the energy and nutrients needed to maintain an active and healthy life". In term of this definition, although aggregate food security for the world as a whole has considerably improved over the last fifty year ago or so, still hunger, malnutrition and food insecurity remain widespread. It has been estimated that at present, roughly one billion people in the world suffer undernourishment. At the same time, one third of the world population is estimated to be exposed to nutritional risk. As at the world level, there is ample food supply to provide appropriate nourishment to everyone on this earth, undernourishment of a significant portion of world population only

underscores the mal-distribution of world's food resources and also the need for developing a mechanism to correct this disequilibrium.



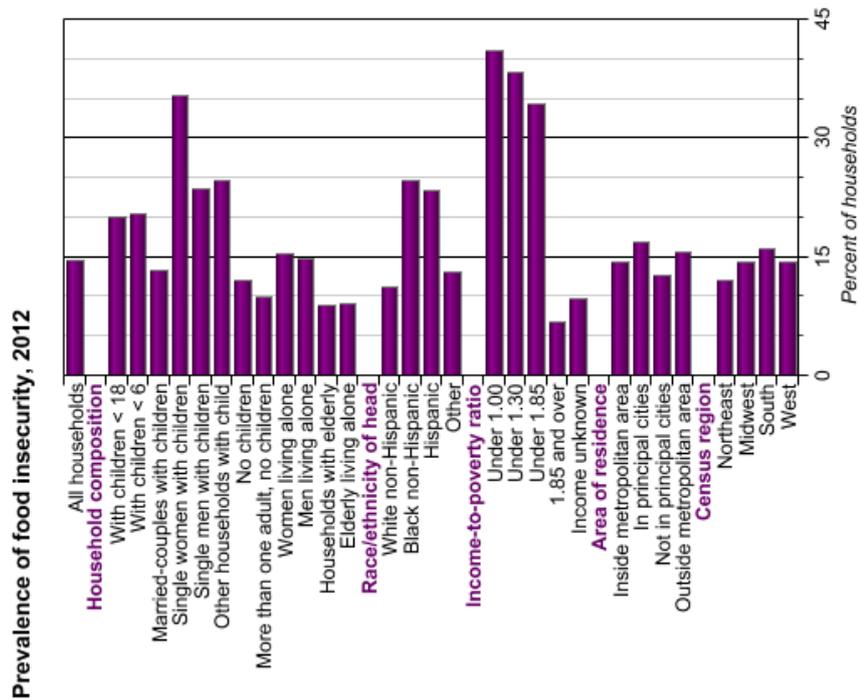
II. OBJECTIVE

The objective of this paper is to examine the performance, challenges, and policies in food security in terms of availability, access, and absorption over the last three decades. The paper addresses the following questions specifically:

- Scenario in food supply in terms of availability at the national level, state level and household level.
- How far has India progressed in terms of access to food and nutrition requirements/Security at the household level?
- The Programmes and policies that India has followed in order to realize food and nutrition security.

Threats to Food Insecurity:

Food insecurity is due to many causes. These causes emanate at the national, household and individual level. Variability in domestic food production is the major cause of food insecurity at the national level. However, food availability at the national level is a necessary but not a sufficient condition for food security. In spite of food availability for the nation as a whole, there can be pockets of hunger and malnutrition in the country. Such a situation will arise due to the mal-distribution of food in the country. As a matter of fact, the same distributional problem can occur at the international level. It has been often pointed out for the world as a whole, there is a sufficient food. The other factor that can obviously threaten food security is the fall in the food supply itself.



Source: Calculated by ERS using data from the December 2012 Current Population Survey Food Security Supplement.

Indicators of Food Security or Food Insecurity:

At the very outset, we may point out that food security is affected by a multitude of causes and that many of these causes are difficult to quantify. As a result, the quantitative analysis of food security becomes rather difficult. Still efforts have been made to search for quantifiable indicators of food security (or food insecurity) and their impact on it.

The main indicator used for studying problem of “Food Security” took results from Crop Cutting Experiments, Satellite Imaging, and other method of forecasting food production. Food Self Sufficiency was synonymous with food security. However it was being realized that information about available aggregate food supply or for that matter, per capita food supply failed to give any information about the extent of deprivation, malnutrition and hunger.

As a result, emphasis on the study of access to food rather than on the availability of food gained more importance. As such old indicators used for gauging food security also lost their primary position. These indicators were considered useful early 1980s. After 1980 the concept of Food Security itself went under change. Now Food Security was examined in term of an access of a household or an individual to food. **In other words, the focus shifted from the supply side to demand side.** The indicators used for examining food security also changed. Now food security was considered as a function of Incomes, Prices, and Social Safety nets and other ingredients of entitlements. Various anthropometric variables e.g., height, weight, body mass, were also used to gauge the incidence of food insecurity.

Trends in the Production of Food grain India:

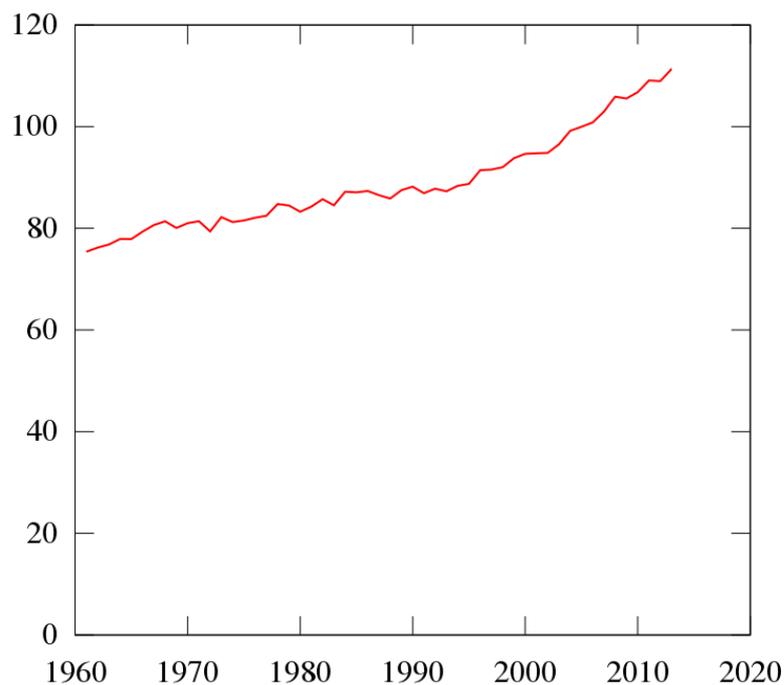
Year	Production(million tons)
1970-71	108
1978-79	132
1990-91	176
2001-02	214
2006-07	216
2010-11	245
2012-13	257
2013-14	265
2014-15	272

Source: Economic Surveys.

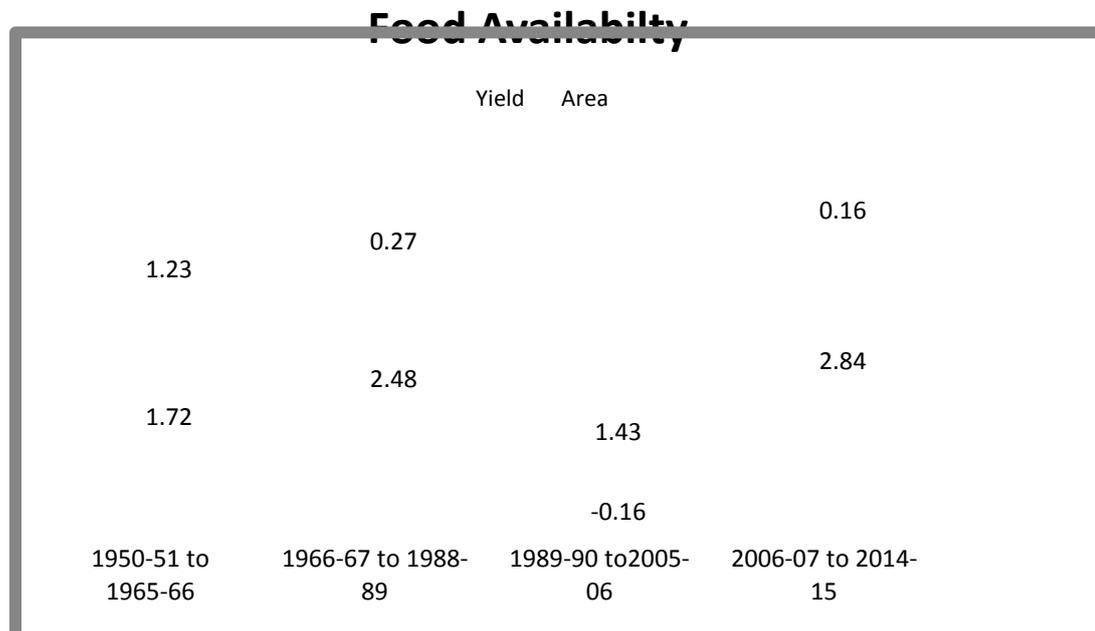
From the above table it has shown that the production of food grain increased year by year as in the year 1970-71 production was 108million tones. After the 1991 economic reforms the production increased 176 million tones. In the year 2014-15 the production increased 272 million tones.

Food production per capita

(2004-2006 = 100)



Food Availability Trends in India:



At the time of political independent in 1947, the Food situation in India was grim and since then it witnessed different phases of food security. During pre-green revolution period all possible efforts was made to increase food grain production. The growth in production of food-grains in the country was around 1.15% during 1989-90 to 2005-06 and further to 2.75% as against population growth of 1.93%.

Shift of Focus from Food Security to Food Insecurity:

The third generation concept of food security has emphasized to analysis the problem of food security is to focus attention on various negative elements of “Food Insecurity”. In other words food is now on the identification of those individual who are food Insecure.

There are four essential aspects which need to be analyzed.

1. Quantitative Availability of Food.
2. Qualitative Aspects concerning the types and diversity of food.
3. Psychological Quality of available Food.
4. Social Acceptability of Consumption Pattern.

Only the first aspect of food insecurity (Quantitative Availability of Food) is important set of indicators. For this purpose it is based upon the physiological symptoms of deprivation most commonly manifesting in anthropometric measure like height/age, weight/height, and upper arm circumference or body mass index etc of the respondents. For measuring food insufficiency data collected through an important sources too utilized. These are the data collected through household food consumption surveys and consumers’ expenditure surveys. However these suffer from one major defect. These fail to provide information about the consumption of every individual in the household. Though there are satisfactory indicators for the collection of data pertaining to the some aspects of food insecurity, the collection of data with the help of such indicators has not only faulty but also costly. Some alternative correlates of food insecurity like asset and income poverty, wage rates, food prices, number of unique foods consumed dependency ratio and morbidity.

Table: Rank Wise List of States According Affordability, Availability and Food Absorption .

State	Affordability	State	Availability	State	Food Absorption
Kerala	92	Punjab	51	Tamil Nadu	100
Haryana	79	Assam	42	Andhra Pradesh	87
Punjab	78	U.P	41	Gujarat	86
Maharashtra	76	West Bengal	40	Haryana	85
Tamil Nadu	68	Bihar	39	Maharashtra	84
Karnataka	63	Kerala	39	Karnataka	82
Gujarat	59	Haryana	31	Punjab	62
Andhra Pradesh	59	Odisha	24	Rajasthan	48
Madhya Pradesh	48	Rajasthan	22	Kerala	33
Rajasthan	47	Karnataka	20	U.P	30
West Bengal	40	Madhya Pradesh	18	West Bengal	28
Chhattisgarh	37	Maharashtra	16	Madhya Pradesh	25
Uttar Pradesh	33	Chhattisgarh	15	Chhattisgarh	22
Odisha	29	Andhra Pradesh	14	Odisha	12
Jharkhand	20	Tamil Nadu	13	Jharkhand	11
Assam	13	Gujarat	10	Assam	8
Bihar	0	Jharkhand	5	Bihar	0

Source: Economic Survey of India, 2012-13(2013)

Table. Rank Wise List of States According to Food Security Index (FSI)

State	FSI
Punjab	63
Kerala	59
Haryana	58
Maharashtra	50
Tamil Nadu	48
Karnataka	46
Andhra Pradesh	42
Gujarat	40
West Bengal	39
Uttar Pradesh	37
Rajasthan	36
Madhya Pradesh	31
Assam	26

Odisha	24
Chhattisgarh	24
Bihar	18
Jharkhand	12

Source: Economic Survey of India, 2012-13(2013)

Two Broad Conclusions about Food Security or Food Insecurity:

1. Unprecedented improvements have been made in the food availability and food security worldwide over the past two generations. There has been increase of about 15% in per capita availability of food during the last two decades or so. And this in spite of the fact that during the same period population of the world has increased by about 45%. Global food trade, has likewise grown rapidly, making food available to those regions which are not well endowed with cultivable land.
2. The second broad conclusion that emerges from the studies about food security is despite indisputable progress. Hunger and food insecurity remain widespread. The absolute number of people suffering from food insecurity has not fallen appreciably because widespread poverty and increasingly unequal asset and income distribution have neutralized the positive impact of increase in per capita availability of food.

By synthesizing the above two findings economists have arrived at the conclusion that the major culprit responsible for hunger and malnutrition in the world is not the limited availability of food. It is rather the uneven distribution of food which is responsible for the widespread food insecurity. This is true at all the levels of analysis, whether international, national or even household.

Food Assistance Programmes

Food assistance programmes are meant to help food insecure people, either by increasing availability by expanding food entitlements or by improving the use of existing entitlements. Food assistance programmes have been run by the domestic governments as well as by institutions at the international level. We describe below both types of programmes.

A. Domestic Food Assistance Programmes'

Domestic food assistance programmes, can be either of Type A or Type B.

Type A --- Consumer food subsidy, Food price stabilization, Food stamps, Food aid and Supplementary feeding programmes.

Type B--- Micronutrient fortification, Nutrition Education, Information and early Warning System

A food assistance program whether of type A or type B are important for solving the problem of food insecurity the following are the features.

1. Food Stamps:

Food stamps are coupons given to eligible persons to use as cash in order to acquire food in regular retail outlets. In the U.S.A., food stamps are the single largest type A food programme.

Government of India proposes to launch a food security programme for the country on a large scale. Food stamps will be the important instrument used for implementing this programme.

2. Supplementary Feeding Programmes':

Government of various countries of the world make special attempts to address the food security needs of infants, children, pregnant women, the elderly and people suffering emergencies. The programmes can be

divided into take home or supervised feeding programmes. These programmes are run through surplus stock donations or through the stocks purchased by the government. In low income countries, these programmes have been run even through the stocks received as food aid from rich countries. In India mid-day meal programme for school children is an example of such programme.

3. **Women, Infants and Children Programmes.(WIC)**

WIC is one of the most successful supplemental feeding programmes in developed countries like U.S.A.The programme provide free supplement food, nutrition education and health care referrals to low income group people. The food provided by WIC is targeted to meet micronutrient needs of special importance of early childhood, calcium, iron, protein and vitamin A and C.

4.**Food for Work Programme:**

This Programme is run in both developed as well as developing countries. Under the programme unskilled jobs are offered to the nearby who are paid their wages partly or fully in food grain. While in developed countries the programme generally stipulates that the beneficiary must find a job with some private institution in developing countries. The beneficiary has to work in rural works programmes run by the government. There is enough evidence show that the programme has not only helped the vulnerable benefit from the programme. But also, it has helped the building up infrastructure in the economy.

5.**Food Subsidies and Food Price Stabilization:**

As such programmes are expected to work in favour of the poor. These have been followed in many countries. Both of these programmes aims at changing the food prices in favour of consumers and thereby influence food security. In India there programme run in the form of Public Distribution system and the buffer stock schemes.

6.**Micronutrient Fortification:**

The problem of micronutrient deficiency is wide spread. Deficiencies of iron, iodine and that of vitamin A, C and D are quite common among the populations of various countries. Despite the fact the cost effective technologies are available to solve the problem of micronutrient deficiencies. Most of the people suffering such deficiencies belong to the weaker section of the society. No doubt the program of micronutrient deficiency can be addressed even through medical intervention. However the problem is easy to solve if the micronutrient are added to the food taken by the people in general.

7.**Nutrition Education:**

Nutrition Education takes many forms including the issuance of dietary guideline, food and nutritional labeling and counseling programmes for the targeted beneficiaries. Such programmes aim to improve individual's selection of food and preparation of food so as to maximum nutrient intake per unit of expenditure.

8.**Information and Early Warning System:**

Food Security involves the anticipation, Prevention and relief of proximate threats. This obviously necessitates collection of relevant information about impending food insecurity and an early warning about the coming event. After the corrected information about prospective supply and demand for food has been collected. It must be conveyed to the concerned authorities much in advance of the impending calamity.

Summary

Global Hunger Index of 2016, India ranked 97th out of 118 countries and this report is quite disturbing because India is one of the largest producers of food in the world. Overall, it may be concluded that food security in

India can be achieved by paying higher attention to issues such as climate change, integrated water management, agricultural pricing, inadequate storage capacity, unsuccessful delivery of public services, mismanagement of food products and crop insurance. Despite considerable effort being made to improve production, not much focus has been given to curb food supply chain losses. With over 1.2 billion people to feed, addressing the issue of food wastage is essential to India's efforts towards combating hunger and improving food security. So, The total food grain production has to match with the requirements taking into account population growth and shift from cereals to non cereal quality food as evidence from NSS data. For this purpose, it has to be borne in mind that the potential areas of the country like Punjab, Haryana, and Western Uttar Pradesh have already reached at a plateau from where further significant increase would be a miracle in the absence of advancement of production technology. Such areas should follow a steady pace of diversification towards high value farm products and thus meet the nutritional requirements of the vulnerable sections of society. The policy thrust on population control is also urgently needed as long run solution to the problem. To improve the efficiency of food grain procurement and delivery systems of the country, private trade in food grain should be encouraged. The production and quality oriented research and extension systems can go a long way to help the situation.

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