



“Dimensions of Food Security and India”

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INTRODUCTION:

Demographic dividend depends on productivity of human resources. To turn population into asset, India with world has to focus on the aspect of food security first. The food security is a multidimensional affair. Food security is directly related with human's thinking and physical ability. It is found in many studies conducted for various countries of world that the India is at its alarming position. Wide gap between upper and lower strata of population, in the context of poverty or resource availability forces policy makers to address the issue. Poverty is both, the cause and the effect of hunger problem. The hunger is not the effect of less food production or agriculture failure only. The hunger is related with some other aspects also, these aspects fall under the social and geographical as well as political and governance fields. Present paper studies various dimensions of food security.

KEY WORDS:

Food security, Challenges, resilience, India

What Is Food Security?

Availability of sufficient and nutritious food ensures psycho-physical productivity of human. Non availability of food leads to malnutrition, reduction in thinking and working ability, social unrest and many unwanted social phenomenon. After the development of civilization, non-availability of food is not just limited to agricultural production or physical strength of human to fight and grab the food. Food security now is a matter of many social, economic, political and governance related aspects in addition to the geographical factors. Identification of these factors helps in combating food insecurity.

Though the poverty elimination has remained a slogan for many political parties to win the election for decades, this is the high time to think the condition of hunger and poverty when the world is at the edge of year 2030 to achieve Sustainable Development Goals. Here, we should take a note that though the world is divided by political borders; the issue of feeding people needs to be thought in holistic way due to modern order of increased movement of people from one country to the other. Now, let us enter into the problem step by step.

Food security is, as defined by the World Bank in 1996 World Food Summit, “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”. This concept of food security emphasizes on four dimensions of food security. Let us take a glance of these four dimensions with the reference of the World Bank's report.

- (i) Physical availability of food: This is a supply side matter. Food production based on geographical conditions, total stock of food stored and ability to trade to maintain sufficient food quantity.
- (ii) Economic and Physical access to food: this aspect includes some governance related factors as well as economic factors, like food pricing that is affordable to people, ability of people to pay the price for food, distribution of food at market or with the interference of the state. As having sufficient food production in the context of successful agricultural aspect does not assure poor unemployed or under employed people.
- (iii) Food utilization: uncommonly, this point highlights such factors which are not in economic, geographic or governance class, these factors are individual and biological. The way a person consumes food with their own choice is very important whether the food is nutritious or not. Biological requirement for work performance and healthy living needs all variety of food. Also the way of preparing food or eating habits affect health. Some natural constitution of body has special requirements of food to absorb and consume. Family and social traditions and norms too are decisive factors.

- (iv) Insecurity and uncertainty: adequacy of food supply today is not the only factor that secures tomorrow's food. War, political instability, natural calamity, trade cycles (high price rise during inflation and unemployment during recession) etc. may cause food insecurity.

Now, let us visit India's situation in above narrated four dimensions of food security.

- a) Physical availability of food in India: Food grain production has been taken here to study the food security condition in India. There are two major factors that decide physical availability of food in the country; viz., natural geographical factors and state governance factor. Following table 1 is showing status of food grain production, area under cultivation, horticulture production and per capita availability of food grains.

Table 1

Year	Food grain production (million tons)	Horticulture production (million tons)	Area under cultivation (Million hectares)	Yield Kg./ Hectare	Per capita availability of food grain Kg./ year
2010-11	2441.5	-----	126.67	1930	159.5
2018-19	285.0	313.85	124.78	2286	160.5
2021-22	285.71	342.33	129.80	2394	186.8

Source: Agricultural statistics At a Glance, Publication by the Economics and Statistics division, Ministry of Agriculture and Farmers Welfare, various publications, https://agriwelfare.gov.in/en/Agricultural_Statistics_at_a_Glance

Above table 1 is showing that food grains and horticulture production is increasing. Land has many uses and even with increased population and other economic activity, the table 1 shows that area under cultivation has increased. Productivity that is yield per hectare has gone up, this has resulted in increased per capita availability of food from 159.5 kilo gram per year in 2010-11 to 186.8 kilogram per year.

- b) Economic and physical access of food in India: Economic and physical accessibility for people depend on two aspects, they are affordability and distribution system through open market or government interference. Further, economic affordability is a matter of inflation or general price level and income of people. Below table 2 presents picture of per capita income, wholesale Price Index (WPI) and Consumer Price Index (CPI) for industrial workers.

Table 2

Year	Per capita income in `	WPI	CPI
2010-11	36202	143.3	180.0
2020-21	86054	123.4	333.0
2021-22	92563	139.4	124.0

Source: agricultural statistics at a glance 2022 publication by ministry of agriculture and farmers welfare

Table 2 is showing economic and physical access of food. This component has two sub points; they are demand side and supply side. Demand side variables are major unemployment and population below poverty line. If we study table 2 above, the picture of food availability from supply side is satisfactory, as the WPI has remained almost stable with marginal decline. The CPI too has gone significantly down. Thus looking to the food price factor, it may not play a negative role in addressing food security. On the other hand economic purchasing power of population depends on employment and poverty. India's National Sample Survey Office (NSSO) has presented the unemployment rate 6.1% in 2021-22; this is declination from 6.1% in the year 2017-18. Also population below poverty line has shown reduction from 25% in the year 2015-16 to 15% in year 2019-20. Although, both the demand side and supply side factors are promising, looking to India's population size, absolute number unemployed and poor cannot be ignored in respect of food security.

- c) Food utilization in India: this is the point that covers social and traditional factors. Also it considers medical base and habituation of people in the social peer background. For example when people consume more food with high carbohydrate, but their physical activity amount and metabolism does not allow them for such food, people invite diseases with lifestyle related. Malnutrition, imbalanced diet, improper choice of food type and quantity draw people far from living healthy and normally working life. This can be controlled and directed through campaigning and training. Also providing alternatives to people and education those with better options ensure for proper food utilization. In contemporary world, we are experiencing some positive movement towards alternative food consumption which is suitable to physical health as well as the food is locally grown with eco-friendly production system, like people now are getting awareness for consumption of millet and milk products, some new fruits and vegetables too.
- d) Insecurity and uncertainty regarding food production and accessibility in India- the external factor concern: In general, external factors like war and natural calamity affects availability of food. Welfare oriented democratic governance make provision and build safety net through creating buffer stock. India's storage capacity with Food Corporation of India (FCI) and its stock of food grains is shown below in table 3.

Table 3

Year	Storage Capacity of FCI (in lakh million tons)	Stock of food grain (in lakh million tons)
2010	709.22	47.69
2020	755.94	56.84
2022	461.55	55.35

Source: agricultural statistics at a glance 2022 publication by ministry of agriculture and farmers welfare

Governance looks after smooth supply of food to people. By growing crops at own area or by importing by trade. Table 3 shows storage capacity of FCI and the buffer stock of food grains. We can see that food grains stock is sufficient to build safety net against uncertain external factors.

Challenges:

If we look from the Indian perspective, food insecurity is more social problem rather than geo-climatic or governance related. As the climatic factors cannot be controlled, Indian people and leaders have adapted science and technological changes in their farm practices. Indian agriculture has shown noticeable in productivity per hectare as well as labour productivity. India has become exporter from the importer after independence. Change in farming system, crop cycle and use of advance technology, transportation and storage capacity etc. has provided assurance to control food insecurity.

The major challenges in the problem are coming from social and cultural fronts. Studies on food insecurity are concluding their remarks and figures that women are more insecure in availability and accessibility of food. Food wastage in hotels and meal parties during social gatherings and functions can be said social contamination and immoral behavior.

The other social cause of food security is lifestyle and improper food habits of people. Modern lifestyle prefer refined and fast food for taste and suitable to fast life. This results in undernourishment and malnutrition in children and adults.

Building safety net and curbing uncertainty for future - Remedial measures:

Studies have been conducted worldwide in respect of the 2nd goal of the Sustainable Development Goals that is zero hunger or in other words, food security. Food security is a multifaceted issue. Although India has moved far ahead on the fronts of food production and able to control food supply even by importing, some social and economic issues are to be addressed. Contemporary and future India has to think not only for its own food security but also food security of global population. Following are some points to note for food security:

- i) Diversity in food consumption.
- ii) Reliance on local geo-climatic food production and consumption.
- iii) Infrastructure building like storage and godowns and warehouses
- iv) Encouraging food processing industry to preserve food for longer time like tomato sauce, milk powder and other products. Value addition in produced food will enhance farmers' ability to wait for right price and preserve food for longer period.
- v) Empowering women for food security
- vi) Encouraging research for new as well as traditional knowledge of food production, preservation preparation and consumption thus changing food consumption habits.
- vii) Using alternative energy sources to control price rise in energy
- viii) Relying on local food types and products to develop resistance ability against import fluctuations
- ix) Shift in diet pattern

Food insecurity generates inflationary price rise, affects public financing, balance of payment and thus overall economic growth process negatively. Thus, agriculture is prime sector even today that controls all other economic activities of industrial or tertiary sectors. Green revolution after independence, technological adaptation, commercialization of agriculture sector and land reforms has significantly changed the Indian agriculture. The next focus must be social awareness towards the condition.

Modern challenges are change in land use pattern due to urbanization and shrinking farms, ornamental plantation and farming, market imperfection and globalization. These challenges can be addressed by education people.

Conclusion:

As it is discussed in the paper that the issue of food security is not limited to just farm, farmer and geographic factor level, the issue is now more concerned with social and technological factors. Introducing advance technology to preserve and add value to food (like technology was introduced to grow more food) and social awareness towards the problem may bring positive result.

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