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An Analysis Food Security in India

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Abstract

The concept of food security has undergone considerable changes in recent years. Food Availability, accessibility and affordability are considered good measures of food security in Country. Though India is successful in achieving self-sufficiency by increasing its food production and also improved its capacity to cope with year-to-year fluctuations in food production, it could not solve the problem of chronic household food insecurity. Annual food production is enough to feed the 6.9 billion people in the world today. This paper tries to bring out the challenges for achieving food security in India as well as food production in India and what are the government steps to achieve the food security.

Key Words: PDS, TPDS, Food Security, Availability and Food Production

1. Introduction

For a country like India where the achievement of food security is a continuing challenge, the consequences of ignoring the problem of food and nutrition insecurity seem very dire. Furthermore, the state of severe food and nutrition insecurity not only suggests the presence of under nutrition and Malnutrition in the country but it also sheds light on the crisis of the rural economy that India faces. Ensuring food security ought to be an issue of great importance for a country like India where more than one-third of the population is estimated to be absolutely poor and one-half of all children malnourished in one way or another. Food availability is a necessary condition for food security. India is more or less self sufficient in cereals but deficit in pulses and oilseeds. Due to changes in consumption patterns, demand for fruits, vegetables, dairy, meat, poultry, and fisheries has been increasing. There is need to increase crop diversification and improve allied activities. It may be noted that the slowdown in agriculture growth could be attributed to structural factors on the supply side, such as public investment, credit, technology, land and water management, etc., rather than globalization and trade reforms. Access to food can be increased through employment due to growth in labor intensive sectors and/or through social protection programmes. The malnutrition problem is much broader than that of access to food. Indian government has introduced many programs for achieving food security, namely TPDS including AAY, nutrition programmes like mid-day meals, and ICDS to improve food and nutrition security. Under national food security law, the government servicing rice and wheat to the poorest of poor at Rs. 3 per kilogram 2 per Kilogram respectively for rice and wheat but in Karnataka freely these services are being provided in the name of Anna Bhaghay Yojan for the poor.

2. **Methodology :** This paper is based on only secondary data; the data

has been collected from Food Corporation of India, IFPRI, Global Hunger Index , FCI, Ministry of Agriculture Govt reports, CESS, articles, journals, etc

3. Objectives of the study

- To know the current scenario of food production in India
- Indian Government Steps towards attaining food security
- To study the challenges before achieving the food security
- To suggest appropriate measures in achieving food security

4.1 Food production in India

As per Final Estimates for 2012-13, total production of rice in the country is estimated at 105.24 million tonnes which is lower by 0.06 million tonnes than record production of rice during 2011-12. Production of wheat estimated at 93.51 million tonnes is lower than its record production of 94.88 million tonnes during 2011-12. The production of Coarse Cereals is estimated at 40.04 million tonnes which is lower than the production of Coarse Cereals during 2011-12. Total food grains production estimated at 257.13 million tonnes is lower by 2.16 million tonnes than the record production of 259.32 million tonnes achieved during 2011-12. Total production of pulses and oilseeds estimated at 18.34 million tonnes and 30.94 million tonnes respectively are higher than their production levels during 2011-12. Production of sugarcane estimated at 341.20 million tonnes is lower by 19.83 million tonnes than its record production of 361.04 million tonnes during 2011-12. Production of cotton is estimated at 34.22 million bales (of 170 kg each) which is marginally lower than its production of 35.20 million bales during 2011-12. Production of jute & mesta estimated at 10.93 million bales (of 180 kg each) is a little lower than production of 11.40 million bales during 2011-12. Area, Production and Yield of major crops during last three years is given below:

Crops	Area (lakh hectares)			Production (million tonnes)		
	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
Rice	428.62	440.06	427.53	95.98	105.31	105.24
Wheat	290.69	298.65	300.03	86.87	94.88	93.50
Coarse Cereals	283.39	264.22	247.61	43.40	42.04	40.04
Pulses	264.02	244.62	232.56	18.24	17.09	18.34
Food- Grains	1,266.71	1,247.55	1,207.75	244.49	259.32	257.13
Oilseeds	272.24	263.08	264.84	32.48	29.80	30.94
Sugarcane	48.85	50.38	49.98	342.38	361.04	341.19
Cotton#	112.35	121.78	119.77	33.00	35.20	34.22

Crops	Area (lakh hectares)			Yield (kg/hectare)		
	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
Rice	428.62	440.06	427.53	2,239	2,393	2,462
Wheat	290.69	298.65	300.03	2,989	3,177	3,117
Coarse Cereals	283.39	264.22	247.61	1,531	1,591	1,617
Pulses	264.02	244.62	232.56	691	699	789
Food- Grains	1,266.71	1,247.55	1,207.75	1,930	2,079	2,129
Oilseeds	272.24	263.08	264.84	1,193	1,133	1,168
Sugarcane	48.85	50.38	49.98	70,091	71,668	68,254
Cotton#	112.35	121.78	119.77	499	491	486

4.2 Indian Government Steps towards attaining food security

India's food policy has emerged from a concern to ensure adequate supplies of food grain (mostly cereals) at reasonable prices (Chopra, 1981). The policy has largely mirrored the various changes in approach to food insecurity outlined earlier. Thus, India's policy has evolved from a focus on national aggregate availability of food grain to concentrating on household and individual level nutrition security. The beginnings of food policy in India can be traced to the aftermath of the Bengal Famine in 1943. Several contemporary features of India's food policy find their origins in this period.

In January 1965, the Food Corporation of India (FCI) was set up in order to secure a strategic and commanding position for the public sector in the food grain trade. An Agricultural Prices Commission (subsequently renamed Commission on Agricultural Costs and Prices, CACP for short) was also set up to recommend procurement prices based on an analysis of costs of cultivation? India's food grain position turned precarious in 1965 – 66 following two successive monsoon failures. Statutory rationing was introduced in towns with more than one lakh population from 1965 – 66 to 1966 – 67, following a severe drought. Public distribution, crucially based on food imports, played a major role in mitigating the disastrous consequences of the drought (Chopra, 1981). India resorted to wheat imports from the USA under Public Law 480, leading to a situation described by an eminent agricultural scientist as 'a ship-to-mouth' existence. This had repercussions on India's pursuit of an independent foreign policy. This development brought the issue of national self-reliance in food grain prominently on the political agenda. The response of the State to the food grain crisis of 1965 – 66 eventually took the shape of a new agricultural strategy, which has come to be known as the GR in popular parlance. High yielding Seed varieties, combined with chemical fertilizers, pesticides and agricultural extension efforts, marked the new basket of inputs under the GR (Sharma, 2004). This was also backed up by significant public investment in input subsidies, research, and improvement in infrastructure such as irrigation. The GR, confined largely to rice and wheat, was key to sustaining the growth rate of food grain Output of the 1950s and early 1960s, but without the benefit of substantial increases in the area cultivated. The focus was on raising

yields per acre and there was regional imbalance. Nevertheless, it helped critically in increasing the country's food grain output substantially, at a rate higher than the rate of growth of population through the decades up to 1990. It has given rise and currency to the notion that the country has achieved 'self-sufficiency' in food grain. The idea that India is self-sufficient in food grain is, however, not entirely unproblematic.

The objectives of self-sufficiency in food grain production, price stability and ensuring provision of food grain at reasonable prices to enable universal access continue to be highly relevant to India. However, there have been significant changes in the environment in which Indian agriculture operates. Following the adoption of reform policies since 1991, Indian farmers have become exposed to deflationary macroeconomic policies, volatile international prices, decreasing access to as well as More expensive institutional credit, reduction in public investment resulting in the stagnation of agricultural growth and productivity and a near collapse of extension services. These developments pose new challenges for policies concerning food security.

Currently, the main food security safety nets in India are as following

1) The so-called Targeted Public Distribution System (TPDS),
2) Supplementary feeding programmes such as the Integrated Child Development Services (ICDS), the national programme of nutritional support to education
3) the Mid-Day Meals Scheme (MDMS) in primary schools (now under extension to secondary schools) and food
4) Antyodaya Anna Yojan (AAY)
5) Anna Bhaghya Yojan in Karnataka
6) The National Food Security Act, 2013

The National Food Security Act, 2013

The National Food Security Act, 2013 (also Right to Food Act) is an Act of the Parliament of India which aims to provide subsidized food grains to approximately two thirds of India's 1.2 billion people. It was signed into law on September 12, 2013, retroactive to July 5, 2013. The National Food Security Act, 2013 (NFSA 2013) converts into legal entitlements for existing food security programmes of the Government of India. It includes the Midday Meal Scheme, Integrated Child Development Services scheme and the Public Distribution System. Further, the NFSA 2013 recognizes maternity entitlements. The Midday Meal Scheme and the Integrated Child Development Services Scheme are universal in nature whereas the PDS will reach about two-thirds of the population (75% in rural areas and 50% in urban areas).Under the provisions of the bill, beneficiaries of the Public Distribution System (or, PDS) are entitled to 5 kilograms (11 lb) per person per month of cereals at the following prices:

- Rice at 3 per kg
- Wheat at 2 per kg
- Coarse grains (millet) at 1 per kg.

Pregnant women, lactating mothers, and certain categories of children are eligible for daily free meals. The bill has been highly controversial. It was introduced into India's parliament on December 22, 2011, promulgated as a presidential ordinance on July 5, 2013, and enacted into law on September 12, 2013

4.Food demand in India : The food demand will be driven by income and population growth, urbanization, food prices and income distribution. Food demand projections have been made using the piece-wise linear expansion system (LES) model developed at Centre for Economic and Social Studies (CESS), Hyderabad. The projections given below assume real expenditure growth of 5 per cent per annum between 2000 and 2020, increase of population to 1.343 billion in 2020, rate of urbanization and rural urban disparity consistent with the historical trends and the inequality in the income distribution and relative prices same as in 1998. Under these assumptions, the demand is projected to grow at 2.2 per cent for cereals during 2000-10 and 2.0 per cent during 2010-20, 3-4 per cent for edible oils and pulses, and 4-5 per cent for milk and milk products, meat, fish, eggs, fruits, vegetables, sugar and gur.

At the current cereal intake of 143 kgs./per capital/annum, cereal requirement for household Consumption will be around 192 million tons in 2020. The requirement will be more if the increase in household demand due to income growth is also considered. At 5 per cent per annum growth in total Expenditure and population of 1.343 billion, household cereal demand works out to 221 million tons in 2020 and for food grains 241 million tons (Table 4). With a grossing factor of 1.14, the total (household plus non-household) demand for cereals may be around 253 million tons. The above cereal demand projections are made with the assumption of stability of tastes and preferences in food consumption. If the secular trend of food grain production as witnessed during the last two decades is sustained, the production of additional 57 million tons of cereals and 76 million tons of total food grains in the coming two decades may not be out of reach for India. Demand for superior food items such as dairy and animal husbandry products, sugar, fruits and vegetables are expected to grow much faster during the coming decades. The estimated demand in 2020 for milk and milk products will be around 166 million tons, edible oils 11 million tons, meat, fish and eggs 11 million tons, sugar and gur 25 million tons and fruits and vegetables 113 million tons. However, there may be a significant growth of demand for feed grains as milk consumption is likely to increase at a high rate. The balance of 35 million tons over and above the direct household cereal consumption can absorb any reasonable increase in feed grain demand. A major challenge to food security comes from dietary diversification of the poor.

Table : Projections of Households food demand - All India (MT)

	2010	2020
Rice	97.99	118.93
Wheat	72.07	92.37
Other cereals	14.11	15.57
All cereals	181.12	221.11
Pulses	14.58	19.53
Food grains	195.69	240.64
Milk and Milk Prod	106.43	165.84
Edible Oils	7.67	10.80
Meat and Fish	7.25	10.80
Sugar and Gur	17.23	25.07
Fruits and Vegetables	75.21	113.17

4. Challenges in Achieving Food Security in India

5.1 Faulty food distribution system

Inadequate distribution of food through public distribution mechanisms (PDS i.e. Public Distribution System) is also a reason for growing food insecurity in the country. The Targeted Public Distribution System (TPDS) has the disadvantage in the sense that those people who are the right candidates for deserving the subsidy are excluded on the basis of no ownership of below poverty line (BPL) status, as the criterion for identifying a household as BPL is arbitrary and varies from state to state. The often inaccurate classification as above poverty line (APL) and below poverty line (BPL) categories had resulted in a big decline in the off take of food grains. Besides this, low quality of grains and the poor service at PDS shops has further added to the problem.

5.2 Unmonitored nutrition programmes

Although a number of programmes with improving nutrition as their main component are planned in the country but these are not properly implemented. For instance, a number of states have yet to introduce the Mid-Day Meal Scheme (MDMS). In states such as Bihar and Orissa where the poverty ratio is very high, poor implementation of nutritional programmes that have proven effectiveness has a significant impact on food security

5.3 Lack of intersect oral coordination

Lack of coherent food and nutrition policies along with the absence of intersect oral coordination between various ministries of government such as Ministry of Women and Child Health, Ministry of Health and Family Welfare, Ministry of Agriculture, Ministry of Finance etc have added to the problem.

5.4 Implementing measures to improve agricultural productivity and food storage

The government policy needs to adopt an integrated policy framework to facilitate the increased use of irrigation and newer farming techniques. The measures should focus mainly on rationale distribution of cultivable land, improving the size of the farms and providing security to the tenant cultivators apart from providing the farmers with improved technology for cultivation and improved inputs like irrigation facilities, availability of better quality seeds, fertilizers and credits at lower interest rates. One main reason why food is not distributed equitably is that a significant amount is wasted It would be useful to adopt strategies for food storage which have been implemented successfully in other countries. For example, China has an excellent system of grain storage education and research. The country has invested in building advanced storage facilities that are armored with modern equipments. India can take professional help from the China in order to improve the quality of food storing facilities so that the food grains that are wasted and spoiled could be used to satisfy the hunger of those people who really need it.

5.5 Ensuring food availability and accessibility to below poverty line (BPL) candidates

It is essential to ensure availability of food grains to the common people at an affordable price. This can be done by more accurate targeting of the BPL population so that they get food at

substantially low price. There is a problem associated with the BPL listing. There is a debate about the exact number of people falling under this category. The estimates of the government are around 30 per cent of the population. The Planning Commission (under the Government of India) has now recommended a 37 per cent cut off based on the Tendulkar Committee report. Besides helping out the BPL population, there should be a provision for subsidy on the sale of food grains to above poverty line (APL) customers too. Also, all restrictions on food grains regarding interstate movement, stocking, exports and trade financing should be removed. This will reduce the food prices and increase affordability. The Public Distribution System must be made transparent and reliable.

5. Suggestions

- To decrease the risk of highly volatile prices, price regulation on commodities and larger cereal stocks should be created to buffer the tight markets of food commodities and the subsequent risks of speculation in markets. This includes reorganizing the food market infrastructure and institutions to regulate food prices and provide food safety nets aimed at alleviating the impacts of rising food prices and food shortage, including both direct and indirect transfers, such as a global fund to support micro-finance to boost small-scale farmer productivity.
- Encourage removal of subsidies and blending ratios of first generation biofuels, which would promote a shift to higher generation biofuels based on waste (if this does not compete with animal feed), thereby avoiding the capture of cropland by biofuels. This includes removal of subsidies on agricultural commodities and inputs that are exacerbating the developing food crisis, and investing in shifting to sustainable food systems and food energy efficiency.
- Reduce the use of cereals and food fish in animal feed and develop alternatives to animal and fish feed. This can be done in a "green" economy by increasing food energy efficiency using fish discards, capture and recycling of post- harvest losses and waste and development of new technology, thereby increasing food energy efficiency by 30–50% at current production levels. It also involves re-allocating fish currently used for aquaculture feed directly to human consumption, where feasible.
- Support farmers in developing diversified and resilient eco-agriculture systems that provide critical ecosystem services (water supply and regulation, habitat for wild plants and animals, genetic diversity, pollination, pest control, climate regulation), as well as adequate food to meet local and consumer needs. This includes managing extreme rainfall and using inter-cropping to minimize dependency on external inputs like artificial fertilizers, pesticides and blue irrigation water and the development, implementation and support of green technology also for small-scale farmers.
- Increased trade and improved market access can be achieved by improving infrastructure and reducing trade barriers.
- Raise awareness of the pressures of increasing population growth and

consumption patterns on sustainable ecosystem functioning

6. Concluding remark

Food security of a nation is ensured if all of its citizens have enough nutritious food available, all persons have the capacity to buy food of acceptable quality and there is no barrier on access to food. The people living below the poverty line might be food insecure all the time while better off people might also turn food insecure due to calamity or disaster. Although a large section of people suffer from food and nutrition insecurity in India, the worst affected groups are landless or land poor households in rural areas and people employed in ill paid occupations and casual labourers engaged in seasonal activities in the urban areas. The food insecure people are disproportionately large in some regions of the country, such as economically backward states with high incidence of poverty, tribal and remote areas, regions more prone to natural disasters etc. To ensure availability of food to all sections of the society the Indian government carefully designed food security system, which is composed of two components: (a) buffer stock and (b) public distribution system. In addition to PDS, various poverty alleviation programmes were also started which comprised a component of food security. Some of these programmes are: Integrated Child Development Services (ICDS); Food-for-Work (FFW); Mid-Day Meals; Antyodaya Anna Yojana (AAY) etc. In addition to the role of the government in ensuring food security, there are various cooperatives and NGOs also working intensively towards this direction.

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