

Growing Population and Food Security in India: Challenges And Solutions

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ABSTRACT: Food security refers to ensuring adequate food supply to people, especially those who are deprived of basic nutrition. Food security has been a major concern in India. According to UNO -India, there are nearly 195 million undernourished people in India, which is a quarter of the world's hunger burden. Also, roughly 43% of children in India are chronically undernourished.^[1] India ranks 68 out of 113 major countries in terms of food security index. Though the available nutritional standard is 100% of the requirement, India lags far behind in terms of quality protein intake at 20% which needs to be tackled by making available protein-rich food products such as soybeans, lentils, meat, eggs, dairy, etc. at affordable prices.^[2] The Human Rights Measurement Initiative^[3] finds that India is doing 56.8% of what should be possible at its level of income for the right to food.^[4]

KEYWORDS: food security, population, index, human rights, government, undernourished, UNO, supply

I.INTRODUCTION

In order to provide the Right to food to every citizen of the country, the Parliament of India, enacted a legislation in 2013 known as the National Food Security Act, 2013. Also called as the Right to Food Act, this Act seeks to provide subsidized food grains to approximately two thirds of India's 1.33 billion population.^[5] It was signed into law on 10 September 2013, retroactive to 5 July 2013.^{[6][7]}

Central Initiatives

- The Food Corporation of India (FCI) was established in 1965 for the purpose of procurement, storage and distribution of foodgrains. It has been playing a major role in the food security of India.^[8]
- The National Food Security Act, 2013 (NFSA 2013) converts into legal entitlements for existing food security programmes of the Government of India. It also includes the Midday Meal Scheme, Integrated Child Development Services scheme and the Public Distribution System. In 2017-18, over Rs 1500 billion (7.6% of the government's total expenditure) have been allocated to provide food subsidies under the Targeted Public Distribution System (TPDS).^[9]
- The NFSA 2013 also recognizes maternity entitlements. Pregnant women, lactating mothers, and certain categories of children are eligible for daily free cereals.^[10]

State Initiatives

- Karnataka has launched the 'Indira Canteen', which serves breakfast, lunch, and dinner at a very low price. This idea was implemented by Siddaramaiah as CM so that no one in the state would go hungry and everyone would get healthy food.^[11]
- Andhra Pradesh has supported the Nalabothu Foundation, which provides free meals to people in need by redistributing excess food from homes, restaurants, businesses, canteens, and gatherings. This scheme was brought to national attention by Prime Minister Modi.^[12]
- Tamil Nadu has launched 'Ammu Unavagam' (Mother's canteen), or more commonly known as Ammu canteen.^[13] The genesis of this program could be traced to the scheme proposed by Nimbkar Agricultural Research Institute in 2012.^[14]

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- 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.”^[15]

Government schemes ^[16]

Scheme	Year introduced	Coverage target group	Latest volume	Issue price (Rs per Kg)
Public distribution system (PDS)	up to 1992	universal	N/A	Wheat: 2.34 Rice: 2.89
Revamped Public Distribution System (RPDS)	1992	Backward blocks	20 kg of food grains.	Wheat: 2.80 Rice: 3.77
Targeted Public Distribution System (TPDS)	1997	Poor and non-poor APL BPL	35 kg of food grains.	BPL – Wheat-4.15 Rice-5.65 APL - Wheat-6.10 Rice-8.30
Antyodaya Anna Yojana	2000	poorest of the poor	35 kg of food grains.	Wheat: 2.00 Rice: 3.00
Annapurna Scheme	2000	Indigent senior citizens	10 kg of food grains.	free
National Food Security Act, 2013	2013	Priority households	5 kg per person per month.	Wheat: 2.00 Rice: 3.00 Millet: 1.00

II.DISCUSSION

Food availability is not that reliable in India. The challenge to produce more and more for the growing population is becoming increasingly hard for a country of its size and economic growth. Since the land in India is a shrinking resource for agriculture, the production rate for agriculture needs to be higher per unit of land and irrigation water. Over 60% of the Indian population depend on agriculture for their daily meals. India produces around 100 million tonnes of rice every year. Accessing food in India can be considered to be more difficult than in Australia. While there might be enough food for the whole population of India, many families and especially children in India don't have access to food because of financial problems. Thus, this is the cause of millions of malnourished children around India. The cultural knowledge in India allows them to have a very nutritional and balanced diet. Nearly the whole of the Indian population has rice at least once a day which allows them to have carbohydrates in their system. Since India is most commonly known for producing and exporting rice to other countries, their lifestyle will be mainly dominated by rice.^[17]

India needs to concentrate on methods to improve the availability and affordability of protein rich food products using the latest environmental friendly technology without the need of additional land and water.^[18] Biogas or natural gas or methane produced from farm/agro/crop/domestic waste can also be used in addition to mined natural gas for producing protein rich cattle/fish/poultry/pet animal feed economically by cultivating *Methylococcus capsulatus* bacteria culture in a decentralized manner near to the rural/consumption areas with tiny land and water foot print.^{[19][20]}

The National Food Security Act 2013, also known as Right to Food Act, is an Indian Act of Parliament which aims to provide subsidized food grains to approximately two thirds of the country's 1.2 billion people.^[1] It was signed into law on 12 September 2013, retroactive to 5 July 2013.^{[2][3]}

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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 (3.8¢ US) per kg
- Wheat at ₹2 (2.5¢ US) per kg
- Coarse grains (millet) at ₹1 (1.3¢ US) per kg.

Pregnant women, lactating mothers, and certain categories of children are eligible for daily free cereals.

The bill has been highly controversial. It was introduced into India's parliament on 22 December 2011, promulgated as a presidential ordinance on 5 July 2013, and enacted into law on 12 September 2013.^{[4][5]} Government of Odisha announced implementation of the act in 14 district from 17 November 2015.^[6] Government of Assam implemented the Act on 24 December 2015.^[7]

Coverage and entitlement under Targeted Public Distribution System (TPDS) : Up to 79.56% of the rural population and 64.43% of the urban population will be covered under TPDS, with uniform entitlement of 5 kg per person per month. However, since Antyodaya Anna Yojana (AAY) households constitute poorest of the poor, and are presently entitled to 35 kg per household per month, entitlement of existing AAY households will be protected at 35 kg per household per month.

State-wise coverage : Corresponding to the all India coverage of 75% and 50% in the rural and urban areas, State-wise coverage will be determined by the Central Government. Planning Commission has determined the State-wise coverage by using the NSS Household Consumption Survey data for 2011–12.

Subsidised prices under TPDS and their revision : Foodgrains under TPDS will be made available at subsidised prices of Rs. 3/2/1 per kg for rice, wheat and coarse grains for a period of three years from the date of commencement of the Act. Thereafter prices will be suitably linked to Minimum Support Price (MSP). In case, any State's allocation under the Act is lower than their current allocation, it will be protected up to the level of average offtake under normal TPDS during last three years, at prices to be determined by the Central Government. Existing prices for APL households i.e. Rs. 6.10 per kg for wheat and Rs 8.30 per kg for rice has been determined as issue prices for the additional allocation to protect the average offtake during last three years

Identification of Households : Within the coverage under TPDS determined for each State, the work of identification of eligible households is to be done by States/UTs.

Nutritional Support to women and children : Pregnant women and lactating mothers and children in the age group of 6 months to 14 years will be entitled to meals as per prescribed nutritional norms under Integrated Child Development Services (ICDS) and Mid-Day Meal (MDM) schemes. Higher nutritional norms have been prescribed for malnourished children up to 6 years of age.

Maternity Benefit : Pregnant women and lactating mothers will also be entitled to receive maternity benefit of not less than Rs. 6,000.

Women Empowerment : Eldest woman of the household of age 18 years or above to be the head of the household for the purpose of issuing of ration cards.

Grievance Redressal Mechanism : Grievance redressal mechanism at the District and State levels. States will have the flexibility to use the existing machinery or set up separate mechanism.

Cost of intra-State transportation & handling of foodgrains and FPS Dealers' margin : Central Government will provide assistance to States in meeting the expenditure incurred by them on transportation of foodgrains within the State, its handling and FPS dealers' margin as per norms to be devised for this purpose.

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Transparency and Accountability : Provisions have been made for disclosure of records relating to PDS, social audits and setting up of Vigilance Committees in order to ensure transparency and accountability.

Food Security Allowance : Provision for food security allowance to entitled beneficiaries in case of non-supply of entitled foodgrains or meals.

Penalty : Provision for penalty on public servant or authority, to be imposed by the State Food Commission, in case of failure to comply with the relief recommended by the District Grievance Redressal Officer.^[8]

III.RESULTS

The intent of the National Food Security Bill is spelled out in the Lok Sabha committee report, The National Food Security Bill, 2011, Twenty Seventh Report, which states, "Food security means availability of sufficient foodgrains to meet the domestic demand as well as access, at the individual level, to adequate quantities of food at affordable prices." The report adds, "The proposed legislation marks a paradigm shift in addressing the problem of food security – from the current welfare approach to a right based approach. About two thirds (approx 67%) of the population will be entitled to receive subsidized foodgrains under Targeted Public Distribution System. In a country where almost 40% of children are undernourished the importance of the scheme increases significantly." The Indian Ministry of Agriculture's Commission on Agricultural Costs and Prices (CACP) has referred to the Bill as the "biggest ever experiment in the world for distributing highly subsidized food by any government through a 'rights based' approach."^[9] The Bill extends coverage of the Targeted Public Distribution System, India's principal domestic food aid program, to two thirds of the population, or approximately 820 million people. Initially, the Lok Sabha Standing Committee on Food, Consumer Affairs and Public Distribution estimated a "total requirement of foodgrains, as per the Bill would be 61.55 million [metric] tons in 2012-13."^[10] The CACP calculated in May 2013, "...the requirement for average monthly PDS offtake is calculated as 2.3 mt for wheat (27.6 mt annually) and 2.8 mt for rice (33.6 mt annually)..." When volumes needed for the Public Distribution System and "Other Welfare Schemes" were aggregated, the CACP estimated rice and wheat requirements to total an "annual requirement of 61.2" million metric tons.^[9] However, the final version of the Bill signed into law includes on page 18 an annex, "Schedule IV", which estimates the total food grain allocation as 54.926 million metric tons.^[11]

The Standing Committee estimated that the value of additional food subsidies (i.e., on top of the existing Public Distribution System) "during 2012-13 works out to be...Rs.2409 crores," that is, 24.09 billion rupees, or about \$446 million at the then-current exchange rate, for a total expenditure of 1.122 trillion rupees (or between \$20 and \$21 billion).^[10] However, the Commission on Agricultural Costs and Prices (CACP) calculated, "Currently, the economic cost of FCI for acquiring, storing and distributing foodgrains is about 40 percent more than the procurement price."^[12] The Commission added,

The stated expenditure of Rs 1,20,000 crore annually in NFSB is merely the tip of the iceberg. To support the system and the welfare schemes, additional expenditure is needed for the envisaged administrative set up, scaling up of operations, enhancement of production, investments for storage, movement, processing and market infrastructure etc. The existing Food Security Complex of Procurement, Stocking and Distribution- which NFSB perpetuates- would increase the operational expenditure of the Scheme given its creaking infrastructure, leakages & inefficient governance.^[12]

The Commission concluded that the total bill for implementation of the Bill "....may touch an expenditure of anywhere between Rs 125,000 to 150,000 crores," i.e., 1.25 to 1.5 trillion rupees.^[12] As of the implementation deadline of 4 October 2014, only 11 states had either implemented the Act or declared readiness to do so.^[13] On 28 November 2014, the Indian government announced, "Allocation of foodgrains to 11 States/Union Territories (UTs) namely, Bihar, Chandigarh, Chhattisgarh, Delhi, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Punjab and Rajasthan has started under the Act..." and that the "remaining 25 States/UTs have not completed the preparatory measures required for implementation of the Act." The Indian government extended the deadline for implementation of the Act "by another six months, i.e. till 04.04.2015."^[14]

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Implications

The bill was very widely viewed as a "pet project" of Indian National Congress(INC) President, Sonia Gandhi.^{[29][30]} Gandhi addressed Parliament the night of the August 2013 Lok Sabha vote on the bill, saying its passage would be a "chance to make history".^[31]

Former National Advisory Council member and development economist Professor Jean Drèze, reputedly one of the architects of the original, 2011 version of the bill, wrote, "...the Bill is a form of investment in human capital. It will bring some security in people's lives and make it easier for them to meet their basic needs, protect their health, educate their children, and take risks."^[32] Professor Drèze dismissed opposition from business interests, saying, "Corporate hostility does not tell us anything except that the Food Bill does not serve corporate interests. Nobody is claiming that it does, nor is that the purpose of the Bill."^[33]

Minister of Consumer Affairs, Food, and Public Distribution K.V. Thomas stated in an interview,

This is no mean task, a task being accomplished in the second most populated country in the world. All the while, it has been a satisfying journey. The responsibility is not just of the Central Government but equally of the States/[Union Territories]. I am sure together we can fulfill this dream. The day is not far off, when India will be known the world over for this important step towards eradication of hunger, malnutrition and resultant poverty...By providing food security to 75 percent of the rural and 50 percent of the urban population with focus on nutritional needs of children, pregnant and lactating women, the National Food Security Bill will revolutionize food distribution system.^[4]

In a rebuttal to Dr. Surjit S. Bhalla, three economists responded, "...the food subsidy bill should roughly double and come to around 1.35% of GDP, which is still way less than the numbers he put out."^[34]

The Chhattisgarh Food Security Act, 2012 law was enacted by the Government of Chhattisgarh. 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."^[35]

The Act divides households into four groups — Antodaya, Priority, General and Excluded households.

The priority households will have monthly public distribution system (PDS) entitlement of 35 kg rice, wheat flour, pulses, gram and iodised salt at subsidised price. "The new act will make the acclaimed PDS more comprehensive. Nearly 90% of the provisions incorporated in the Act were already covered under the PDS", the then chief minister Raman Singh said. The new initiative will put a burden of ₹2,311 crore on the state exchequer. The act will not cover those who are income tax payees, own over 4 hectares of irrigated or 8 hectares of non-irrigated land in non-scheduled areas and who are liable to pay property tax in urban areas.^[36]

The Act benefits 42 lakh families living here. It will also cover families headed by a destitute, a widow or a differently abled person. It will also take care of poor, children living in hostels/ashrams, pregnant women as well as those hit by disaster.

IV.CONCLUSIONS

The Public Distribution System (PDS) is an Indian food security system that was established by the Government of India under the Ministry of Consumer Affairs, Food and Public Distribution to distribute food and non-food items to India's poor at subsidised rates. Major commodities distributed include staple food grains, such as wheat, rice, sugar and essential fuels like kerosene, through a network of fair price shops (also known as ration shops) established in several states across the country. Food Corporation of India, a government-owned corporation, procures and maintains the PDS. Distribution of food grains to poor people throughout the country is managed by state governments.^[1] As of 2011 there were 505,879 fair price shops (FPS) across India.^[2] Under the PDS scheme, each family below the poverty line is eligible for 35 kg of rice or wheat every month, while a household above the poverty line is entitled to 15 kg of foodgrain on a monthly basis, redeemable with a card.^[3] However, there are concerns about the efficiency of the distribution process

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