

*Essential Services*

# **Food Security in India: Performance, Challenges and Policies**

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# Abstract

This paper examines performance, challenges, and policies in food security in terms of availability, access, and absorption or nutrition. Specifically, the paper addresses the following questions:

- (i) What is the progress in supply side of food in terms of availability at the national level?
- (ii) How far has India progressed in attaining access to food and nutrition requirements at the household level?
- (iii) What are the programmes and policies that India has followed in realizing food and nutrition security?
- (iv) What should be done to realize food and nutrition security for all citizens of India?

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 *per se*. Access to food can be increased through employment due to growth in labour intensive sectors and/or through social protection programmes. The malnutrition problem is much broader than that of access to food. The South Asian Enigma (levels of malnutrition in Asia are higher than in Africa) is well known. India has malnutrition levels almost the levels double those of many countries in Africa. This problem needs a multi-disciplinary approach covering diet diversification including micronutrients, women's empowerment, education, health, safe drinking water, sanitation, and hygiene. India has 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 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. Under national food security law, the government wants to provide rice and wheat to the poorest of poor at Rs. 3 per kilogram. This is too narrow an approach for implementation of the Right to Food. The Right to Food campaign specifies several other things to be included, apart from universal PDS, under the Food Entitlements Act.

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## 1. INTRODUCTION

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. There have been many emerging issues in the context of food security in India in the last two decades. These are: (i) economic liberalization in the 1990s and its impact on agriculture and food security; (ii) establishment of WTO: particularly the Agreement on Agriculture (AoA) under it; (iii) challenges of climate change; crisis of the three Fs, viz., food prices, fuel prices, and financial crisis; (iv) the phenomenon of hunger amidst plenty, i.e., accumulation of stocks in the early years of this decade and in 2008-09 along with high levels of poverty; (v) introduction of targeting in the Public Distribution System (PDS) for the first time in the 1990s; (vi) 'Right to Food' campaign for improving food security in the country and the Supreme Court Orders on mid-day meal schemes; (vii) proposal for National Food Security Law (Right to Food); and (viii) monitorable targets under the Tenth and Eleventh Five Year Plans similar to the Millennium Development Goals (MDGs) on poverty and women and child nutrition. These developments in the last two decades have provided both opportunities and challenges for food and nutrition security of the country.

It is, by now, well known that the question of food security has a number of dimensions that extend beyond the production, availability, and demand for food. There has been a paradigmatic shift in the concept of food security, from food availability and stability to household food insecurity, and from assessment of input measures like energy intake to output indicators such as anthropometric measures and clinical signs of malnutrition.

According to Food and Agriculture Organization (FAO), food security exists 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. Food security has three components, viz., availability, access, and absorption (nutrition). The three are interconnected. Many studies have shown that improvement in nutrition is important, even for increase in productivity of workers. Thus, food security has intrinsic (for its own sake) as well as instrumental (for increasing productivity) value.

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:

- (i) What is the progress in food supply in terms of availability at the national level?
- (b) How far has India progressed in terms of access to food and nutrition requirements at the household level?
- (c) What are the programmes and policies India has followed in order to realize food and nutrition security?
- (d) What should be done to realize food and nutrition security for all the citizens of India?

The paper is organized as follows. Section 2 examines the performance and policies regarding availability of food while Section 3 deals with the performance of access to food and nutrition indicators. Section 4 discusses the issues and policies relating to access to food and nutrition while Section 5 examines the issues under the Right to Food and the National Food Security Law. The final section comprises the conclusions from the study.

## **2. AVAILABILITY OF FOOD**

Food security at the national level refers mainly to availability in the country of sufficient stocks of food to meet domestic demand, either through domestic supply or through imports. Here we look at the performance and policies with regard to availability of food.

### **2.1. Performance**

Attainment of self sufficiency in food grains at the national level is one of the country's major achievements in the post-independence period. After remaining a food deficit country for about two decades after independence, India became largely self-sufficient in foodgrain production at the macro level. There have hardly been any foodgrain imports after the mid-1970s. Foodgrain production in the country increased from about 50 million tonnes in 1950-51 to around 233.9 million tonnes in 2008-09. The growth rate of foodgrains has been around 2.5 per cent per annum between 1951 and 2006-07. The production of oilseeds, cotton, sugarcane, fruits, vegetables, and milk has also increased appreciably.

The experience of the last two decades shows that growth rates of production and yield have declined for crop groups/crops during the period 1996-2008 as compared to the period 1986-97 (Table 1). The growth rate of foodgrain production declined from 2.93 per cent to 0.93 per cent during the same period. The growth rate of production was much lower than that of population in the latter period. Similarly, growth rate of yields of foodgrains declined from 3.21 per cent

to 1.04 per cent. There was also a decline in growth rates of production and yields for cereals, pulses, oilseeds, rice, and wheat (Table 1).

Table 1. Trend Growth Rates in Production and Yields of Foodgrains and Oilseeds (% per annum)

Crop groups/crops	Production		Yields	
	1986-87 to 1996-97	1996-97 to 2007-08	1986-87 to 1996-97	1996-97 to 2007-08
Foodgrains	2.93	0.93	3.21	1.04
Cereals	3.06	0.97	3.36	1.19
Coarse cereals	1.19	1.53	3.66	2.25
Pulses	1.32	0.36	1.49	-0.02
Oilseeds	6.72	1.99	3.32	1.49
Rice	3.06	1.02	2.37	1.22
Wheat	4.09	0.65	2.93	0.34

Note: These are fitted trend growth rates

Source: CACP, Ministry of Agriculture (2009)

#### *Reasons for Decline in Food Production*

The performance of the overall agriculture sector and the factors responsible for the slowdown provide an explanation for the decline in the growth of food production. It may be noted that foodgrains, pulses, oilseeds, sugar, fruits and vegetables, poultry, dairy, meat, fish, etc. constitute the bulk of the output in the agriculture sector. The performance of agriculture is important for availability and access to food as more than 55 per cent people in the country are dependent on this sector. Agricultural growth in India was high from the Fifth Plan period to the Ninth Plan period – highest being in the Sixth Plan period, at around 5.7 per cent. If we consider longer periods, growth of agriculture decelerated from 3.5 per cent between 1981-82 and 1996-97 to around 2 per cent between 1997-98 and 2004-05, although there have been signs of improvement in recent years.

(Gol, 2008),

There are both short run and long run problems in Agriculture. Farmers' suicides continue unabated, even increasing in some states, as growth rate in yield is on the decline. Farming is fast becoming a non-viable activity. Further scope for increase in net sown area is limited. Land degradation in the form of depletion of soil fertility, erosion, and water logging has increased. There has been decline in the surface irrigation expansion rate and a fall in the level of the ground water table. Exposure of domestic agriculture to international competition has resulted in a high order of volatility in prices. Disparities in productivity across regions and crops, and between rainfed and irrigated areas has increased. Long term factors

like steeper decline in per capita land availability and shrinking of farm size are also responsible for the agrarian crisis. Land issues such as SEZs, land going to non-agriculture, alienation of tribal land etc. are becoming important.

The Steering Committee report on agriculture for the Eleventh Plan (Gol, 2007a) has identified the possible reasons for deceleration in agriculture since the mid-1990s. According to the report, the major sources of agricultural growth are: public and private investment in agriculture and rural infrastructure including irrigation, technological change, diversification of agriculture, and fertilizers. It seems that progress on all these fronts has slowed down since the mid-1990s (Table 2). Expansion has taken place only in the case of agricultural credit. There has, however, been some revival in agriculture in recent years, wherein agricultural growth of more than 4 per cent was recorded between 2003-04 and 2007-08.

Table 2. Trend growth rate in area, input use, credit and capital stock in agriculture (1980-81 to 2005-06)

	1980-81 to 1990-91	1990-91 to 1996-97	1996-97 to 2005-06
Technology	3.3	2.8	0.0
Public Invest.	3.9	1.9	1.4
Private Invest.	0.6	2.2	1.2
Irrigated Area	2.3	2.6	0.6
Area under Fruits and veg.	5.6	5.6	2.7
NPK Use	8.2	2.5	2.3
Credit	3.7	7.5	14.4

Source: Gol, 2007

#### *Per Capita Availability of Foodgrains*

The net availability of foodgrains is estimated at 87.5 per cent of gross production. In order to obtain the figure for net availability of foodgrains, figures for requirement for seeds, farm animal feed, and waste are deducted from gross production and net imports are added, apart from adjustments for changes in government stocks. Here we are assuming that there is no net change in private stocks.

Per capita net availability of foodgrains increased by about 10 per cent over the last 56 years, between 1951 and 2007 (Table 3). However, net availability declined if we compare 1961 (469 grams per day) with 2007 (443 grams). In other words, significant increase in foodgrains has not been able to keep pace with the increase in population. In the year 2007, per capita availability of foodgrains was only 443 grams -- much lower than 501 grams in 1991. During the period 1951 to 2007, per capita availability of pulses has declined

significantly. On the other hand, per capita availability of sugar and edible oils has increased over time.

**Table 3. Net Availability of Cereals and Pulses**

Year	Per capita net availability per day (grams)			Edible oil (Kg.)	Vanaspati (Kg.)	Sugar (Nov.-Oct.) (Kg.)
	Cereals	Pulses	Total Foodgrains			
1951	334.2	60.7	394.9	2.5*	0.7*	5.0*
1961	399.7	69.0	468.7	3.2	0.8	4.8
1971	417.6	51.2	468.8	3.5	1.0	7.4
1981	417.3	37.5	454.8	3.8	1.2	7.3
1990	435.3	41.1	476.4	5.3	1.1	12.3
1991	468.5	41.6	510.1	5.5	1.0	12.7
1992	434.5	34.3	468.8	5.4	1.0	13.0
1993	427.9	36.2	464.1	5.8	1.0	13.7
1994	434.0	37.2	471.2	6.1	1.0	12.5
1995	457.6	37.8	495.4	6.3	1.0	13.2
1996	442.5	32.7	475.2	7.0	1.0	14.1
1997	466.0	37.1	503.1	8.0	1.0	14.6
1998	414.2	32.8	447.0	6.2	1.0	14.5
1999	429.2	36.5	465.7	8.5	1.3	14.9
2000	422.7	31.8	454.4	9.0	1.4	15.6
2001	386.2	30.0	416.2	8.2	1.3	15.8
2002	458.1	35.4	494.1	8.8	1.4	16.0
2003	408.5	29.1	437.6	7.2	1.4	16.3
2004	426.9	35.8	462.7	N.A.	N.A.	N.A.
2005	390.9	31.5	422.4	N.A.	N.A.	N.A.
2006	412.8	32.5	445.3	N.A.	N.A.	N.A.
2007	407.4	35.5	442.8	N.A.	N.A.	N.A.

Note: \* Pertains to the year 1955-56.

Source: Economic Survey 2008-2009, Government of India.

### *Changes in Consumption Patterns and Demand for Non-cereal Food*

In spite of increase in per capita real expenditure during the period 1972-73 to 2004-05, the per capita cereal intake declined in both rural and urban areas. However, the fall in cereal consumption was offset by increase in the consumption of non-cereal food. It is now widely recognized that the food basket is more diversified and dramatic changes in food consumption patterns have taken place in India in the post-Green Revolution period. As shown in Table 4, the share of cereals in total consumption declined significantly even for the bottom 30 per cent of the population in both rural and urban areas.

The reduction in average cereal consumption may not be of concern because the decline is mostly driven by reduced consumption among the middle and top deciles. Substitution away from cereals to other foods is



expected when income increases. In recent years, however, there has been decline in the cereal consumption of the poor. This is a cause for concern, as discussed in Section 3 below.

Table 4. Percentage Budget Share of Cereals by Bottom 30%, Middle 40%, and Top 30% of the population

Year	Rural				Urban			
	Bottom 30%	Middle 40%	Top 30%	All	Bottom 30%	Middle 40%	Top 30%	All
1970-71	53.65	43.65	29.49	38.15	38.85	28.19	13.37	21.58
1990-91	39.37	30.68	18.22	25.93	27.55	19.13	9.49	15.12
1993-94	35.68	27.87	15.72	22.95	25.59	17.14	8.18	13.32
2004-05	29.34	22.04	12.49	18.28	20.59	13.29	6.29	10.21

Note: The shares are derived from the expenditures at constant prices (1993-94 prices)

Source: NSS Consumer Expenditure Surveys, Government of India

### *Demand and Supply Projections of Food upto 2020*

There have been many studies on demand and supply projections. Mittal (2006) projected demand for rice at 84.2 million tonnes for 2011, 96.4 million tonnes for 2021, and 101.5 million tonnes for 2026. The corresponding supply projections are 95.7, 105.8, and 111.2 million tonnes respectively, envisaging a surplus of 11.46, 9.38, and 9.73 million tonnes respectively. Mittal's projections for wheat demand are 59.8, 66.1, and 68.1 million tonnes for the above mentioned years as compared to the supply projections of 80.2, 91.6, and 97.9 million tonnes indicating surpluses of 20.41, 25.53, and 29.84 million tonnes for 2011, 2021, and 2026 respectively. For total cereals, the projected surpluses are 27.59, 12.76, and 4.63 million tonnes.

Rosegrant et.al (1995) used demand elasticity and technical coefficients synthesized from other sources, primarily from past studies, and projected demand for total cereals at 237.3 million tonnes for the year 2020. Hanchate & Dyson (2004) projected demand and supply for total cereals for 2026 at 217.6 million tonnes and 265.8 million tonnes respectively. Kumar (1998) projected the demand for cereals at 223.7 million tonnes and 265.7 million tonnes for 2010 and 2020 respectively, against the supply projections of 248.4 million tonnes and 309.0 million tonnes. Bhalla and Hazell (2001) computed demand for total cereals in 2020 as 374.7 million tonnes. This study used new estimates on livestock growth. These estimates are based on the IMPACT model and based on the assumptions of GDP growth of 7.5-7.7 per cent. Thamarajakshi (2001) estimated the total demand for cereals 2020 to be 274 million tonnes under different assumptions of population and growth in urbanization. All studies, except that of Bhalla and Hazell indicate that there would not be deficit for foodgrains particularly cereals. The study of Bhalla and Hazell assume high feed stock demand than other studies.

Projections given in Table 5 also show that India would be self sufficient in foodgrains in future. In the case of pulses and oilseeds, the country would have to depend on imports, even by 2020. According to some projections, the household demand for milk and milk products would increase from 64 million tonnes in 2000 to 166 million tonnes in 2020, and fruits and vegetables from 48 million tonnes to 113 million tonnes (Radhakrishna, 2002).

Given the shifts in consumption patterns, towards non-cereal food, and even to non-food, we feel that the demand projections of the Ministry of Agriculture on foodgrains of around 250 million tonnes for 2020 are reasonable. There would be enough supply to meet the demand for foodgrains by 2020.

**Table 5: Estimated Production and Projected Demand of Foodgrains**

Crop	2008-09			2011-12			2020
	Projected Demand	Estimated Production	Surplus/shortfall	Projected Demand	Projected production	Surplus/shortfall	Projected Demand
Rice	92.87	99.15	6.28	98.79	104.21	5.42	111.9
Wheat	72.72	80.58	7.86	77.36	83.61	6.25	79.9
Coarse Cereals	35.9	39.48	3.58	38.19	35.75	-2.44	37.3
Pulses	17.51	14.66	-2.85	19.91	15.73	-4.18	23.8
Foodgrains	219.0	233.88	14.88	234.26	239.3	5.04	252.8
Sugarcane	275.9	271.25	-4.66	322.54	305.51	-17.03	--
Oilseeds	47.4	28.16	-19.27	53.39	27.53	-25.86	--

Source: Ministry of Agriculture (2009)

The per capita availability of fruits was 58 grams per day and 179 grams per day for vegetables. Table 6 provides per capita availability and deficit of milk, egg and meat. It shows the need for increase in availability of non-cereal food. In terms of non-cereal food like fruits, vegetables, milk, meat and fish, India has not achieved self sufficiency in terms of per capita availability.

**Table 6: Per capita Availability and Deficit of Milk, Egg and Meat**

Food Items	Per capita Availability	ICMR dietary guidelines for Indians	Per capita deficit
Milk	216grams/day	300 milli litre/day	34 grams/day
Egg	30 eggs/annum	180 eggs/annum	150 eggs/annum
Meat	3.24 kg/annum	10.95 kg/annum	7.71 kg/annum

Source: GOI (2003)

## Foodgrain Management

“A large public distribution system, supplemented by arrangements for moderating prices in the open market and concerted efforts for achieving self - sufficiency in foodgrains, coupled with measures for maximising procurement from surplus areas, have been the twin objectives of food policy in modern India,

ever since the Bengal famine of 1943. These objectives have held sway over the last 55 years, though with changes in emphasis and varying degrees of rigidity, from total control to total decontrol, depending upon the prevailing situation and assessment at each point of time” (Gol, 2000).

Currently, the food security system and price policy, basically consist of three instruments: procurement prices/minimum support prices, buffer stocks, and the public distribution system (PDS)<sup>1</sup>.

#### *Minimum Support Prices and Procurement*

Price Policy for agricultural commodities seeks to ensure remunerative prices to growers for their produce with a view to encouraging higher investment and production, and at the same time, safeguarding the interest of consumers by making available supplies at reasonable prices. A lot of publicity is still needed with regard to minimum support prices (MSP) as only 19 per cent of the farmers knew about MSP, while another 10 per cent knew about it but did not know where to sell their produce (NSSO 59<sup>th</sup> Round 2003). The minimum support prices (MSP) for major agricultural products announced each year are fixed taking into account the recommendations of the Commission for Agricultural Costs and Prices (CACP). The CACP recommends MSPs for 24 important crops. There has been significant increase in MSP during the period 2004-05 to 2009-10 as compared to the period 2000-01 to 2004-05. For example, MSP for paddy (common variety) increased by 69.6 per cent during 2004-05 to 2009-10 as compared to a 9.8 per cent rise during 2000-01 to 2004-05. Similarly, MSP for wheat increased by 71 per cent in the second half of this decade as compared to 8.6 per cent in the first half. The MSPs for the years 2008-09 and 2009-10, especially, are a clear departure from earlier years, in order to achieve the broad objectives of building buffer stocks of foodgrains to meet the situation of scarcity arising out of crop failures and of encouraging farmers to grow more for food security concerns. They had similar objectives earlier as well, but, there was a concern in recent years because of the slowdown in foodgrain yields and lower procurement prices, particularly in 2006-07. India had to import 5 million tonnes of wheat during this year. Overall, procurement of rice and wheat has increased significantly in recent years as shown in Table 7.

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<sup>1</sup> The Food Corporation of India (FCI) and Commission on Agricultural costs and Prices (CACP) were established in 1964-65 to oversee the country-wide procurement, distribution and stocking of foodgrains and recommend minimum support prices of agricultural crops to the Government, respectively. These food policy operations are aimed at stabilising prices, protecting the interests of the producers, consumers and the economy, as a whole, and reducing inter-regional disparities in production and consumption of foodgrains.

Table 7 Procurement of Rice and Wheat (in million tonnes)

Year	Wheat	Rice
2003-04	15.8	22.8
2004-05	16.8	24.6
2005-06	14.8	27.7
2006-07	9.2	25.1
2007-08	11.1	28.7
2008-09	22.7	33.2
2009-10	25.3	--

Source: Department of Food and Public Distribution System, GoI, 2009

### *Buffer Stock*

The importance of building up a buffer-stock of foodgrains -- normally rice and wheat -- is to provide food security to the country. The argument in favour of buffer-stocking is that where there is large variation in foodgrain output, either due to weather conditions or due to man-made factors, it becomes essential for the State to ensure food security for the large mass of people by building adequate buffer stocks from the surpluses in good production years and/or by arranging to import the requisite amounts of foodgrains in times of need. Various committees have suggested the optimal size of the buffer-stock, which varies from 15 to 25 million tonnes, depending on the season.

Table 8 shows the actual level of and the norm for buffer stocks as on 1<sup>st</sup> July for the years between 2002 and 2009. Continuous rise in procurement prices, which were higher than market prices, coupled with the rise in issue prices and the obligation to purchase all grains offered by the farmers led to accumulation of rice and wheat stocks to the extent of 63 million tonnes by July 2002. These stocks of 63 million tonnes were much above the optimal stocks of 15 to 25 million tonnes recommended by various committees.

The drought caused a reduction in the food stocks in 2003. In fact, the actual buffer stocks in 2006 and 2007 were below the norm and the country had to import wheat during 2006-08. However, the stocks accumulated in 2008 and 2009 were once again much higher than the norm. Presently, the government has more than 50 million tonnes of foodgrains. It is considered much in excess of the norm, but these stocks will be useful because of the drought in 2009.

Table 8 Buffer Stock of Foodgrains: Rice and Wheat (in million tonnes)

Year	1 <sup>st</sup> July Actual Buffer Stock	1 <sup>st</sup> July Norm of Buffer Stock
2002	63.0	24.3
2003	35.2	24.3
2004	29.9.	24.3
2005	24.5	24.3
2006	19.4	24.3
2007	23.9	24.3
2008	36.2	24.3
2009	52.5	24.3

Source: Department of Food and Public Distribution System, GoI, 2009

## 2.2. Policies for Improving Availability of Cereals and Non-cereal Food

Since we do not have separate macro policies on food, we discuss here the policies for the entire agriculture sector. As mentioned above, food related agricultural activities constitute the bulk of the out put in agriculture.

There are basically six factors which need to be focused upon in the short and medium term. These are: (i) infrastructure; (ii) land and water management; (iii) research and extension; (iv) inputs including credit; (v) marketing including price policy; and (vi) diversification and development of the rural non-farm sector. Institutions have to be developed with regard to all these aspects.

One major reform needed in the agriculture sector relates to reduction in subsidies and increase in investments. Agricultural subsidies are fiscally unsustainable and encourage misuse of resources, leading to environmentally malignant developments. There exists a trade-off between subsidies and investments. Public investment declined from 3.4 per cent of agricultural GDP in the early 1980s to 1.9 per cent in 2001-03. At the same time subsidies increased from 2.9 per cent to 7.4 per cent of agricultural GDP (GoI, 2007). Increase in public and private investment is crucial for enhancing agricultural growth. Several studies have shown that public investment in rural infrastructure, like roads, irrigation, etc is more important than other factors. Fortunately, gross capital formation in agriculture has increased from 12 per cent of agricultural GDP in 2004-05 to 14.2 per cent of agricultural GDP in 2007-08. Public sector investment has increased significantly during this period. However, we need 16 per cent of agricultural GDP as investment in order to achieve 4 per cent growth in agriculture.

The decline in growth of productivity is attributed, among other things, to deterioration in soil quality and water shortages, including ground water depletion. Therefore, land and water management should be given the first

priority. Both investment and efficiency in use of water are needed. Land issues are becoming important. Investment in irrigation, watershed development, and water conservation by the community are needed by way of water management. In order to improve soil quality, the government's nutrient based subsidy is a move in the right direction. Fertilizer subsidies will be restructured in such a way as to reduce the consumption of nitrogen (N) and encourage phosphatic (P) and potassic (K) fertilizers.

As the National Commission on Farmers mentions, there is a knowledge gap in the existing technology. Therefore, extension becomes crucial for improving agricultural productivity. In view of the high variability in agro-climatic conditions, particularly in unfavourable areas, research has to become increasingly location-specific.

It is true that there have been some improvements in the flow of farm credit in recent years. However, four distributional aspects of agricultural credit are important. These are: (i) not much improvement in the share of small and marginal farmers; (ii) decline in credit-deposit (CD) ratios of rural and semi-urban branches; (iii) increase in the share of indirect credit in total agricultural credit; and (iv) significant regional inequalities in credit.

The most important problem for farmers is output price fluctuations. There is a big gap between producer prices and consumer prices. For example, sometimes farmers get 50 paise per kilogram of tomatoes, while the consumers pay Rs.15 in urban areas. In order to protect farmers from national and international price volatility, a price stabilization fund is needed. There are different models for marketing collectively by the small and marginal farmers. These are: (i) self-help group model; (ii) co-operative model; (iii) small producer co-operatives; and (iv) contract farming.

Diversification of land into non-agricultural purposes and non-food crops may also threaten food security. However, if yields are increased on land growing foodgrains and food crops, some land can be safely diverted into non-food crops.

*Climate Change:* One of the emerging issues in food security is climate change and its impact on agriculture. India has reasons to be concerned about climate change. The vast majority of India's population depends on climate-sensitive sectors like agriculture, forestry, and fishery for their livelihood. The adverse impact of climate change in the form of declining rainfall and rising temperatures,

and thus, increased severity of drought and flooding, is bound to threaten food security and livelihoods in the economy.

The National Action Plan on Climate Change provides a direction for changes at the national level in policy, planning, and public-private partnerships, and lays out a global vision for modifying longer time trends for sustainable development. Successful adaptation coupled with mitigation holds the key to food security and livelihoods for the 21<sup>st</sup> century and beyond in India.

To conclude, there are many policy challenges being faced by Indian agriculture. Both price and non-price factors are important. The differences between the Green Revolution period and the 'Second Green Revolution' are the following: (i) globalization challenges, volatility in prices; (ii) shrinking farm size; (iii) dry land farming challenges; and (iv) environmental stress. The six deficits in agriculture are: (i) investment, credit, and infrastructure deficit; (ii) research and extension (technology) deficit; (iii) market deficit; (iv) diversification deficit; (v) institutions deficit; and (vi) education/skill deficit. Deficiencies in agriculture and rural infrastructure are the biggest problems for agricultural development. Small farmers can respond positively only in the presence of adequate infrastructure. There is thus a need for massive increase in outlays for agricultural and rural infrastructure by simultaneously improving the delivery systems. The government is thinking of a big boost to education in the Eleventh Plan. Another such big push is needed for the agriculture sector as well.

### **3. PERFORMANCE IN ACCESS TO FOOD AND NUTRITION**

At the individual level, food security means that all members of the society have access to the food they need, either from their own production, from the market and/or from the government's transfer mechanism. In order to achieve food security it is also important that the poor have sufficient means to purchase food. Poor people cannot afford to purchase the food they need at market prices, and therefore, social protection programmes are needed. Adequate purchasing power for the poor to buy food can be ensured in two ways. One is to have an employment intensive pattern of growth which can provide remunerative work to the poor and enhance their power to purchase food. Another way is to increase incomes and subsidize food through social protection programmes like PDS and employment programmes.

Even if there is availability as well as access to food, there is no guarantee of adequate absorption or nutrition, especially since, nutrition depends on many other factors such as the condition of pregnant women, breast feeding, health

factors, hygiene, drinking water, sanitation, etc. In this section we look at the performance of both access to food and nutritional indicators.

### **3.1. Performance in Access to Food.**

#### *Hunger*

India has made significant progress in reducing the problem of hunger. Estimates of hunger (two square meals a day) based on self-perception from NSS data show that the proportion of households suffering from hunger declined from 17.3 per cent in 1983 to 2.5 per cent in 2004-05. This percentage is the highest (11.1 per cent) in West Bengal followed by Orissa (5.9 per cent) and Assam (5 per cent) in 2004-05. But, there are problems with this indicator as it is too subjective<sup>2</sup>. One of the major achievements of India in terms of food is avoidance of famines since independence<sup>3</sup>. The last famine in India was the Bengal Famine of 1943. However, chronic poverty is still high in the country. This is because of lack of economic access (purchasing power) to food.

#### *Food Insecurity at the Household Level: Poverty Ratios*

The expenditure on food (calorie intake) with some allowance for non-food expenditure is generally used as a basis for determining the poverty line. Thus, the incidence of poverty in a region may give some indication of the extent to which food is accessible to households.

The official estimates show that income poverty declined from 55 per cent in the early 1970s to 28 per cent in 2004-05. Although there has been progress in this regard still more than 300 million are below poverty line. Apart from other factors, increase in inequality seems to have slowed down the rate of reduction of poverty in the post-reform period. However, changes in two sub-periods of post-reform period are interesting. The extent of decline of poverty in the second period (1999-2005) seems to be higher than that in the first period (1993-2000) of the post-reform period. This result is surprising, given that the second period witnessed the lowest growth in agriculture. Factors such as low relative food prices, higher growth in employment, particularly in the non-farm sector, might have been responsible for a higher rate of reduction in poverty during the 1999-2005 period. This needs to be further investigated. However, there are three unambiguous conclusions. These are: (i) there is no evidence of higher rate of decline in poverty in the post-reform period compared to the pre-reform period

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<sup>2</sup> See Saxena (2009)

<sup>3</sup> More on this see Dreze and Sen (1989)



in spite of higher overall growth; (ii) inequality increased significantly in the post-reform period as compared to the pre-reform period; (iii) poverty is getting concentrated among some regions and some groups (SCs, STs, etc).

In spite of the reduction in poverty, some of the states are have a very high poverty ratio for the total population. In the year 2004-05, this was more than 40 per cent in Orissa, Bihar, Chattisgarh, and Jharkhand, and between 30 and 40 per cent in Madhya Pradesh, Chattisgarh, Uttar Pradesh, and Uttarakhand.. It may be noted that Orissa's poverty level (47 per cent) is almost six times that of Punjab (8 per cent) in 2004-05.

The estimates at the state level reveal an increasing concentration of poor in a few states.<sup>4</sup> A group of four states comprising combined Bihar, combined M.P., Orissa, and combined U.P. had a share of 49.8 per cent in the rural poor of the country in 1983. This share increased to 55 per cent in 1993-94, and further to 61 per cent in 2004-05. Poverty in case of the total population (rural+urban) is being concentrated in five states viz., Bihar, M.P., Maharashtra, Orissa, and U.P., their share being 65 per cent of the total poor in 2004-05.

As shown in Table 9, poverty is getting concentrated among SCs and STs. In some of the poorer states, poverty among these groups is very high. For example, rural poverty among STs in Orissa was 76 per cent while rural poverty among SCs in Bihar was 64 per cent (Table 9). Urban poverty was also high among SCs and STs in Bihar, M.P., Orissa, and Uttarakhand.

The report of the Expert Group on Methodology for Estimation of Poverty (Gol, 2009) chaired by S.D. Tendulkar shows that overall poverty in India was 37.2 per cent in 2004-05. Rural and urban poverty ratios respectively were 41.8 per cent and 25.7 per cent in the same year. If we go by these estimates, the absolute number of poor in India was more than 400 million in 2004-05.

Table 9. Poverty Ratios by Social Groups: 2004-05: All India and Selected States

Year	Rural			Urban		
	SC	ST	OBC	SC	ST	OBC
Bihar	64.0	53.3	37.8	67.2	57.2	41.4
Chattisgarh	32.7	54.7	33.9	52.0	41.0	52.7
Jharkhand	57.9	54.2	40.2	47.2	45.1	19.1
M.P.	42.8	58.6	29.6	67.3	44.7	55.5
Maharashtra	44.8	56.6	23.9	43.2	40.4	35.6
Orissa	50.2	75.6	36.9	72.6	61.8	50.2
Uttarakhand	54.2	43.2	44.8	65.7	64.4	46.5
All India	36.8	47.3	26.7	39.9	33.3	31.4

Source: Planning Commission, Gol, 2009

<sup>4</sup> See Radhakrishna and Ray (2005) for a profile of poverty upto 1999-00

Higher inclusive growth that boosts growth in agriculture and the rural non-farm sector growth, coupled with reduction in regional, rural-urban and social disparities is imperative for faster reduction in poverty. Low relative food prices seem to be an important variable for reduction of income poverty. People in the bottom 30 per cent of the population in rural and urban areas still incur 66 and 60 per cent respectively of their total expenditure on food. In this context, the recent increase in food prices is a major cause of concern for the poor and the very poor.

### *Employment Growth*

As mentioned above, creation of employment is one way of ensuring the Right to Food. With an increase in purchasing power, the poor would be able to increase their food consumption. Therefore, it is useful to know about the overall employment growth rates in the Indian economy. First, employment growth rate has been higher in the urban than in rural areas, both during 1983 to 1993-94 and 1993-94 to 2004-05. Decline in the rate of growth in the latter period as compared to the former one was also greater in the rural than in urban areas (Table 10).

Table 10: Growth Rates of Employment: 1983 to 2004-05

Growth of Employment			
	Male	Female	Total
	Total	Total	
1983-94	2.25	1.65	2.08
1994-2005	1.87	1.78	1.84
	Rural		
1983-94	1.96	1.40	1.77
1994-2005	1.41	1.55	1.46
	Urban		
1983-94	3.15	3.37	3.26
1994-2005	3.10	3.08	3.09

Source: Estimated from NSS Data

Second, even as male employment grew faster than female employment, the gap between the two is much smaller between 1993-94 and 2004-05 than between 1983 and 1994-95. However, in rural areas female employment grew at a faster rate than male employment between 1993 and 2005. The overall decline in the growth rate of employment in the post-reform period as compared to pre-reform period is a cause for concern. Within the post-reform period, however, the period 1999-2000 to 2004-05 witnessed high employment growth rates, in both rural and urban areas.

### *Real Wages*

Another indicator of purchasing power is agricultural wages. Deaton and Dreze (2002) say that a healthy growth in real agricultural wages appears to be a sufficient condition for significant reduction in poverty in rural areas. The growth of regular and casual wage during the pre- and post-reform periods is almost the same in rural areas (Table 11). Within the post-reform period, however, growth rate of real wages declined substantially during 1999-2005 as compared to 1993-2000.

Table 11: Growth of Regular and Casual Wage for Age Group 15-59 (Constant prices: 1993)

	Regular		Casual	
	1983 --93	1993--2004	1983 --93	1993--2004
Rural	3.34	3.35	2.85	2.78
Urban	2.48	2.38	2.48	3.17
Gap	-0.86	-0.97	-0.37	0.39

Source: Various NSS Rounds estimated by IHD

### *Access to PDS*

Public distribution system (PDS) is one of the instruments for ensuring household level food security. Here we will confine the discussion to access of households to PDS and discuss the issues and reforms required in PDS in the next section. National Sample Survey Organization (NSSO) has been collecting information on purchases of rice, wheat, sugar, and kerosene from fair price shops. These data have been analysed to examine utilization of PDS

### *Share of PDS purchases in Consumption*

The proportion of consumables obtained from PDS to total consumption provides some idea about the role of PDS in catering to the needs of the population. PDS consumption constituted only 11 per cent of the total per capita consumption in rural India (Table 12). This share was higher for southern states, viz., Maharashtra, Himachal Pradesh, and Jammu and Kashmir, and lower for the eastern and northern states. The share for the poorest quintile was 17 per cent, and 6 per cent for the richest quintile. Here too, the share for the poorest quintile was higher for southern and western states, including Rajasthan, as compared to the eastern and northern states (Table 12).

The share of PDS consumption for urban India (7.7 per cent) was lower than that of rural India. This is true for most states. For example, in Karnataka, the PDS consumption share in rural areas was 47.5 per cent while it was 17.4 per cent in urban areas. Jammu and Kashmir was the only state in which the urban share was much higher than that of rural areas.

Table 12. Per capita monthly PDS foodgrains purchases and their share in total Per capita monthly food grain consumption in Rural areas by quintiles in 2004-05

	PDS Purchases as % to total consumption					
	q1	q2	q3	q4	q5	All
Jammu & Kashmir	33.12	32.59	31.43	18.50	13.71	25.53
Himachal Pradesh	45.96	35.05	33.17	28.94	15.50	32.74
Punjab	0.27	0.29	0.05	0.40	0.01	0.21
Haryana	4.58	3.62	1.67	0.61	0.41	2.27
Rajasthan	19.76	14.08	9.25	4.76	5.10	10.28
Uttar Pradesh	6.18	3.48	2.53	2.35	1.46	3.27
Bihar	2.16	0.89	1.19	0.58	0.61	1.09

Assam	7.60	5.13	2.65	1.38	1.86	3.74
West Bengal	6.06	3.51	3.03	2.24	1.49	3.29
Orissa	15.98	8.66	5.56	3.62	1.80	6.79
Madhya Pradesh	22.57	12.76	12.65	8.80	4.95	12.45
Gujrat	25.46	18.08	14.81	10.88	3.15	14.32
Maharastra	39.46	29.83	23.30	17.77	10.41	23.90
Andhra Pradesh	32.77	26.05	23.09	19.92	13.87	22.99
Karnataka	68.47	58.98	44.09	41.43	26.95	47.53
Kerala	40.73	23.71	17.85	11.87	7.51	20.63
Tamil Nadu	50.24	44.26	42.23	38.01	26.72	40.36
Other States &UTs	32.22	14.10	11.03	11.39	10.35	15.91
Total	17.04	12.37	10.52	8.51	5.59	10.85

Note: Bihar, MP and UP refer to pre-reorganized states; A household is said to access PDS if it reports making purchases from PDS

Source: Estimated from NSS Round Unit level data

### 3.2. Performance on Nutrition Indicators

There are two possible ways to assess the adequacy of food and nutrition and to detect the presence of inadequate intake among individuals and population groups<sup>5</sup>. These are: Nutritional Intake Assessment and Nutritional Status Assessment.

#### Nutritional Intake Assessment

##### *Calories, Protein and Fats*

The per capita calorie intake for rural population declined from 2240 kcal per day in 1983 to 2047 kcal per day in 2004-05 (Table 13). During the same period, per capita protein consumption declined from 63.5 grams to 55.8 grams per day in rural areas. Per capita fat consumption, however, has not declined over time.

Per capita calorie intake by quartiles in Table 14 shows that there was significant decline in the case of the top quartile while for the bottom quartile it has been stagnant. It may be noted that the per capita calorie consumption for the bottom decile was very low at 1485 kcal per day in 2004-05. This level is much below the norm of 2400 calories in rural areas<sup>6</sup>. However, there is a controversy over the minimum calorie consumption per consumer unit per diem. Sukhatme (1982) and Minhas (1991) have questioned the sanctity of calorie norms widely used by nutritionists and consider them to be exaggerated. However, even so, the

<sup>5</sup> see Shetty (undated); Also see Dreze and Sen (1989) for a discussion on intake and outcomes on nutrition.

<sup>6</sup> On calorie adequacy see Suryanarayana (1996)

present level of per capita calorie consumption for the bottom quartile is extremely low.

Table 13. Mean Per Capita Consumption of Calories, Protein and Fats (per day)

Year	Calories (kc)		Protein (gms)		Fats (gms)	
	Rural	Urban	Rural	Urban	Rural	Urban
1983	2240	2070	63.5	58.1	27.1	37.1
1987-88	2233	2095	63.2	58.6	28.3	39.3
1993-94	2153	2073	60.3	57.7	31.1	41.9
1999-00	2148	2155	59.1	58.4	36.0	49.6
2000-01	2083	2027	56.8	55.3	34.6	46.1
2001-02	2018	1982	54.8	54.2	33.6	46.1
2002 (2)	2025	2014	55.4	54.9	34.7	47.0
2003	2106	2020	58.0	55.5	36.4	46.7
2004 (1)	2087	2036	56.9	55.9	35.5	46.8
2004-05	2047	2021	55.8	55.4	35.4	47.4

Source: Deaton and Dreze (2009)

Table 14. Total and Cereal Calorie Consumption by Decile and Quartile of Per Capita Expenditure, Rural India: 1983 to 2004-05

	Bottom Decile	Bottom quartile	Second Quartile	Third Quartile	Top quartile
<b>Total Calories</b>					
1983	1359	1580	2007	2328	3044
1987-88	1488	1683	2056	2334	2863
1993-94	1490	1659	2000	2251	2702
1999-00	1496	1658	1978	2250	2707
2004-05	1485	1624	1900	2143	2521
<b>Cereal Calories</b>					
1983	1150	1309	1589	1738	1974
1987-88	1221	1359	1598	1715	1894
1993-94	1203	1316	1504	1591	1690
1999-00	1197	1289	1591	1509	1566
2004-05	1189	1259	1690	1430	1471

Source: Deaton and Dreze (2009)

#### *Micro nutrient deficiencies*

Goitre due to iodine deficiency, blindness due to Vitamin A deficiency, dry and wet beriberi and pellagra were the major public health problems in pre-independent India. Sustained dietary changes resulted in the elimination of beriberi and pellagra. However, there has not been any decline in the prevalence of anaemia due to iron and folic acid deficiency, while the decline in Vitamin A

deficiency and iodine deficiency disorders has been very slow. Diet surveys have shown that the intake of Vitamin A is significantly lower than the recommended dietary allowance in young children, adolescent girls and pregnant women. In these vulnerable sub-groups, multiple nutritional problems coexist including inadequate intake of both energy as well as micronutrients other than Vitamin A (Gol, 2003).

#### *Nutrition Status Assessment of Children and Women*

We now examine performance based on nutrition status or the outcomes using the anthropometric evidence. The National Nutritional Monitoring Bureau (NNMB) provides the nutritional status of rural households in nine sample states. Children aged 1-5 years are classified into different nutritional grades based on weight for age. The NNMB data shows that the proportion of underweight children declined from 77 per cent in 1975-79 to 55 per cent in 2004-05.

NFHS data shows that the proportion of underweight children declined only marginally from 47 per cent in 1998-99 to 45.9 per cent in 2005-06, although stunting among children declined to a much greater extent (Table 15). International studies have shown that the rate of decline of child undernutrition tends to be around half the rate of growth of per capita GDP (Haddad *et al.*: 2003). As against this finding, the rate of decline in malnutrition is much lower than per capita income growth in India.

Table 15. Trends in Child Malnutrition(0-3 years of age)

Nutritional Parameter	1992-93 NFHS-1	1998-99 NFHS-2	2005-06 NFHS-3
Stunted	52.0	45.5	38.4
Wasted	17.5	15.5	19.1
Underweight	53.4	47.0	45.9

Source: Gol (2009)

There are significant differences in malnutrition at the rural and urban levels. The proportion of underweight children was 36 per cent higher in rural as compared to urban India (Table 16). Similarly, the proportion of stunted children was 32 per cent higher in rural areas as compared to urban areas.

Table 16. Malnutrition: Rural and Urban: 2005-06

Nutritional Parameter	Rural	Urban
Stunted	41	31
Wasted	20	17
Underweight	49	36

Source: Gol (2009)

At the state level, the incidence of malnutrition in M.P. was 60 per cent and nearly 60 per cent in Bihar and Jharkhand. It was more than 50 per cent in Chattisgarh. In states like Gujarat, Haryana, Karnataka, Orissa, Rajasthan, U.P., and West Bengal it was more than 40 per cent in 2005-06. Even in states like Tamil Nadu and Kerala, malnutrition levels are relatively high.

It may be noted that social disparities overwhelm regional disparities in the context of poverty and vulnerability and incidence of malnutrition. For example, the numbers in Table 17 show that SC/ST and Muslims suffer from poverty and vulnerability to a greater extent as compared to OBCs and other castes. The incidence of malnutrition (chronic energy deficiency) among women is the highest for SCs/STs, followed by OBCs and Muslims. The malnutrition among women for OBCs is much lower than other castes. This is true of all the states in India.

**Table 17: Incidence of Malnutrition Among Women (Chronic Energy Deficiency): 2005-06**

State	Total Population	SC/ST Population	OBC Population	Muslim Population	Others
1	2	3	4	5	6
<b>India</b>	<b>35.6</b>	<b>42.7</b>	<b>36.0</b>	<b>35.1</b>	27.5
Andhra Pradesh	33.5	38.4	37.0	27.6	22.2
Assam	36.5	34.5	30.4	46.0	31.4
Bihar	45.1	58.4	43.3	49.6	31.4
Chhattisgarh	43.4	46.6	44.8	28.9	26.2
Gujarat	36.3	48.0	40.5	37.0	22.9
Haryana	31.3	36.4	33.1	49.0	26.6
Jharkhand	43.0	44.6	45.3	47.3	26.5
Karnataka	35.5	41.8	34.9	26.9	31.7
Kerala	18.0	24.1	18.6	15.6	18.0
Madhya Pradesh	41.7	48.7	42.2	37.4	27.7
Maharashtra	36.2	43.6	36.1	23.8	34.5
Orissa	41.4	50.6	39.6	63.5	30.7
Punjab	18.9	26.7	18.0	22.5	14.4
Rajasthan	36.7	44.1	33.3	36.1	32.3
Tamil Nadu	28.4	36.1	26.8	20.7	8.3
Uttar Pradesh	36.4	43.6	35.4	36.4	28.3
West Bengal	39.1	45.2	39.2	37.4	31.5

Source: Compiled from Kannan (2008). The data is from NFHS-3 data

Indicators on anaemia for women and children based on NFHS III data shows that more than 50 per cent of women and nearly 80 per cent of children have anaemia. Considerable regional disparities can be noticed in these indicators. Anaemia among women was more than 60 per cent in six states, viz., Andhra Pradesh, Bihar, Assam, Jharkhand, Orissa, and West Bengal. Anaemia among children was more than 80 per cent in Bihar, Gujarat, Haryana, Karnataka, M.P., Chattisgarh, Punjab, Haryana, and U.P.



The nutritional status of children is summarized in Box 1. It shows that three out of four Indian children are anemic and the proportion of children under 3 with anemia increased between 1998-99 and 2005-06. Only 23.4 per cent children are breastfed within the first hour of birth.

**Box 1. Nutritional Status of Children**

- Three out of four children in India are anemic
- Every second new born has reduced learning capacity due to iodine deficiency
- Children (0-3 years) underweight are 46% in NFHS-3, a marginal decrease from 47% in NFHS-2
- Children under 3 with anemia are 79% (NFHS-3), an increase from 74.2% in NFHS-2
- Only 23.4% are breastfed within the first hour of birth and 46% are exclusively breastfed for a month (NFHS-3)

Source: GoI, 2009

#### **4. ISSUES AND POLICIES ON ACCESS TO FOOD AND NUTRITION**

Access to food at the household level and nutrition are inter-related. As mentioned above, access to food depends on increase in purchasing power due to increase in employment and social protection programmes. On the other hand, factors determining the levels of malnutrition are far more varied than those of access to food. In this section we discuss the issues and policies that improve access to food and nutrition.

##### **4.1. Income, Women and Health**

###### **Income Growth and Poverty**

Low income growth is one of the reasons for low access to food and malnutrition. With increase in income and employment access to food can be improved. As mentioned above, the cross-section data across countries showed that the percentage decline in malnutrition is roughly half the rate at which GNP per capita grows. Thus, economic growth alone can not reduce malnutrition. For example, in India, GDP growth was 6 to 7 per cent per annum during 1992-93 to 2005-06 and 9 per cent in the last four years. However, child malnutrition declined from 52 per cent to 46 per cent at the rate of 0.5 percentage points per annum. In fact, the per cent of underweight children in India declined only one percentage point from 47 per cent in 1998-99 to 46 per cent in 2005-06 in spite of high economic growth. This dissociation between GDP growth and changes in the status of malnutrition is due to a distribution problem, as the wealth created is unequally shared.

Income poverty is another reason for lower access to food and malnutrition. Access to food can be improved with reduction in income poverty, but studies have shown that malnutrition exists even after eradication of poverty. For example, income poverty in India is 26 per cent while child malnutrition is 46 per cent. The data for India and South Asia show that malnutrition levels are surprisingly high even in rich income quintiles. Thus, reduction in malnutrition is going to be a bigger challenge than income growth and reduction in poverty.

This, however, does not mean that income growth cannot have an impact in terms of reducing malnutrition. As shown in Table 18, undernutrition for the lowest and highest wealth categories respectively was 56.6 per cent and 19.7 per cent in 2005-06. It shows that with increase in wealth (proxy for income) undernutrition can be reduced. One can say that income growth is necessary but not sufficient for reduction in malnutrition, as other factors are also important.

Table 18: Undernutrition by Wealth Categories: Proportion of Children Undernourished

Wealth Category	Weight for age (%)
Lowest	56.6
Second	49.2
Third	41.4
Fourth	33.6
Highest	19.7
All Categories	42.5

Source: NFHS-3

### Factors Determining Malnutrition

The three main drivers of undernutrition in developing countries are: (i) household food insecurity (the outcome of low food availability and access to food); (ii) poor maternal and child care practices; and (iii) inadequate access to drinking water, sanitation and health services. Gender inequality is another important factor that determines malnutrition levels. A distinction can be made between direct or immediate or indirect but substantive and institutional factors responsible for undernutrition. For example, food intake, micro nutrients, diet diversification, health, water, and sanitation are direct determinants while women's empowerment, agriculture, rural non-far sector etc. are indirect determinants of undernutrition. First, we discuss the direct determinants.

**Food Intake and Diet Diversification:** Food intake in terms of sufficient calories, proteins and micro nutrients is important for nutrition. The focus has to be on increasing the range of micronutrient-rich foods consumed. This requires implementation of programmes that improve the availability and consumption of,

and access to, different types of micronutrient-rich foods (such as animal products, fruits, and vegetables) in adequate quantities, especially among those who are at risk for or vulnerable to micronutrient malnutrition. Insufficient iron and zinc intake can cause long term problems.

**Health:** Similarly, public health services are poor in India. Health sector performance shows that there are basically six problems: (i) low levels of health indicators; (ii) slow progress in these indicators; (iii) significant regional, social, and gender disparities; (iv) poor quality delivery systems in health and; (v) privatization of health services.

Low standards of health, hygiene, sanitation, and safe drinking water play important roles here since sick children are not able to absorb essential nutrients.

### **Women's Empowerment, Food Intake, Health and Impact on Children's Well Being**

Advancement in women's status and well being would have a positive spillover impact on children's well being. A comprehensive review on the linkages between women's empowerment and children's well being brought out clearly that there are four mechanisms for transmitting the effects of women's empowerment to children's well being (Jones *et al.*: 2007). They include maternal education, economic empowerment, intra-household decision making power, and community level empowerment. Education for mothers is positively associated with better education, health, and nutrition outcomes for the child. Women's economic empowerment, that is, greater access for women to financial resources, not only improves their status within the household, but also leads to more investment in their children. As a result of greater access to economic resources, women's empowerment may translate into better outcomes for children because empowered mothers are likely to advocate the interests of their children in intra-household bargaining and to be taken seriously by their male partners. Finally, greater individual and household level empowerment may spill over into the empowerment of women at the community level and a more active role for them in demanding or even providing better child related services (Jones *et al.*: 2007).

Women's agency (health, education and empowerment) and intra-household issues are important determinants of undernutrition in South Asia in general and India in particular. Two of the three differences between South Asia and Sub-Saharan Africa relate to women: (i) Low birth weight is the single largest predictor of undernutrition; (ii) women in South Asia tend to have lower status and less

decision-making power than women in Sub-Saharan Africa. This limits women's ability to access the resources needed for their own and their children's health and nutrition, which in turn is associated with low birth weight, as well as poor child feeding behaviors in the first twelve months of life

Children's malnutrition is determined by the caring capacity of mothers. Caring capacity and caring practices are overwhelmingly influenced by the status of women in the household and society. One important dimension of accessibility to food is intra-household disparity in consumption. It is widely believed that in India, food distribution in the household is not based on 'need'. The breadwinner gets sufficient food, the children get the next share, and women take the remains. In times of scarcity, the dietary intake of women and children are likely to be the most adversely affected. Among children, boys are given preference over girls (not everywhere) in distribution of food. NFHS data shows slightly higher malnutrition among girls as compared to boys. Generally there is not much difference. Amartya Sen and Sengupta studied the question of undernourishment in a few villages of West Bengal. Based on the weight-for-age indicator they found a bias in favour of boys over girls. Amartya Sen (2001) cautions about the interpretation of the causal process. The lower level of nourishment of girls may not relate directly to their food intake vis-à-vis boys, but from neglect of healthcare of girls compared to that of boys.

Adequate nutrition during pregnancy and the first six months of life are critical because of their impact on birth weight. Thus, the problems often start before, during, and after pregnancy as malnourished mothers are more likely to produce low birth weight babies. Poor nutritional status at birth is perpetuated by inadequate breastfeeding and supplementary feeding habits. Subsequently, children are not given sufficient quality food in the first two years, –particularly by mothers with low education.

The regional experience in India highlight differences in health provisioning, improvements in child care, and health status of women as factors that explain malnutrition differences across states (Kumar: 2007).

The high performing states in India have shown:

- (i) rise in women's nutrition status,
- (ii) increase in the proportion of children under the age of three breastfed within one hour of birth,
- (iii) rise in the percentage of children with diarrhoea who received ORS.
- (iv) Best practices in Tamil Nadu, Kerala and North Eastern States

To conclude, given the income growth, a significant part of the South Asian 'Enigma' as compared to Sub-Saharan Africa can be explained by women's agency.

**Synergy across Sectors:** A multidisciplinary approach is required in order to improve nutrition and health outcomes. For example, a package consisting of extended child and material immunization, antenatal care coverage, nutritional supplementation (including promotion of exclusive breast feeding), and home-based neo-natal services (including treatment of pneumonia) is likely to bring about significant reduction in both infant mortality and child malnutrition (Deolalikar: 2004). There is also need for synergy across sectors. Synergy between the processes directed at improving drinking water facilities, sanitation, and public hygiene, access to elementary education, nutrition, and poverty alleviation and the processes that improve access to public health and medical services are important for positive nutrition and health outcomes.

Indirect determinants of better nutrition and health are growth in agriculture and rural non-farm sector. These are particularly important for raising incomes and diet diversification.

**Agriculture:** Apart from providing better availability of food, agricultural growth and equity can increase access to food and nutrition. Some studies have shown that there is disconnect between agricultural growth and malnutrition. Here again the dissociation is due to low growth in states where malnutrition is high. For example, high agricultural growth in the eastern and central regions can reduce overall malnutrition to some extent. Involvement of women in raising home gardens, incorporating nutrition elements in crop production, etc. can reduce malnutrition.

**Rural Non-Farm Sector:** Poverty cannot be eradicated, with 55 per cent workers in the agricultural sector. There is thus need to promote the rural non-farm sector. India currently produces about 50 million tonnes of fruits and 90 million tonnes of vegetables. Only 2 per cent of these fruits and vegetables are processed, as against 23 per cent in China, 78 per cent in Philippines, 83 per cent in Malaysia. Half the people engaged in agriculture are still illiterate and only 5 per cent have completed higher secondary education. Even in 2004-05, around 60 per cent of rural male workers and 85 per cent of rural female workers were either illiterate or had been educated only upto the primary level. In other words, education and skills are constraints in this context. India can learn from China with regard to rural transformation. China has experienced a structural

transformation in the last three decades. The State's role has been decisive in building up the physical and social infrastructure (including land reforms). India should learn from China with regard to reforms in agricultural growth, rural non-farm employment, public investment, and human development. The impact of growth on poverty reduction is quite significant (Rao: 2007). China started with agricultural reforms. High agricultural growth and diversification towards rural non-form sector in China are important factors responsible for rural poverty reduction (poverty is only 3 per cent). This was partly due to agricultural productivity.

#### **4.2. Social Protection Measures**

Comprehensive social protection programmes are required to address the problems of access to food and malnutrition. The social protection measures are basically non-contributory targeted transfer programmes to the poor and vulnerable groups.

If we leave everything to market and growth, we cannot take care of risk and inequality. Certain redistributive policies can be good for growth. The presence of social protection measures can maintain an acceptable minimum floor for social cohesion and can prevent irreversible losses of human capital in hard times. The State has a role in terms of helping the poor in times of insecurity and in terms of ensuring minimum levels of provision to those unable to gain from the growth process. Government interventions are required to blend elements of both redistribution and insurance (World Bank 1990) in this regard.

India has many social protection programmes. The present major schemes for the poor in India fall into four broad categories: (i) food transfer like public distribution system (PDS) and supplementary nutrition (ii) wage employment (iii) self employment, and (iv) social security programmes for unorganized workers. We discuss below the working of the first two programmes.

##### **(i) Public Distribution System (PDS) and Nutrition Programmes**

PDS and nutrition programmes can help in improving food security of households and nutrition.

##### **TPDS**

The Public Distribution System (PDS) is one of the instruments for improving food security at the household level in India. The PDS ensures availability of essential commodities like rice, wheat, edible oils, and kerosene to the consumers through a network of outlets or fair price shops. These commodities are supplied at below market prices to consumers. With a network of more than

462,000 fair price shops (FPS) distributing commodities worth more than Rs. 300 billion annually to about 160 million families, the PDS in India is perhaps the largest distribution network of its kind in the world. The PDS evolved as an important instrument of government policy for management of scarcity and for distribution of foodgrains at affordable prices. Supplemental in nature, the scheme is not intended to make available the entire requirements of foodgrains of the households.

The Targeted PDS (TPDS) was introduced in 1997 and under this scheme special cards were issued to families below poverty line (BPL) and foodgrains were distributed at a lower price for these families compared to those above the poverty line (known as APL families). The entire population was divided into three categories – BPL (Below Poverty Line), APL (Above Poverty Line) and AAY – Antyodaya Anna Yojana (destitute). The BPL population are provided 35 kg of foodgrains per month at subsidized price. AAY, the destitute households (part of BPL households) are provided a monthly provision of 35 kg of foodgrains at specially subsidized rates (Rs. 2 per kg for wheat and Rs. 3 for rice). About 25 million (38 per cent of BPL) people have been covered under AAY. The central government allocates foodgrains to different states of India based on poverty ratios. According to the central government there are around 65 million poor households in the country. States in turn distribute foodgrains based on the BPL list. Targeting is done by states based on 13 non-income indicators to select BPL population. If we add together the households on the states' BPL lists, there are 100 million poor households. There is competitive populism to include more households in the BPL list.

Offtake of foodgrains (rice+wheat) under TPDS and the Welfare Scheme in 2007-08 are as follows: BPL – 15.1 million tonnes; APL – 9.0 million tonnes; AAY (Destitute) – 9.4 million tonnes; Total TPDS – 33.5 million tonnes; Welfare Scheme – 3.9 million tonnes; All (TPDS + Welfare Schemes) – 37.4 million tonnes.

TPDS is subsidized by the central government, and to some extent by state governments. The total subsidy for TPDS is distributed as follows: 18 per cent for APL, 46 per cent for BPL and 36 per cent for AAY households.

#### *Major Concerns about PDS*

The main problem with regard to PDS is its inability to reach to the target groups in most parts of the country. PDS foodgrain purchase constituted only 11 per cent of the total per capita monthly food grains consumption in 2004-05. There

was marked regional disparity and although the impact of PDS on southern and north-eastern states is much better, it has hardly any impact on some of the poorest states (Bihar, Assam, U.P.).

The main problems in TPDS are set out in two recent documents: (i) Report of the High Level Committee on Long -Term Grain Policy (GoI: 2002) and (ii) Performance Evaluation of Targeted Public Distribution System (TPDS) (Programme Evaluation Organisation, Planning Commission, 2005)<sup>7</sup>.

According to these documents, there are basically four problems in the present TPDS: (i) high exclusion errors; (ii) non-viability of fair price shops; (iii) not fulfilling the price stabilization objective; and (iv) leakages. The leakages vary enormously between states. In Bihar and Punjab, the total leakage exceeds 75 per cent while in Haryana and Uttar Pradesh it is between 50 and 75 per cent.

Some other problems are: low quality of foodgrains, infrequent supply of foodgrains, inefficiency of Food Corporation of India (FCI), political interference and corruption, no system of inspection of entitlements, and viability of Fair Price Shops (low margins, etc.).

There seem to be some improvements in the functioning of PDS. These are: higher procurement, higher off-take, larger coverage, improved distribution, and lower diversion. This is evident from some large-scale evaluation by National Council for Applied Economic Research (NCAER) surveys which are based on a large sample in several states. It shows better distribution among the poorest (90 per cent) and the poor (80 per cent) except Bihar and Assam. Although allocation efficiency of the TPDS has improved, the huge problem of identification is still very high. The issue of large scale errors of exclusion and inclusion is still prevalent. Therefore, successful implementation of PDS is a big challenge.

#### *Reforming the Procurement and Distribution*

There is need for certain reforms in procurement and distribution for better functioning of TPDS. These are: (i) decentralization of procurement and distribution; (ii) involving panchayats (elected village representatives) in PDS; (iii) streamlining FCI and involvement of private sector farmers' cooperatives, SHGs, etc. in procurement and distribution; (iv) viability of FPSs, giving them higher margin, making monitoring compulsory; (v) computerization of records for cross-checking, opening of grievance cells, and strengthening the role of

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<sup>7</sup> For problems in PDS and targeting see Swaminathan (2000)



Panchayats and NGOs; (vi) devising an appropriate criterion for selection and strict enforcement of the criterion; and (vii) punishment system for the defaulters.

There are suggestions afoot for introducing food coupons in the system. States like Andhra, Rajasthan, and recently Bihar, introduced food coupons and considerable improvements have been reported as a result. This measure has helped in reducing the number of bogus ration cards and has been effective in checking PDS grains being diverted into the open market. The basic problem in PDS is lack of public accountability.

The Sixth Commissioner's report on PDS provides several recommendations to address the problems in TPDS. On large exclusion errors, the report says that those are excluded groups because of misidentification, and should get universal coverage under AAY/BPL. In other words it should be the responsibility of the state governments to proactively identify all of these categories and cover them all under AAY/BPL cards. The Report also gives recommendations on accountability and transparency.

#### **Nutrition Programmes:**

ICDS: The Integrated Child Development Services (ICDS), launched in 1975, aims at the holistic development of children up to six years of age with a special focus on children upto two years, besides expectant and nursing mothers. This is done through a package of six services: health check-ups, immunization, referral services, supplementary feeding, non-formal pre-school education, and advice on health and nutrition. In spite of its expansion in the last three decades, the impact on child nutrition and protecting the rights of the children is quite limited.

The ICDS, which has been in existence for over three decades, was intended to address the problem of child and maternal malnutrition, but has clearly had limited impact. Child malnutrition has barely declined at all in a decade and a half, anaemia among women and children has actually risen and a third of all adult women were undernourished at the end of 1990s and also in 2005–06. The scheme has also had limited coverage. Therefore, the answers are increasing coverage to ensure rapid universalization; changing the design; and planning the implementation in sufficient detail that the objectives are not vitiated by the design of implementation (GoI, 2008).

First, the ICDS has to be universalized. Second, the current scheme does not focus on children between 0 and 3 years. However, malnutrition sets in *in utero* and is likely to intensify during the 0–3 year period, if not addressed. In fact, this

window of opportunity never returns in the lifetime of the child. A child malnourished during 0–3 years will be marred physically and mentally for life. The design of the scheme has to address this problem frontally.

The mother's malnutrition has knock-on effects on the child's malnutrition. Exclusive breastfeeding for six months is necessary to avoid unnecessary infections to the baby, develop the baby's immunity, and ensure growth. The baby must begin to receive solid, mushy food at 6 months (i.e. together with breastfeeds) to continue to grow in the way nature intended her to grow. The ICDS scheme accordingly needs to be restructured in a manner that addresses some of the weaknesses that have emerged and renders it suitable for universalization. The programme must effectively integrate the different elements that affect nutrition and reflect the different needs of children in different age groups (Gol, 2008).

Apart from the above, preliminary findings of FOCUS (Focus on children under Six) Survey conducted in May-June 2004) in six states brings out some of the problems and regional disparities in the working of ICDS (Dreze: 2006). This study shows that Tamil Nadu scores over the northern states in infrastructure, quality of pre-school education, immunization rates, mothers' perceptions and, quality of anganwadi workers (Table 19).

Table 19. Comparison of Quality of ICDS in Tamil Nadu with Northern States

	Tamil Nadu	Northern States
Proportion (per cent) of Anganwadis that have:		
Own building	88	18
Kitchen	85	30
Storage facilities	88	58
Medical kit	81	22
Toilet	44	17
Average opening hours of the anganwadi in a day (according to mothers)	6 and half	3 and half
Proportion (per cent) of children who attend 'regularly'		
Age 0-3	59	20
Age 3-6	87	56
Proportion (per cent) of mothers who report that:		
Pre school education activities are taking place at the anganwadi	89	48
The motivation of anganwadi worker is high	67	39
The anganwadi worker ever visited them at home	58	22
Proportion of women who had at least one prenatal health check up before their last pregnancy	100	55

Proportion (per cent) of children who are 'fully immunised'	71	41
Average number of months that have passed since anganwadi worker attended a training programme	6	30
Proportion (per cent) of anganwadi workers who have not been paid during the last three months	0	22

Notes: a: Chattisgarh, Himachal Pradesh, Rajasthan and Uttar Pradesh; b: among those enrolled at the local anganwadi; responses from mothers; c: among those who delivered a baby during the preceding 12 months; d: based on assessment of investigators (they were trained for this purpose)

Source: Dreze (2006) based on FOCUS Survey, 2004.

Saxena (2008) provides several recommendations for improvement of ICDS. According to this study, ICDS is reaching only 12.5 per cent of children in the age group 6 months to 6 years. The 11<sup>th</sup> Five Year Plan document aims at halving the incidence of malnutrition by the end of the Eleventh Plan and reduce anaemia among pregnant women and children to under 10 per cent. To achieve these objectives, ICDS has to be restructured with higher allocations of funds and effective implementation.

#### **Mid-day Meal Scheme:**

The mid-day meal scheme (MDMS) has been revised and universalized at the primary level from 1 September 2004. Recently, the MDMS has been extended to Upper Primary School from 1 October 2007. MDMS was supposed to cover about 18 crore children by 2008–09.

There are problems with MDMS with regard to financial allocations and the quality of the scheme. The Sixth Report of the Commissioner appointed by the Supreme Court also points out inadequate infrastructure for mid-day meals. Of the sixteen states that sent data to the Commissioner in this regard, thirteen stated that less than 45 per cent schools have a separate kitchen.

The 11<sup>th</sup> Five Year Plan has given the following action points for improving the performance of MDMS: (i) MDM to be managed by the local community and PRIs/NGOs, and not contractor-driven: civic quality and safety to be prime considerations; (ii) sensitize teachers and others involved in nutrition, hygiene, cleanliness, and safety norms to rectify observed deficiencies; (iii) involve nutrition experts in planning low cost nutrition menu and for periodic testing of samples of prepared food; (iv) promote locally grown nutritionally rich food items through kitchen gardens in school, etc.; (v) revive the School Health Programme; disseminate and replicate best practices adopted by states; (vi) provide drinking facilities in all schools on an urgent basis; (vii) display status regarding supplies, funds, norms, weekly menu, and coverage in schools to ensure transparency; (viii) central assistance to cooking cost should be based on the actual number of

beneficiary children and not on enrolment; (ix) Promote social audit; (x) Online monitoring (GoI, 2008b).

**Other Child-specific Measures:** ICDS and mid-day meals are child-specific programmes. One of the household responses to shocks is that children have less time to study, or spend less time in school, or drop-out of school. The short term measure can be to increase funding to school feeding programmes so that the quantity and quality of food that children get is not compromised (Plan: 2008). The long term measure is to provide incentives to children to continue in school. School feeding programmes, financial incentives for children in school, quality of education, etc. are some of the long term measures. Of course, social protection programmes for households can raise household income and reduce child labour. Increased pressure on women due to employment may affect the children adversely. The government has to ensure continued funding to existing public provision of childcare services. Support can be given for increasing women's employment by providing community or public child care facilities. Care responsibilities can be incorporated in the design and implementation of policies and programmes. Another coping mechanism of households is reduction in spending on basic services like health and education. This would affect the children adversely. Health care should be given more finances and incentives have to be provided for schooling.

## **(ii) NREGA**

By now it is well recognized that rural works programmes (RWPs) have become important instruments in the strategies for alleviating poverty and hunger in many developing countries.

Enacting the National Employment Guarantee Act is one of the key electoral promises of the ruling coalition at the Centre under the Common Minimum Programme (CMP). The Bill was passed by the Parliament in August 2005 and became the National Rural Employment Guarantee Act, 2005 (NREGA). This is a step towards legal enforcement of the Right to Work, as an aspect of the fundamental right to live with dignity. NREGA was notified in September, 2005 with the aim to enhance livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year to every household. The primary objective is employment creation. The auxiliary objective is regenerating a natural resource base and creating productive assets. The third, a process objective, is to strengthen grass root democracy by infusing transparency and accountability in governance. It is the first time that a rights-based approach for employment has been introduced throughout India. This is the largest ever public

employment programme visualized in human history. One of the most important requisites for this programme is transparency and accountability. Gram Sabhas conduct social audits of all works taken up within Gram Panchayat. Social audit includes scrutinizing and verifying the authenticity of all records and procedures of the programme and expenditure. Social audit of all works in the Gram Panchayat area is conducted by the Gram Sabha. The performance of the National Rural Employment Guarantee Scheme (NREGS) is uneven. The problems and challenges in areas where it is unable to deliver are the following: (i) awareness problems among workers; (ii) implementation and administration problems; (iii) monitoring and evaluation problems; and (iv) lack of professionals and capacity building at various levels, particularly at the panchayat level.

However, most evaluations -- official and non-official -- show that implementation in the case of NREGS has been more effective than for any of its predecessor schemes. In particular, the leakages have been reduced significantly in many places. A significant increase in the agricultural wage is clearly indicative of the scheme's success. In some places migration has reduced, providing much needed relief during the financial crisis, with the urban poor returning to rural areas. The 11<sup>th</sup> Five Year Plan indicates that NREGS is going to be one of the important programmes for poverty reduction in India. NREGS has the potential to not only transform livelihoods of the poor, but also to revolutionize rural governance.

NREGS provides a great opportunity to generate employment and create productive assets. If these can be linked to overall development, there will be less need for such schemes in future. If implemented effectively, NREGS will be the biggest social security programme for unorganized workers.

Despite inefficiencies, the contribution of social protection programmes to the observed reduction in rural poverty and as insurance for risk has been significant, even though their potential is much greater. There are several lessons in social protection to be learnt from the Indian experience. These lessons will be useful for effective implementation of these programmes.

## **5. RIGHT TO FOOD AND NATIONAL FOOD SECURITY ACT**

The Presidential address to Parliament in 2009 indicates that implementation of the National Food Security Act will provide a statutory basis for a framework

which assures food security for all. According to this proposed law, every family below the poverty line in rural as well as urban areas will be entitled by law, to 25 kilograms of rice or wheat per month at Rs. 3 per kilogram. It is felt that the statutory guarantee to food with fixed entitlements to the poor would be an important step in the direction of ensuring food and nutritional security of the country. Although the ongoing 'targeted public distribution system' (TPDS) is supposed to provide subsidized foodgrains to the BPL population, the legislative measure may lead to better accountability by making the PDS system more responsive in reaching out to the targeted population. Since the announcement of the proposed food security law, several people have raised a number of policy level and operational issues that need to be addressed while extending food guarantee to the citizens through a statutory mandate.

### **Issues Under the Proposed Right to Food**

*Issues under PDS:* There has been a serious debate on the question: should the PDS be targeted or universal? The advantage of universal PDS is that targeting errors can be minimized, particularly the exclusion error (exclusion of poor). Also, a right generally implies applicability to the entire population of the nation.

The second issue is, who should be covered under BPL and get ration cards? According to Planning Commission estimates, there are 6.52 crore households below the poverty line (based on 1993-94 poverty estimates and population estimates for 2000 from the Registrar General of India (RGI)). However, actual cards issued by states number around 10.68 crore (in some states, nearly the entire population has been issued BPL cards!). The demand of states is that all the 10.68 crore card holders should be included in the BPL list under the Right to Food Act. This would have serious financial implications in terms of food subsidy. The N. C. Saxena committee on BPL population thinks that 50 per cent of the nation's population should be covered under BPL.

*Need for Comprehensive Food Entitlement Act.* The proposed national food security law is too narrow. The Right to Food campaign demands a comprehensive 'Food Entitlements Act' that goes beyond the narrow promise of supplying foodgrains to BPL population.

"Aside from an overarching obligation to protect everyone from hunger, as well as to promote sustainable and equitable food production, essential provisions of the proposed Act include: a universal public distribution system (providing at least 35 kgs of grain per family); special food entitlements for destitute households (including an expanded Antyodaya Programme); consolidation of all entitlements created by recent Supreme

Court Orders (e.g. cooked mid-day meals in primary schools and universalization of ICDS); support for effective breastfeeding (including maternity entitlements and crèches); safeguards against the invasion of corporate interests in food policy; and elimination of all social discrimination in food related matters. Further, the Act must include strong accountability and grievance redressal provisions, including mandatory penalties for any violation of the Act and compensation for those whose entitlements have been denied”

(Right to Food Campaign: Right to Food Act, 2009, p.1)<sup>8</sup>

The Right to Food Campaign argues that “any statute enacted ought to, at the very minimum, protect existing legal entitlements created by the Supreme Court orders passed in PUCL Versus UOI currently pending in the Supreme Court, and preferably go beyond”. According to the draft prepared by this campaign, the Food Entitlements Act, 2009 should be:

“an Act to ensure dignified economic and social access to adequate food and other requirements of good nutrition for all residents of the country, at all times, in pursuance of their fundamental right to be free from hunger, malnutrition and other deprivations associated with the lack of food.”

(p.5 of ‘Food Entitlements Act, 2009 of Right to Food Campaign)<sup>9</sup>.

The general view is that at the very least the RTF Act has to build on four major types of interventions: (i) nutrition schemes for children; (ii) the PDS; (iii) social assistance for vulnerable groups (e.g., pensions, Antyodaya Anna Yojana); and (iv) other interventions (Khera: 2009).

Our view is that the present National Food Security Act proposed by the government is a narrow one. The alternative draft “Food Entitlements Act, 2009” prepared by the Right to Food Campaign needs to be discussed and the government needs to consider the comprehensive nature of the food insecurity and malnutrition problems prevalent in the country.

Basically, we argue that Right to Food in terms of providing food and nutritional security to all is a much broader concept than the proposed National Food Security Act of providing 25 kilograms of foodgrains at Rs.3. Many things have to be included in order to have genuine ‘Right to Food. India is signatory to many international treaties and the Indian Constitution also indirectly refers to the Right to Food, which is obligatory for the government to fulfill<sup>10</sup>. As Dreze (2004)

<sup>8</sup> See <http://www.righttofoodindia.org/>

<sup>9</sup> Ibid

<sup>10</sup> More on right to food see Dev (2003, 2008) and Gaiha (2003)

mentions, Right to Food can be seen from three perspectives: the Indian Constitution, international declarations, and moral and social right. The core content of the Right to Food refers to availability, accessibility, adequacy, and sustainability.

### **Cash or Conditional Cash Transfers**

India does not have cash or conditional cash transfers (CCTs) in the form of social assistance like some other countries, although NREGA is a kind of CCT. Kapur *et al.* (2008) argue for introduction of cash transfers in place of some social protection programmes in India. To begin with, they offer four candidates in principle, viz., (i) PDS for food and fuel, (ii) fertilizer subsidies, (iii) rural housing, that is, Indira Awas Yojana (IAY), and (iv) self-employment, that is, Swarnajayanti Gram Swarozgar Yojana (SGSY). Together, they account for Rs. 73,144 crore in the 2008 Budget and provide several arguments in favour of direct cash transfers, such as choice to the poor, relief from financial constraints, less administrative costs and less burden on administration, reduction in inequality in subsidies, and reduction in patronage and corruption (Kapur *et al.*: 2008). There is a need to have some type of CCTs, particularly for women and children, to improve food security. At the international level there are many examples of CCTs. Cash transfers are preferred to food or other in-kind transfers as cash increases the purchasing power of the households. Conditional cash transfers that have worked well include the Food-for-Education Programme in Bangladesh, Mexico's PROGRESA Programme and the Bolsa Escola in Brazil. Those who oppose cash transfers or CCTs argue that if there are problems in the quantity and quality of hospitals and schools, CCTs would be less useful. The problem in India is that one has to strengthen the public health and education. Shah (2008) argues that direct cash transfers are not magic bullets and reduction in poverty requires much more than solutions such as direct transfers.

### **Entry Points for Intervention**

International organizations like Oxfam can make interventions to help the government in improving food and nutrition security. The interventions can be in the following areas:

- (i) Poverty and food insecurity is greater in rainfed and dry land areas. Small farms can be helped in increasing productivity by having access to extension services and better water management. Sustainable agriculture should be the focus of interventions.
- (ii) Local knowledge and local seeds can be used for biodiversity. Organic farming can also be encouraged to protect the environment and generate higher incomes for small farmers.



- (iii) Urban agriculture can improve food security in urban areas. Homegrown food can also be encouraged as it would contribute to food security and nutrition as well as freeing incomes for non-food expenses such as health and education.
- (iv) New and innovative solutions for water management and improving soil fertility.
- (v) Focus on tribal areas for sustainable agriculture.
- (vi) Focus on areas likely to be affected by climate change.
- (vii) Group approach to realize economies of scale in buying inputs and marketing outputs. One important problem in India is marketing of agricultural production. For example, tomatoes may be sold by farmers at Re.1 per kilogram but consumers buy them at Rs.20 per kilogram. A group approach can help farmers in getting the right price.
- (viii) Using information technology for agricultural production and marketing. For example, providing mobile phones to the poor and marginal farmers can help in marketing.
- (ix) Purchasing locally grown food from low income and small holder farmers to benefit their families and communities.
- (x) The problem of malnutrition is the highest in rainfed and high land areas. Higher agricultural productivity and diversification of agriculture can help in raising incomes. Interventions in some of the programmes like ICDS and mid-day meal schemes can improve nutrition in marginal and tribal areas.
- (xi) In order to improve delivery systems in food based programmes there is a need to strengthen programmes like ICDS with the convergence of several departments. International agencies can help in this convergence as a pilot project to improve the delivery systems.
- (xii) Micro nutrient programme is another area of intervention. For example, Vitamin A tablets alone have prevented many deaths. Vitamin A and food fortification like salt iodization are an integral part of food security programmes.

## **6. CONCLUSION**

In this paper we have examined the performance, challenges, and policies in food security in terms of availability, access, and absorption or nutrition. It may be noted that all three are inter-related. For example, availability and access to food can increase nutrition among the households.

Food availability is a necessary condition for food security. India is more or less self sufficient in cereals but deficit in pulses and oil seeds. Due to changes in consumption patterns, demand for fruits, vegetables, dairy, meat, poultry, and

fishery products has been increasing. There is a 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 *per se*. There are six deficits in Indian agriculture. These are: (i) investment, credit, and infrastructure deficit; (ii) land and water management deficit; (iii) research and extension (technology) deficit; (iv) market deficit; (v) diversification deficit; and (vi) institutions deficit. Reforms are needed to reduce these deficits in order to achieve the following goals of agriculture: (i) 4 per cent growth in agriculture; (ii) equity in terms of higher growth in lagging regions, small and marginal farmers, and women; and (iii) sustainability.

Access to food can be increased through employment due to growth in labour intensive sectors and/or through social protection programmes. The problem of malnutrition is much broader than that of access to food. The South Asian Enigma (malnutrition levels in South Asia are higher than in Africa) is well known. India has malnutrition levels almost double those of many countries in Africa. This needs a multi-disciplinary approach covering diet diversification including micronutrients, women's empowerment, education, health, safe drinking water, sanitation, and hygiene.

India has government programmes such as TPDS including AAY, nutrition programmes like mid-day meals, ICDS, etc. to improve food and nutrition security. NREGS and self-employment programmes can also increase access to food and nutrition. Social protection programmes in India have helped in improving incomes as well as providing protection to the population, especially to the poor, from shocks in the economy. However, there are lots of gaps and inefficiencies in the social protection programmes.

Under National Food Security Law, the government wants to provide 25 kilograms of rice and wheat at Rs.3/kg to BPL families. This is too narrow an approach for Right to Food. The Right to Food Campaign has specified several other points, apart from universal PDS, to be included under the Food Entitlements Act.

Nutrition improvement should combine a rights-based approach and nutrition education. It may be noted that one can speak about rights language but they can be distinguished from legal rights, since rights approach does not mean only legal rights. For example, for implementation of measures such as breast

feeding, intra-household distribution, diversification of diet, etc. nutrition education is more important than legal rights. All human rights need not necessarily be legal rights.

India has many policies and programmes. However, food insecurity and malnutrition continue to be high. The problem is with both design and implementation of the programmes. The focus of reforms can now be shifted to more efficient delivery systems of public services. It has been recognized that better governance is very important for effective functioning of food-based programmes. Social mobilization, community participation and decentralized approach are necessary in this context. It may, however, be noted that governance has to be contextualized in relation to the socio-economic environment. Appropriate institutions are needed for better implementation of policies and programmes. For example, rural institutions in areas like land, water, marketing of agricultural and non-agricultural products, credit, technology, and infrastructure are needed for better governance. Similarly, people-centric programmes and institutions are needed for better implementation of social protection schemes. A self-help group approach for livelihoods is relatively successful. For example, small and marginal farmers can get better services if they are organized through collectives like self-help groups or cooperatives. Finally, the 'rights approach' plays an important role in improving implementation of development programmes.

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