

# Chapter 4

## Hunger, Under-Nutrition and Food Security in India



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### 1 Introduction

In the past two decades since India achieved high economic growth, a curious problem has haunted the country and vexed its policy makers: India's rising GDP has had little impact on food security<sup>1</sup> and the nutrition levels of its population. Per capita availability as well as consumption of food grains has declined; the cereal intake of the bottom 30% of the population continues to be much less than that of the top two deciles of the population, despite the latter group's better access to fruits, vegetables and meat products; the calorie consumption of the bottom half of the population has been consistently going down since 1987; the percentage of under-nourished stunted children was as high as 39% in 2014; and more than half of India's women and three-quarters of its children are anaemic, with little decline in these estimates in the past eight years, resulting in maternal mortality and under-weight babies. As part of the world community, India had pledged to halve hunger by 2015, as stated in the Millennium Development Goal 1, but the available data shows that this target has not been met.<sup>2</sup>

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With necessary permissions, this chapter draws heavily from Saxena (2011). It also draws on the author's other previous articles.

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<sup>1</sup>The commonly accepted definition adopted at the 1996 World Food Summit is: food security is achieved 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.

<sup>2</sup><http://www.hrln.org/hrln/pdf/rtf/reports/Hunger%20under%20nutrition%20and%20food%20security%20in%20India.pdf>.

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There is a link between nutritional status and human effort and productivity. Hunger affects the ability of individuals to work productively, to think clearly and to resist disease. Hunger may lead to low output and hence poor wages. Hunger is thus both a cause and an effect of poverty. Hunger in India has gender and age dimensions too. Women, children and old people are less likely to get full nutritious meals needed for their development. There are important seasonal variations in nutritional and health status depending on the cycle of agricultural work. Hunger and starvation also have regional and geographical dimensions. Tribal regions in India have a higher incidence of food insecurity than the non-tribal regions in the same state. Agriculture has brought uneven development across regions and is characterised by low levels of productivity and the degradation of natural resources in tribal areas, leading to low per capita crop output and reduced gathering from common property resources (CPRs).

In short, all indicators point to the hard fact that endemic hunger continues to afflict a large proportion of the Indian population. The International Food Policy Research Institute shows India suffering from alarming hunger, ranked 80 out of the 104 developing countries studied, much below Vietnam and Nepal, countries poorer than India in 2015, and 100 out of 119 countries in 2017 as shown in Table 1.

Hunger can also be equated with chronic food insecurity, as both refer to a situation in which people consistently consume diets inadequate in calories and essential nutrients. This often happens as a result of the inability to 'access' food because of lack of purchasing power. Destitution, leading in extreme cases to starvation deaths but in any case to a life in misery, is more endemic among certain groups. These include persons with disabilities, persons with stigmatising illnesses such as leprosy or HIV/AIDS, the elderly and the young who lack family support, and single women. Social and employment factors causing destitution include being in a scheduled caste population, or tribal population, or being a manual scavenger, beggar, sex worker, landless labourer or artisan. Persons displaced by natural disasters or development projects are also often in this group. Because of the prolonged deprivation of sufficient food and recurring uncertainty about its availability,

**Table 1** Country global hunger index scores by rank

Rank 2015	Rank 2017	Country	1990	1995	2000	2005	2015	2017
21	29	China	25.1	23.2	15.9	13.2	8.6	7.5
37	46	Thailand	28.4	22.3	17.6	13.6	11.9	10.6
49	64	Vietnam	44.6	38.8	30.3	24.6	14.7	16.0
58	72	Nepal	44.5	40.3	36.9	31.6	22.2	22.0
69	84	Sri Lanka	31.3	29.7	27.0	25.9	25.5	25.5
73	88	Bangladesh	52.2	50.3	38.5	31.0	27.3	26.5
80	100	India	48.1	42.3	38.2	38.5	29.0	31.4

IFPRI (2015, 2017)

these people are forced to lose their dignity through foraging and begging, debt bondage and low-end, highly underpaid work; self-denial; and sacrifice of other survival needs like medicine or children's education. Thus, they transfer their misery to the next generation (Mander 2008).

This paper examines the hunger and nutrition situation prevailing in the country and reviews the obligations and initiatives taken by the Government of India (GOI) to ensure food and nutritional security through various policies and schemes.

Section 2 of the paper looks at various forms of hunger and makes a distinction between explicit hunger and chronic or endemic hunger, which manifests itself in a lower intake of essential calories, proteins, fats and micro-nutrients, resulting in the underdevelopment of the human mind and body. It examines data, both from government and other sources, on various dimensions of hunger, including self-reported hunger. It also discusses India's record in improving its position on various indicators generally used to measure hunger, such as food intake, calorie consumption, Body Mass Index (BMI), under-nourishment among children, child mortality and Global Hunger Index (GHI).

Section 3 analyses various policies and programmes that affect food security both at the micro- and macro-levels, such as agricultural production, the Public Distribution System, the Mid-Day Meals Scheme and the Integrated Child Development Services (ICDS) programme for improving child malnutrition.<sup>3</sup> The paper ends with a discussion of accountability, which is a cross-sectoral issue.

## 2 Types and Dimensions of Hunger

There are essentially two types of hunger (Gopaldas 2006). The first is overt (or raw) hunger, or the need to fill the belly every few hours. Hunger in simple terms is the desire to consume food. It can also be termed as self-reported hunger, whereby people judge their own ability to fulfil the physiological urge to satisfy their hunger (Saxena 2011).

The second type of hunger occurs when the human body gets used to having less food than necessary for healthy development and after a while does not even demand more food. If people have always eaten less than their needs, their bodies adjust to less food in what is known as biostasis (Krishnaraj 2006). It is also possible to fill up the stomach with non-nutritious food, which does not provide the required calories or micro-nutrients<sup>4</sup> like vitamins, iron, iodine, zinc, and calcium that are required in tiny amounts. Another situation could be when the essential

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<sup>3</sup><http://www.hrln.org/hrln/pdf/rtf/reports/Hunger%20under%20nutrition%20and%20food%20security%20in%20India.pdf>.

<sup>4</sup>Deficiency in micro-nutrients is often referred to as endemic hunger. However, micro-nutrients do not work unless the person is consuming sufficient calories, protein, etc.

calories, proteins, fats and micro-nutrients are not absorbed in the body due to ill-health and poor hygiene. In all such cases, hunger is not articulated.

This second kind of hunger may be termed chronic or endemic hunger, as it is not felt, recognised or voiced by children or adults. Chronic hunger does not translate into hunger pangs, but into subtle changes in the way the human body develops. For instance, an underfed child may be underweight or stunted for his or her age, if not consuming sufficient calories and fats. If the child is deficient in Vitamin A, he or she will not be able to see properly at dusk ('night blindness'), and respiratory ailments may also occur. In severe Vitamin A deficiency, the child may go totally blind. In the case of iron-deficiency anaemia, the child will slow down both mentally and physically, perform poorly in school and experience chronic tiredness. In the case of iodine deficiency, there will be mental retardation. In its severe form, a goitrous lump may grow at the base of the neck. Thus, prolonged hunger means that a predetermined 'physiological requirement' or 'human potential', defined in terms of norms for calorie and other essential nutrients and growth standards, is not reached.

Subjective hunger, or the first kind of hunger, is a matter of articulation – people or populations have to indicate in some fashion that they are going hungry. Self-reported hunger is also difficult to measure, since perceptions of hunger differ from one person to another. Therefore, objective indicators, such as calorie consumption, BMI, stunting and lack of sufficient variety in food intake, offer a better measure for hunger, as it is perfectly possible to have a full belly and yet display every symptom of under-nutrition.

## ***2.1 Self-reported Hunger***

Surveys on self-reported hunger depend on the responses of the head of the household, often a man, who would not be sufficiently aware of the quantity and content of meal left for his wife and other female members of the house (Kundu 2006: 120). Moreover, he may not like to admit that he cannot provide even two square meals to his dependants. Pride, self-image and dignity are issues here, which lead to a deep sense of shame and reluctance on the part of heads of households to publicly admit their incapacity to provide for their families. This may result in under-reporting on the number of meals family members are able to afford (GOI 1993: 53). Despite this limitation, a United Nations Development Programme (UNDP) survey (2008) of 16 districts in the seven poorest states of India showed that for 7.5% of respondents' access to food is highly inadequate, and for another 29% of the households it is somewhat inadequate. A West Bengal Government survey also reported that 15% of families were facing difficulties in arranging two

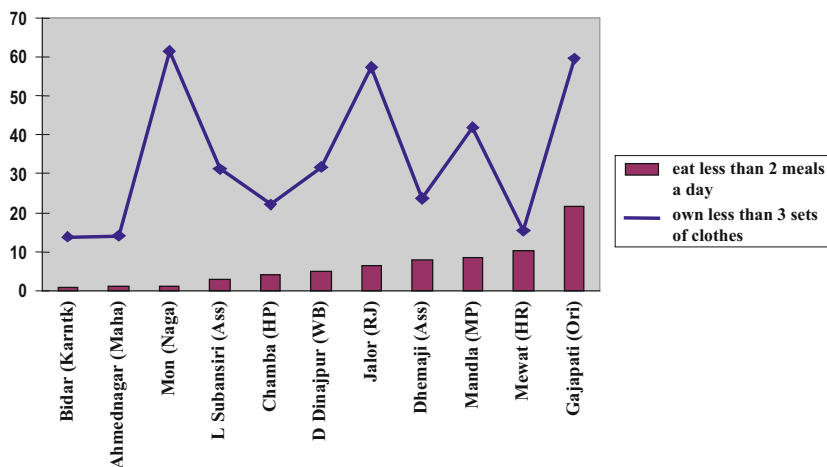


Fig. 1 Percentage of rural households by selected measures of poverty. Source UNDP (2007)

square meals a day year round.<sup>5</sup> These figures are gloomier than those in the National Sample Survey Organisation (NSSO) survey of the Ministry of Statistics and Programme Implementation, which claim a drastic decline in self-reported hunger in India from 16.1% in 1983 to 0.9% in 2011–12.<sup>6</sup>

In another survey (UNDP 2007) in selected districts by Pratham, a voluntary organisation, rural residents were asked about the number of meals they consumed on most days in a year and the number of clothes the young women in their families possessed. The results are shown in Fig. 1.

The figure shows that the those consuming less than two meals a day varied from one to 23% in the rural areas of selected districts, while the number of women having just one or two sets of clothes was as high as 60% in some districts.

Hunger has many faces: insufficient food intake, calorie deficiency, loss of energy, increased susceptibility to disease, shortfalls in nutritional status, disability and premature death. No single indicator can provide a complete picture, and a variety of different indicators such as food and calorie consumption, BMI, low weight and height among children, and anaemia among women and children should be used in analysing different aspects of the problem. Dietary diversity, rather than just the consumption of food staples, needs to be measured. Some aspects of hunger, such as the stability of food consumption between seasons and between years, are generally not captured by the existing data.

<sup>5</sup>Roy Rajat 2008: Endemic Hunger in West Bengal, *Economic & Political Weekly* May 3.

<sup>6</sup>Kumaran (2008) and NSSO (2014b): Nutritional Intake in India, 2011–12, NSS 68th Round, Ministry of Statistics and Programme Implementation, New Delhi.

## 2.2 Food Insecurity

Hunger and malnutrition are caused by a large number of factors, of which availability and access to a balanced diet are important. NSSO data shows that per capita cereal consumption in India is lower than the desired norm (NSSO 2014a), and it has shown a decline over time. As regards changes in expenditure on food over the years, two trends are observed. First, while consumption expenditures in both rural and urban regions rose, this was not reflected in a commensurate rise in expenditure on food (Saxena 2013, 2016a, b). As shown in Table 2, the growth in food expenditure has been significantly lower than the increase in overall expenditure on all goods during the period of analysis.

Thus, the average per capita food expenditure during the period 1993–2010 increased only by 0.2% annually in rural India and fell slightly by 0.1% per annum in the urban areas (Saxena 2013, 2016a, b). Examination of the consumption expenditure data shows that consumption expenditure increased by about 130% during 2004–5 to 2011–12, with most of the increase occurring for non-food items such as education, conveyance, durable goods and medicine. It is to be noted here that during 2004–05, expenditure on food items was higher than non-food expenditure by about 20%. However, this trend got reversed by 2011–12 with non-food expenses exceeding food expenses by about 5%. One may argue that this could indicate shift to more sedentary lifestyle needing less calories. However, the second trend negates this hypothesis for the poor, as the decile-wise data (Table 3) clearly shows that the hard-working poor consume much less cereal (the cheapest form of food) than the non-poor. It also shows a declining trend in the annual per capita consumption of cereals, for all classes of people.

Table 3<sup>7</sup> clearly shows that as India moved to greater prosperity in the last twenty years the cereal consumption of the rural rich went down, but there was no increase for the poor. At any given point of time, the cereal intake of the bottom 10% in rural India continues to be about 15–40% less than the cereal intake of the top decile of the population, despite better access of the latter group to fruits, vegetables and meat products. Their sedentary lifestyle too should be taken into account while assessing the difference between the two groups (Saxena 2016a, b). Food needs of the non-poor may be declining because labour-saving devices are becoming increasingly available in the household, in the workplace and in transportation (NSSO 2014b). For the upper segment of population, the decline in cereal consumption may be attributed to a diversification in food consumption, easy access to supply of other high-value agricultural commodities, changed tastes and preferences, and consumption of more expensive non-foodgrain products. Higher economic growth and per capita incomes thus contribute to reduction in per capita demand for cereals for the rich (Saxena 2011).

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<sup>7</sup>It is likely that eating out for all classes has increased. Cereal content of meals taken outside at own cost or at public cost is hardly known and is not fully captured in the NSSO data.

**Table 2** Growth in real average per capita monthly expenditure on all goods and on food (in Rs) at 1993–94 prices

Years	Average per capita expenditure		Average per capita food expenditure	
	Rural	Urban	Rural	Urban
1993–94	281.4	458.0	177.8	250.3
2009–10	347.5	637.8	184.8	244.9
Annual rate of growth 1993–94 to 2009–10	1.3	2.1	0.2	-0.1

Source Gupta (2012)

**Table 3** Changes in per capita cereal consumption (kg per month) in since 1993–94 for different MPCE classes: all-India, rural

Year	Monthly per capita cereal consumption (kg) in population percentile class										
	0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	90–100	Average
1993–94	10.5	12.0	12.6	13.2	13.3	13.7	14.1	14.4	14.6	15.4	13.4
1999–00	10.5	11.6	12.3	12.6	12.9	13.0	13.4	13.5	13.7	14.0	12.7
2004–05	10.4	11.3	11.7	12.0	12.2	12.4	12.6	12.8	12.7	13.1	12.1
2009–10	10.2	10.6	11.1	11.1	11.5	11.4	11.7	11.8	12.1	12.1	11.3
2011–12	10.4	10.8	11.0	11.1	11.5	11.5	11.5	11.6	11.5	11.7	11.2

NSS 68th Round, Report No. 555

However, for those who are around or below the poverty line, this has to be understood as a distress phenomenon, as with marginal increase in their incomes over time they are forced to cut down on their food consumption to meet other pressing demands that were not considered important in the past (Saxena 2010). For instance, as more schools open, the poor too wish to send their children to schools, where expenses are incurred on clothes, books, etc., despite the school fees being met by government. These expenses would thus become a new item on the household budget, and food expenditure may be curtailed to make room for it. Fighting sickness leads to another chunk of essential expenses, for which opportunities did not exist in the past, as there were no doctors in the vicinity. The share of fuel and light in total consumer expenditure has risen from under 6 to 10% in both rural and urban areas between 1972–73 and 2004–05. Finally, the rural labouring masses have to spend on transport in order to earn their livelihoods (Saxena 2013, 2016a, b). The food budget of the poor has been squeezed out because the cost of meeting the minimum non-food requirements has increased (Sen 2005). Thus, it is not possible for households around the poverty line to purchase their initial food basket within their current food budget.

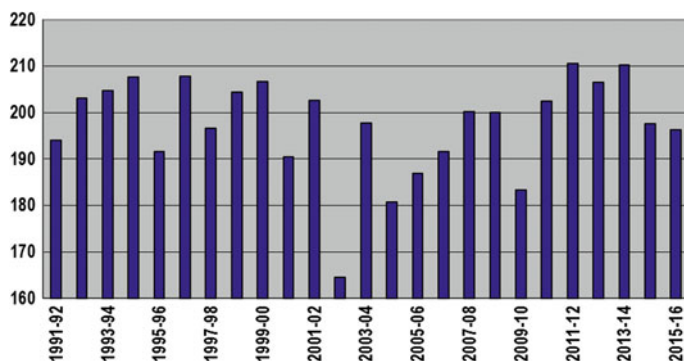


Fig. 2 Per capita annual foodgrain production (kg)

There are also issues at the macro-level. According to the central government, foodgrain production in India has remained almost stagnant<sup>8</sup> during the last two decades, as shown in Fig. 2 (Economic Survey 2016).

From this stagnant production, India has been exporting on an average 7 million tonnes of cereals per annum, causing availability to decline further from 510 g per day per capita in 1991 to 401 g in 2013 (Economic Survey 2016). At the macro-level, foodgrains availability in India is calculated as 87.5% of gross production (the rest is estimated as requirement for seeds, farm animal feed and waste) plus net imports minus changes in government stocks. Assuming no net change in private stocks, this can be taken as a good proxy for per capita foodgrain consumption in the country. Considering five-year averages, India saw a rise in the foodgrains availability<sup>9</sup> per head from 433 g during 1973–77 to 479 g in the early 1990s. However, since then there has been a slide to a low of 445 g per head per day by 2012, a level not seen since the drought years of the 1970s (see Fig. 3).

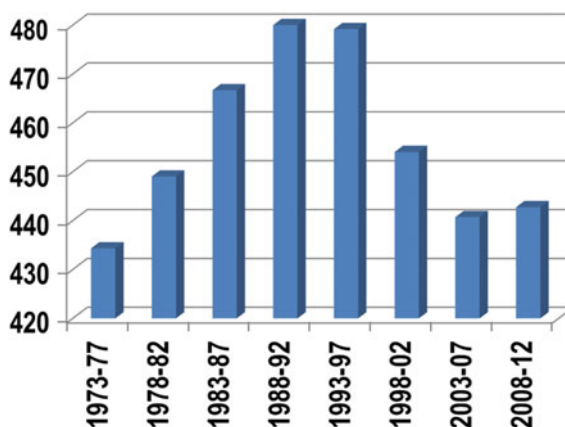
This has adversely affected the cereal intake of the bottom 30% which, as shown in Table 2, continues to be significantly less than the cereal intake of the top decile of the population. Their expenditure on health, education, liquor, tobacco, transport and fuel has also gone up. Food is still needed, but not demanded as they get used to eating less food and, in the process, get stunted and malnourished. Endemic hunger (often hidden) continues to afflict a large proportion of Indian population (Saxena 2013, 2016a, b).

<sup>8</sup>Production of other forms of food, such as fruits, vegetables, poultry, and livestock products, has increased at a faster rate, but on the whole, there is no improvement in food and nutritional security (Chand and Jumrani 2013).

<sup>9</sup>One of the reasons for decline in availability is the increase in government stocks.



**Fig. 3** Average per capita daily availability of foodgrains in India during the last four decades



### 2.3 Calorie Consumption

In this section, we focus on calorie deficiency – caused by not consuming the energy required by the body to see how the situation has changed over the years in India.

As is well known, the official norm of nutritional requirement has been fixed (GOI 1979) at 2400 kcal/day and 2100 kcal/day for rural and urban areas (the difference being attributed to the lower rates of physical activity in the urban areas), respectively.<sup>10</sup> Although these figures have not been revised, an Expert Group chaired by Rangarajan (Government of India 2014) recommended in 2014 lower energy requirement of 2155 kcal per person per day in rural areas and 2090 kcal per person per day in urban areas. The protein and fat requirements were estimated as 48 and 28 g per capita per day, respectively, in rural areas; and 50 and 26 g per capita per day in urban areas (Rangarajan and Dev 2014).

The mean per capita consumption of calories, protein and fats as calculated by various NSS rounds is shown in Table 4.

Thus, in spite of India's rapid economic growth, there has been a sustained decline in per capita calorie and protein consumption between 1983 and 2009–10; fats are the only major nutrient group whose per capita consumption is unambiguously increasing. This unexpected decline of per capita calorie consumption despite reduction in poverty is often referred to as 'calorie consumption puzzle' in India.

<sup>10</sup>The average calorie norm of 2110 kcal per capita per day prescribed by the Food and Agriculture Organisation (FAO) for South Asia (Bajpai et al. 2005) in the 1980s is much lower than the 2400 kcal norm that has been typically used by the GOI. The latest calorie norm used by the FAO for India is 1820 kcal (Menon et al. 2008), which would reduce the percentage of under-nourished people to only 17.5 (Chand and Jumrani 2013) in 2010–12.

**Table 4** Mean per capita consumption of calories, protein and fats

Year	Calories (kcal)		Protein (g)		Fats (g)	
	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
1999–2000	2148	2155	59.1	58.4	36.0	49.6
2004–05	2047	2021	57.0	57.0	35.4	47.4
2009–10	2020	1946	55.0	53.5	38.3	47.9
2011–12	2099	2058	56.5	55.7	46.0	58.0

NSSO (2014b)

However, the declining trend got arrested in 2011–12. This increase in both calorie and protein consumption is explained as due to improvements in PDS system and faster agricultural growth between 2004–05 and 2011–12 (Kolady et al. 2016). Some writers (Smith 2013) allude it to improvement in methodology as 2011–12 survey collected additional information on meals taken away from home. These had positive effects on the reversal of the declining trend of mean calorie intake in India.

These figures are the average for the entire population that includes infants, etc., too; calorie consumption for an adult worker would be much higher than the norm given above. The recommended dietary allowances (RDAs) as assessed by ICMR for various age groups and actual calorie intake are shown in Table 5 (Ramachandran 2013). The ICMR recommendations take into account the fact that body weight and physical activity are major determinants of energy requirement, and therefore ICMR has provided recommendations for energy requirements for the reference man (60 kg, moderately active) and reference woman (55 kg, moderately active) and children (+2SD of the NNMB weight for age).<sup>11</sup>

While interpreting the above data, it should be kept in mind that Indians of all age groups weigh far less than the reference weight used for deriving the RDA norm. However, the calorie gap would still be significant even if actual average weights are taken into account. The gap between the requirements and the intake is highest among pregnant and lactating women and in adolescent girls and boys. Bridging the gap in pregnant and lactating women is of paramount importance as this would benefit both the mother and the child (Ramachandran 2013).

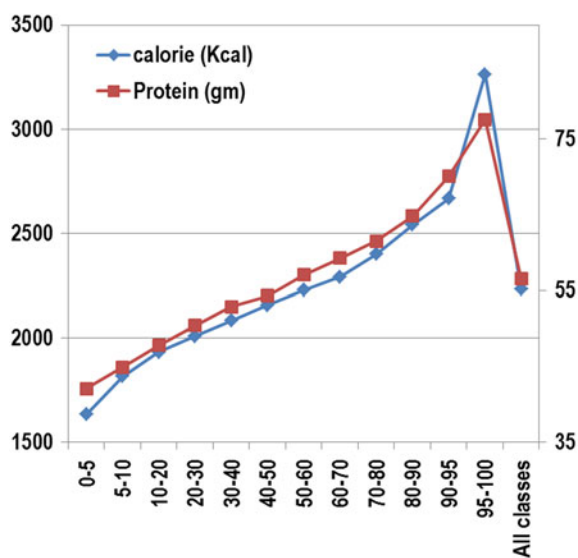
As regards intake by different decile groups, similar to the pattern of food consumption, calorie and protein intake of the poorest three deciles even in 2011–12 was about 30–50% less than the consumption of the top decile, despite the poor needing more energy to compensate for harder manual work, as shown in Fig. 4.

<sup>11</sup>[icmr.nic.in/final/rda-2010.pdf](http://icmr.nic.in/final/rda-2010.pdf).

**Table 5** Recommended dietary allowance (RDA) for Indians

Group	Reference weight (kg)	RDA for ref wt person (kcal/day)	Actual intake (kcal/day)	Gap
Adult man	60	2730	2000	730
Adult woman	55	2230	1738	492
Pregnant lactating		350 more	1726	854
		500 more	1878	852
1–3 years	12.9	1060	714	346
4–6 years	18	1330	978	352
7–9 years	25.1	1690	1230	460
<i>Boys</i>				
10–12 years	34.3	2190	1473	717
13–15 years	47.6	2750	1645	1105
16–17 years	55.4	3020	1913	1107
<i>Girls</i>				
10–12 years	35	2010	1384	626
13–15 years	46.6	2330	1566	764
16–17 years	52.1	2440	1630	810

Source <http://icmr.nic.in/final/rda-2010.pdf>



**Fig. 4** Daily average calorie and protein intake per capita across MPCE fractile rural classes in 2011–12. Source NSSO (2014b)

## 2.4 BMI

A widely used measure of nutritional status is a combination of weight and height measurements known as the Body Mass Index (BMI). Low body weight, associated with low intakes, is an indication that people are not reaching their growth potential and hence is essentially a sign of continued hunger and nutritional distress. The BMI is defined as weight in kilograms divided by height in metres squared. A BMI of below 18.5 for adults indicates chronic energy deficiency (CED), the result of an intake of calories and other nutrients less than the requirement for a period of several months or years. Low BMI is associated with functional changes such as reduced work capacity for manual work and increased susceptibility to infection.<sup>12</sup>

The prevalence of chronic energy deficiency for adult women has declined from 52% during 1975–79 to 34% during 2011–12, while that of overweight/obesity has increased from 5 to 14% during the same period (Meshram et al. 2016). Median intakes of most of the nutrients have increased over the same period, although they were below recommended levels. This increase in overweight/obesity may be attributed to increased consumption of fatty foods, sedentary lifestyle and improved socio-economic status.<sup>13</sup> There is a need to educate the community about regular physical exercise, low intakes of fats and oils, and a balanced diet.

Data from community-based cross-sectional studies carried out by the National Nutrition Monitoring Bureau (NNMB) in Ten Indian states<sup>14</sup> for various years is shown in Table 6.

At the other end, 14% of women are overweight or obese, as are 12% of men. Thus, India faces today what is known as the triple burden of malnutrition – the coexistence of inadequate calorie intake and under-nutrition among a large section of the population, excess intake of dietary energy leading to obesity and related health issues among another section of the population, and pervasive micro-nutrient deficiencies (Narayanan 2015).

Predictably the percentage of women in rural areas with a BMI below 18.5 in 2004–05 was 41.2 according to the NNMB, which is twice that among urban women, at 22.7 (Arnold et al. 2004). Regarding age distribution, the percentage of women with a BMI below 18.5 ranges from 41.7 for the age group 15–19 to 43.2 for 20–24, 39.4 for 25–29, 35.1 for 30–34 and 31.1 for 35–49. Ironically, it is at the most vulnerable ages, when their reproductive demands are highest, that women are most deficient. So much for India's esteem for mothers!

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<sup>12</sup>[icmr.nic.in/ijmr/2015/august/9.pdf](http://icmr.nic.in/ijmr/2015/august/9.pdf).

<sup>13</sup><https://www.cambridge.org/core/journals/public-health-nutrition/article/trends-in-nutritional-status-and-nutrient-intakes-and-correlates-of-overweightobesity-among-rural-adult-women-1860-years-in-india-national-nutrition-monitoring-bureau-nnmb-national-surveys/A67E56D436D88D02109DBA208059C3B0>.

<sup>14</sup>Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Maharashtra, Madhya Pradesh, Orissa, Uttar Pradesh, Gujarat and West Bengal.

**Table 6** Nutrition status of Indian adults, 1975–79 to 2011–12 (BMI)

	Proportion (%) of adults with BMI below 18.5					
	1975–79	1988–90	1996–97	2000–01	2004–05	2011–12
Men	56	49	46	37	33	35
Women	52	49	46	39	36	34

Source Deaton and Drèze (2008) and NNMB (2012)

## 2.5 Under-nourished Children

Just as for adults, for children too, the anthropometric indicators of nutritional status in India are among the worst in the world. As is well established, the hunger dimension is quantified by measuring underweight, stunting and wasting rates among children because these indirectly reflect inadequate access and lack of affordability of a balanced diet. According to the National Family Health Survey, the proportion of underweight children remained virtually unchanged between 1998–99 and 2005–06 (from 47 to 46% for the age group 0–3). The hunger and malnutrition report (popularly known as HUNGaMA) released by the Prime Minister in January 2012 showed that the number of malnourished children in the 112 rural districts of India was 42% whereas stunting was even higher at 59% (HUNGaMA 2012). Evidence shows that stunted children enrol later in school, perform less well and complete fewer grades; this leads to reduced capabilities and income-earning capacity in adult life and perpetuates the inter-generational cycle of poverty and deprivation in families and communities. This is an unacceptable loss (Chambers and Medeazza 2013).

The latest RSOC<sup>15</sup> data (UNICEF 2014) however shows modest improvement in several indicators. Prevalence of stunting as a measure of under-nutrition among children under-five in India got reduced from 48% in 2005 to 39% in 2013. Initiation of breastfeeding within an hour of birth has improved from 25 to 45% during 2005–13 but remains much below the required threshold of 90% coverage for saving lives and reducing stunting. Current levels of child malnutrition in India are however still higher than those in sub-Saharan Africa.

Children also suffer most because of problems of inadequate diet, poor early care practices and lack of hygiene. With 39% of its child population malnourished and stunted, India's demographic dividend – a large young generation being born each year – will not pay off. Specifically, the return of the investments currently being made in elementary education will be halved because of under-nutrition, which thus remains India's greatest development challenge and a question mark on India's credibility as a global player.

The consequences of stunting are serious, irreversible and lifelong. The losses in physical growth and brain development associated with chronic under-nutrition during the first two years of life can never be regained. The 2013 Lancet nutrition

<sup>15</sup>Rapid Survey on Children.

series (Black et al. 2013) estimated that stunting causes about one million child deaths annually worldwide, due to weakened immunity. Furthermore, the children who survive under-nutrition do not often meet their full human potential. Stunted children are more likely to have poor cognition and learning performance in childhood than their well-nourished counterparts. In adulthood, they face diminished productivity and increased risk of nutrition-related chronic diseases, such as obesity, diabetes and hypertension. It ultimately robs the affected poor communities and countries of critical human capital development and undermines investments in health, education and economic growth (Mebrahtu and Sethi 2016).

When one looks at the Indian states, unlike calorie consumption, which is only weakly correlated with poverty, child malnutrition has a strong correlation with poverty (see Table 9). Poorer states such as Madhya Pradesh, Bihar and Jharkhand show a high degree of malnutrition, whereas better-off states such as Punjab, Haryana, Tamil Nadu and Kerala have a comparatively better performance on this indicator.

Emerging economies have demonstrated that child under-nutrition can be drastically reduced: Thailand (Garg and Nandi undated) reduced the percentage of underweight children by half (from 50 to 25%) between 1980 and 1986; Brazil reduced child under-nutrition by 75% (from 20 to 5%) from 1990 to 2006; and China reduced child under-nutrition by 68% (from 25 to 8%) between 1990 and 2002 (UNICEF 2009). Even Viet Nam, a country poorer than India, has seen a reduction in underweight children from 41% in 1996 to 25% in 2006.<sup>16</sup> Therefore, nutrition improvement at national scale is possible. However, economic growth is not enough; it needs to be coupled with effective policy and budgetary action, particularly for the most vulnerable: the youngest, the poorest and the excluded.

## ***2.6 Factors Other Than Food that Lead to Malnutrition***

Less well understood than hunger is the nagging problem of under-nutrition among children that leads to them not achieving normal height and weight for their age. The commonly held belief that food insecurity is the primary or even sole cause of malnutrition is misplaced. Even the National Food Security Act, 2013 provides that every pregnant woman and lactating mother shall be entitled to one free meal a day during pregnancy and six months after the childbirth; and maternity benefit of rupees one thousand per month for a period of six months. Thus, the focus is still on food, and not on health and care-related interventions. Consequently, the existing response to malnutrition in India has been skewed towards food-based interventions and has placed little emphasis on schemes addressing the other determinants of malnutrition (Gragnotati et al. 2006).

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<sup>16</sup><http://www.unsystem.org/scn/Publications/SCNNews/scnnews36.pdf> (accessed on 7 July 2014).

Child malnutrition starts very early in life, and often, it is an inter-generational issue. Adolescent girls who are themselves underweight give birth to low weight babies. The child-rearing practices in India unfortunately are highly unscientific, as giving colostrum to the newborn, exclusive breastfeeding for first six months of a child's life, and complementary feeding several times a day after six months are not commonly practised. In the 100 districts studied in the HUNGaMA report, 51% mothers did not give colostrum to the newborn soon after birth and 58% mothers fed water to their infants before six months. Besides, due to bad quality of water and lack of toilets children are exposed to stomach infections, develop diarrhoea and start losing weight. At this stage, they need proper medical care which unfortunately is not available. Then the mothers have to work long hours away from home without any support system and are unable to afford health care (Saxena 2016a, b).

India's age-old habit of defecating in the open – which distinguishes it from many other developing countries – makes matters worse. The proportion of Indians who do this has fallen from 55% a decade ago to 45%, but that is more than enough to help spread diseases, worms and other parasites that make it more difficult to absorb nutrients even when food is abundant. Poor public hygiene may account for much of India's failure to make faster improvements in nutrition.

Thus, there are other factors too that cause malnutrition and hunger, especially among children (Saxena 2011), such as:

- Low status of women in Indian society, their early marriage, low weight at pregnancy and illiteracy leading to low weight of newborn babies.
- Poor childcare practices, such as not immediately starting breastfeeding after birth, no exclusively breastfeeding for the first five months, irregular and insufficient complementary feeding afterwards and lack of quick disposal of child's excreta.
- Poor supply of government services, such as immunisation, access to medical care and lack of priority to primary health care in government programmes.

These factors combined with poor food availability in the family, unsafe drinking water and lack of sanitation lead to high child under-nutrition and permanent damage to their physical and mental capabilities.

## ***2.7 Child Mortality***

Mortality in early childhood is measured by Infant mortality rate (the probability of dying before the first birthday) and by under-five mortality (the probability of dying between birth and fifth birthday). All rates are expressed per 1000 live births. India is surely to miss achieving the Millennium Development Goals in respect of these indicators. Infant mortality rate (IMR) under MDGs was targeted to be reduced from 81 in 1990 to 27 by 2015, but the decline has been to only 40 in 2013. Wide

differences exist between the attainments of health goals in the better-performing states as compared to the low-performing states. IMR in the poorest 20% of the population is 2.5 times higher than that in the richest 20% of the population. It is clear that national averages of health indices hide wide disparities in public health facilities and health standards in different parts of the country. Given a situation in which national averages in respect of most indices are themselves at unacceptably low levels, the wide inter-state disparity implies that, for vulnerable sections of society in several states, access to public health services is nominal and health standards are grossly inadequate.

Malnutrition in children weakens their immune system, making them more susceptible to disease and less able to fight off infection. It has been estimated that a child is almost ten times more likely to die from key diseases if he or she is severely underweight, and two and a half times more likely to die if he or she is moderately underweight, as compared to an average weight child (Black et al. 2013). Given the fact that more than 3.5 million children die globally on account of under-nutrition, it emerges as a major factor leading to child deaths. Therefore, under-five mortality has been taken by IFPRI as the third indicator for measuring the Hunger Index, as discussed below.

### 3 Composite Hunger Index by IFPRI

Calorie intake refers to the most proximate aspect of hunger, but it neglects other effects of hunger, such as low weight and mortality. These are captured by the Global Hunger Index (GHI), which was designed to capture three dimensions of hunger: lack of economic access to food, shortfalls in the nutritional status of children and child mortality, which is to a large extent attributable to malnutrition (Weismann et al. 2007). Accordingly, the GHI includes the following three equally weighted indicators: the proportion of people who are food-energy deficient according to UN Food and Agriculture Organisation (FAO<sup>17</sup>) estimates, the proportion of children under the age of five who are underweight according to World Health Organisation (WHO) estimates, and the under-five mortality rate as estimated by UNICEF. Since 2015, stunting and wasting have replaced figures for underweight children, as stunting and wasting are considered better indicators for under-nourishment. The weightage of calorie intake and mortality has remained at one-third each whereas for both stunting and wasting it is one-sixth each now. The GHI ranks countries on a 100-point scale. Zero is the best score (no hunger), and 100 is the worst.

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<sup>17</sup>According to FAO, after a decline of 20 million in the number of undernourished people between 1990–92 and 1995–97, the number of hungry people in India increased from 201.8 million in 1995–97 to 212.0 million in 2001–03.



The GHI recognises the interconnectedness of these dimensions and therefore captures performance on all four of them. The Index has been an effective advocacy tool which has brought the issue of global and national hunger to the fore in policy debates, especially in developing countries. The ranking of nations on the basis of their index scores has been a powerful tool to help focus attention on hunger, especially for countries like India which underperform on hunger and malnutrition relative to their income levels.

IFPRI estimated that the hunger index for India had declined from 48.1% in 1990 to 29.0% in 2015 (see Table 1), although India still continued to be in the category of nations where hunger was ‘alarming’. Worse, its score was poorer than that of many sub-Saharan African countries, which have a lower GDP than India’s. This indicates continued poor performance at reducing hunger in India.

The IFPRI report in 2008 estimated the hunger index for 17 major states in India, covering more than 95% of the population. All 17 states had GHI scores that are well above the ‘low’ and ‘moderate’ hunger categories. Twelve of the 17 states fall into the ‘alarming’ category, and one – Madhya Pradesh – into the ‘extremely alarming’ category. The study concluded that GHI scores are closely aligned with poverty, but that there was little association with state-level economic growth. High levels of hunger are seen even in states that are performing well economically, such as Gujarat and Karnataka.

## 4 Analysis of Major Programmes and Policy Options

In the foregoing sections, we have discussed some of the dimensions of hunger and its implications for the healthy development of body and mind. Governments have been running many policies and programmes that aim to improve the hunger situation in India, but unfortunately these are not doing very well, as discussed in this section.

### **Agricultural Production**

Hunger and malnutrition are caused by a large number of factors, of which availability and access to a balanced diet are crucial. The consumption basket of the underprivileged households in India is likely to be cereal-centric and not necessarily balanced. In addition to cereals, they should consume adequate quantity of nutritious foods like pulses, coarse grains, fruits, vegetables, dairy products, egg, fish and meat, etc. High market prices as well as lack of awareness deter them from including these essential items in their diet. Public policy thus needs to ensure both production (or availability through imports) and access of all households to nutritious foods.

The current agricultural scene in India has three features that distinguish it from the earlier ‘green revolution’ phase (1970–85). First, the policy approach to agriculture since the 1990s has been to secure an increase in production through subsidies on inputs such as power, water and fertiliser, and by increasing the MSP

rather than through building new capital assets in irrigation, power and rural infrastructure (Saxena 2012a). According to the Planning Commission, budgetary subsidies in agriculture increased from around 3% of agricultural GDP in the late 1970s to about 7% in the early 2000s. During the same period, public investment in agriculture declined from 3.4% of agricultural GDP to 1.9% (Bisaliah 2007).

This has shifted the production base from low-cost regions to high-cost ones, causing an increase in the cost of production, regional imbalances, and an increase in the burden of storage and transport of food grains. The equity, efficiency and sustainability of the current approach are questionable. The subsidies do not improve income distribution nor the demand for labour (Saxena 2004, 2012a). The boost in output from the subsidy-stimulated use of fertiliser, pesticides and water has the potential to damage aquifers and soils – an environmentally unsustainable approach that may partly explain the rising costs and slowing growth and productivity in agriculture, notably in Punjab and Haryana. Although private investment in agriculture has grown, this has often involved macro-economic inefficiencies (such as private investment in diesel-generating sets instead of public investment in electricity supply). Public investment in agriculture has fallen dramatically since the 1980s and so has the share of agriculture in the total gross capital formation. Instead of promoting low-cost options that have a higher capital: output ratio, the present policies have resulted in excessive use of capital on farms, such as too many tube wells in water-scarce regions.

Second, the intensity of private capital is in fact increasing for all classes of farmers, but at a faster pace in the ‘green revolution’ areas and for larger farmers. Thus, fertilisers, pesticides and diesel accounted for a mere 14.9% of total inputs in 1970–71 but 55.1% in 1994–95. For large-scale farmers in commercialised regions the contribution of purchased inputs may now have become as high as 80%. But the proportion of output sold has increased at a much slower rate than the proportion of monetised inputs, including hired labour. The implication of this is a resource squeeze in agriculture. Whereas the need for resources to purchase these inputs has been increasing, the marketable surplus has been increasing at a slower rate to contribute to this, as the growth of non-farm employment has become very sluggish. It is not surprising that the repayment of loans is such a problem in Indian agriculture and has even led to suicides in some cases. A better strategy would be to concentrate on small and marginal farmers, and on eastern and rainfed areas where returns to both capital and labour are high. The need is also for better factor productivity in agriculture and for new technologies, which would be more labour-intensive and would cut cash costs.

Whereas the use of capital has increased among small and marginal farmers, markets in eastern and central India continue to be imperfect. Therefore, the poor farmers are forced to sell part of their product to pay their loans (mostly from informal sources) for purchased seeds, water and fertiliser, but they do not get a good price and market conditions benefit the trader and moneylender more than they benefit the producer.

Last, groundwater, as opposed to surface and sub-soil water (through shallow wells), has become the main source of irrigation. As a result, nearly 30% of the

blocks in the country are presently classified as semi-critical, critical or overexploited (mostly in 'green revolution' areas), as groundwater use exceeds the rate of groundwater recharge. As there is no effective control over digging of tube wells in water-scarce regions, farmers are borrowing money from informal sources at high-interest rates to dig tube wells, but many such borings fail, leading to indebtedness, and even suicide. Since sinking a borewell involves a heavy investment upfront, only the rich or the affluent farmer goes in for it, whereas the small farmer continues to depend on the shallow dugwell that has been in existence for decades. Borewells drain much larger quantities of water, usually from the same aquifers that feed the dug wells. So in a village the small farmer is adversely affected when richer farmers install borewells fitted with electric motors. The affluent farmers owning borewells and electric motors corner most of the benefit of electricity subsidy too. Ironically, they in turn sell their surplus water to the adjacent small farmers at commercial rates. The built-in biases of the green revolution strategy now stand exposed (Saxena 2012a).

The impact of these factors has been increasing landlessness, sharpened inequalities (both inter-state and inter-class), and stagnation in production. The index number of agricultural production rose by 4.4% annually during the 1980s, but dropped to 2.8% from 1990–91 to 1996–97, and the growth rate further plummeted to just 1.4% in the next two decades (Various Economic Surveys). This has also resulted in a slower increase in real agricultural wages,<sup>18</sup> with the poorer states showing no increase or even a decline in wages. In addition, the casualisation of a mass of rural workers without any safety nets, the feminisation of agricultural labour accompanied by low wages, and the persistence of child labour are all worrying trends (Saxena 2011).

The stagnation is despite the soaring annual cost of food subsidies, which rose from Rs 61 billion in 1996–97 to Rs 310 billion in 2007–08 to Rs 1350 billion in 2014–15. If subsidies on free/subsidised rural power and fertilisers are added, the figure may well reach a staggering Rs 2000 billion, or about Rs 70 per day per poor rural family.<sup>19</sup>

## 5 What Needs to Be Done?

It is thus obvious that Indian agriculture is in a serious crisis and needs several innovative policy interventions. From the point of view of production of nutritious foods which are not today in the diet of a large number of households, these can be divided into two categories. One, such as milk, egg, fish, meat, fruits and vegetables, where production has rapidly increased in the last three decades but demand

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<sup>18</sup>Rural wages increased significantly during 2004 and 2012 because of better agricultural growth, and demand from construction industry and NREGA, but have again fallen sharply after 2012.

<sup>19</sup>[www.chronicpoverty.org/uploads/publication\\_files2/CPRC-IIPA%2044-new.pdf](http://www.chronicpoverty.org/uploads/publication_files2/CPRC-IIPA%2044-new.pdf).

has increased even faster resulting in high prices and making these items out of ordinary people's reach. And the other, such as pulses, millets and coarse cereals, where per capita production has been declining because farmers do not find these crops profitable, and government too has not prioritised their production. Obviously, we need different strategies to ensure their availability at affordable prices.

Per capita consumption of fruits and vegetables has increased rapidly over the past two decades, though it is mostly confined to the well-off sections. In 2011–12, production of fruits and vegetables was 2.7 and 2.6 times that of the output level two decades ago,<sup>20</sup> i.e. in 1991–92. This expansion was much higher than that for cereals, where the output level in 2011–12 was 1.5 times that of 1991–92. A similar and more marked difference may be seen in the most recent past decade (2001–02 to 2011–12) where output of fruits and vegetables has increased by 80 and 69%, respectively, over 2001–02, while output of cereals has grown by 17% in the same period. However, there is considerable wastage and spoilage in fresh produce as also sharp variation in prices during the season.

Because of increasing demand, the rate of increase in the prices of fruits and vegetables has been higher than that for cereals especially in recent years and is a major contributor to the sharp increase in the inflation level for primary food, which is greater than that of manufactured products and appears to be a driving force behind the higher inflationary pressure.

On the other hand, the per capita availability of pulses declined steadily from about 69 g per day in 1961 to 51 g per day in 1971, and to about 43 g per day in 2013 (Economic Survey 2016), due to sluggish growth in production since the 1960s. Pulses production increased only by about 47% to about 18.5 million tonnes in the triennium ending (TE) 2013–14 from about 12.5 million tonnes in TE 1960–61. Similar is the story of coarse cereals and millets. However, production of rice and wheat has gone up by over 225 and 808% to 106 and 95 million tonnes, respectively, over the same period. But the story on the price front is similar to that of fruits and vegetables. Prices of major pulses like tur (red gram), moong (green gram) and urad (black gram) in their split forms (dals) have been trading above Rs 150 per kilogram (kg) since June 2015 in most markets across the country, forcing the ordinary people to cut down consumption of protein-rich pulses.

The following policy measures would help in improving availability of nutritious foods at affordable prices.

**Build infrastructure** – The most important intervention needed is more investment in irrigation, power and roads in poorer regions. It is essential to realise the potential for production surpluses in central and eastern India, where most poor

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<sup>20</sup>Report of the committee on encouraging investments in supply chains including provision for cold storages for more efficient distribution of farm produce, Development Policy Division, Planning Commission, New Delhi, May 2012.

people live. Many states in this region do not benefit from the MSP for rice, as the state machinery to buy paddy is not efficient. A basic focus of policy should, therefore, be to ensure effective price support in states and areas with future production potential.

Water is a critical input for achieving higher agricultural growth and ensuring greater food security. Only about 40% of the cultivated area in India is currently irrigated. Greater emphasis should be placed on shifting the balance in favour of surface irrigation and on the more effective use of existing irrigation systems.

**Examine redundant laws** – The ban or restrictions on land leasing limit the access to land by poor and landless rural households and they drive tenancy underground. They also limit the productivity of land use.

Regulated markets were supposed to improve efficiency, but many official market committees, like those in UP, Punjab and Haryana, make it illegal for farmers to sell through alternative channels, such as directly to millers. The markets have thus emerged as taxing mechanisms, rather than helping farmers get the best price. This needs to be changed and farmers should be allowed to develop direct contact with large (and even corporate) buyers, with a complete ban on exports (Saxena 2012a).

The present extraction rates for both wheat and rice are about 10–30% below the international standards because of the reservation of agro-processing units for the small-scale sector, which uses inefficient technologies. Therefore, licensing controls on flour mills and other food processing industries should be removed. Food processing units, especially for rapeseed and groundnuts, should be de-reserved from the small-scale industries list. On the whole, laws and controls have repressed private foodgrain marketing, undercutting its potential contribution to long-term food security.

**Improve value chains** – As regards horticultural produce and other perishable farm items, farmers hardly get 20–40% of the high retail price (ADB 2010). A World Bank study on the value chains of mangoes, lychees and potatoes in Bihar shows that a significant amount of the consumer price is lost in transport and wastage; for mangoes, the farmers receive 34%, for lychees 42% and for potatoes only 16% of the consumer price (World Bank 2007). This is on account of the large deficiencies in the logistics system in between the farm to the final consumer. The push to build up storage capacity through cold chains has not been successful in vegetables and is limited for fruits. More investment is required in developing modern supply chains and logistics services, such as cold chains, reefer vans and warehouses, specialised to handle high-value commodities. The private sector has a greater role to play in terms of investments in value chains and strengthening the firm–farm linkages critical for scaling up processing and retailing operations.<sup>21</sup>

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<sup>21</sup><http://indiagovernance.gov.in/files/food-and-nutrition-security.pdf>.

**Promote kitchen gardens** – Many farmers have homestead farms in which drumsticks, curry leaves, custard apples, papayas, shoe flowers, *begonia*, *basak*, etc., can easily be grown. Nutrition gardens can be an important resource to supplement diversity in the family's nutrition. Household kitchen waste can be used as compost for these gardens. A different mix of crops can be planted based on local conditions (Welthungerhilfe 2014).

**Promote production of pulses and millets** – Because of emphasis on wheat and paddy crops since Independence, area and production of key nutritional food crops such as pulses and coarse cereals have experienced a decline. On the consumption side, as pulses have been the main source of protein, the decline in their per capita availability has caused protein deficiency especially among the poor who cannot afford other expensive sources of protein. Therefore, governments must increase indigenous production of these protein and micro-nutrient-rich crops, by promoting extension services as well as better varieties through research and offering producers a remunerative price. This will also need better soil and water management, as described below.

**Reduce dependence on groundwater in rainfed areas** – There is a huge pressure on groundwater resources in India, and this is felt even more during periods of drought; hence, large investments are needed in building efficient irrigation systems and water conservation strategies in rainfed regions, through conjunctive use of surface and groundwater. The main thrust of the programmes to combat the impact of climate change in rainfed areas should be on activities relating to rainwater harvesting, soil conservation, land shaping, pasture development, vegetative bunding and water resources conservation on the basis of the entire compact micro-watershed which would include both cultivated and uncultivated lands. Agriculture in semi-arid regions has to move from traditional crop-centric farming to agri-pastoral-farm forestry systems (fruit trees, shrubs, perennial grasses and small ruminants).<sup>22</sup>

Similarly in regions with plenty of groundwater, such as eastern UP, Bihar and West Bengal, one should promote pedal pumps that can help improve production of vegetables for small farmers with pumps driven by human beings, as has been successfully tried in Bangladesh and parts of Kenya.

**Change cropping pattern in low rainfall regions** – There is political reluctance to control water-hungry crops in low rainfall regions, such as sugarcane in Maharashtra and paddy in Punjab. One would need to reduce unrestricted mining of groundwater and ensure stricter implementation of environmentally sound cropping patterns. Drip irrigation and water sprinkler approach, mulching and bed plantation, construction of tanks and check dams should be promoted for water harvesting and conservation.

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<sup>22</sup>[inclusion.skoch.in/story/875/has-rural-india-seen-a-turnaround-lately-1175.html](http://inclusion.skoch.in/story/875/has-rural-india-seen-a-turnaround-lately-1175.html).

**Promote peoples' participation** – Government of India has announced several programmes in soil and water conservation, but when undertaken by the Agriculture Departments, these remain departmental in approach with no involvement of the people. Maintenance of the created assets suffers, as beneficiaries are not motivated to assume responsibility for maintenance. Watershed development programmes cannot succeed without full participation of project beneficiaries and careful attention to issues of social organisation. Moreover, collective capability is required for management of commons and for new structures created during the project. Disregard of peoples' participation is a legacy of the 'PWD culture' governing civil works.

If rain is captured with peoples' participation, drought can be banished from India in ten years maximum. Unfortunately, the slogan of 'more crop per drop' has so far remained an empty rhetoric, 'an ideology without a methodology'.

**Use common lands for promoting Food Forests** – A food forest is typically comprised of seven layers, the uppermost layer is comprised of tall trees – typically large fruit and nut trees. Between the tall canopy layer trees, there is a layer of low growing, typically dwarf fruit trees. The combination of trees and plants includes trees, shrubs, perennial vegetables, herbs (also often called weeds!) and climbers, all interacting in a natural way that minimises direct competition and also pest problems and is imitating a productive natural young forest system. In addition, the system mulches itself! There is no need for digging, as the plants themselves break up the soil with their roots, and the mulch from their leaves adds all the nutrients they need (Welthungerhilfe 2014).

**Empower women** – 79% of rural female workers are still in agriculture. Despite women's vital contribution to agriculture and allied sectors in India, they lack control over productive assets (land, livestock, fisheries, technologies, credit, finance, markets, etc.), face biases due to socio-cultural practices, experience gender differentials in agricultural wages and decisions concerning crop management and marketing (Saxena 2012b).

Ownership of land is concentrated mostly in male hands in our patriarchal society. It has been estimated that in India, landownership in favour of women is not more than 2% (Agarwal 1995). Lack of entitlement to land (and other assets such as house, livestock and so on) is a severe impediment to efficiency in agriculture for women cultivators because in the absence of title women cannot get credit or be entitled to irrigation and other inputs, especially technology. In addition to improved production, the clinching argument in favour of land titles to women is the stability and security it provides, shift to nutritious crops that it would entail, the protection it affords from marital violence, and the bargaining power it gives women in household decision-making and in the labour market for wages. However without title to land, women are not recognised, even by the state, as clients for extension services or as candidates for membership in institutions such as cooperative societies (Saxena 2012b). A campaign needs to be launched to implement succession laws in a gender-sensitive manner.

**Table 7** Production, procurement and offtake of foodgrains (in million tonnes)

	1997–98	2007–08	2012–13	2015–16
Food subsidy in billion (00 crores) Rs	79	313	850	1350
Production of foodgrains	192	231	255	252
Procurement of foodgrains	23.6	51.6	69.1	62.4
Distribution through FPS	17	33.5	51.4	49.6
Welfare schemes	2.1	3.9	4.3	4.1

## 5.1 PDS

With a network of more than 5 lakh Fair Price Shops (FPSs) claiming to distribute annually commodities worth more than Rs 80,000 crore to about 16 crore families,<sup>23</sup> the PDS in India is perhaps the largest distribution network of its type in the world. PDS is operated under the joint responsibility of the central and state governments, with the former responsible for procurement, storage, transportation (up to the district headquarters) and bulk allocation of foodgrains.

The state governments are responsible for distributing these foodgrains to consumers through a network of Fair Price Shops. This responsibility includes identification of families below poverty line (BPL), issue of BPL cards and supervision and monitoring of the functioning of the Fair Price Shops. States are also responsible for movement of foodgrains from the district headquarters to the PDS shop, which requires storage at the sub-district level. As food was always a non-plan subject, such an infrastructure is often weak in the poorer states. Changes in production, procurement and offtake of foodgrains over the years are shown in Table 7.

All is not well with the Public Distribution System in India. Weaknesses in the distribution system include ration cards being mortgaged to ration shop owners, large errors of exclusion of BPL families and inclusion of non-BPL families, prevalence of ghost cards, with weaknesses in the delivery mechanism leading to large-scale leakages and diversion of subsidised grains to markets and unintended beneficiaries. As per the 2004–05 NSS round, households in the bottom quintile obtained only 17% of their foodgrains consumption from PDS for the country as a whole. The percentage varied from 2% for Bihar, 6% for UP to 50% for Tamil Nadu and 68% for Karnataka. A recent evaluation of TPDS by NCAER (2015) showed that Assam cardholders never get their full quota of grain because FPS dealers deduct 3–4 kg per card. The dealers admitted this was true; they justified this deduction as the cost of transport was never reimbursed by government.

Fortunately, many states have tried to improve the PDS in the last ten years. It had always worked quite well in Tamil Nadu, Kerala, Himachal Pradesh and Andhra Pradesh, but now states like Chhattisgarh, Orissa and Rajasthan (Khera 2011) have undertaken state-level PDS reforms by extending coverage, improving

<sup>23</sup>Many of them get kerosene only.



delivery and increasing transparency. Due to these efforts, leakage of rice and wheat implied by NSSO estimated consumption and amounts released for PDS have come down from 55% in 2004–05 to 43% in 2007–08 to 30% in 2011–12 (Himanshu and Sen 2011; NSSO 2014b).

Among the poorer states, best results are seen in Chhattisgarh because of replacement of private dealers by panchayats and SHGs, increased commissions, coverage of more than 80% families under the scheme as opposed to only 40% who are officially recognised as BPL by GOI, and regular monitoring and grievance redressal mechanism that leads to swift action if foodgrain does not reach the people.

Other states have followed in Chhattisgarh's footsteps, with similar results. An interesting example is Orissa, especially the 'KBK region' (undivided Kalahandi, Bolangir and Koraput districts), which used to be known mainly for starvation deaths. Today, the KBK region has near-universal PDS, which seems to work quite well. A recent study found that PDS cardholders in Koraput get 97% of their rice entitlements under the system (Outlook March 22, 2014). Much remains to be done to extend these gains across the country, especially in states like UP that show little willingness to reform themselves.

## 5.2 Food Security Act, 2013

In September 2013, GOI enacted a new National Food Security Act. The main beneficiaries of the Act and their entitlements are summarised in Table 8.

Although the Act seeks to cover 67% of the total population (75% rural and 50% urban), in actual practice the coverage would be much more, as GOI has promised to the richer states which had almost universal coverage that their quota (which

**Table 8** Provisions for nutritional security and entitlements in the act to special groups

Target group	Entitlement
Holders of Antyodaya cards	35 kg per household as before, wheat/rice/coarse grain and millets at Rs 2/3/1 per kg
75% of rural and 50% urban population minus those covered above	5 kg per unit of wheat/rice/coarse grain and millets at Rs 2/3/1 per kg
Pregnant woman/lactating mother	Meal, free of charge, during pregnancy and six months after childbirth, maternity benefit of Rs 1000 per month for a period of six months
Children (6 months–6 years)	Age appropriate meal, free of charge, through the local Anganwadi
Children suffering from malnutrition	Meals through the local Anganwadi, free of charge
Children (6–14 years)	One mid-day meal, free of charge, every working day, in all schools run by local bodies, Government and Government aided schools, up to class VIII

would have come down to about half of what they get now, if the Food Security law was strictly followed) would not be reduced, thus increasing the overall coverage to about 75% of the total. Their state-wise number has been determined by GOI but identification of eligible households is left to state governments.

However, implementation of the Act is so far disappointing. According to GOI's calculation, the annual offtake should be at least 55 million tonnes (MT), if each state covered the entire entitled population, but as shown in Table 7, it was only 49.6 MT in 2015–16, which was even less than what was distributed in 2012–13. The scheme of providing maternity benefit of Rs 1000 per month for a period of six months to pregnant and lactating women has not been made universal; it runs in only 53 out of a total 680 districts in India.

**Push for millets through PDS** – The Food Security Act, 2013 enjoins upon state governments to include millets in PDS, but it has not happened in most states. More effective policy advocacy is needed by the civil society on this issue.

### 5.3 Cash Transfers

With a view to reduce leakages, Chandigarh administration decided in September 2015 to substitute food by direct cash transfers to the peoples' bank accounts. However, the experiment has not been very popular. Before September 2015, there were 55,917 cardholders in Chandigarh benefitting from TPDS. According to GOI's own calculation (given on page 26, Monthly Bulletin, July 2016), the number of persons to benefit from NFSA should have now increased to about 95,000 households. However, the cash transfer programme unfortunately reduced the number of eligible cardholders from 55,917 to only 41,167 because for the rest their bank accounts had not been seeded with their Aadhaar numbers. Those who got left out got neither food grains (since the 93 ration shops in Chandigarh were closed down), nor cash transfers, leaving them disgruntled.

The Union Department of Food and Civil Supplies maintains that Aadhaar was never compulsory for cash transfers, but the Chandigarh Administration insisted on this. According to them, Aadhaar is important to authenticate identity and ensure that money goes only into the beneficiary's account.

Even having an Aadhaar-linked bank account does not ensure that money reaches regularly. A survey<sup>24</sup> by the Delhi-based Centre for Equity Studies of 200 beneficiaries in December 2015 revealed that 40% had not got their payments, forcing them to buy rations on credit – something that Seetha,<sup>25</sup> a senior journalist, also corroborated and heard the same complaint even in May 2016 from several

<sup>24</sup><http://indiatogether.org/articles/rationtocashaharshtransitionpoverty/>; print. Also see <http://thewire.in/16373/opting-out-of-the-jam/>.

<sup>25</sup>Modi's DBT Review 1: Chandigarh Stumbles But Project Needs Support <http://swarajyamag.com/economy/arbitraryinclusionsandexclusionsmakeitaroughrideforcashtransferspilotinchandigarh>.

beneficiaries. A survey on the working of the programme by the Abdul Latif Jameel Poverty Action Lab (JPAL), commissioned by the central government and Niti Aayog (but is not in the public domain), is also reported to have indicated that 30% of the beneficiaries with Aadhaar-seeded bank accounts had not got their money. Seetha came across several cases where money had come only for a couple of months and the transfer was irregular. For daily wage earners, making multiple trips to the bank to check on payments is an extra burden. Not all of them have smartphones or are subscribed to mobile alerts to check the status of payments.

While most states are as of now not comfortable with cash transfer (and their consent is mandatory under law), large-scale substitution of PDS by direct cash transfer (DCT) as being planned by the Ministry is not feasible for another reason. Foodgrains purchased from the farmers through MSP mechanism need an outlet for distribution. Introducing DCT nationally would mean that GOI would have to end the state procurement regime. That is neither politically feasible, nor can it be in the realm of consideration by any government in India, given that more than half of the population is still dependent on agriculture. DCT may also result in substantial price rise in the open market in food deficit regions, as private trade would have a vested interest in gaining from such a rise. PDS (even with 30% leakages) at least ensures that GOI would stock sufficient grain in all districts all the time. Selling 60 million tonnes of grain in the open market is also fraught with scope of grand corruption at the GOI level, which would be very different from the petty corruption that exists as of now in the PDS at the district level.

#### ***5.4 Reducing Leakages Through Technology***

There is however an intermediate solution to reduce leakages. The root cause of corruption in PDS is the dual pricing system, as FPS dealers get grain at a highly subsidised price. In the new proposed model, Government would abolish the dual pricing system and sell stocks to the fair price shop dealer at the market price, say Rs 24 for wheat. The consumer would go to him with only two rupees in cash as before and with her/his AADHAAR card to buy a kg of wheat but the rest 22 Rs would get transferred from government to the shopkeeper's bank account. Under the new model, it is not necessary for the beneficiary to have a bank account or to possess a smartphone. Unlike Chandigarh and Puducherry, where the pilot for cash transfer faces problems of ensuring timely transfer of subsidy to the consumers' accounts, the subsidy amount in the proposed model would be transferred to the shop owner, and not to the beneficiary, thus vastly reducing the number of bank account transfers that need to be monitored.

The main bottleneck is still the last-mile transfer. Although Jan Dhan has been successful in opening bank accounts for a large number of people, bank branches are far away from most people and the banking correspondence system is not widespread or efficient. The proposed model will reduce the necessity of opening 160 million (which is the total number of households eligible for subsidised grain) Aadhaar-seeded bank accounts to just about half a million of the shopkeepers. In all probability, they would already be having an Aadhaar-based bank account.

The proposed model will also enable the beneficiaries to get rations from shops of their choice (also when they are out of hometown), get better service and do not make compromises (by way of leakages) on the quantity and quality of the purchases.

### 5.5 *School Meals*

One of India's greatest successes in public interventions in the social sector, the Mid-Day Meal Scheme provides daily meals for millions of children, leading to greater school attendance figures, as well as improved nutrition for the children. It has been able to feed more than 120 million children every day for more than 10 years, and the popular programme's relative success has been recently documented in economic research, clearly showing the positive impact on enrolment, attendance, retention and nutrition (Khera 2013). The success has also been in its scale and regularity, consistently feeding millions of children on a daily basis. Apart from its success in bringing children to school and keeping them there, the nutritional successes are marked, with a study by Afridi (2010) finding positive nutritional effects among children in Madhya Pradesh; when comparing nutrient intake on a school day with a non-school day, she found that 'nutrient intake of programme participants increased substantially by 49–100%', while deficiency in protein intake was reduced by 100% and iron deficiency by 10%. This was achieved for a very small cost of Rs 5 for every child every day. Furthermore, it is popular with parents, making it easier to convince their children to go to school, and it is also a source of employment for tens of thousands of destitute women (Khera 2013).

The scheme is by no means perfect, and the tragedy in Bihar in 2013, where 23 children died from eating food through the MDMS, has highlighted some of the long-standing issues in implementation. Foremost of those concerns have been food quality, hygiene and accountability, as well as lack of proper infrastructure and sufficient staff, caste issues and issues regarding the nutritive quality of food; state governments have made efforts in dealing with these issues, although progress has been slow (Khera 2013).

## 5.6 Nutrition Programmes for Children Below 5 Years<sup>26</sup>

For children, government runs in every village a programme called Integrated Child Development Services (ICDS). As on 31 January 2013, 13,31,076 centres, called Anganwadi centres<sup>27</sup> (AWCs), are operational across 35 states/UTs, covering 93 million beneficiaries under supplementary nutrition and 35 million 3–6 years children under pre-school component. The Twelfth Five-Year Plan (FYP) has allocated Rs 1236 billion to ICDS – a three-fold increase from the previous FYP. However, in addition to general problems of governance and delivery that affect all programmes, ICDS, the main programme to address malnutrition is particularly doing quite poorly. We discuss some field studies.

### 5.6.1 ICDS – Some Evaluations

A comprehensive evaluation of ICDS (Planning Commission 2011) concluded that despite the fact that outlay for the ICDS was increased from Rs 121 billion in the X Plan (2002–07) to Rs 444 billion in the XI Plan (2007–12), the outcomes were most disappointing. Only 19% of the mothers reported that the AWC provides nutrition counselling to parents. More than 40% of the funds meant for supplementary nutrition (SN) are siphoned off; for FY 2008–09, the amount of SN allocation diverted is estimated at Rs 29 billion. Although 81% of children below six years of age were living in an area covered by the Anganwadi centres only 31% children received SN and only 12% children received it regularly (Planning Commission 2012a, b). Only 38% of pregnant women and lactating mothers, and 10% of adolescent girls received supplementary nutrition.

An evaluation of ICDS in Gorakhpur by the National Human Rights Commission (Saxena 2013) showed that despite Supreme Court orders<sup>28</sup> to provide hot cooked meals, all centres supplied only packaged ready-to-eat food, containing only 100 cal, as against a norm of 500 cal, and 63% of food and funds were misappropriated. The food being unpalatable, half of it ends up as cattle feed. People have started calling it ‘Pashu Ahaar’ rather than ‘Paushtik Ahaar’. In addition to Ministerial-level corruption, even the AWWs are deeply involved in malpractices and share 2000 rupees per centre every month with their supervisors routinely. The ready-to-eat food is produced in poor hygiene conditions. Some of the ingredients shown on the bags containing the finished product were not found in stock at the time of visit and the stock of maize was only enough to meet 25% of the daily requirement.

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<sup>26</sup>This and the next section draw heavily from author’s previous article published as Saxena 2016.

<sup>27</sup>These are generally one or two room structures, where children gather for about four hours every morning for various ICDS activities.

<sup>28</sup><http://hrln.org/2006-pucl-vs-union-of-india-and-others-civil-writ-petition-196-of-2001/>.

However, such reports, though few, are hardly discussed in state Assemblies, as they meet now for fewer than 30 days a year. We need a new law making it compulsory for Parliament and Assemblies to meet for at least 150 days a year.

Comptroller and Auditor General of (CAG) India's performance audit<sup>29</sup> in 2013 revealed how ICDS was failing to help infants and young children. The audit, covering the period 2006–07 to 2010–11, found that 52% of Anganwadis surveyed lack toilets, and 32% don't have drinking water. Around 61% Anganwadis did not have their own buildings and 25% were functioning from semi-pucca or open or partially covered spaces. Medicine kits are not available in 33–49% of Anganwadis. The audit also revealed 33–45% gap between eligible beneficiaries and actual recipients of supplementary nutrition. CAG noted distribution of sub-standard food by the AWCs as 'ready-to-cook mixes' were unpalatable. Audit found that some of these items had sticky texture which became inedible within minutes of preparation. The Audit further found that there was no system of watching expiry of food items.

## 5.7 Governance Issues

Although governance has several dimensions, for this paper we restrict our discussion to its relevance to the capacity of governments to design, formulate and implement policies and programmes, including accountability of government employees who should be held responsible for their actions. On all these dimensions, the record of ICDS and related health programmes is quite poor: the design of ICDS is flawed, it is poorly delivered, and the staff fudges the reported data so as to avoid responsibility for high malnutrition (Saxena and Srivastava 2009). We discuss these below.

**ICDS design needs a change** – The ICDS has not yet succeeded in making a significant dent in reducing child malnutrition, as the programme has placed priority on food supplementation rather than on nutrition and health education interventions, and targets children mostly after the age of three when malnutrition has already set in (Saxena 2014b). Very little of the ICDS resources, in terms of funds and staff time, are spent on the under-three child (Planning Commission 2012a, b), and this low priority must be reversed.

Therefore, the focus in ICDS programme, government's main intervention, should be on components that directly address the most important causes of under-nutrition in India, specifically improving mothers' feeding and caring behaviour, improving household water and sanitation, strengthening referrals to the health system and providing micro-nutrients. The basic nature of the programme should be changed from centre-based to outreach-based, as the child under three

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<sup>29</sup>[http://articles.timesofindia.indiatimes.com/2013-03-06/india/37499356\\_1\\_cag-audit-icds-malnourished-children](http://articles.timesofindia.indiatimes.com/2013-03-06/india/37499356_1_cag-audit-icds-malnourished-children) and [http://zeenews.india.com/news/nation/substandard-food-being-distributed-by-anganwadis\\_834305.html](http://zeenews.india.com/news/nation/substandard-food-being-distributed-by-anganwadis_834305.html) (accessed on 7 July 2014).

cannot walk to the centre and has to be reached at his/her home. Another advantage of visiting homes is that the entire family, not just the mothers, are sensitised and counselled.

**Discourage ‘ready-to-eat’ food in Supplementary Nutrition Provisioning (SNP)** – Government of India should discourage the distribution of manufactured ‘ready-to-eat’ food, as it leads to grand corruption at the Ministerial level, but unfortunately GOI has encouraged such tendering by laying down the minimum nutritional norms for ‘take-home rations’ (a permissible alternative to cooked meals for young children), including micro-nutrient fortification, thus providing a dangerous foothold for food manufacturers and contractors, who are constantly trying to invade child nutrition programmes for profit-making purposes. This may have the unintended consequence of supplementing micro-nutrients without consultation with medical professionals as well as leaving the door open for large-scale centralised corruption and subversion of the programme through the back-door entry of private non-descript contractors (Saxena 2014b, 2016a).

ICDS should learn from the success of hot freshly cooked mid-day meals programme that runs fairly well even in states not known for efficiency, whereas the supply of packaged food in ICDS even in efficient states is not popular with the children, besides being irregular and discouraging local participation. For children below the age of three years, nutritious and carefully designed locally prepared take-home rations based on locally procured food should be the recommended option, but there could be centre-specific variations. If fortified milk powder is to be provided, it must be manufactured by a well-known manufacturer. Before inviting financial bids, states must invite technical bids in a transparent manner so that unscrupulous contractors who get into the racket of supplying packaged food through bribes are eliminated. Children can eat only small quantities of food and therefore need fat-rich food to obtain necessary calories. In the absence of oil supplies, there is almost no fat content in the food being given whereas for children below three, almost 40% of their calorie requirement should come from fats. This aspect gets totally unfulfilled in the current SNP.

The best solutions to child malnutrition are based on access to diverse local nutritious diets which will meet calorie, protein and micro-nutrient requirements. This can be done successfully with engagement of local communities in the supply of Supplementary Nutrition. Evidence is that this has led to increased demand for the programme, better community monitoring as well as supported livelihoods of thousands of women.

**Improve reporting system** – Officials at all levels spend a great deal of time in collecting and submitting information, but these are not used for taking corrective and remedial action or for analysis, but only for forwarding it to a higher level, or for answering Assembly/Parliament Questions. Field staff reports only on activities; it is not involved in impact assessment, or in qualitative monitoring. The concept of stakeholder monitoring is unknown. No indicators exist for assessing public participation or their awareness. Reporting system in the state governments needs overhauling, as at present many reports are not credible (Saxena 2007a, b, 2014a).

Malaria deaths (and so are malnutrition deaths) are under-reported, while immunisation achievements are over-reported.

ICDS too faces substantial operational challenges, such as lack of accountability due to lack of oversight and an irresponsible reporting system. It appears that state governments actively encourage reporting of inflated figures from the districts, which renders monitoring ineffective and accountability meaningless. Each Anganwadi centre reports on the number of malnourished children category-wise, but these figures are neither verified independently by the states nor being used for assessing the effectiveness of the programme. The practice is so widely prevalent in all the states, presumably with the connivance of senior officers, that the overall percentage of severely malnourished children, in case of 0–3 years according to the data reaching GOI from the states is only 2%, as against 9.4% reported by UNICEF in a recent survey (Table 9). The field officials are thus able to escape from any sense of accountability for reducing malnutrition. Figures from some states show their children to be as healthy as in Denmark and Sweden!

One district collector, when confronted with this kind of bogus figures, told the author that reporting correct data is ‘a high-risk and low-reward activity’! Dr Manmohan Singh as Prime Minister termed government’s performance as a ‘national shame’, but he was not able to persuade the states to accept that the problem exists!

**Staff vacancies** – There are massive vacancies due to which their effectiveness is limited. As per the Ministry’s website, the sanctioned strength of CDPOs and Supervisors in March 2013 is 9034 and 54,103 in the country, but only 5985 and 34,639, respectively, were in position. Thus, more than one-third of these positions are vacant. In Bihar, for instance, 90% of the Supervisors’ posts were vacant. Only 64% of AWWs received their salary either regularly or with a delay of one month, the rest reported delay of two to six months in getting their meagre salaries (Planning Commission 2011).

**Unresponsive bureaucracy** – Absenteeism of field staff is rampant though seldom measured. Many ICDS centres are often closed or function irregularly. Referral services for severely malnourished children are very weak as primary health care system does not function satisfactorily.

**Lack of decentralization** – Very few state governments involve local bodies in implementation of programmes relating to health, nutrition and hygiene.

**Table 9** Percentage of severely malnourished children in 2013–14 according to UNICEF and State Governments

	State government	UNICEF
Andhra Pradesh	0.8	4.7
Gujarat	0.8	10.1
Jharkhand	0.5	16.0
Madhya Pradesh	2.1	12.0
Orissa	1.4	11.0
Uttar Pradesh	0.8	12.9
West Bengal	0.7	8.9
India	2.1	9.4



Empowering local panchayats to deal with the problems relating to hunger and malnutrition will certainly help achieve convergence and meet the challenges of poor delivery in many parts of the country (Saxena 2014a).

**Non-functional childcare system in urban India** – ICDS runs very poorly in urban slum areas because of lack of space for setting up of centres. In urban slums, the problems of appallingly low-rent allocations (Rs 1000 per month for Delhi, for instance) for hiring spaces and non-availability of government buildings need to be addressed urgently to fill the gap in universalising services for slum populations. In the short term, temporary structures can be put up to provide toilets in those slums where either due to legal issues or space constraints, it is not possible to put up permanent structures.

**Weak links with sanitation** – Only 40% households in rural India use toilets. Besides, due to bad quality of water and lack of toilets children are exposed to stomach infections, develop diarrhoea and start losing weight. Evidence is now sufficient to conclude that open defecation is an important cause of child stunting. Children's height matters because the same early life health and net nutrition that help children grow tall also help them grow into healthy, productive, smart adults. Open defecation is particularly harmful where population density is high – so children are more likely to encounter germs from faeces – which means that India's widespread open defecation and high population density constitute a double threat. Lack of medical attention further aggravates malnutrition.

**Learn from International experience** – Thailand has been one of the most outstanding success stories of reducing child malnutrition in the period 1980–1988 during which child malnutrition (underweight) rate was effectively reduced from 50 to 25%. This was achieved through a mix of interventions including intensive growth monitoring and nutrition education, strong supplementary feeding provision, high rates of coverage ensured by having high human resource intensity, iron and vitamin supplementation and salt iodization along with primary health care. The programme used community volunteers (with no honorarium) on a huge scale (one per 20 children), and involved local people, so as to instil self-reliance and communicate effectively with target groups. Communities were involved in needs assessment, planning, programme implementation, beneficiary selection and seeking local financial contributions. Inter-village competition in reducing the number of under-nourished children was encouraged, and villages were rewarded for their success.

This has significance for nutrition programmes in India as the levels of per capita GDP, proportion of women in agricultural workforce and child malnutrition rates around 1980 in Thailand were similar to what we had in India in 1992.

**Re-examine the role of the Ministry** – When the new Ministry of Women and Child Development was set up, it was expected that it would take a holistic view of the problems of women and children and keep a watchful eye on the activities of all other Ministries, such as health, education, labour, drinking water and sanitation that deal with the subjects impinging on children's welfare. It would develop systems that inform GOI, for instance, how and why children are malnourished. On the other hand, it has been observed that the new Ministry took a minimalist view of its responsibility and reduced itself to dealing with the ICDS only without critically

monitoring the lack of other inputs needed for reducing malnutrition. Such ostrich-like attitude defeats the purpose for which the Ministry is created. It was expected that the MWCD would generate field reports that look at the access of children to health, water and sanitation, and how it affects malnutrition. Continuous measurement of the critical inputs alone will put pressure on other Ministries and their field administration to improve all services holistically. However, in the present circumstances, advocacy is not a popular agenda with the MWCD officials.

## 5.8 *Summing Up*

The Indian State implements massive food, livelihood and social security programmes – some of the largest in the world – which theoretically support vulnerable people from even before their birth to their survivors after death. On paper, expectant mothers are fed in ICDS centres, along with infants, children up to the age of six and adolescent girls. Children in school get school meals. As adults, women receive maternity support and bread earners are guaranteed 100 days of wage employment in public works; and if identified as poor, they can buy subsidised cereals from a massive network of half a million ration shops. The aged – and in many states, widows and disabled people – are given pensions. And if an earning adult dies prematurely, the survivor is entitled to a lump sum payment of ten thousand rupees.

This looks good on paper but the ground reality is different. These programmes are plagued by corruption, leakages, error in selection, delays, poor allocations and little accountability. They also tend to discriminate against and exclude those who most need them, by social barriers of gender, age, caste, ethnicity, faith and disability; and State hostility to urban poor migrants, street and slum residents, and unorganised workers. In Rangpur Pahadi, a slum area just two kms away from Vasant Kunj (Delhi), people living since 1984 have not been given even voter ID or any ration card. Thus, their very existence is denied by the Delhi Government! Therefore, not only do we need to identify the excluded and run special programmes for them, but improve monitoring and accountability for all programmes that impinge on hunger (Saxena 2013).

However, implementation as discussed in this paper needs improvement. Higher public investment in nutrition-based programmes needs to be accompanied by systemic reforms that will improve the quality of public expenditures and overhaul the present system of service delivery, including issues of control and oversight. At the same time, ICDS should correct the design flaws, focus more on the younger age group, on community participation, and strengthening of convergence with related health and sanitation programmes (Saxena 2016a, b).

Problems of lack of coordination between the Ministries (Women and Child, Health, Water and Sanitation) cannot be resolved by passing laws or by incorporating goals of minimising stunting and under-nutrition in the Food Security Act. The experience of both Right to Education and Right to Employment shows that

problems of bad design, inadequate funding and poor implementation require administrative and not legal action (Saxena 2016a, b).

Development is an outcome of efficient institutions rather than the other way around. The focus must therefore be shifted from maximising the quantity of development funding to maximising development outcomes and the effectiveness of public service delivery. Concerted policy action is needed to improve the hunger indicators of marginalised groups, of women and children, and of the 300 million poor increasingly concentrated in the poorer states. This requires additional resources, as well as better policies and sound delivery mechanisms.

In the ultimate analysis, the constraints to overcoming malnutrition and hunger are rooted in bad policies, faulty design, lack of appropriate monitoring and evaluation, poor governance and lack of political will. Action is needed on all the fronts. Economic growth alone is insufficient to bring about significant reductions in the prevalence of malnourishment among children, or improvement in health of the poor. Without a major shakeup in agricultural policy and an improvement in design of the ICDS and food-related programmes as well as in the effectiveness of its implementation, the attainment of the goal of fast reduction in hunger and malnutrition looks unlikely (Saxena 2016a, b).

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