

Hunger, Undernutrition and Food Security in India

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In spite of an increase in the number of government and schemes to address the problem of undernutrition, the situation has improved only marginally. A number of factors such as spaces, ethnicities, income class and even seasons play affect the incidence of undernutrition. Poor undernutrition among children leads to lower productivity which costs India nearly 3 per cent of its GDP. The Union Budget must include an increase in the allocation for the public distribution system, integrated child development scheme, mid-day meals, aanganwadi scheme, along with a tax benefits to incentivise the public to become involved in running these programmes.

Problem of Persisting Undernutrition in India

Undernutrition continues to be a major public health issue for masses in India. The problem involves both protein-energy malnutrition and micronutrient deficiencies among different age cohorts of the population. In words of Professor Amartya Sen, “*When India achieved independence, more than 50 years ago, the people of the country were much afflicted by endemic hunger. They still are*”. A recent report of Food and Agricultural Organisation (FAO) titled ‘The State of Food Insecurity in the World, 2014’, 190.7 million people are undernourished in India. It is believed that a quarter of all undernourished population in the world lives in India alone. According to Global Hunger Index released in 2013, there is only a small decline in number of hungry persons in India which critics attribute to changed methodology for calculation of hunger index. As per the report, India still falls in ‘Alarming’ category along with impoverished and strife ridden countries like Chad, Ethiopia, Sudan, Congo and Nigeria in continent of Africa.

Undernutrition across the Population Groups: Some Facts

Measured in terms of intake based indicator or outcome based indicators like anthropometry measurement, at least one-third of Indian population across any age group faces some or other forms of undernourishment. To name a few examples, the prevalence of stunting (height-for-age) and underweight (weight-for-age) among pre-school children affects nearly 40 per cent of the children at all India level and in some states (especially in eastern and northern regions of the country) the percentages are even higher. The low body mass index that measures the undernutrition among women of age 15-49 group shows that one in three Indian women of reproductive age suffers from moderate to severe forms of undernutrition. For the same age group, the prevalence of iron deficiency is more than 50 per cent. Among adult men (age group 15-59 years) who were covered for the first time in the National Family Health Survey-3, the situation is similar to that of women, though the overall prevalence of low body-mass-index is relatively smaller. All these statistics were from the large scale survey conducted by International Institute of Population Studies (IIPS) in National Family Health Survey-3.

If the figures are compared with the previous round conducted in 1998-99 by the same agency, to record the improvement in nutritional status for pre-school children and women of reproductive

age, except for stunting among the children (where the prevalence shows 6 percentage point drop); in all the other indicators the improvement is either small or there is an increase in the prevalence. In case of underweight, the improvement in prevalence underweight is only 3 percentage points in 2005-06 over 1998-99 at all India level. However for waisting (i.e. weight-for-height), the prevalence has gone up by 3 percentage points; from 20 per cent in 1998-99 to 23 per cent in 2005-06. Whereas for prevalence of moderate anemia (in case of pre-school children) there is an increase of 5 percentage points (from 74 per cent to 79 per cent) and incase of severe anemia the prevalence has gone up by 1 percentage point (from 4 per cent to 5 per cent) at all India level.

Regarding the prevalence of low body mass index (BMI) among women of reproductive age, there is a slight improvement of 3 percentage points in 2005-06 over 1998-99 (33 per cent in 2005-06 vis-à-vis 36 per cent in 1998-99). However in case of anemia in the women, the prevalence has gone up by 4 percentage points from 52 per cent to 56 per cent during the same period. UNICEF's report on state of world's children finds 47 per cent of adolescent girls of age 15-19 years in India are underweight. Some critics argue that the figures are now almost a decade old and there were several initiatives post 2007 which aim to improve the nutritional status of children and women in India. However, rather than a strong criticism on the relevance of data, the criticism points out that we are yet to develop a mechanism to monitor the nutritional status of our population except for two or three agencies which collect such data in intervals of five to six years.

In fact comparatively newer data from the HUNGaMA survey (conducted in 2010) shows the figures for prevalence of undernutrition for children 0 - 59 months has hardly changed in since the previous surveys were conducted,. Based on the survey of nearly 1,09,000 children in 112 districts (100 of them are backward districts) of 9 selected states, it found that 42 per cent of children under five years are underweight and 59 per cent are stunted. Of all the children suffering from stunting, about half of them are severely stunted. In the best district in each of these states (12 out of 112), the rates of child underweight and stunting are significantly lower – 33 per cent and 43 per cent respectively, but still these are unacceptable high figures in relation to any developed country (HUNGaMa; 2011). The interesting aspect of this study was all these children were attending aanganwadis and had access to supplementary nutrition programme for the pre-school children. As per the records of the Integrated Child Development Scheme (ICDS) till March 2014, 27.6 per cent of children of age 0-6 years attending the ICDS centers were underweight (official website of Women and Child Development ministry, Government of India).

Who Faces Undernutrition the Most?

India's undernutrition problem is also riddled with disparity across spaces, ethnicities, income class and even seasons. As per a 2014 UNICEF report, 34 per cent of urban and 47 per cent of rural children of age less than five years were underweight, and risk of being underweight is 1.4 times more for rural children than their urban counterparts. Poverty has a strong impact on nutritional status of children in India. The report also states that the children from poorest 20 per cent households are 3 times more likely to be underweight. Even in urban areas, children from households living in poor neighbourhoods experience higher risk of different forms of undernutrition. A recent case study from a Kolkata slums based on 120 children of age 5-11

years found 44 per cent of these children were underweight, 40 per cent were stunted and 48 per cent showed thinness (Mandal et al; 2015). In some cases, the seasonal cycle also matters in determining the nutritional status, as found by a study in Odisha based on 1951 pre-school children from tribal regions. The study shows that prevalence of undernutrition was significantly higher ($P < .01$) during monsoon as compared with winter season (Meshram et al; 2014).

Regarding food intake, it is observed that in the Indian population that though large scale famines are rare in recent history due to interventions like 'green revolution', public distribution system (PDS), mid-day meal scheme (MDM) and the ICDS, the specific areas in dry regions and vulnerable sections like tribals do face shortages of food. Deaths due to lack of food from regions of Odisha, Bihar, Chhattisgarh and Maharashtra (mostly from tribal areas or poorest talukas) are still being reported in electronic and print media quite frequently.

A recent survey of consumer expenditure said that nutritional intake measured in terms of calories declined from 2,153 calories per person per day in 1993-94 to 2,099 in 2011-12 in rural areas, and from 2,071 to 2058 calories in urban areas (The Hindu; 2014). Though there is an improvement in consumption of calories, the protein consumption has declined in 2011-12 in both rural and urban areas over 2004-05 though by a small margin; from 57 grams to around 55 grams (ibid). There is a marked increase in consumption of fat; 41.6 gm in rural areas and 52.5 gram in urban areas in 2011-12 over 2004-05 (35.5 gm and 47.5 gm respectively). One major cause for declining calorie intake is attributed to an increase in prices of staple cereals like rice, wheat, maize, bajra, and prices of pulses and oilseeds which sees the percentage rise in prices by double digits between 2005-2010. Though critics of this argument often point out it is also due to increasing consumption of processed foods instead of cereals, due to change in tastes and preferences in the population. At the same time the increase in consumption of fat in both rural and urban areas could lead to increase in life style diseases related to sugar, blood pressure and cholesterol. The paradox becomes more complicated when we take into account that the consumption of calorie and protein in India is well below the recommended intake of 2400 calories and 60 grams of protein suggested by the erstwhile Planning Commission of India.

Impact of Undernutrition on the Economy

The impact of undernutrition, both protein-energy malnutrition and micronutrient deficiencies, directly affects many aspects of health related outcomes for the population, especially children. Among children, it results in retardation of their physical and cognitive growth, and increases susceptibility to infection and disease, further increasing the probability of being malnourished. Undernutrition also affects cognitive and motor development and undermines educational attainment; ultimately affect productivity at work and at home in adult years, with adverse implications for income and economic growth (UNICEF, 2014). It is estimated that due to poor undernutrition among children which leads to lower productivity costs India nearly 3 per cent of its GDP. If the impact of undernutrition for all the age group considered together, the loss of productivity and income to GDP could be of several times higher than the figure quoted above.

Why it is Difficult for India to Overcome Persisting Undernutrition among the Masses

There are quite a few structural reasons for India being not able to improve its nutritional indicators for different sections of the population, of which the most important is wide spread poverty. Nearly 2 out of 5 Indians lives below the official poverty line as per the revised estimates for 2011-12 consumption expenditure data from National Sample Survey Organisation. Certain ethnic groups like tribals, scheduled castes and non-skilled labour households have higher share of poverty than the rest. A recent report on problem of chronic poverty in India found that between 1983 and 2004-05, the decline in poverty rates for Dalits was 35 per cent and that for Adivasis was 31 per cent, compared to a national average of 40 per cent (CPR 2014; pp. 28). This implies certain sections of the population are falling behind the rest to come out of poverty trap. Along with poverty, the poor status of women in Indian society is also detrimental to nutritional outcome of women as well as their children.

The Major State Interventions to Address the Issue of Undernutrition in India and Major Shortcomings of such Interventions

Often economic growth is suggested as panacea for improving the social indicators, including undernutrition. The study by Subramaniam et al; 2011, found that between 1992-93 and 2005-06, there is no statistically significant association between economic growth and decline in prevalence of undernutrition among pre-school children, at state level or country level. It suggests that economic growth alone may not be sufficient for eliminating undernutrition without an efficient distribution mechanism to distribute the benefits of the growth. India has pioneered some of these interventions to ensure better food security and nutrition for its population. These are Public Distribution System (PDS), Antodaya and Annapurna schemes (the last two schemes are delivered through PDS system; designed for poorest of poor and non-working elderly), MDM for mid-day school children, ICDS for pre-school children and supplementary nutrition programme for pregnant and lactating mothers and adolescent girls (using ICDS infrastructure i.e. aanganwadis). The recently launched Food Security Act (FSA) gives citizens the legal right to demand food from the state and aims to create an umbrella framework to deliver the minimum required daily needs of food to members of all ages in a household. It aims to cover 75 per cent of Indian population including the officially poor and transient poor who are marginally above poverty line.

However the new act will depend heavily on the existing network of PDS, state run or aided schools and ICDS infrastructures, which have persisting issues. There are issues related to exclusion of the needy in all the three major instruments to deliver food to the poor. Though the budget in succeeding years increases the financial allocation to these flagship schemes to ensure food and nutrition security, most of the time it merely takes care of increasing establishment costs (like salary of the personnel, transport and administration cost) due to rising prices. Often the food stuff provided under these schemes is found to be lacking in quality, mostly based on provision of cereals (though FSA talks about providing subsidies pulses also), poor supervision and accountability. Though these programmes are near universal (except for the PDS), still issues related to effective coverage persists. According to one study, the overall diversion of food

grains provided through PDS is 44 per cent in 2007-08 in the post targeted period, than in the pre-TPDS period (i.e., in 1999-2000 24 per cent of grains were diverted) (Khera; 2011). Based on 2004-05 consumption expenditure survey, another study concluded that nearly 30 per cent of below poverty line households at the all India level were excluded from the coverage of PDS (Ray and Ray; 2011).

There is no proper data of how many eligible pre-school children, pregnant and lactating women and adolescent girls were getting any benefit from the ICDS. However, the country-wise appraisal conducted by Ministry of Women and Child Development (2004), the nodal agency for the implementation of ICDS as well as the HUNGaMA report (2011) observe several areas of concern in the implementation of the programme. In fact, the latter shows on the day of survey only 50 per cent of surveyed children had their food from aanganwadi in backward regions, where as it was 96 per cent in case of best districts in best states for implementing the ICDS. However in all the centers, less than the 50 per cent of aanganwadi workers received their salary on time. Though many of the ICDS centers operates from their own building constructed by the government, when it comes to infrastructures like water, cooking materials including vessels, store space and reading/playing materials are not adequately provided or not of good quality. Between 2012-17, for the 12th plan period central government aims to increase the outlay for ICDS from 16,542 crores in 2012 to 30,025 crores in 2017 (an increase of 55 per cent). However in actual it spent INR 15711.55 crores in 2012-13, and INR 14,767.79 crores in 2013-14 (union budget, vol. 2). This shows in the first 2 years of 12th plan only 94 per cent of the planned amount was spent, where as in the next year it dived to 67 per cent of the planned amount.

One also observes in the 12th plan document, the allocation to food articles within ICDS budget envisaged for the entire plan period declines from 40 per cent in 2012 to 31 per cent in 2017, despite an overall increase in the planned outlay during the same period. For Mid-Day Meal scheme, the actual expenditure in 2012-13 was INR 11,500 crores which came down to INR 12,189 crores in 2013-14, an increase of mere 6 percentage points. Given the increase in prices of non-cereal items which are procured from open market like pulses, oil and vegetables, one could imagine what will happen to the quality of food provided to children in ICDS and MDM with declining/constant provisions towards expenditure on food items.

Role of the Central Government in Provisioning for Schemes to Fight Undernutrition

In the Indian federal system, the central government holds the key to the financial health of the states as much of the direct and indirect revenue goes to its exchequer. In small states in north-eastern region and tribal regions, 90 per cent of financial requirement for ICDS and MDM comes from the central government, whereas for rest of the areas it is 50 per cent for ICDS (supplementary nutrition) and 75 per cent for MDM. The MDMs guidelines envisage to the provision of cooked mid-day meals with 450 calories and 12 g of protein to every child at primary level, and 700 calories and 20 g of protein at upper primary level. This energy and protein requirement for a primary child comes from cooking 100 g of rice/flour, 20 g pulses and 50 g vegetables and 5 g oil, and for an upper primary child it comes from 150 g of rice/flour, 30 g of pulses and 75 g of vegetables and 7.5 g of oil. The cost of feeding each child has been increased to INR 5.38 per upper primary children, and INR. 3.59 for primary children in 2014 (from 0.38 pause and 0.25 pause respectively over 2013). This amount may be not adequate to improve the quality of food for reasons already mentioned above. Similarly

in ICDS, the cost of feeding one child is INR 6.00 (for severely undernourished for 800 calories), INR 4.00 for (normal children of age 6-72 months providing 500) and INR 5.00 for pregnant women (providing 600 calories). These rates were last revised in 2008. So the government must ensure the revision of the cost of feeding for the children and women beneficiaries for both the schemes. Similarly under PDS, as per the provision of the food security act all the needy households should be covered. There is a suggestion from a section of experts to curtail food subsidy. Given the scenario of high food prices, the government must not cut down the food subsidy. Again, limiting it to 5 Kg. cereals (rice/wheat/coarse grains) per person per month may be counterproductive as the cereals remain the major source of calorie, protein and micronutrient consumption for large section of the masses.

As per the report of Nutrition Intake in India based on consumer survey for 2009-10 by the NSSO (2012), nearly half of the protein and other nutrients come from cereals (60 per cent for rural areas and 50 per cent for urban areas at all India level). The dependence could be more for households belonging to economically weaker classes. The central government has the resources to stabilise the prices of essential cereals, dal and pulses (a major portion is imported; thus could be regulated by central government alone), vegetables and milk products (the last two items are produced in excess in certain parts of the country) by ensuring better supervision, regulation of prices, removing the hurdles in movement of farm produce (by developing infrastructures like roads and ports etc.) which may not be possible by a single state. In a nutshell, the proper implementation of PDS, ICDS and MDM can provide effective leverage to tackle undernutrition in short term and medium term whereas structural bottlenecks at societal level like improving the status of women may take a longer time. Government policy should also promote the ICE intervention to increase the sensitivity of the society towards undernutrition; however it could be complementary to the efforts to ensure supply of essential food through the above mechanisms, could not be a substitute. Improvement in primary health care, especially in rural areas as well as improving the infrastructure related to water, sanitation and hygiene can also help to contain preventable diseases, there by facilitating better absorption of the available food for the Indians, most of whom are devoid of such facilities.

What Budget 2015-16 can provide to Improve the Nutritional Situation in the Country

First, the budget 2015-16 should provide more resources to expand the effective coverage of the three flagship programmes; PDS, ICDS and MDM, especially providing higher resource allocation to the food component. The per unit cost for beneficiary under such schemes should be increased to meet the rising prices of food items.

Second, adequate physical infrastructure in aanganwadi centers and MDM kitchens with special focus on issues of hygiene, provision of safe drinking water, toilets and facilities for waste disposal are needed which provide children the healthy and disease free environment.

Third, the households must be provided with quantity of cereals that is actually needed for the household and the limit of 5 Kg per person per month should be removed. The PDS shops should be either given incentives or the civil supply departments in each state should be motivated to provide dals and pulses, oil and some common vegetables at affordable prices for the poor families.

Fourth, the food security act should be made universal and any cut-off point for rural and urban population may defeat the purpose of reaching the needy as many of them may not be able to ensure their rights are honored for various reasons.

Fifth, the focus on primary health care especially in rural areas could go a long way in limiting the effects of preventable diseases and improving the nutritional outcome for women and children in rural areas.

Sixth, the states must be incentivised to ensure the free mobility of the excess agricultural produce and build infrastructures for storing these produce for consumption in non-harvesting seasons, to stabilise prices of these essential food items. It will help the poor to afford the essential food items in all times of the year and could result in (apart from strengthening the household food security), balancing the food basket of such households which will lead to a better nutritional outcome.

Seventh, the budget could take an initiative to build a real time data base of undernourished population across India for close monitor of policymakers, health providers and researchers. The children should be monitored from their birth to the age of 19 years (till adolescence) in a uniform format throughout the country. The MIS system required could be built given the expertise of India in building software based solution for public needs.

Eighth, the issue of micronutrient deficiency which is not elaborated in the text above should be addressed. Here the private players especially those in manufacturing of chocolates, dairy items, beverages etc. could be incentivised to add one or more appropriate micronutrient to the product as per the clinical advice. It will help to eradicate commonly found micronutrient deficiency in India. The fortified flour and salt are already of few successful interventions.

Ninth, as shown above Indians are consuming more fat, though not at alarming level as some other developed countries; still the increase in fat consumption could bring the problem of obesity and other life style diseases. The government should give incentives in its budget to fiber and coarse cereal based snacks and health drinks using herbs and seasonal fruits. This may help to cut down the risk of diseases related to excess consumption of fat, sugar and salt.

Tenth, the budget can also motivate the general public through tax incentives to supervise, monitor or help in running of ICDS, MDM kitchen and primary health centers in their vicinity. This may go in long way to build social awareness towards the issue of undernutrition and help addressing the issue.

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