



# livelihoods

today and tomorrow

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Special  
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## Nutrition

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Food concern has been a major problem from 1940s onwards, during which 2 to 3 million people died due to starvation. In 1960s, with two droughts, India had to depend for food grains on United States of America (USA). India began interventions in late 1960s in the form of Green Revolution, due to which food production increased and India's dependence reduced significantly. The Green revolution was followed by White Revolution in 1970s, which increased milk production making India the largest producer of milk.

In our country, the present status is an ongoing challenge. Nutrition is a basic human need and a prerequisite to healthy life. Nutritional food is vital for growth and development of women and children. India is likely to be the most populous country on this planet with 1.6 billion people by 2030. Ensuring food and nutrition security is a challenge for India, because of huge population and poverty and malnutrition situation in the country. Under-nutrition affects survival, development, health, productivity, and economic growth. As per World Bank estimates, India is the one of the highest-ranking countries in the world with the number of children suffering from malnutrition. While India is an exporter of milk, fruits, vegetables and cereals, food availability is threatened by the affect of climate change and declining water sources on agriculture output. A fourth of our population lives under Below Poverty Line (BPL), is a major concern.

Nutritional status of the most vulnerable age group of children is also an important indicator of human development and effectiveness of national socio-economic development strategies.

Global Hunger Index indicates that 21% of the children are suffering with wasted- low weight for height. India's rank is 100 in Global Hunger Index which is very low and worse than last year's rank of 97. According to UN report, India is home to 190.7 million undernourished people and 38.4% of children under five in India are stunted. India accounts for 23.4% of the global hunger population. We have 51% of women who are anaemic. According to the statement of Food Security and Nutrition (FSN) in the World 2017, the number of undernourished people in the world increased from 777 million in 2015 to 815 million in 2016. In India, 20% of under 5 years children suffer from wasting syndrome, due to acute under-nutrition & 43% of children under 5 years are underweight and 48% of children (61 million) are stunted, due to chronic under-nutrition. India accounts for more than 3 out of every 10 stunted children in the world.

Under-nutrition is a complex and multi-dimensional issue affecting mainly by poverty, inadequate food consumption, inadequate food distribution, improper infant and child feeding and care practices, inequity and gender imbalances, poor sanitary and environmental conditions, restricted access to quality health, education and social care services. Long term malnutrition leads to stunting, wasting, non-communicable chronic diet related disorders. In India, about 28% in the rural areas and 26% in the urban areas are estimated to be BPL families. On an average, an individual needs 2400 kilo calories (kcal) per capita, per day in the rural areas and 2100 kcal in urban areas. Under-nutrition is higher in rural areas than the urban areas in the country. Poverty is a major factor influencing nutrition. Also, short birth intervals are associated with higher levels of under-nutrition. The percentage of children, who are severely underweight is almost five times higher among children, whose mothers have no

education than among children whose mothers have education. This shows the impact of circumstances like awareness on family planning and level of female education on nutrition levels.

Findings of Nutritional status as per National Family Health Survey (NFHS) 3, 2005-06:

- Tribal children have poorest nutritional status on almost every measure and the high prevalence of wasting in this group (28%) is a concern.
- Highest number of low birth weight babies per year at an estimated 7.4 million.
- Only 25% of newborns were breastfed within one hour.
- Less than half of children (46%) under six months of age are exclusively breastfed.
- 70% of children between ages 6-59 months are anaemic.
- 51% of households use adequately iodized salt.
- Only one third of children are receiving nutritional services from AWC.

Looking at nutritional status of children, India has largest number of children in the world. Nearly every fifth young child in the world lives in India. Around 43 crore children are fall in the age group of 0-18 years. Children and women together constitute around 70% of India's population. Child under-nutrition is very high in the country. According to NFHS-3, about 42.5% of the children in 0-5 years are under weight, 48% of the children are stunted, 20% of the children are wasted???. Around 40% of the 0-3 children are underweight & 22% of the babies were born with low birth weight, 50 out of 1000 birth did not complete their first year of life. Underweight amongst children was highest in Madhya Pradesh (60%), Jharkhand (57%), and Bihar (56%) and least in Mizoram, Sikkim, Manipur, and Kerala. According to the NFHS 3 - 2005-06, 54.5% of the 0-5-year children of Scheduled Caste (SC) were underweight; it is higher than the national average of 42% and 33.7% in other communities. As per NFHS 4 2014-15, nearly every third child in India is undernourished; 35.7% children are underweight, 38.4% are stunted and 21% of children under five years are wasted. NFHS 4 indicates that every second child is anaemic with 58.4%.

One of the major issues is awareness of mothers on practices of feeding to infants and young children (under 2 years) which is crucial for their survival, healthy growth, intellectual and physical development. According to The Lancet-2008, deaths at 36 months of age, get reduced by 9.1%, if breastfeeding was universalized. Exclusive Breastfeeding is essential for the first six months and continued breastfeeding for the next six months; it helps to

Nutritional indicator	NNMB (1975-1979)	NFHS-1 (1992-1993)	NFHS-2 (1998-1999)	NFHS-3 (2005-2006)	HUNGaMA (2011) <sup>[9]</sup>	NFHS-4 (2015-2016)
Weight for age						
Underweight <-2 SD	77.5	51.5	42.7	42.5	42.0	29.4
Severely underweight <-3 SD	38.0	20.6	17.6	15.8	16.4	-
Height for age						
Stunted <-2 SD	78.6	52.0	51.0	48.0	59.0	38.7
Severely stunted <-3 SD	53.3	28.9	27.7	22.0	34.0	-
Weight for height						
Wasted <-2 SD	18.1	17.5	19.7	20.0	11.4	15.1
Severely wasted <-3 SD	2.9	3.2	6.7	6.4	3.3	-
SD: Standard deviation, NFHS: National Family Health Survey, NNMB: National Nutrition Monitoring Bureau						
Source: Indian Journal of Public Health						

reduce deaths of below 3 years children. NFHS – 3 data shows that only 24.5% of children are breastfed, within one hour and 46.4% of the children under six months are exclusively breastfed. The rise in malnutrition, during the first two years of life can be attributed to faulty & poor infant caring and feeding practices. Infant and young child feeding practices have been far from optimal and continue to be a serious challenge to preventing and reducing under-nutrition among children.

Nutritional status of women and adolescent girls in India, is a concern, As per NFHS 3, every third woman in India was undernourished with 35.5% women with low body mass index and every second woman in the age group of 15-49 years was anaemic with 55.3%. About 16% were moderately to severely thin, with Body Mass Index (BMI) less than 17. The highest rates of undernourished women in the Indian states and their percentages are as follow - 45% in Bihar, 43% in Chhattisgarh, 42% in Madhya Pradesh and 41% in Odisha. Adolescent girls are one of the most vulnerable groups; 11-18-year age group adolescent girls constitute 16.75% (8.32 crore) of adolescent girls, out of which 2.75 crore adolescent girls are undernourished.

Chronical undernourishment, pregnancy and lactation have effect on maternal nutritional status. Low pre-pregnancy weight and low pregnancy weight gain are associated with low birth weight and other consequences. As per NFHS 4, nutritional status of women and girls in the age group of 15-49 years have improved for all states, and decreasing from 35.5% to 22.9% in the prevalence of women with low BMI. This is a positive development.

Our country faces major public health challenge that of micronutrient deficiency,

Apart from general nutritional deficiency, deficiencies in Vitamin A, Iron and Iodine are major public health challenges. Some of them are:

Vitamin A: Subclinical Vitamin A deficiency (VAD) is a well-known cause of morbidity and mortality, especially among young children and pregnant women. Vitamin A Supplementation has proven successful in reducing incidence and severity of illness and has been associated with an overall reduction in child mortality by 25-35%, especially from diarrhoea, measles, and malaria.

Iron: Iron Deficiency Anaemia (IDA) is common across all age groups, but highest among children, adolescent girls, pregnant, and lactating women. The consequences of IDA in pregnant women include increased risk of low birth weight or premature delivery, pre-natal and neonatal mortality, inadequate iron stores for the new born, lowered physical activity, fatigue and increased risk of maternal morbidity. Anaemia is a major health problem; 55% of women and 24% of men are suffering with anaemia.

Iodine: Iodine deficiency is the common cause of preventable mental retardation and brain damage. Iodine deficiency during pregnancy is associated with low birth weight, increased stillbirth, abortions and abnormalities. During childhood period, it impairs physical growth, cause goitre and decreases the probability of child survival. Around 200 million people are exposed to the risk of iodine deficiency and more than 71 million people suffer from goitre and other iodine deficiency disorders.

World Health Organization (WHO) estimates that 50% of malnutrition is associated with repeated diarrhoea or intestinal worm infections because of unsafe water, inadequate sanitation or insufficient hygiene. While progress in ensuring safe drinking water, ensuring universal access to sanitation by improving hygiene practices remains a key challenge & 11% of the child deaths under age of five years are due to inadequate and safe drinking water, poor sanitation and unhygienic practices & diarrhoea.

On a positive note, NFHS 4 finds that families are using safe drinking water and sanitation facilities. Over 2/3 of households have access to improved source of drinking water in all states, except Manipur. More than 50% of the households have access to improved sanitation facilities in 26 states/Union Territories (UTs). Vision 2022 of the

National Nutrition Strategy (NNS) aims at ensuring that every child, adolescent girl and woman attains optimal nutritional status – especially those from the most vulnerable communities.

### **‘Kuposhan Mukh Bharat - Free from malnutrition, across the life cycle’**

As part of reducing malnutrition following are some of the efforts:

**Anganwadi Centres:** Anganwadi centres are the main source for women and child development at village level. AWCs are the hub for promoting maternal and child health, nutrition and development activities at village level. AWCs provide nutritional food for children, pregnant, lactating women, and adolescent girls. They create awareness on nutritious food, feeding methods, immunizations, early education, weighing children, caring under-nutritional children and other services. AWCs provide eggs, milk, nutritional powders etc food items. AWCs are providing a critical link with and outreach extension of health, water and sanitation services. AWCs provide platform for convergent services, across the life cycle continuum such as Integrated Child Development Services (ICDS), Pradhan Mantri Matru Vandana Yojana (PMMVY), Rajiv Gandhi Scheme For Empowerment Of Adolescent Girls (RGSEAG), it is famously known as SABLA. The scheme SABLA aims at empowering adolescent girls (11-18 years) through nutrition, healthcare and life skill education etc. AWCs conduct fixed monthly Village Health and Nutrition Days (VHND), AWC anchor Accredited social health activists (ASHAs) and strengthen teamwork of ASHAs, Anganwadi Workers (AWWs) and Auxiliary Nurse Midwives (ANMs) through joint training and supportive work schedule.

**Applied Nutrition Programme under Ministry of Rural Development:** This was one of the earliest nutritional programme initiated in Odisha in 1963 and extended to Tamil Nadu, UP and later extended to all states. The main objective was to promote production of protective food, such as vegetables, fruits and ensuring their consumption by pregnant, lactating women and children.

**Balwadi Nutrition Programme:** Ministry of Social Welfare (MoSW) initiated the programme in 1970 and voluntary organizations were implementing this programme, targeting children aged between 3-5 years of age, this programme, phased out, due to universalization of ICDS.

**Special Nutrition Programme (SNP):** This programme was initiated by MoSW in 1970, focussing on urban slums, tribal areas and backward rural areas. Key aim of the programme was to improve nutritional status among targeted groups and . the beneficiaries were children below the age of 06 years pregnant and lactating women.

**Integrated Child Development Service Scheme (ICDS):** It began in 1975 in 33 CD blocks under the 5th Five-Year Plan (FYP) under Ministry of Social Welfare (MoSW). It is the world’s largest programme for Early Childhood Development (ECD). The main objective of this programme is foundation for proper psychological, physical and social development of children, improved nutritional, health status of children, reduced mortality, morbidity, malnutrition and school dropouts. Beneficiaries are children below 6 years, pregnant, lactating women, adolescent girls.

**Wheat based nutrition programme:** The programme was launched in 1986, by Ministry of Women and Child Development (MoWCD). Aim of the programme was to provide nutritious food to children below 6 years of age and implement it, through ICDS. Food grains were supplied under this programme.

**Nutrition programme for adolescent girls:** Initiated in 2002-03, with an aim to improve nutritional and health status of adolescent girls by providing nutrition and health education to the beneficiaries.

**National Nutritional Anaemia Prophylaxis Programme (NNAPP):** Launched in 1970 by the Ministry of Health and Family Welfare (MoHFW). Aim of the programme was to prevent nutritional anaemia in mothers and children. Beneficiaries of the programme are children aged between 1-5 years, and lactating mothers. Weekly Iron and Folic

acid tablets, as supplementation is provided to adolescent girls.

**National Prophylaxis Programme for Prevention of Blindness due to Vitamin A deficiency:** Launched in 1970 with a component of national programme for control of blindness, 1976. Target group were children aged between 1-3 years of age.

**National Iodine Deficiency Disorder Control Programme (NIDDCP):** Launched in 1962 with a focus on use of iodised salt and replacing common salt with iodised salt.

**Mid-Day Meal (MDM) Scheme by Ministry of Education (MoE):** Initiated in Tamil Nadu in 1961, its main aim is to provide at least one nourishing meal to school going children per day.

**Akshaya Patra:** Akshaya Patra has started in 2000, it has been feeding 1500 children in 5 schools in Bangalore. Presently, Akshaya Patra is providing freshly cooked meal to above 16,00,00 students in 13,839 schools in 12 states in the country.

**Annapurna scheme:** Launched in 2000-01 by Ministry of Rural Development (MoRD), its beneficiaries are senior citizens, who are not availing pension under the National Old Age Pension Scheme (NOAP). Under this scheme, the elders are entitled to 10kg of food grains per month.

**Maa – Moni:** Launched under Assam Bikash Yojana (ABY), pregnant mothers are provided with Rs.1000/- for nutrition supplementation and ambulance services.

**Antyodaya Anna Yojana (AAY):** The Yojana was launched in 2000, with aim to target poor families, to reduce hunger among the poor families for next five years, reform Public Distribution System (PDS) and create hunger free India.

**National Nutrition Mission (NNM):** Launched on December 2017. Aim of NNM is to reduce the level of stunting, under nutrition, anaemia and low birth weight babies (among young children, women and adolescent girls). The mission is a three year programme 2017 -2020 and it has an approved budget of Rs. 9046.17 crore for 2017-18. More than 10 crore people will be benefited by this programme. All 707 districts are covered subsequently with 315 districts in 1st phase in 2017-18, 235 districts in 2nd phase in 2018-19 and remaining 157 in 2019-20.

Despite a number of nutrition related schemes implemented towards children, pregnant and lactating women for improving nutritional status, there are large scale malnutrition issues in the country. There is lack of linkage between the schemes of nutrition with each other to achieve the common goal. NNM acts as a convergence mechanism and other components would strive to create the synergy.

Apart from NNM, reforms in public distribution is a welcome feature. The PDS is the largest public sector managed network for the public distribution of essential commodities like rice, wheat, sugar and kerosene for low cost. National Food Security (NFS) Act, 2013 was passed with the objective to provide for food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity. The Act provides for coverage up to 75% of the rural population and up to 50% of the urban population for receiving subsidized food grains under Targeted Public Distribution System (TPDS); thus, covering about two-thirds of the population. The eligible persons are entitled to receive 5 Kg of food grains per person per month at subsidized prices of per Kg are Rs.3/- for rice, Rs.2/- for wheat and Rs.1/- for coarse grains. The existing AAY households, which constitute poorest of the poor, will continue to receive 35 Kg of food grains per household per month. The Act also has a special focus on the nutritional support to women and children. Besides meals to pregnant women and lactating mothers during pregnancy and six months after the child birth, such women are also being entitled to receive maternity benefit of not less than Rs. 6,000/-. Children up to 14 years of age are entitled to

nutritious meals as per the prescribed nutritional standards. In case of non-supply of entitled food grains or meals, the beneficiaries will receive food security allowance. The Act also contains provisions for setting up of grievance redressal mechanism at district and state levels. Separate provisions have also been made in the Act for ensuring transparency and accountability.

Reforms like end to end computerization, tracking the transport of food grains, decentralized procurement, introducing coarse grains in PDS are aimed at addressing nutritional security. In Chandigarh, Puducherry and urban areas of Dadra & Nagar Haveli, the Act is being implemented in cash transfer mode, under which food subsidy is credited directly into the bank accounts of beneficiaries, who then have the choice to buy food grains from the open market. This, if effective can help address leakages.

Availability, affordability, absorption are three pillars of nutritional security. Though we are still lacking on many fronts, government's efforts to increase availability of food, improving sanitary conditions to improve absorption capacity are laudable. But behavioural changes are necessary to address gender divide in nutritional status. Also, a revisit to our traditional food choices will help us address malnutrition and lead to a life with dignity. ❖