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India's nutrition crisis: A challenge of putting nutrition back into our food

A National Consultation of Experts | 2012

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Narotam Sekhsaria Foundation

“One every five seconds, six million children a year die due to malnutrition. This is no longer acceptable. We must act.”

Ban-Ki Moon
Secretary-General United Nations

PREFACE

Established in 2002, the Narotam Sekhsaria Foundation supports work in the areas of health, education, livelihood, governance, art and culture. A key insight gained from our interventions in the health sector is that access to nutrition plays a crucial role in every area – be it blindness control, addressing learning disabilities, conducting school health programmes, interventions on health and human rights of the tribal people and all initiatives around maternal and child health. It is this understanding that has prompted the Foundation's initiative to focus on malnutrition.

In an effort to understand the main issues around malnutrition, the Foundation organised two national level seminars – in January 2010 and September 2011 – to facilitate a discussion on India's deepening nutrition crisis. These seminars provided a platform to a wide range of institutions and public health practitioners to deliberate on the issue and make consensus recommendations.

The brain storming sessions focused on a gamut of issues – the magnitude and status of nutritional deficiencies in India and policy options, current practices and outcomes in government initiatives and civil society interventions.

This report presents a comprehensive overview of India's nutrition crisis, based on institutional reports and the view of public health experts in the field. It seeks to achieve clarity of response so that there is a concerted and joint effort to put nutrition into the plates of India's population. Its recommendations on the way forward would be of relevance to policy makers, funding agencies, civil society organizations and communities.

Funding agencies and civil society organisations have a role in pressurising the government towards the way forward and augmenting its positive efforts through their contribution. We also have a vital role in demonstrating innovations and models; acting as an interface between the community and the government.

We hope that this endeavour will facilitate collaborative initiatives between the government, academic institutions and practitioners who have rich knowledge from the field. Through this initiative, the Foundation intends to prioritize its programmes particularly for the urban poor, tribal communities and other vulnerable groups.

On behalf of the Foundation I would like to thank all the experts for sharing their insights and for playing a significant role in shaping the Foundation's perspective on the nutrition crisis in India.

Padmini Somani
Director, Narotam Sekhsaria Foundation

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PHOTO Rupa Chinai

INTRODUCTION

Malnutrition in India: An overview

The so-called 'Green Revolution' of the 1960s and 1970's brought a boost to India's food grain production and a pride in having achieved 'self-sufficiency'. Despite this the country's nutrition crisis continues to deepen – statistics reveal that more than half of India's upcoming generation – children under four years of age – face a debilitating future because of malnutrition. Over 60 percent of Indian women, irrespective of class, are anaemic. In 50 percent of the 2.1 million annual deaths of children under five years of age, the underlying cause is malnutrition. Why have we gone so wrong? And are we any closer to understanding what needs to be done?

A number of recently released reports further raise an alarm over high and volatile food prices that threaten India's already "alarming" food security situation. They warn that this situation could have severe consequences on the nutrition status of children below age five, poor consumers and small farmers, as also the country's overall health and economic indices.

Examining the reasons for hunger and malnutrition in India, these reports, as also a recent national consultation of Indian public health experts organised by the Narotam Sekhsaria Foundation, highlight two key issues:

1 Gaps in implementation of programmes, increases the nutrition vulnerability of the poor.

2 The failure of Indian agriculture policy that has moved away from supporting production of food crops to promoting cash crops. This is simultaneous to support for a food industry that is selling micro-nutrients through laboratory produced fortification and packaging of food.

The World Food Insecurity Report, 2011, produced by the UN Food and Agriculture Organisation (FAO); the International Fund for Agriculture Development (IFAD) and World Food Programme (WFP) warns that increasing food prices will impact income and lead to decreasing food consumption. This can reduce key nutrient intake by children during the first 1,000 days of life from conception. It can also lead to a permanent reduction of their future learning capacity and an increased likelihood of future poverty, with negative impact on the entire economy, the report states.

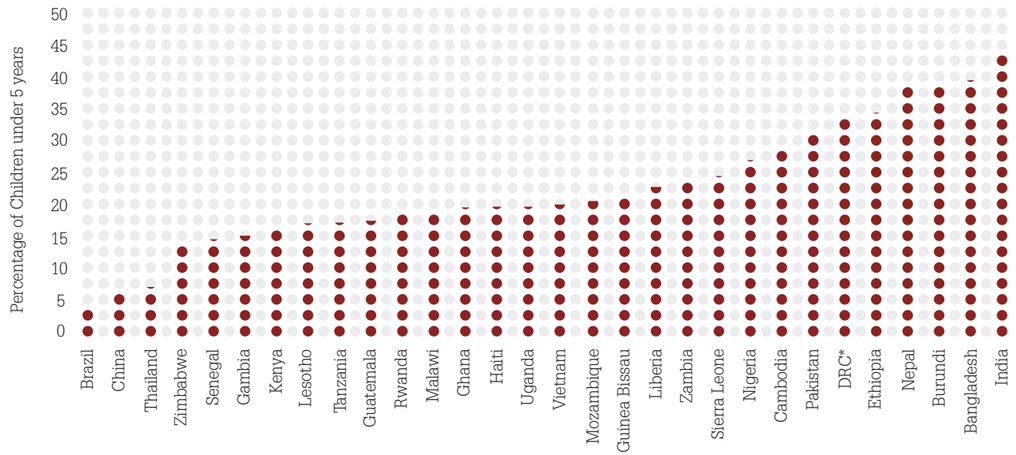
Following immediately thereafter, the release of another report, 'Global Hunger Index, 2011' by the International Food Policy Research Institute (IFPRI), states that India's food security situation is "alarming". It ranks India lower than Rwanda; 67th out of 81 countries of the world with the worst food security status. Pakistan, Nepal, Rwanda and Sudan all did better than India, while Bangladesh, Haiti and Democratic Republic of Congo were amongst the countries that did the worst.

Global Hunger Index (GHI), according to the IFPRI, is composed of three equally weighted indicators – the proportion of the population that is undernourished, the proportion of children who are underweight and under-five mortality. India in the last ten years is amongst the countries with the least improvement, the report states. She has however been moved from "extremely alarming" situation – the worst ranking given by IFPRI, to "alarming". In contrast China, Iran and Brazil are amongst the countries lauded for having halved their GHI scores over the last decade.

Experts say Indian agriculture's shift from local food self-sufficiency towards cash crops has made it vulnerable to price fluctuation and the vagaries of the international markets, quite apart from the long-term environmental consequences to the soil and biodiversity of crops. There has been little support for increased development of horticulture or vegetable kitchen gardens, products that are vital to a balanced nutrition plate, which the domestic market wants but cannot afford, because prices have hit the roof.

In order to fill hungry stomachs, there is an argument advocating widespread cultivation of soya, for instance

Figure **1** India has the highest percentage of underweight children below 5 years of age
SOURCE: Action Aid Report 2009: *www.actionaid.org.uk/doc_lib/scorecard.pdf*



– as a replacement of rice, distributed through the Public Distribution System (PDS). Soya however, is not widely accepted and is of controversial nutrition value. Biologist, Dr. Debal Deb, founder of Vrihi, a rice seed bank in Bengal asks why locally loved traditional foods like ragi, jawar, bajra or the thousands of varieties of indigenous rice are not promoted instead. All of these, when grown through ecological methods, are locally self sustainable, requiring zero agro chemicals or irrigation, leaving no ecological footprint. These varieties are being allowed to disappear with the entry of genetically modified seeds, promoted by US corporations like Monsanto, he points out.

Small farmers are unable to practise viable farming due to factors such as the absence of knowledge related to sustainable farming technology; lack of infrastructure such as storage, transport, roads; access to indigenous seeds and markets, Dr. Deb says.[1]

Since the 1990's when India launched into the process of economic reforms, (Structural Adjustment Programme [SAP] was advocated by international financial institutions such as the World Bank and International Monetary Fund), the government has sought to withdraw agriculture subsidy and also reduce the number of people who receive subsidised food support. This intention is evident for instance, in the imposition of targets on who accesses the Public Distribution System (PDS), leaving out thousands of genuinely poor people.[2] Meanwhile, corporations are clamouring to supply fortified, supplementary and packaged food through the lucrative national food programmes, such as Integrated Child Development Service (ICDS) and Mid Day Meal in Schools (MDMS).

India's development policies are increasingly focused on exploitation of natural resources such as minerals, forests and rivers on an industrial scale. This form of 'development' is pushing communities into poverty, turning them into ecological refugees and urban migrants who are vulnerable to malnutrition. 'Development projects' in at least four Indian states have displaced at least 1.6 million people.[3] While other developing countries have quickly learnt the right lessons and rectified their policy failings, India, according to the Action Aid Report, 2010, has yet to comprehend the fallacy of its current development model. It urgently needs to draw from the experiences of other Southern Hemisphere countries that are demonstrating success.

The Success Stories

Brazil, according to the Action Aid Report 2009, tops as the State that has both resources and political will to tackle hunger. It has introduced food banks, community kitchens and locally procured school meals, along with simultaneous support for small holder family farmers and land reform settlers. The result: child malnutrition has fallen by 73 percent and child deaths by 45 percent.

China holds second place, by heavily investing in its poor farmers and a relatively equitable distribution of land. The number of under-nourished people was reduced by 58 million between 1990 and 2001. Now less than one percent of the population goes hungry, the report says. Ghana, Vietnam and Malawi follow in the list of success models.

The key issue in all these success stories, according to the Action Aid report, is rejection of the conventional wisdom of the free market era. These countries showed clear action in ending hunger through strong State leadership; to invest in small holders who grow the majority of food in developing countries; expand social protection; make adequate food an enforceable right.

While these countries have invested in commercial agriculture for export, they have maintained or introduced specific policies to ensure that production of staple foods for domestic markets continue to thrive.

When India launched into SAP it failed to learn from the mistakes of Africa which had undergone this reform process a decade earlier. African experience highlights loss of local nutrition security and national food sovereignty.

Learning from Africa

Africa, at the time of decolonisation, was once a net food exporter. In the last three decades, SAP, imposed by donors and lender international financial institutions, pressurised African countries to roll back institutional support to agriculture and social sectors like health and education. They dismantled marketing boards, abolished guarantee price for farmers; down sized agriculture extension services and removed subsidies on fertilisers. National budgets for the social sectors saw a drastic reduction. Trade liberalisation further deepened dependence on food imports and vulnerability to global price volatility.[4]

In 2007 even the World Bank, the main architect of these reforms implicitly admitted that many of these policies were not working. Despite this the Bank continues to support international trade agreements that are forcing poor countries to slash agriculture tariffs. Today tariffs are so low that American and European farmers are able to flood the markets with their subsidised produce, or send it to developing countries as food aid. Produce support to farmers in developed countries is 30 times the amount provided in agriculture aid to developing countries. Today Africa imports 25 percent of its food, with almost every country having become a net food importer. Wheat is barely produced in Africa, but it can be found in almost every village.[5]

The recent IFPRI report meanwhile notes that growing dependence on just a few countries for food imports has lately seen a lower level of grain reserves on account of three factors: an increased use of food crops for bio-fuels; extreme weather conditions and climate change; increased volume of trading in commodity futures markets. This is leading to price volatility in the global food markets. Lack of timely information about world food systems is resulting in overreaction to moderate shifts in supply and demand, it states.

PHOTO: Rupa Chinai

30%

Indian babies are born with low birth weight and are amongst the smallest in the world

2.1

million annual deaths of children

In 50% the underlying cause is malnutrition

India's food security situation is "alarming"

It ranks India lower than Rwanda; 67th out of 81 countries of the world with the worst food security status

SOURCE: Who's really fighting hunger? Action Aid Report 2009

Table **1** Underweight, stunting and wasting by global region 2000
SOURCE: World Bank Report: August 2005, *India's Undernourished Children, a call for reform and action*: Health, nutrition and population

Region	% of under-fives (2000) suffering from Underweight	Stunting	Wasting
Latin America and Caribbean	6	14	2
Africa	24	35	8
Asia	28	30	9
India	47	45	16
Bangladesh	48	45	10
Bhutan	19	40	3
Maldives	45	36	20
Nepal	48	51	10
Pakistan	40	36	14
Sri Lanka	33	20	13
All developing countries	22–27	28–32	7–9

Linking agriculture and nutrition security

Given this global scenario, there is all the more need for India to put in place sensible agriculture policies that ensure local food self-sufficiency and also meet the nutrition needs of communities.

This linkage between agriculture and nutrition, and its impact on health and economic indices is very clear in a state like Maharashtra, says health researcher, Ravi Duggal. The State's data is valid for many other Indian states as well, he adds. The Maharashtra Economic Surveys, for instance, amply communicate how right through the nineties and in the new millennium, food production and per capita availability has declined due to the agriculture policies being pursued, he says.

For instance subsidies, irrigation and investments were made liberally available for certain crops like cotton or sugarcane, leading to diversification towards cash crops and lower food production in the state. Consequently, many agrarian families were forced to use cash to buy food (in last couple of years with double digit food inflation). Lacking enough cash because agriculture does not generate much surplus – families in the bottom half of the population were trapped in a cycle where they could not meet their nutritional needs.

This situation was further complicated with rural debt and farmer suicides (where Maharashtra leads), which also impacts nutrition. In this chain the collapsed Employment Guarantee Scheme in Maharashtra (EGS), especially post 1998, caused a further casualty for nutrition. Cash incomes which came in handy during lean months were no longer available. This linkage was clearly seen in districts like Nandurbar and Yavatmal, in studies done by Centre for Enquiry into Health and Allied Themes (CEHAT), Mr. Duggal says.

Access to nutritious food, obtained through local agriculture, ensures across-the-board health and prevention of a range of diseases. No amount of medicines or vaccines can work on the malnourished if they do not have simultaneous access to nourishing food. To meet the demand for fruits and vegetables,

India will thus need to reconsider its agriculture policies that have long promoted cash crops, and its development model that has long ignored the plight of small and marginal farmers.

To achieve nutrition goals, India will also need to rethink its current development model of 'predatory growth'. High growth rate or high average per capita income does not automatically translate into better nutrition indices. Malnutrition in India is entrenched in the cities, not just in the rural and tribal areas. Malnutrition is not a residue of development. It is a structural product of the present model of growth.

During the national consultations organised by the Narotam Sekhsaria Foundation, public health experts sought to bring the discourse back to what is real nutrition, as against the current focus on cereal based calories and chemical supplements. They pointed to the faulty recommendations of science and nutritionists that has taken India on to a fallacious path, where failure was predictable. Stressing the need to 'put food back into our nutrition', the experts stressed a basket of nourishing food that offers variety, which is seasonal, cheap, local and freshly grown.

Need of the hour is convergence between health and nutrition

PHOTO Rupa Chinai

Need for guaranteed health and nutrition services

Examining the government's response to the challenge of hunger and malnutrition, the experts said its main flagship programmes lack coordination; comprehension of the key issues and their linkages; demonstrates poor commitment and are shrouded in indifference to the needs of the malnourished.

They stressed the need for a 'life cycle approach' that meet the needs of people at every stage of their life – from birth to adolescence, adulthood and old age. They also spoke of the need for convergence amongst these different programmes and the involvement of communities in their implementation.

Drawing upon the experience of NGOs working in the field, the experts pointed to the way forward in tackling malnutrition – universal access to the PDS with self-selection; development of kitchen gardens with access to knowledge on ecological and sustainable agriculture practices; development of skills and a knowledge base for livelihood, with special programmes for women; a strong commitment to implementation of National Rural Employment Guarantee Act (NREGA); agriculture policies that actively promote food production of vegetables and fruits for local consumption, amongst other aspects. Funding agencies and civil society organisations have a vital role in pressurising the government towards the way forward and augmenting its positive efforts through their contribution. This report seeks to achieve clarity of response so that there is a concerted and joint effort to put nutrition into the plates of India's population.

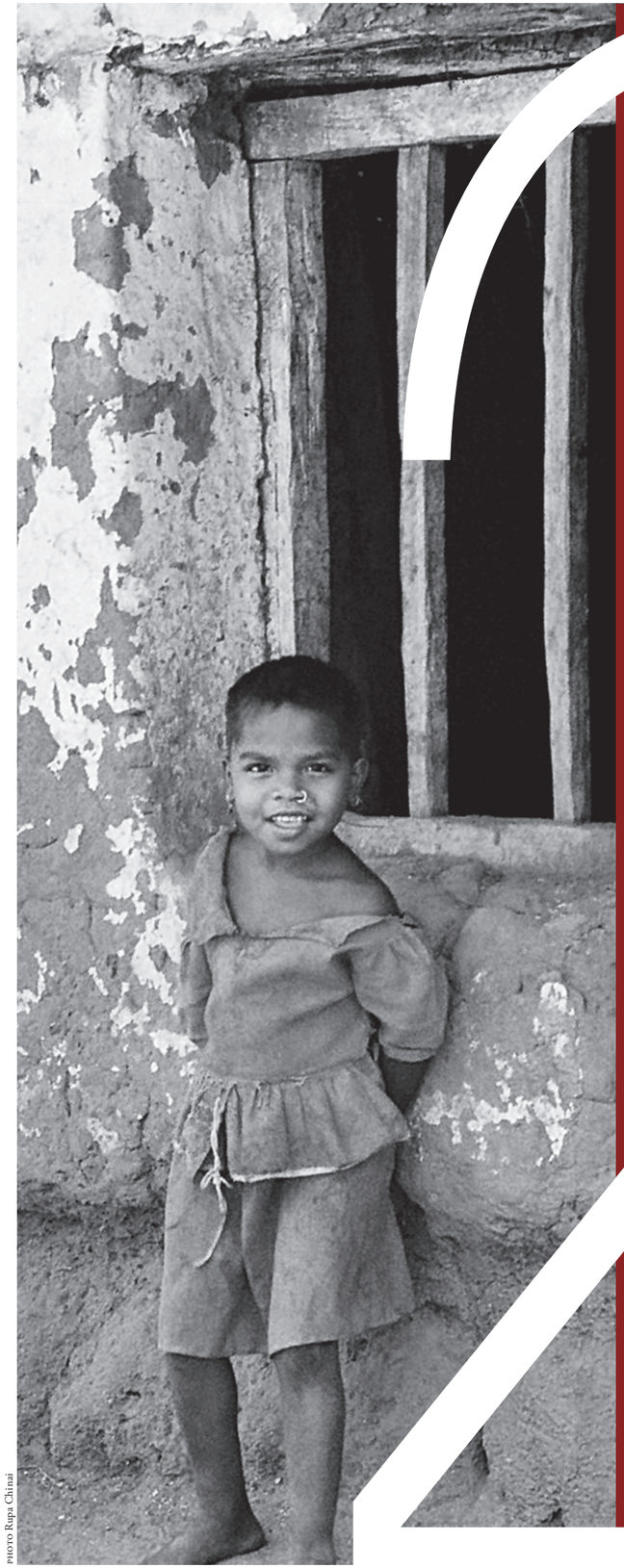


PHOTO Rupa Chinai

Malnutrition in India: Causes, extent and impact

What is malnutrition?

The terms malnutrition and undernourishment (in this report), are used inter-changeably. These refer to a condition that develops when the body does not get an adequate and balanced amount of nutrition that comes from natural, living foods rich in micro and macro nutrients. Such wholesome food enables the maintenance of a healthy body and its growth.

Lack of access to nourishing food traps a person into a vicious cycle of under nourishment, lowered immune status and vulnerability to diseases. At the other end of the spectrum are people who have over nutrition through consumption of excess carbohydrates and fats leading to obesity.

An under nourished person is subject to repeated bouts of illness. Consistent attacks of diarrhoea for instance, prevents a person from fully utilizing food eaten, resulting in malnutrition, a weakened immune system and a further vulnerability to illnesses. The body's state of unease increases its demand for energy giving nutrients. If this demand is unfulfilled through right nutritious food in the early stages, the body slides further into a more severe state of malnutrition and illness – a condition called "wasting" – that can lead to death.

Lack of access to safe drinking water, poor hygiene and sanitation are major causes of intestinal disease and infections, which worsen the condition of malnutrition. A growing body of studies indicate that

Figure **2** The conceptual framework of malnutrition
SOURCE: *http://www.unicef.org/sowc98/figs.htm*

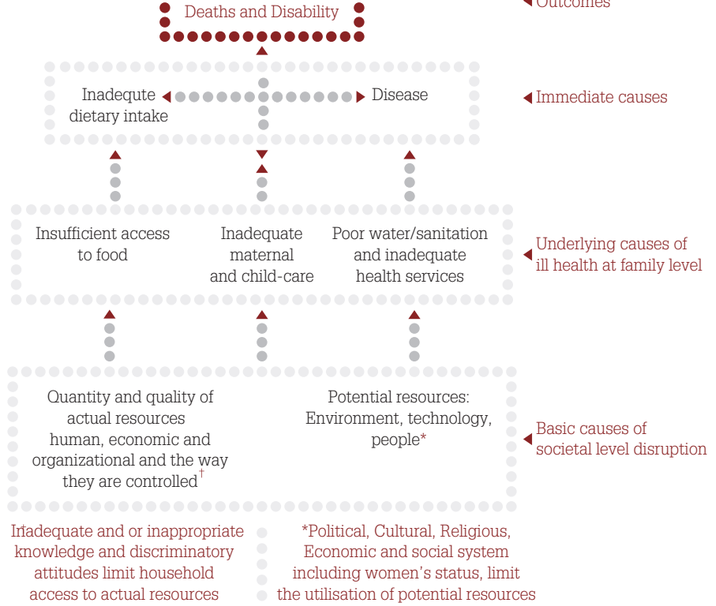


PHOTO Rupa Chinai

Women tapping for water in a Mumbai slum: Lack of access to safe water and sanitation worsens the conditions of malnutrition

nutritious food primarily comes from five main food sources: fruits, vegetables, nuts, sprouts and seeds. Eaten in the right combination, quantity and timing, they meet the body's energy requirements for growth, repair and restoration. Cereals too, have a role in the balanced daily diet of Indians. The question is how to make such food and nutrition knowledge accessible to the vast majority of India's poor.

An estimate of India's malnourished

Corroborative data drawn from various official sources present a stark picture of India's nutrition crisis. According to the Census of India 2011 there are 158.8 million children in the age group of zero to six years. While India's overall population grew at 17.65 percent over the last ten years, the child population has decreased by 3.08 percent. While this decline can be partly attributed to fertility decline, there are also other elements such as slower decline in the under-five mortality, a falling sex ratio due to sex selective abortions, amongst other factors.

Without access to enough food for the body and brain to develop to its full potential, and given the societal discrimination against the girl child (the 2011 Census reveals 933 females per 1,000 males, the lowest since Independence), India's up-coming generation face dire consequences for health, mobility, productivity, mortality, social stability and economic growth, warn researchers.

Data drawn from India's three National Family Health Surveys (NFHS) and a World Bank 2005 Report, 'India's Undernourished Children: A call for reform and action', reveal that amongst the adult population, almost 50 percent of women and 44 percent of men are undernourished. These reports indicate that the nutritional status of Indians has not seen significant change in the deficit of weight or height in the last 35 years, while amongst the Scheduled Castes and Tribes it is worse.

Six Indian states (Maharashtra, Orissa, Bihar, Madhya Pradesh, Uttar Pradesh and Rajasthan) account for almost 43% of all underweight children

High prevalence of anaemia affects more than half the population of Indian women age 15–49. Amongst children, age 6–35 months, almost three fourths are anaemic. Pregnant women face serious consequences from anaemia – malnourished mothers produce low birth weight babies (weighing less than 2,500 grams). According to NFHS data, almost 30 percent of Indian babies are born with low birth weight and are amongst the smallest in the world. Such babies suffer growth retardation which occurs by the age of two and is irreversible.

This high prevalence of underweight children places India amongst the countries with the worst indices, nearly double that of sub-Saharan Africa, according to the World Bank, 2005 Report. This (report) reveals that malnutrition is also responsible for 22 percent of

Figure **3** Infant and under-five mortality rate for selected cities, India 2005–06
SOURCE: Figure 3.4, Health and living conditions in eight Indian cities, August 2009, Ministry of Health and Family Welfare, Government of India

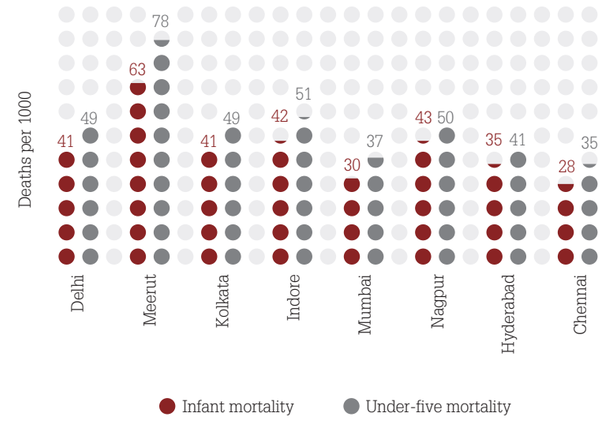


Table **2** Child Population in the age group 0–6 years by sex, India
SOURCE: Provisional Population Totals of Census 2011

Child Population in the age group 0 – 6 years | 2011

	Male	Female	Person
India	8,29,52,135	7,58,37,152	15,87,89,287
Uttar Pradesh	15,653,175	14,075,060	29,728,235
Bihar	9,615,280	8,966,949	18,582,229
Maharashtra	6,822,262	6,026,113	12,848,375
Madhya Pradesh	5,516,957	5,031,338	10,548,295
Rajasthan	5,580,212	4,924,704	10,504,916
West Bengal	5,187,264	4,925,335	10,112,599
Andhra Pradesh	4,448,330	4,194,356	8,642,686
Gujarat	3,974,286	3,519,890	7,494,176

Lack of access to safe drinking water, poor hygiene and sanitation are major causes of intestinal disease and infections, which worsen the condition of malnutrition

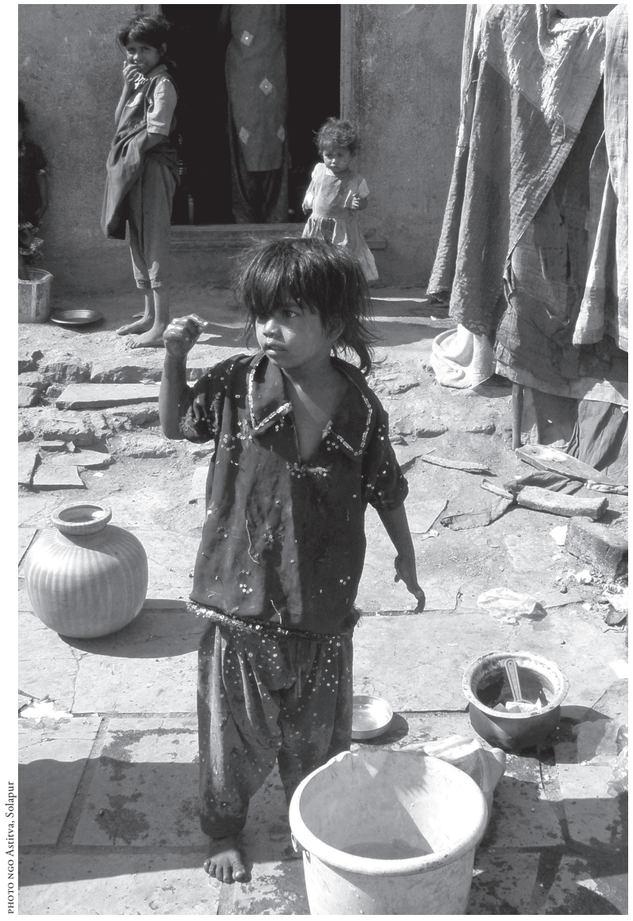


PHOTO KGO Astitva, Solapur

The worst affected by under nutrition are girls **48.9%** as compared to boys **45.5%**

The World Bank Report 2005 states significant nutrition inequalities across states and socio-economic groups

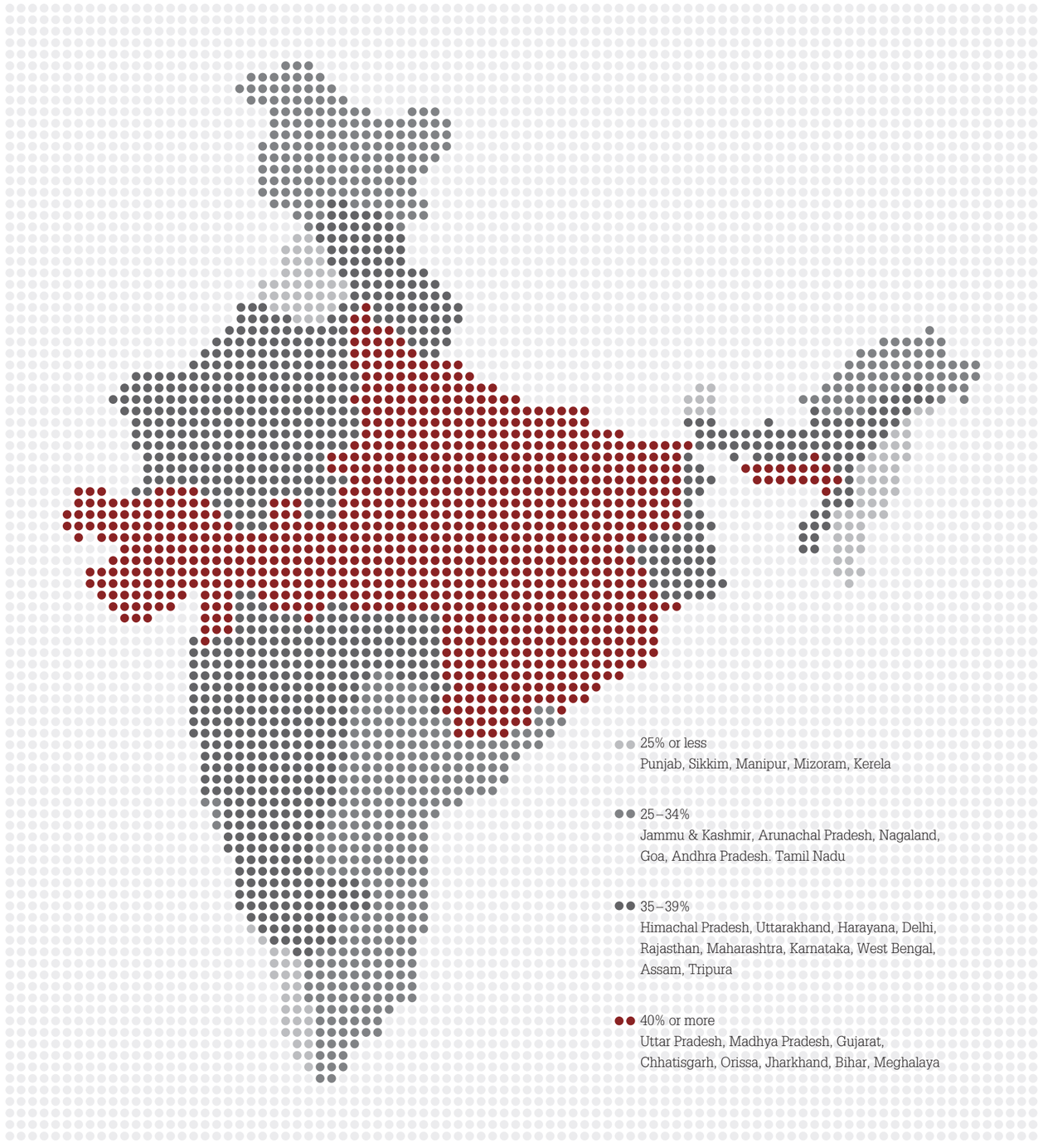
SOURCE: World Bank Report 2005

60%

Indian women, irrespective of class, are anaemic

Figure 4 Percentage of children under five years who are underweight

SOURCE: Nutrition in India, August 2009, Ministry of Health and Family Welfare, Government of India, National Family Health Survey 2005–06. *http://pdf.usaid.gov/pdf_docs/PNADQ632.pdf*



45,000

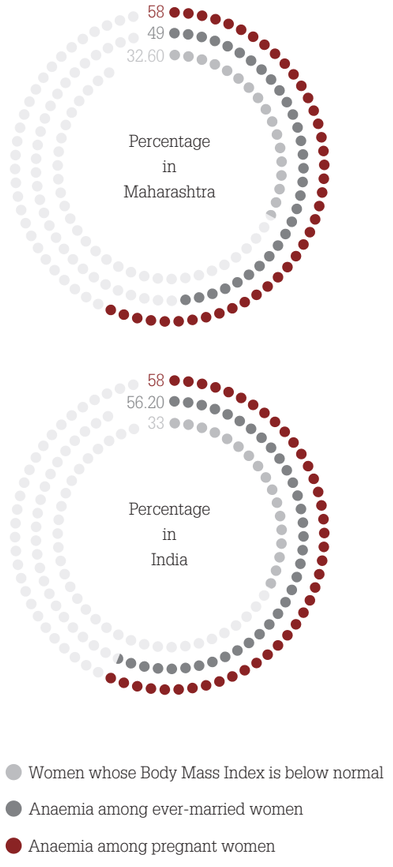
child deaths per year in Maharashtra due to malnutrition

Out of the 2,850 annual maternal deaths in the State, 480 are also attributed to malnutrition

SOURCE: NFHS–3, 2005–06

Figure 5 Women and mother's nutrition for India and Maharashtra

SOURCE: National Family Health Survey (NFHS–3) data on women and mother's nutrition for India and Maharashtra. Nutritional Crisis in Maharashtra, SATHI Report 2009



the country's burden of disease. It is associated with about half of all child deaths and more than half of the deaths from major diseases such as malaria (57 percent); diarrhoea (61 percent), pneumonia (52 percent) as well as deaths from measles (45 percent).

Six Indian states account for almost 43 percent of all underweight children. They are Maharashtra, Orissa, Bihar, Madhya Pradesh, Uttar Pradesh and Rajasthan. According to the India Hunger Index, 2010, twelve states fall under the 'alarming' category and one state, Madhya Pradesh, falls under the 'extremely alarming' category. Meanwhile twelve other states fall in the 'serious' category.

The World Bank reports significant nutrition inequalities across states and socio-economic groups. The worst affected by under nutrition are girls (48.9 percent), as compared to boys (45.5 percent); rural areas 50 percent (urban 38 percent). Amongst the poorest 60 percent – scheduled tribes (56.2 percent) and castes (53.2 percent) are worst affected by the inequalities as compared to other castes (44.1 percent).

Studies quoted in the World Bank Report 2005 show that both calorie excess and poor dietary quality are features of urbanisation and migration, especially amongst the poor, who buy highly refined, energy-dense food, while the better-off can afford a healthier diet.[6] Therefore the existence of a double burden (under nourishment and obesity) poses a big challenge. According to World Bank estimates, malnutrition costs India at least US $10 billion annually in terms of lost productivity, illness and death.[7]

Maharashtra Indices

The most telling indices on malnutrition come from the nation's economic powerhouse of Maharashtra. Widespread malnutrition amongst children and adults is one of the indicators of the inequitable distribution of wealth in the state. The problem of under-nutrition is not only restricted to low income districts. Even Mumbai, the city with the greatest amount of wealth in the country has more under nourished children under-five years than in urban Maharashtra as a whole.[8] The tribal areas of Melghat in Amravati district, Nandurbar and Thane are infamous for malnutrition related deaths of children.

Figure **6** By the age of two, most of the damage has been done

SOURCE: World Bank Report: August 2005, *India's Undernourished Children, a call for reform and action*: Health, nutrition and population

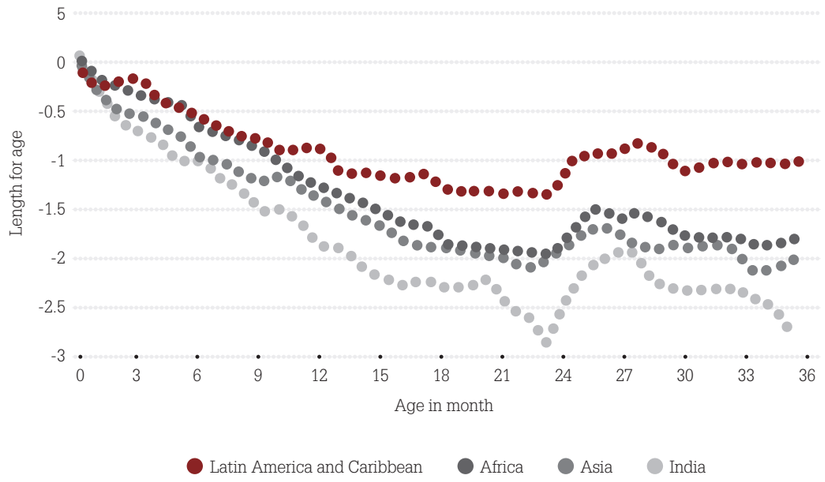
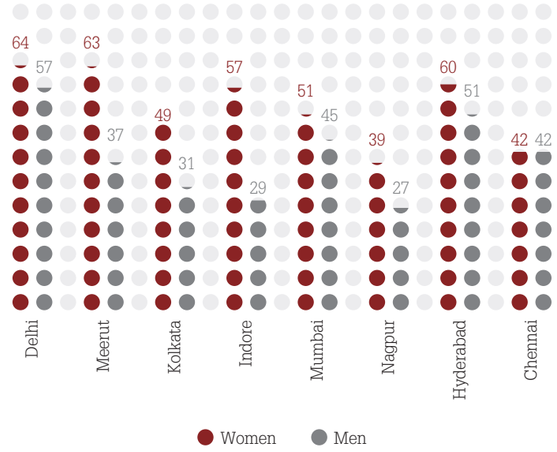


Figure **7** Percentage of women and men who are migrants in selected cities, India 2005–06

SOURCE: Health and living conditions in eight Indian cities, August 2009. Ministry of Health and Social Welfare



Need for health and nutrition programmes for children out of school

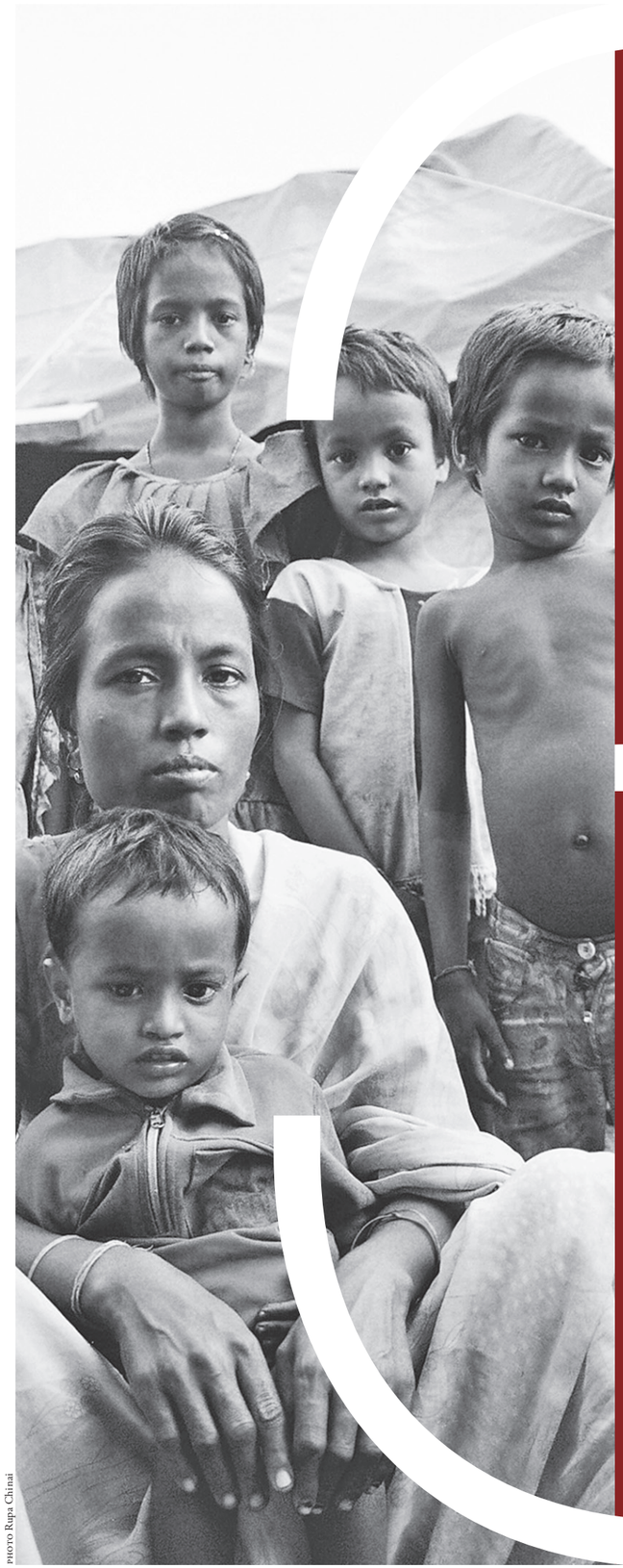
PHOTO NGO Astitva, Solapur

The NFHS has found over half of children in this state are suffering from acute and chronic under-nutrition. While empirical data shows that malnutrition is the underlying cause of approximately 53 percent of under-five mortality in developing countries, this translates to 45,000 child deaths per year in Maharashtra. Meanwhile, of the 2,850 annual maternal deaths in the State, 480 are also attributed to malnutrition.[9]

Questions raised in the December 2011 Maharashtra Assembly session revealed that 65 infants are dying daily in the State, with 13,683 deaths occurring between January to September 2011. According to the Maharashtra Minister for Women and Child Development out of 17,688 deaths, 13,683 were in the 0-1 age group, raising questions about the abysmal nutrition status of mother's. (According to official figures around 7.4 lakh births were recorded during this corresponding period).

Women in Maharashtra – between 50 to 70 percent – suffer from a high prevalence of anaemia.[10] This is of significance because anaemia is one of the leading causes of maternal mortality and affects foetal development. Almost three-quarters of pregnant women are anaemic, out of which 40 percent have severe anaemia.[11]

Prime Minister Manmohan Singh has called for a multi-sector response in bringing down malnutrition levels. He says the recently released Hunger and Malnutrition Report, 2011, indicates that the government's intervention programmes in 100 vulnerable districts in six states are on the right tracks as they have helped to improve the weight of 20 percent of children there. These interventions concentrate on raising the mother's education levels; economic status of the family, sanitation and hygiene; status of women in the family; breast feeding and other aspects of child rearing. Despite this, the Prime Minister admitted, the finding of 42 percent children in the surveyed areas being underweight is an "unacceptably high occurrence".



Government response: The missing linkages

The Indian government response to combating malnutrition is to put in place a nationwide, free, food security programme for malnourished children, pregnant and lactating mothers – the largest of its kind in the world. It also offers subsidised access to food grains through the public distribution system for targeted households identified as living Below Poverty Line (BPL); it attempts to tackle the lack of purchasing power through a mass rural employment scheme and is seeking to improve access to health services.

Although such programmes have now been in place for over 30 years they have not been able to reduce malnutrition in any state. Even as the country's granaries overflow with bumper harvests and high levels of economic growth are achieved, the numbers of malnourished continue to expand. Children under five years of age are paying the heaviest price with high mortality and morbidity where malnutrition is the underlying cause.

The government's main flagship programmes to tackle malnutrition are: The Integrated Child Development Services (ICDS); Mid Day Meal in Schools (MDMS), the Targeted Public Distribution System's (TPDS) Antyodaya programme for BPL families; the National Rural Employment Guarantee Scheme and the National Rural Health Mission. While seeking to offer free food programme for children, along with health and education, these interventions also aim to provide access to subsidised rations for the poorest through fair price shops and facilitate purchasing power through rural employment schemes.

An examination of these programmes shows some major gaps in implementation, experts allege. There is also a failure to understand the key linkages that need to be in place, to ensure a comprehensive and efficient impact.

Nutrition and child care services

The Integrated Child Development Services (ICDS), implemented nationwide since 1975, and the Mid Day Meal Scheme launched in 1995 are amongst the largest free feeding programmes in the world. The 2011–12 budget for the Government of India's women and child development programme was Rs.12,733 crores. The allocation for ICDS, the government's main weapon against child malnutrition, was Rs 9,294 crores, increased from Rs 3,326 crores in 2005–06. Initially implemented in a few states, it was universalised in 2005 following Supreme Court orders.[12]

The ICDS programme is conducted from an anganwadi centre in rural villages and urban slum pockets, with a work force of nearly 1.2 million anganwadi workers or sevikas.[13] ICDS offers a package of services: It is required to provide supplementary nutrition and run a pre-primary school for children between three to six years. It also delivers food to children between six months and two years of age, who remain at home; and to pregnant and lactating mothers, who additionally receive health education.

The main task of the anganwadi is to provide supplementary nutrition and monitor the growth of all children up to six years of age within its programme area

The main task of the anganwadi however, is to monitor the growth of all children up to six years of age within its programme area and to provide special feeding care to those found to be malnourished. Those children who fall below a standardized weight for their age are graded on a scale of one to four for malnutrition.

PHOTO Rupa Chinai

PHOTO Manisha Kande

Pre-primary education needs to be strengthned at AWC

While grades one and two imply mild to moderate malnutrition, three and four indicate serious and severe levels of malnutrition respectively.

These four categories of graded children are given a daily cooked meal – a handful of khichdi (rice and dal), amounting to 300 calories and 8–10 grams of proteins. In Maharashtra for instance, the Department of Women and Child Welfare prescribed Rs 2 per day, per child till year 2009. Severely malnourished children, pregnant and lactating mothers/adolescent girls were prescribed Rs 2.70 and Rs 2.30 respectively per day before April 2009, the Supreme Court ordered that expenditure be increased to Rs 4 and Rs 5 respectively.

The government's focus on rescuing children who are in the stage of 'Severe Acute Malnutrition' (Grade 3 and 4), is often too late. Additional food offered at this stage cannot be absorbed by the body and is rejected through vomiting and diarrhoea. The child is also then vulnerable to infections and succumbs to secondary causes such as diarrhoea or measles. Thus government interventions should have started much earlier, when the child was in the stage of 'mild' to 'moderate' malnutrition (Grade 1 and 2).

This segment of children, termed as 'mild to moderately malnourished', sees 74 percent of malnutrition-related deaths. In Maharashtra this translates to an estimated 33,300 excess deaths per year. Such children are doubly at risk of dying from infections, even when they are in the so-called early stages of malnutrition. They are not given the attention they deserve in government feeding programmes. The programme has to stop normalizing 'mild and moderate' malnutrition, say health experts.[14]

Table 3 Range of services provided by the Integrated Child Development Services (ICDS) to children and women

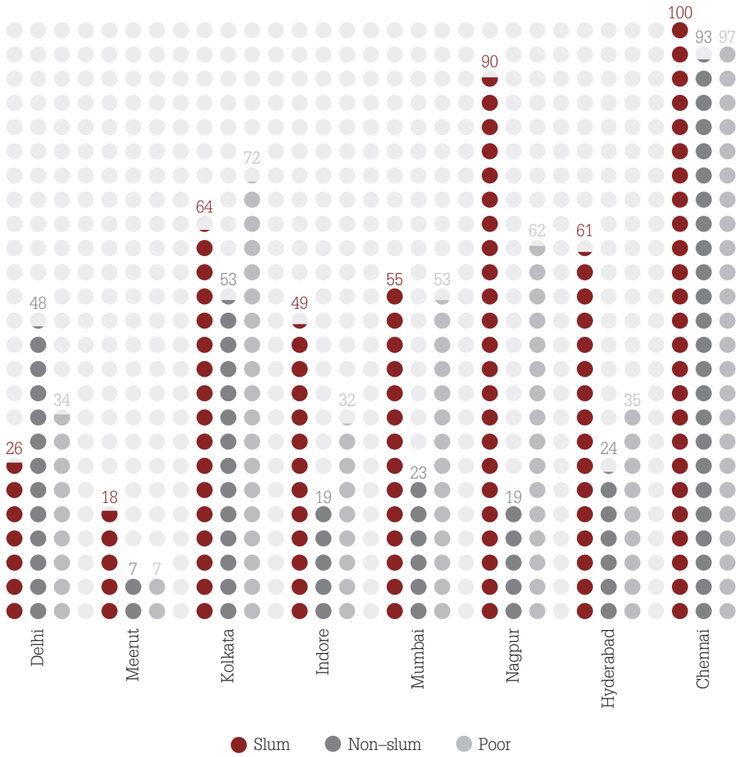
SOURCE: DWCD 2004. World Bank Report: August 2005, *India's Undernourished Children, a call for reform and action*: Health, nutrition and population

	Children under 6	Pregnant women	Lactating women
Health check–ups and treatment	Health check–ups by AWW (Anganwadi workers), ANM (Auxiliary Nurse Midwife), LHW(Lady Health Worker), treatment of diarrhea, deworming, basic treatment of minor ailments, referral of more severe illnesses	Antenatal check–ups	Postnatal check–ups
Growth–monitoring	Monthly weighing of under–threes, quarterly weighing of 3–6 year olds, weight recorded on growth cards		
Immunization	Immunization against poliomyelitis, diphtheria, pertussis, tetanus, tuberculosis and measles	Tetanus toxoid immunization	
Micronutrient supplementation	IFA (Iron Folic Acid) and Vitamin A supplementation for malnourished children	IFA supplementation	
Health and nutrition education		Advice includes infant feeding practices, child care and development, utilization of health services, family planning and sanitation	Advice includes infant feeding practices, child care and development, utilization of health services, family planning and sanitation
Supplementary nutrition	Hot meal or ready–to–eat snack providing 300 calories and 8–10 g protein, double rations for malnourished children	Hot meal or ready–to–eat snack providing 500 calories and 20–25g protein	Hot meal or ready–to–eat snack providing 500 calories and 20–25g protein
Preschool education	Early Childhood Care and Preschool Education (ECCE) consisting of "early stimulation" of under–threes and education "through the medium of play" for children aged 3–6 years		

NOTE: In practice, not all of these services are necessarily provided at every Anganwadi Centre

Figure **8** Percentage of children age 0–71 months in areas covered by an anganwadi centre in slum/non slum areas

SOURCE (FIGURES 8 & 9): Health and living conditions in eight Indian cities: August 2009, Ministry of Health and Family Welfare (GOI)



Experts further say the true figures on neonatal and child malnutrition have long been suppressed because of an insidious government practise of chasing targets. The anganwadi worker is penalized if children within her jurisdiction fall within grade three and four of malnutrition. This has led to a serious problem of under-reporting and suppression of the reality. "There is thousand percent certainty of under-reporting in Maharashtra's tribal areas", says Dr. Abhay Shukla, a Maharashtra-based health researcher.

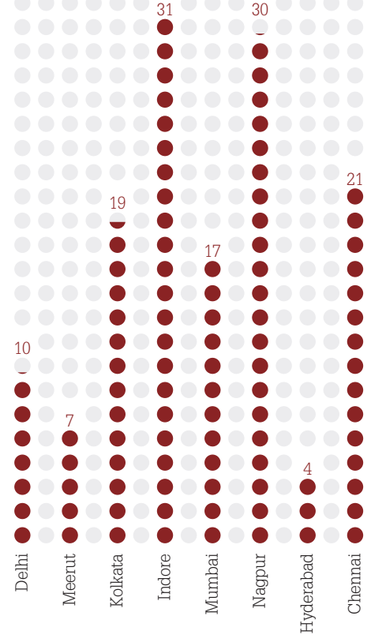
Many senior administration officials (sometimes) deny that underlying malnutrition is linked to death caused by illnesses such as diarrhoea or respiratory infections. They also argue that the community does not face malnutrition because it is consuming an adequate amount of calories.

Maternal under-nutrition and low birth weight babies meanwhile, go hand in hand. India's high neonatal mortality rate, occurring in the age group zero to six months, implies inability of the breast feeding mother to support the infant.

Several cultural and social factors contribute to maternal under-nutrition. A widespread cultural practice of pregnant women not being fed an adequate diet due to food taboos leads to the birth of small babies. This, along with women's involvement in hard agriculture labour during pregnancy contributes to the high prevalence of low birth weight babies in Maharashtra. With both parents struggling to survive as daily wage labourers, these infants are often left at home in the care of family elders who themselves need care, or with older siblings, and are often neglected.

In order to ensure the survival of newborn babies who depend on the mother's breast milk in the first six months of life, the government must ensure that its supplementary nutrition programme reaches pregnant and lactating mothers. Unfortunately there is a sizeable gap between those who are beneficiaries of the supplementary nutrition programme and those left uncovered by it. ICDS data for Maharashtra in 2010 reveals that while there are 10.20 lakhs pregnant and lactating women who avail of the supplementary nutrition programme in Maharashtra, there are still 2.76 lakhs who do not have access to it.[15]

Figure **9** Percentage of who received any service from an anganwadi centre in select cities, India 2005–06



An average Indian baby weighs about 2.8 kgs (2,800 gms). Babies weighing less than 2,000 gms (2 kg) need special neonatal care. Compared to a normal birth weight baby, infant mortality rates are about twelve times higher in babies weighing less than 2,500 gms. Breast feeding and a healthy diet after weaning enable such babies the best start they can get in life. Without that such babies are more vulnerable to diabetes and cardiovascular diseases in adulthood.

Maharashtra's neonatal mortality rate (death within first 28 days of life) is 26 per 1,000 live births.[16] This means that 48,000 babies cannot survive beyond the first month of life. While accurate estimates of low birth weight in Maharashtra are not readily available, the State government's data on low birth weight infants in 2002–03 shows that 38 percent of babies weighed less than 2,500 grams.[17] In Mumbai, the proportion of babies with low birth weight is 40 percent, nearly double the national average, according to the Mumbai Human Development Report 2009, prepared by the Ministry of Urban Housing and Poverty Alleviation.

Tackling under-nutrition during pregnancy is often too late. Interventions for education and supplementary food have to start with the girl child and continue during her adolescent years so that she can be a healthy mother when she becomes pregnant.

Adolescent girls in Maharashtra show high levels of anaemia (58–64 percent), according to the National Nutrition Monitoring Bureau (2005–06). The Government of Maharashtra however, has no programme of reaching adolescent girls with health and nutrition education or supplementary food. Studies indicate that the onset of menarche is delayed

2.76

lakh pregnant and lactating women don't have access to the supplementary nutrition programme in Maharashtra

ICDS data for Maharashtra in 2010 reveals that while there are 10.20 lakhs pregnant and lactating women who avail of the supplementary nutrition programme in Maharashtra

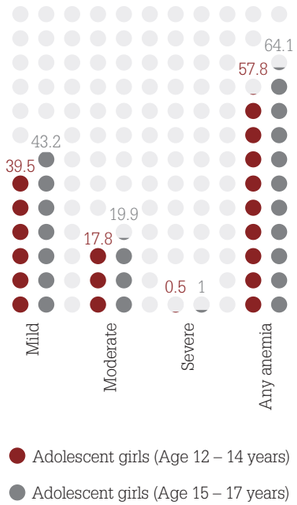
SOURCE: http://icds.gov.in/html/MAR_APR_2010_Mar_2011/MPR_Aug_2010_htm

PHOTO Anjali Kanitkar

Married adolescent girls in Mokhada, need more programs of reaching them with health education and supplementary food

Figure **10** Prevalence of anaemia among adolescent girls in Maharashtra

SOURCE: National Nutrition Monitoring Board 2006. Nutritional Crisis in Maharashtra, SATHI Report 2009



by an average of two years in undernourished girls, as is the adolescent height spurt. In developing countries, adolescents need higher iron-rich food because of infections like malaria and hookworm, which contribute to anaemia and affect absorption of iron.

A key to preventing high mortality rates amongst infants is to ensure that mothers are educated about simple child caring practices: All children 0–6 months should be exclusively breastfed, ideally for the first six months after birth. All their nutrition requirement is met from breast milk during this period.[18] Studies show this holds true even for babies of undernourished mothers.[19] This finding is significant because it reveals that maternal food shortage need not lead to undernourishment in infants under six months.

Data from NFHS–3 related to breastfeeding in Maharashtra, shows that only 53 percent of infants below six months of age were exclusively breastfed. Others were given either plain water or other milk, in addition to the breast milk. This not only compromises

nutritional intake but makes the infant vulnerable to illness. After six months of exclusive breast feeding, WHO (2009) recommends the introduction of complementary feeding along with breast feeding which should continue up to two years.

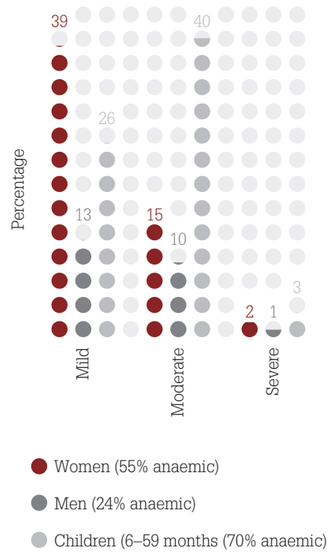
In Maharashtra, according to NFHS–3, more than half of children above six months of age, were (also) not offered complementary foods (solid, mashed foods like banana; fresh vegetables mixed in rice, lentils, a dab of ghee (fat). Equally important to note is the health message that the colostrum, a yellowish, watery liquid, which comes with breast milk in the first hour after birth, is a vital, immunity building gift of the mother to the child and must not be discarded.

Government indifference to the ICDS programme in Maharashtra is evident from the poor infrastructure and coverage of the anganwadi centres. A little more than half of the state (57.4 percent) is covered by ICDS, which is less than the national average of 72.4 percent. Up to 73.54 percent children staying in areas covered by an anganwadi do not get supplementary nutrition. The anganwadi functions irregularly; lacks infrastructure, suffers from delayed payments and key staff vacancies (20–30 percent). Evidence shows that even UP and Bihar, the so-called backward states have done better than Maharashtra. Consequently, in many areas, women and children have to travel long distances to avail of health or nutrition services.[20]

A typical ICDS monthly report in March 2009 in Maharashtra, shows that only about 56 percent of children in the 0–6 age group were of normal weight and about 44 percent were malnourished, with 9,888 suffering from severe malnutrition of Grade 3 and 4. If this is the state of 8.3 million children in Maharashtra who are beneficiaries of ICDS growth monitoring, what is the state of those children who are not benefitting from ICDS services, experts ask?

Figure **11** Prevalence of anaemia amongst children, women and men

SOURCE: National Family Health Survey (NFHS–3)



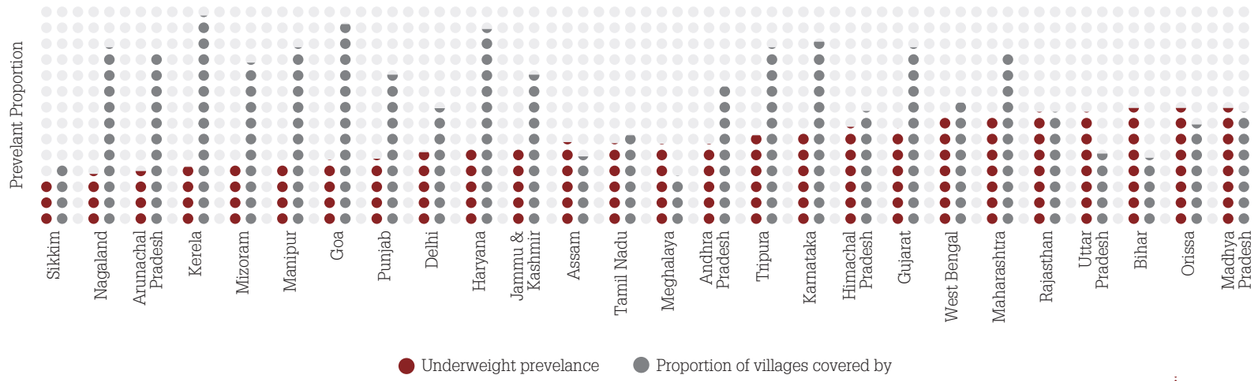
School feeding programme

Meanwhile, the Mid Day Meal Scheme seeks to raise school attendance by providing cooked hot meals. In 2011–12 the Central Government allocated Rs 10,380 crores for this programme, which accounts for 32 percent of its total allocation for the elementary education programme. Cooking costs are shared between the Centre and State on a 75:25 sharing pattern. Maharashtra's spending at Rs 2.08 per day, per child, in 2009–10 ranks it the lowest amongst states and way below the prescribed norm. In comparison Tamil Nadu spent Rs 4.77, UP Rs 4.20, Punjab and Rajashtan Rs 3.08 in the same year.[21]

Maharashtra collects a nutrition cess running into millions of rupees, drawn from bus tickets and professional taxes. The BEST bus service in Mumbai carries over six million passengers daily and State Transport also caters to huge numbers, but the government is not transparent about how it utilises

Figure **12** Relationship between the proportion of villages covered by Integrated Child Development Services (ICDS) and underweight prevalence, by state, 1998–99

SOURCE: Underweight prevalence calculated from NFHS–2; villages covered calculated from NFHS–2 data in Das Gupta et al, 2005. (World Bank Report: August 2005, India's undernourished children, a call for reform and action)



this nutrition cess paid by passengers. A 'Right to Information' application forced the government to reveal that from April 1975 to July 2006, the State collected Rs 357 crores as surcharge on BEST tickets, but offered no response on how it is used.

When asked in a State Assembly session in 2007 as to how this nutrition cess is being used the Minister for Finance replied that since 1973, Rs 2017 crores had been used on nutrition schemes for children in the age group 0–6, pregnant women and new mothers. Newspaper reports quote some Maharashtra MLA's as saying that the State puts the cess in a consolidated fund which is used to pay its share of central schemes. In this way the original intended beneficiaries do not get the benefit from this cess, they held.[22]

Under the Mid Day Meal scheme, children in all government primary schools in Maharashtra are entitled to khichdi of 100 grams per day and the scheme is supposed to run for 200 days in a year. Since 2008, the scheme has been extended to cover upper primary class students in backward blocks of 10 districts of Maharashtra (Nandurbar, Gadchiroli, Nanded, Hingoli, Parbhani, Jalna, Nasik, Thane, Beed and Kolhapur).

The Maharashtra State government's budgetary data reveals that 11.688 million children are enrolled in primary education in Maharashtra, but about 14 percent of the students are still excluded from the Mid Day Meal Scheme. There are at least 3,842 primary education institutions which do not provide this meal to their schools. The scheme also does not address the food security of about one lakh children who do not attend school.[23]

Meanwhile the Maharashtra government biggest failing lies in its failure to lift grains to the districts, despite consistent allocations from the Centre. For instance in 2006–07, as much as 91.5 percent of grains did not reach the districts. Data since 2003 shows a consistent under-utilization of grain allotments. Almost one-third of grains allotted to

₹2.08

per day, per child meal spending cost in Maharashtra is the lowest amongst states and way below the prescribed norm till March 2009

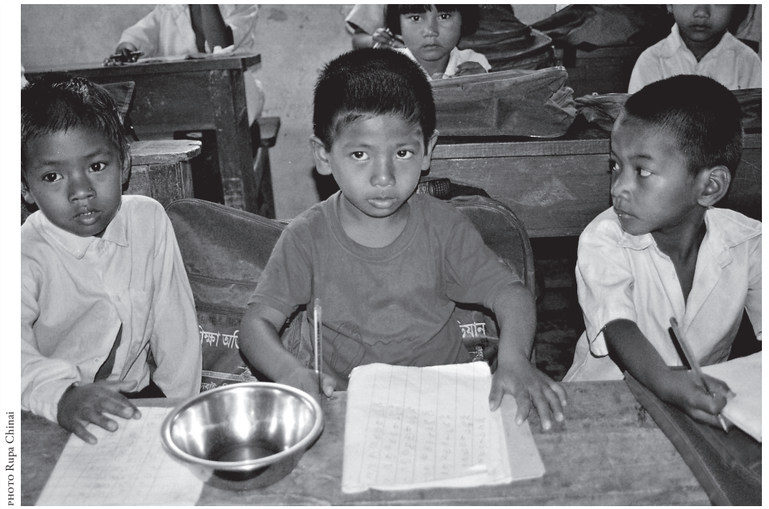
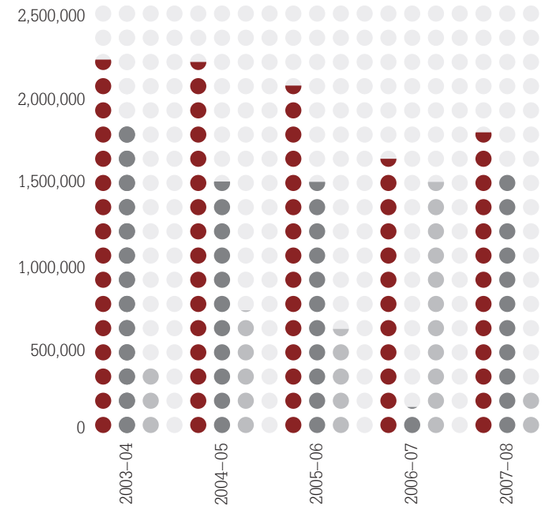


PHOTO Rupa Chinai

The government's focus on rescuing children in the stage of 'Severe Acute Malnutrition' (Grade 3 & 4), is often too late

PHOTO Anjali Kamlekar

Figure **13** Year wise allocation and pick up of food grains for Mid Day Meal (MDM) scheme in Maharashtra
SOURCE: Budget documents of Food and Civil Supplies Department 2007–08.
Nutritional Crisis in Maharashtra, SATHI Report 2009



the State were not picked up and the scheme has been under-performing. Consequently the Centre has been reducing its allocations by almost 4 to 6 lakh quintals in the last 4–5 years, says Mahesh Kamble, Chairperson, Jamsetji Tata Centre for Disaster Management, Tata Institute of Social Sciences, Mumbai.

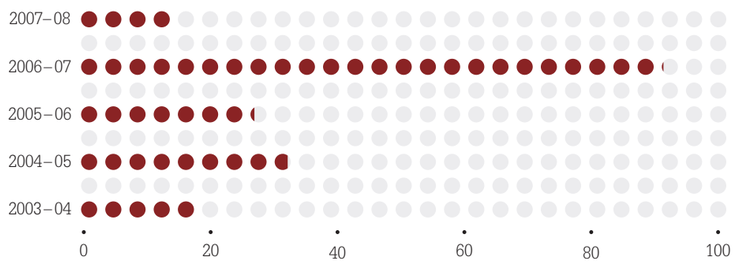
Similar to the pattern of under-utilized grains is the under-utilisation of funds. The Department of School Education reveals that in 2006–07, the State contributed Rs 980 million to the Mid Day Meal (MDM) scheme and received about Rs 2,000 million from the Central Government, making a total fund availability of Rs 2,980 million. Out of this, only Rs 2,830 million was spent, while Rs 150 million was unutilized. The scheme which ran for 200 days, covered 92,58,736 beneficiaries and spent Rs 45,328.13 lakhs. The expenditure thus translates into Rs 489 per annum or Rs 2.44 per meal per child.[24]

OPPOSITE PAGE: BOTTOM Consistent availability of healthy food prevents malnutrition

Targeted Public Distribution System (TPDS)

Originally started in the 1960s and revamped in 1992 the TPDS offers subsidized services to a population of Below Poverty Line (BPL) families across the country. In 2002 the Antyodaya programme, attached to PDS, was launched to reach the 'poorest of poor'. The system aims to ensure control over rising prices of essential commodities and combat hunger by providing the poor a secure supply of grains, sugar, kerosene, tea, salt, pulses and soap, through fair price shops at a subsidized price.

Figure **14** Percentage of food not reaching Mid Day Meal (MDM) scheme
SOURCE: Nutritional Crisis in Maharashtra, SATHI Report 2009



At present there are 2 lakh extremely poor families in Maharashtra that are not yet identified and are deprived of their entitlement for heavily subsidized food grains

According to Mr. Kamble the present policy approach of TPDS is to reach BPL households with an income less than Rs 15,000 a year – but the reality is different. Contrary to its claim, its effort in fact, is towards minimizing food entitlements. The norms set for identifying who is a BPL family is shocking and frivolous and serves to drive millions of poor out of the TPDS, Mr. Kamble says.

For instance, village level officials are given set targets on how many families can be defined as falling below poverty line. They follow an arbitrary method of deciding who is poor and deserving of help. This faulty approach ends up leaving a large number of genuinely poor people out of the PDS, particularly in the urban slums, rural and tribal areas. While launching campaigns to weed out bogus ration card holders, the system has not replaced those removed with those who are eligible.

Migrants, nomads and commercial sex workers – at highest risk of malnutrition – have suffered the greatest vulnerability because they cannot provide proof of residence or get past many hurdles placed in the ration card application procedure. Obtaining a 'character certificate' from the police, the high cost of obtaining a computerized card, are some of the major deterrents.

This approach violates a May 2003 order passed by the Supreme Court of India that every eligible person receives the benefit of government schemes, irrespective of quotas or any other limitations put in place by the government.

The approach of excluding the genuinely poor ignores ground reality. The tribal people, for instance, are affected by a combination of factors: land alienation, denial of traditional access to forest resources, non-implementation of schemes meant for tribal welfare.

Thus they are not able to earn enough money to purchase their share of PDS rations, let alone supplies from the open market. Likewise, within the general population, incomes in at least 30 percent of households across the country are so low, that even if they spent 70 percent of it on food, their nutrition needs would not be met, experts say.

Studies reveal that at present there are two lakh extremely poor families in Maharashtra who are not yet identified and are deprived of their entitlement for heavily subsidized food grains. In Mumbai, only 1 percent of the population is considered to be BPL, despite rising food costs, inflation, huge number of people in the streets, homeless and unorganized labour.[25]

The National Sample Survey Organization report (2004–05) reveals some critical facts: Overall, almost one-fifth of households in rural and one-fourth households in urban areas do not have any ration card. In Maharashtra, one in every four or five households is excluded from the PDS. Amongst the urban 'poorest of poor' families, (those with a monthly per capita of less than Rs 335) one in every three households do not have a ration card and less than two percent have an 'Antyodaya' card. The situation is worse in rural areas where amongst the 'poorest of poor' families, one-quarter do not possess a ration card. Amongst the scheduled castes and tribes – amongst the worst sufferers of malnutrition and most marginalized in the state – only 17 percent and five percent respectively, have an Antyodaya card.

Meanwhile, the state administration's failure to lift food stocks sent by the Centre and deliver it to the districts and blocks is the cause of artificial shortages at the village level fair price shops. Conditions in these shops are further bedevilled by problems of corruption; lack of accountability and diversion of stocks by corrupt contractors, who work with the blessing of administration officials and politicians. With large stocks unutilized by the State at year end, the Centre is resorting to cutting down on its supplies in the subsequent year.

PHOTO Rupa Chinai
Regular employment enables people to buy food from open market

Although the TPDS states on paper that it will deliver 35 kg of grains per household, the actual amount received by an eligible household is only around 25 kg per household, per month, Mr. Kamble reports.

While the National Family Welfare Scheme estimates the food grain requirement of one person to be an average 12 kg per month (12.85 kg in rural areas and 10 kg in urban areas), the TPDS policy claim of offering 35 kg of grain per household is in any case, too low. Going by the NFHS norms, this amount can barely cover half a month's ration needs for an average family of five persons.

Employment and purchasing power

Rural communities, particularly tribal societies, need round-the-year employment schemes through which they can find the purchasing power to buy food from the PDS-run fair price shops.

The Employment Guarantee Scheme (EGS) run by the state governments could gear itself to raising

Amongst the scheduled castes and tribes – amongst the worst sufferers of malnutrition and most marginalized in the state – only 17% and 5% respectively, have an Antyodaya card

productivity by giving small farmers employment on their own land by levelling slopes, creating channels for rain water harvesting and irrigation which in turn will improve crop yield. Taxes amounting to around Rs.100 crores, raised from Maharashtra's organised sector, for instance, are meant to support the unorganised sector, but much of this money is diverted elsewhere. In most areas, on an average, the EGS barely provides a few days of work to an individual.

Meanwhile, the Union government's flagship rural job guarantee programme, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2005, promises 100 days of work every year to at least one member of every rural household. The law also entitles job-seekers to receive an allowance if the state government fails to provide them with work within 15 days of applying.

Data compiled by the Union rural develop ministry, which oversees the programme nationwide, reports that unemployment allowance is due for over 1.4 million man-days across all the states this year but none of this has been paid by any state so far. The same conditions prevailed in the previous fiscal year. S. L. Rao, former director general of the National Council of Applied Economic Research describes this non-performance as "callousness" and "incompetence".[26]

In Maharashtra, the higher wages paid by NREGA has led to some agriculture lobbies seeking to undermine faith in this programme. NREGAS wages is forcing them to follow suit and cut into their profits. The State records reveal delayed payment of wages (from three months to a year) and non-implementation of unemployment allowance.

With employment closely linked to agriculture labour in Maharashtra, recent years have highlighted how the move towards cash crop cultivation not only subjects communities to the vagaries of distant markets, but also undermines the nutrition security of households. A focus on cash wages for agriculture labour does not automatically translate into more food for the household.

Earlier, when mung would be the main kharif crop, a part of the wage would be paid in kind. Being an excellent source of nutrition, the receipt of mung was a boon to women and children as it could not be easily purchased because of its high cost in the open market. With the shift to cash wages it is the male who decides priorities for its use, and often that does not include the nutrition needs of women and children. More often than not, it is spent on alcohol.

And while NREGA is meant to provide short-term relief to a rural population trying to ward off starvation during the critical months when work is not readily available, long term measures of poverty alleviation reveal many intentions but little in terms of action.

Along with increased rations and supplementary nutrition, key factors that will break the stranglehold of poverty are increased employment opportunities and sustainable farming, say experts. Employment schemes, particularly for women, will enable

Figure **15** Growth of urban population in India

SOURCE (FIGURE 16 & 17): Figures 1.1 and 2.1: Health and living conditions in eight Indian cities. August 2009. Ministry of Health and Family Welfare, Government of India

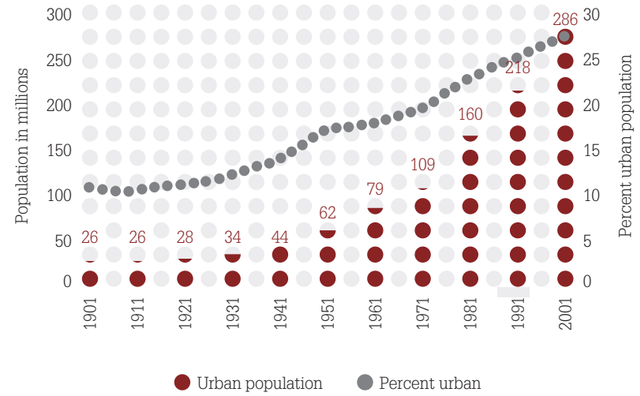
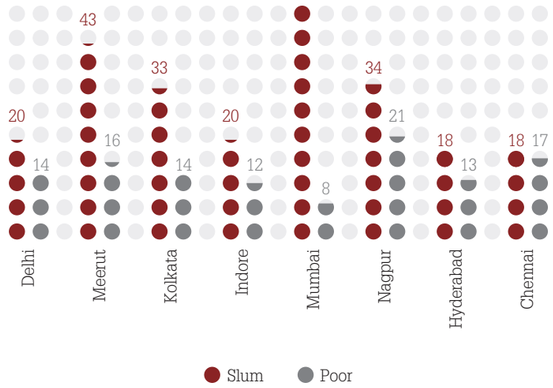


Figure **16** Proportion of slum households and poor households in selected Indian cities. India, 2005–06



purchasing power to buy food, while sustainable farming, which requires minimal use of water, will allow at least two crops a year and development of kitchen gardens. Maharashtra's irrigation meanwhile – around 15 percent – is way below the national average of 38 percent.[27]

Health Services

At the time of Indian Independence, the Bhore Committee envisaged a health plan for the country, based on a strong foundation of a primary health base that delivers comprehensive care. It envisaged

PHOTO: Rupa Chinai

50%

of Indian children, who suffer severe deficits in weight and height, are also in this crisis because of food deprivation

National Food Security Bill 2011 endeavours to address the food crisis

Table 4 Utilization of grains (wheat and rice) under the category of Below Poverty Line (BPL) in Maharashtra
SOURCE: Nutritional Crisis in Maharashtra, SATHI Report 2009

Year	Amount received from GoI	Amount distributed to local	Amount picked by district from storage centres	Off take (Amount purchased thru FPSs)	Amount not reaching beneficiaries	Percentage reaching beneficiaries
2004–05	2,100,969	2,097,029	1,790,717	1,728,106	372,863	82.25
2005–06	1,912,776	1,912,776	1,619,133	1,636,183	276,593	85.54
2006–07	1,883,762	1,883,762	1,557,950	1,528,124	355,638	81.12
2007–08	1,784,133	Data missing	1,372,694	1,436,412	347,721	80.51

that the lowest and most crucial rung would be a cadre of locally trained village health workers, who would provide simple curative and preventive services, actively supported by a primary health centre manned by a doctor and medical staff. The more complex cases would be referred to the rural and district hospital while the urban based medical hospital would focus on more complicated cases and training of medical personnel. Ignoring this prescription, policy planners have focused on a highly technology oriented and top down medical approach that has left vast segments of our population unable to access health care.

Advised by Western donors and 'experts' the Government has lurched from one 'stand alone' vertical programme to the next – moving from malaria to family planning to blindness to leprosy to TB to reproductive health to HIV/AIDS – while ignoring the community's need for comprehensive health services and counselling under one roof.

This approach has proved that in the absence of a strong primary health care base at ground level, there is no way of implementing any programme. In vast swathes of the country, primary health centres remain mere shells, lacking trained medical staff, essential medicines and any linkage with the community.

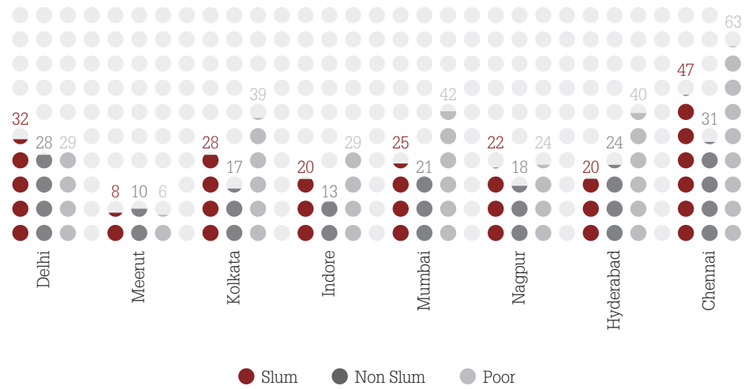
The National Rural Health Mission launched in 2005, with a special focus on women and children and the creation of a strong cadre of trained village level health workers, attempts to bridge the gap. But until the country invests in the strengthening of its primary health base; training and motivation of its human resources, every such programme will have no legs to stand upon and money spent will be water down the drain.

With decreasing government commitment to public health care, the country's poor are left in the clutches of a rapacious private sector. Out of pocket payment for medical expenditure is having a severe impact on households hampering their ability to buy nutritious food or invest in the education of their children.

National Food Security Bill 2011

Currently awaiting approval of the Indian Parliament, the National Food Security Bill, is yet another effort to deal with the crisis facing an estimated 200 million food-insecure people in India. The Bill proposes coverage of 75 percent of the rural population, with atleast 46 percent in the "priority group". In the urban areas it will cover a population of 50 percent, with at least 28 percent in the "priority group". This would ensure a legal right to 7 kg of food grains per person per month for "priority" households at Rs 3, 2, 1 per kg

Figure 17 Percentage of households using public health facilities for slums/non slum areas and the poorest quantile in selected cities. India 2005–06
SOURCE: Health and living conditions in eight Indian cities, August 2009. Ministry of Health and Family Welfare, Government of India



There is an absence of a strong primary health care base at ground level

of rice, wheat and coarse grain respectively. "General" households, meanwhile, will receive 3 kg per person, per month, at half the Minimum Support Price.

The Bill further offers welfare measures such as maternity benefit of Rs 1,000 per month for six months to pregnant women and lactating mothers. It also promises free or affordable meals to destitute homes and the disaster-affected; nutritional meals for children up to 14 years.[28] As per the Bill, the government is set to require about 60.74 million tonnes of foodgrains, as against an average annual procurement of 44.95 million tonnes during the 11-year period of 2,000–01 to 2010–11. On the fiscal expenditure front, the Bill is likely to entail food subsidy expenditure to the tune of Rs 94,973 crore per annum as against the estimated Rs 67,310 crore during 2010–11.[29]

While many see this Bill as a step forward in government commitment to ensuring welfare of the poor, critics say the huge gaps, loopholes and anomalies in the existing schemes for food procurement, storage, identification of the beneficiaries and delivery system will have to be first addressed. More than new schemes, existing schemes need improved governance and attention.

For instance, the Bill offers 7 kg of food grains per person, but it still falls short of the 12 kg norm set by the National Family Welfare Scheme. The Bill's continued cereal-calorie centred offering, demonstrates no understanding of how a person's need for balanced nutrition (that meets the unseen hunger for micro-nutrients) is to be met. Without comprehensive and long term strategies to deal with this most serious of India's hidden crisis, this Bill will end up being yet another populist measure that amounts to more money pouring down a black hole, say health experts.


Food security should be a fundamental right

The way forward clearly lie in a slew of agriculture and economic policy measures that enable small farmers to grow a variety of nutritious food; that enable communities to become locally self-sufficient and have the purchasing power to meet their basic needs for household food security, education and health.

In January 2012, Prime Minister Manmohan Singh said that the 'National Council on India's Nutrition Challenges' proposes to launch a strengthened and restructured ICDS. It will also start a multi-sector programme for 200 high burden districts that are vulnerable to malnutrition. He further spoke of a nation-wide communication campaign against malnutrition and bringing national focus on key programmes of agriculture development; research and development in agriculture; Public Distribution System (PDS) and the Mid Day Meal (MDM) programme amongst others.

National consultation of experts: Addressing malnutrition in India

India's data states that children below five years pay a heavy price. If we care to look at it with a proper mindset, it is telling us why it is the country with the highest number of neonatal deaths in the developing world; why its children under five years of age suffer from mortality and illness far worse than the poorest of sub-Saharan African countries. For long its policy makers have denied the underlying cause of mortality and morbidity – widespread malnutrition – and its response, after reluctant acknowledgement, is marked by poor commitment and a failure to connect the linkages.

Evidence shows that damage from malnutrition occurs either when the child is in the womb, because of the malnourished status of the mother; or in the first two years of life because of poor child care and nutrition, compounded by the lack of awareness and poverty of the parents.

Experts in health and nutrition point to the helplessness at ground level over nutrition programmes that offer a bowl of khichdi (rice and dal). How can any programme be successful with such embarrassingly meagre and monotonous food, they ask? Tracing the history of "bad science' that has distorted India's response to what is nutrition, they say it has resulted in an over emphasis on cereals and nothing else to retain nutritive balance. They highlight the glaring anomalies in identifying who is malnourished and the inability of the health and nutrition programmes to offer a response that is timely and adequate.

Malnourished status of the mother causes damage to the child either in the mother's womb or in the first two years of birth

These experts in health and nutrition as also NGOs working at the grassroots, met at a consultative workshop in early September 2011, the second in a series, to pool in expertise and debate on what can be done to offer a comprehensive response to India's malnutrition crisis. Initiated by the Narotam Sekhsaria Foundation, a Mumbai-based funding agency that works in health, education and livelihood, the workshop sought to offer guidelines to funders, policy makers and civil society organisations, on their role in countering malnutrition.

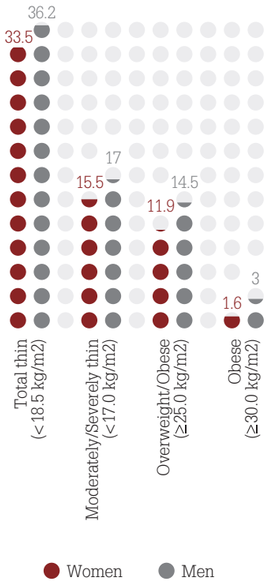
Drawing linkages between malnutrition and overall development goals, the experts say the evidence from Maharashtra, for instance, manifests a pattern of "predatory growth" being followed in India at the state and national level, which is perpetuating massive social inequalities, lack of purchasing power and under-nutrition. Development policies based on supply of exploitative labour, cheap agricultural products and minimal living standards are ensuring maximum profits for a few while denying the most basic human need of all – the right of access to nutritive food.

The workshop emphasised the need for local food security where food is not treated as a commodity but a fundamental right. It also stressed national food sovereignty that protects and sustains rural and urban livelihoods. This would mean re-examination of existing policies related to domestic food policy, especially related to the food industry and micro-nutrient production. At present Indian agriculture overwhelmingly promotes production of cash crops that are subject to the vagaries of distant markets, while destroying the nutrition security of millions of poor and farming families in India.

The experts also called for a special focus on reaching malnourished children below two years of age as also the adolescent girl child. They sought strong

PHOTO FMR

Figure **18** Percentage of men and women (age 15–49 years) in Maharashtra with specific Body Mass Index levels
SOURCE: National Family Health Survey (NHFS–3), 2005–06. Nutritional Crisis in Maharashtra, SATHI Report 2009



government commitment to improving existing programmes for health, nutrition, education and employment, ensuring convergence and ability to meet the needs of people at every stage of their life cycle. Drawing from the small-scale experience of NGOs working in some of the most deprived areas of Maharashtra, the workshop provided insights on the way forward.

Calling for a stop to "bad science" that has long dominated nutrition policy in India, Veena Shatrugna, former Deputy Director, National Institute of Nutrition, Hyderabad, says "we need to put food back into the child nutrition programme". The government's efforts to combat India's malnutrition crisis is focused on providing cereals, in the belief that the body only

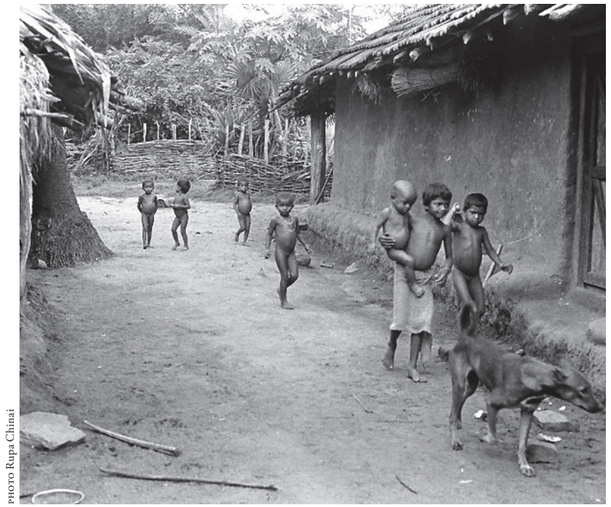


PHOTO Rupa Chinai

Children under five years of age suffer from mortality and illness far worse than the poorest of Sub-Saharan African countries

needs calories – energy rich foods – to grow and survive. This erroneous thinking is severely damaging the health of India's poor who are slipping deeper into a nutrition crisis, she warns.

Historically, India presents an example of what can go wrong when 'experts' cross their academic disciplines and draw interpretations from narrowly focused scientific studies, Dr. Shatrugna says. In the absence of a broad reading and understanding of the wider issue, these experts fail to read the small print on scientific studies and make erroneous recommendations. The consequence of this approach, seen over the past 60 years in India, is the serious compromise of metabolic function and rising indices of malnutrition. Children's bodies are shrinking in height and weight, to cope with the severe food deficiency they suffer.

According to Dr. Shatrugna about 33 percent of men and 36 percent of women have a Body Mass Index (BMI) below 18.5 in India, while 7 percent have BMI below 16.0. BMI is a measure of weight for height and any figure below 18.5 is considered to be unacceptable. A BMI below 16.0 is not even seen in Sub-Saharan Africa, she says.

Meanwhile, according to the WHO, almost 50 percent of Indian children, who suffer severe deficits in weight and height, are also in this crisis because of food deprivation.

The anomalies in interpreting what is right nutrition go back to the years of the British Raj. In 1937 British experts analyzed and gave nutritive value to over 300 foods, classifying them under calories, proteins, carbohydrates, fats etc.[30] It was recognized by then that some foods like cereals (rice, wheat), potatoes, sugar, are a concentrated source of calories, but most other foods contain multiple nutrients such as proteins, vitamins and minerals, along with calories.

During the Second World War in the 1940's, the colonial government created a man-made famine by diverting food to the war front and causing a dire food shortage in India, including the 'great Bengal famine'. Reflecting the "great confidence of science", Dr. Shatrugna says nutrition experts at that time came up with their first book on 'The Nutritive value of

Synthetic food supplements are inadequate to combat nutrient deficiencies

Indian foods and the planning of satisfactory diets'. This speaks of the calorie requirements of different populations – classified into sedentary, moderate and heavy workers, based on the nature of their work and activity. The text clearly stated that "....it is important to plan a diet which first provides foods rich in vitamins, minerals, proteins, iron and other nutrients and then fill the calorie gap with cereals, potatoes, sugar etc".

This basic rule was however, quickly forgotten by the colonial masters as also subsequent governments in Independent India. From the late 1940's onwards to date, government food programmes focussing on cereals, are justified as being high in calories, cheap and a good source of energy for the poor. "There was no pause to consider the non-cereal portion of the diet which provides most of the essential nutrients in requisite amounts", Dr. Shatrugna says.

During the late 60s, when famine affected some parts of the country, many "giants" in nutrition claimed that if people eat enough calories, they get to consume sufficient protein – tissue, muscle and bone building nutrients – as well. But such 'macro' food sources do not provide the 'micro' nutrients – vitamins and minerals – which contain enzymes needed for physiological function of the body. In planning diets the first requirement is proteins, fats, minerals and vitamins. The need for carbohydrate rich foods that fulfil energy requirements follows thereafter.

"The planners and scientists, with their own Nehruvian tryst with destiny, were in a hurry and ignored the small print in the studies. Indians lost the rights to food, lost the war even before it started. It was their own government – which looked up to science more than the people they governed – that had taken away this right, scientifically", Dr. Shatrugna says.

The dietary recommendations of the planners, meanwhile emphasised vegetarian food and homogeneity for the whole nation, overlooking the varied cultural and regional differences across the country, where many eat animal meat. It also overlooked the question of how many Indians can bring balance to their daily diet when they cannot afford to buy dal and the two or three vegetables needed to accompany their rice or roti.

Foisting a diet based on a laboratory understanding of nutrition, the government's public food support programmes and its agriculture policies have thus

PHOTO Rupa Chinai

Children need variety of food, not mere calories but vitamins and minerals

condemned the poor to eat a monotonous daily diet of cereals that are of limited nutrition value.

Coming from the upper caste and class, these planners overlooked the fact that their own children ate a balanced diet rich in a variety of fresh vegetables, fruits, milk and its products, nuts, sprouts, seeds, apart from cereals. They did not conceive a reality where the poor only ate a cereal with chillies and tamarind water. A diet consisting of bajra roti and chutney has calories and fibre. But if foods rich in proteins and vitamins are not included in the diet, the calories merely get converted into fat.

A cereal based diet takes no account of the special needs of growing children, pregnant and lactating women. Children for instance, have small stomachs and seek to eat a variety of food in small quantities through the day. A sesame seed ladoo of around 250 grams could be a highly nutritive meal in itself for a child. But India's Integrated Child Development Scheme (ICDS) only offers one meal of 'khichdi' (rice and dal) every day, without variation.

Even during the 1960's top nutritionists failed to reflect on how poor children could sustain themselves on a diet of mere cereals. Even if a child ate cereals for the whole day it would not get adequate calories from such a diet.

"By then it was well known that children needed fat in their diet and that was why many middle class mothers added a small dollop of ghee to their children's daily diet. These children were also offered variety through fruit, egg and milk. The children of the poor however had to make do with low cost, scientific choices and not crave any of these foods, as a sacrifice to the nation", Dr. Shatrugna says.

As a result of this over-emphasis on calories India's poor now face a massive inadequacy of minerals and vitamins leading to the diagnosis of "micro-nutrient deficiencies". This has given rise to the lobbies that argue endlessly over macro or micro nutrients. Taking advantage of this scenario is the multi-million dollar micronutrient industry that vociferously lobbies to sell its pre-packaged, ready-to-eat foods, vitamin tablets, fortified or genetically modified foods, amongst others chemical-laden products, to the government food programme for malnourished children.

Synthetic Supplements

Instead of focusing on improving household diets with a basket of nutritious foods like green leafy vegetables, seasonal fruits, sprouts, nuts and seeds, not just wheat and rice, the government programmes are increasingly looking at quick technology fix solutions to under-nutrition. But experts say synthetically produced, single nutrient fortification of food, vitamin tablets, or ready-to-eat packaged foods cannot combat overall macro and micro nutrient deficiencies and can even cause harm.

For instance, unsupervised mass pumping of vitamin-A tablets along with polio immunisation, especially amongst malnourished or sick children, is known to cause fatalities. In a mass campaign where the object is to achieve targets and "capture" children, such supervision is scarce and fatalities will occur, leading to an erosion of faith in government sponsored programmes.

The tendency towards 'quick fix solutions' is evident in government's encouragement to industry to fortify cereals with synthetically produced iron and zinc. In Gujarat for instance, wheat flour is being fortified with iron, despite the fact that wheat is rich in phytates which inhibit iron absorption. (Phytates are phosphorus compounds found primarily in cereal grains, legumes and nuts. They bind with minerals such as iron, calcium and zinc and interfere with iron absorption). Furthermore, the marketing of fortified wheat flour is pushing small enterprises such as chhakis (small flour mills) out of business.

India's rich biodiversity provides a gold mine at our doorstep. Today one-third of its fruits and vegetables perish for lack of facilities to preserve and conserve them

"Micro-nutrient fortification of our food is going to create a nutrition mess and the body will face a new range of burdens and problems. It will foreclose any attempts to improve the diets of children, both qualitative and quantitative", Dr. Shatrugna warns. While such measures may be warranted in short-term crisis situations, it is not normal and the bulk of our efforts must be geared towards the long-term goal of putting enough of real food on the plates of our poor, she says.

NGOs at the workshop criticized the Maharashtra government programme of purchasing corporate produced, 'ready to eat' packaged foods for children in the ICDS programme, describing it as a "blinkered approach" without any positive impact. This programme has been challenged in a writ petition filed with the Mumbai High Court. While the State wastes large amounts of money in procuring such foodstuff of questionable value, tribal families have no taste for it. Neither has anyone shown them how to add value to it. There are other localized, cheaper and more nutritive methods of ensuring that poor households get access to food, they say.

Studies meanwhile show that green vegetables and fruits contain 40–50 bio-active chemicals which have a very important role in the prevention of diseases like cancer and in arresting degenerative processes. It is not just satisfaction of hunger that we have to talk of, but nutrition education and nutrition security through locally grown, fresh food. Such natural foods provide a more effective and cheaper source of folic acid, vitamin C, iron or calcium. The promotion of local kitchen gardens and large-scale food-based programmes that boost production and consumption of fruits and vegetables, needs financial and infrastructure support.

India's rich biodiversity provides a gold mine at our doorstep. Today one-third of its fruits and vegetables perish for lack of facilities to preserve and conserve them. Development of agro industries could provide enormous income generation capacity for village women. The NFHS shows high levels of anaemia in states like Punjab or Haryana where the focus of agriculture is rice and wheat. The difference is evident in Himachal Pradesh, where anaemia rates are lower because of the plentiful fruits and vegetables grown there, and are a part of the local diet.

The emphasis on small scale agro-industries in villages could focus on the production of 'dehydrated leaf powder' (from alpha/beta-carotene rich sources such as spinach and drumstick leaves). Pilot studies indicate its feasibility and demonstrate their good nutritive value and acceptance in the community. These products, from natural, indigenous sources, produced by local labour, could be used to "fortify" food offered to millions of children through the ongoing national supplementary feeding programme, nutritionists suggest.

A study of nutrition gardening through scientific intervention and community participation in Narsapur Mandal, Medak district of Andhra Pradesh[31] emphasizes dark green leafy vegetables, yellow-orange fruits and vegetables and vitamin C rich fruits. Various methods were used to sensitise the community to the value of this approach in their domestic and economic life. At the end of six years, up to 90 percent of households had seen the health value this programme has for their children, and were growing these foods. Women farmers here are responding to diversification from water-intensive paddy and sugarcane cultivation to nutritionally relevant horticulture after receiving training and support, the study reports.

The 'life cycle approach'

In tackling malnutrition, public policy needs to take a comprehensive, 'life cycle approach'. This means taking care of specific individual needs during different stages of a person's life – childhood, adolescence, adulthood and old age. Such an approach can start at any stage, but children under three years of age and adolescent girls present the two main 'windows of opportunity'. On both counts it would be an investment in the health of future generations.

"Health and nutrition cannot be treated separately", says Dr. Armida Fernandez, former Dean of Lokmanya Tilak Municipal General (LTMG) Hospital, Mumbai. "Malnutrition can lead to infections and death. In medical terms 75 percent of child deaths are due to low birth weight, but the underlying cause of under-nourished and anaemic mothers cannot be separated. While respiratory illnesses or diarrhoea are the commonest preoccupations of health management, here too, the underlying cause of malnutrition is not addressed. Malnutrition starts in the 0–2 year age group, but they are not within the focus of our attention," she says.

In addressing the underlying causes of malnutrition there is need to understand the linkages between policies related to nutrition, health, agriculture and development. This would enable a comprehensive intervention programme, as against the current piecemeal approach.

India's health indices show that even as the country bears a heavy burden of infectious diseases there is now a double burden coming from chronic illnesses like cardio-vascular disease or cancer, which cuts across all economic classes. Studies highlight the vital role of a healthy diet – increased fruit and vegetable intake – in boosting the body's natural immune response and regression of disease.

The demand for increased fruit and vegetable intake calls for policy interventions over the coming two decades. Nutritionists say that agricultural policy will have to facilitate diversification and release land presently under cultivation of cereals like rice and wheat, or cash crops, to make it available for cultivation of fruits and vegetables that meet the nutrition needs of households.

PHOTO Rupa Chinai

A life cycle approach in health and nutrition programmes

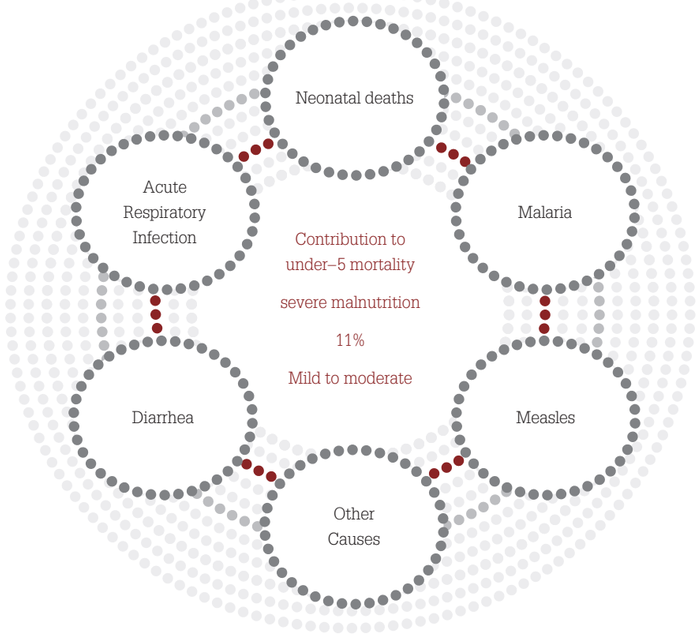
Development models that support nutrition

In order to achieve such nutrition goals, India has to question what kind of development we want, says Abhay Shukla, coordinator of SATHI (Support for Advocacy and Training to Health Initiatives). Will it be the Gujarat, Maharashtra, Haryana kind of growth model – which is taking away land from small farmers for the benefit of the real estate corporations – while demonstrating some of the worst malnutrition indices in the country, he asks. People who already live in a subsistence economy are in dire straits if their land is taken away from them. They are left with no means to combat malnutrition.

"Malnutrition is centrally linked to our development policies", says Dr. Shukla. "High growth rates or high

Figure **19** Poor nutrition as a contributing factor to under-five mortality

SOURCE: Pg 14: Nutrition in India, August 2009, Ministry of Health and Family Welfare, Government of India. National Family Health Survey – 3, India 2005–06



average per capita income does not automatically translate into better nutrition indices for the entire population. There is something deeply wrong in the current model of development that is promoting urbanisation and industrial growth through cheap labour. It is on this account that all our prescriptions to counter malnutrition are going way off the mark".

PHOTO Rupa Chinai

Crèches – a way to combat malnutrition

"India is in an era of 'predatory growth', where a section of the population 'grows' at the cost of another large section which is 'stunted' and whose income and food intake remains compressed" says Dr. Shukla. "This malnutrition is not a residue of development; it is a structural product of the present model of development", he says.

Malnutrition is not only pervasive in the rural and tribal areas of Maharashtra but it is also entrenched in cities like Mumbai, amongst its pavement and slum dwellers, its migrant and unorganized labour, its minority communities.

Meanwhile, there are successful models like Tamilnadu or Kerala in the south and north-east tribal states like Mizoram and Nagaland (despite their subsistence economy) which have the lowest rates of malnutrition in the country. Some important features in their success story are for instance, social solidarity within these communities, which is making things work. Community owned land and forests have assured equitable and free access to a diversified diet. The state has facilitated redistribution of land and its resources, to support livelihood and nutrition protection. Communities have also involved themselves in large scale public action to ensure implementation of development programmes.

Convergence of programmes

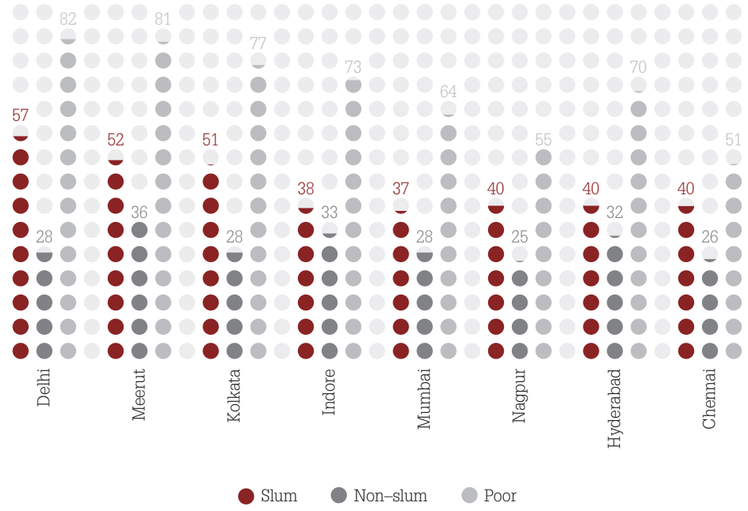
Stressing the need to bridge the current gaps between policy and programmes, Dr. Vandana Prasad, National Convenor, Public Health Resource Network, says there has been a lot of discourse on nutrition but it has not translated into action on the ground. The specific needs of children do not even find mention in the proposed 'Food Security Act', a draft legislation being currently debated by Parliament. The National Commission for Protection of Child Rights (initiated in March 2007, under the Commission for Protection of Child Rights Act, 2005 by Parliament) has an inadequate coverage of policies related to child health and nutrition, she adds.

Pointing to the poor links between the government's programmes for health and nutrition, Dr. Prasad says the Anganwadi worker under ICDS, the Auxilliary Nurse Midwife (ANM) from the primary health centre; the village-based Accredited Social Health Activist (ASHA) worker under National Rural Health Mission (NRHM) – all need to sit down in one room and work out their separate roles as also areas of convergence.

A key role of these community based workers is educating mothers about simple child caring practices such as exclusive breast feeding until the child is six months; the need to start complementary food at six months, in addition to breast milk which should continue until the child is two years; the immunity

Figure **20** Women with no education or less than five years of education by slum/non slum areas and the poorest quartile in select Indian cities, 2005–06

SOURCE: Figure 2.11: Health and living conditions in eight Indian cities, August 2009, Ministry of Health and Family Welfare, Government of India



building qualities of colostrums, which comes with the first breast milk. All such efforts would have an across the board impact on overall well being and health.

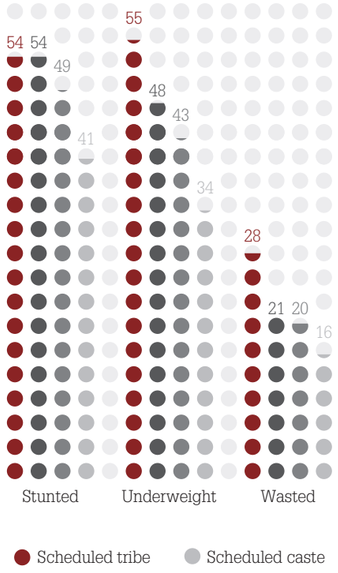
A comprehensive approach to malnutrition would also need to draw in the sectors of education and civil food supply. It is essential that all these programmes work in consonance, for one without the other will not work. It is equally important that these care giving agencies maintain a link with the household and seeks interaction with the community.

While the government has to invest in the training and motivation of its manpower, civil society groups can facilitate the training and implementation process by drawing from their small-scale but valuable experience in the field, to replicate it on a wider scale. It could also help to facilitate the link with the community, whose involvement in the monitoring of entitlements for malnourished children is crucial. Meanwhile, instead of buying corporate-made ready-to-eat packaged food for under-3 year old infants, government programmes need to involve community women in preparing rations from locally available ingredients, experts say.

Case studies in tackling malnutrition in Maharashtra

The workshop examined three case studies of Maharashtra based NGOs working in Melghat, a tribal area of Amrawati district; and two other tribal districts of Gadchiroli and Thane. These highlight the abysmal social and economic conditions of tribal communities in Maharashtra – a familiar litany of early marriages; malnourished mothers; low-birth-weight babies; no complementary feeding; poor health infrastructure; unfilled vacancies in government programmes; poor

Figure **21** Stunting, wasting and underweight among children under five years by caste and tribe.
SOURCE: p. 24: Nutrition in India, August 2009, Ministry of Health and Family Welfare, Government of India, National Family Health Survey (NHFS–3), India 2005–06



transport and road facilities; no safe water; high drop-out rate in schools; poor quantity and quality of food intake; ignorance of health and nutrition (90 percent); unhygienic living conditions and feeding practices (eating without washing hands); infertile land; habits of tobacco and alcoholism; unemployment leading to lack of purchasing power, amongst other aspects.

Highlighting key insights gained, the NGOs say anganwadis should be kept open for the whole day so that working mothers can come at their convenient time to collect food for the infants back home. Apart from the need to serve a variety of nutritious food in the school and anganwadi meals, children and adolescents must access a healthy variety of low cost and locally prepared 'munchies' that they can keep in their pockets and eat when hungry. There is need for a village-based crèche that would take care of infants while their parents work.

While nutrition support is essential, long term strategies focusing on local nutrition security through improved agriculture, augmentation of water sources and employment through schemes such as National Rural Employment Guarantee Act (NREGA), would provide a way out of poverty and dependency. It would

Seasonal migration

PHOTO NGO Astitva, Solapur

PHOTOS Rupa Chinai

Capacity building of CHWs is key to reducing child mortality and morbidity

TOP LEFT TO RIGHT: TOP LEFT Community health workers. TOP RIGHT Home based care

also help to reverse the migration to cities during the critical months of food scarcity.

They spoke of the need to push for community forest gardens and household kitchen gardens, enabling tribal communities to augment their food with fruits and vegetables; the need to develop saleable skills and markets that would generate cash flow for households. For instance, production of medicinal plants in a scientific manner can be a special area of tribal expertise.

The negative attitude of government agriculture officers towards tribal society has been a stumbling block, says Anjali Kanitkar who heads Mumbai's College of Social Work, Nirmala Niketan's outreach programme in Thane district. The tribal community there showed what it is capable of when, with NGO help, they started to export okra to London, causing these officials to rethink their attitude. The indifferent implementation of all government programmes in the tribal areas has prevented tribal society from developing its skills and knowledge base which would enable independent survival. It is not so much an issue of money as the need for help in knowing how to utilize their resources for the growth of their community, she says.

Local sources of nutrition

Speaking of the inherent wisdom in tribal culture Dr. Satish Gogulwar, founder of the Gadchiroli district based NGO, Amhi Amchya Arogyasathi, says they have sought to reinforce that knowledge in tackling malnutrition. Traditionally tribal society has access to many nutritious sources of food based on collection of fruits, flowers and leaves from the forests. The mahua flower for instance, widely used amongst the central Indian tribal society is rich in iron, calcium, phosphorus. They make a sweet dish from this flower as also alcohol, which in its pure form, is more nutritious, and less damaging than other types of alcohol. Their hand pounded rice is also more nutrition laden than the polished varieties.

Dr. Gogulwar says, has sought to create awareness of the high nutrition value of these traditional products and supported its increased production and sale through self-help groups. Such food items have

Green vegetables and fruits contain 40–50 bio-active chemicals which have a very important role in the prevention of diseases like cancer and in arresting degenerative processes

also been introduced in the meals provided at two anganwadis supervised by their NGO. When compared to the height and weight of children in another anganwadi that does not include such a diet, their children showed improved height and weight.

Community involvement

Despite Melghat being the focus of media attention and government programmes to prevent malnutrition deaths since the mid-1990's, adult and child malnutrition is still high in tribal society here. Amongst adults there is 34 percent malnutrition, along with a high incidence of hyper tension and heart disease. Child deaths in Melghat are dominated by the neonatal age group (54 percent) and malnutrition rates are also very high. There is widespread recurrent infections of diarrhoea and pneumonia; growth retardation; anaemia, says Dr. Ashish Satav from MAHAN, has been working in Melghat since 1998.

MAHAN initiated an innovative counsellor programme appointing local tribal youth in all government hospitals of Melghat. This has facilitated interaction between the patients and the doctors, leading to an improved quality of care while challenging corruption and vested interest within the system. Many more pregnant women and malnourished children are seeking hospital services due to its remaining open 24 hours. Better quality of food; availability of drugs; access through referral transport and a friendly attitude of the hospital staff have helped to create confidence in hospital services.

The NGO has taught nutritious cooking with local foods to the tribal people and facilitated the development of kitchen gardens from waste water. Tribal village health workers have been trained to provide home-based care, focusing on nutrition education, personal hygiene, ante natal and post natal care, growth monitoring of babies. Households have been taught to prepare 'oral rehydration therapy' to reduce dehydration deaths caused by diarrhoea. Regular meetings have helped to create community involvement in health programmes.

Over the past five years home based care provided by locally trained health workers has helped bring a 60 percent reduction in under-five child mortality in their project villages, as also decline in the incidence of diarrhoea and measles, and malnutrition. Their interventions have also helped reduce mortality (35 percent) in the age group 16–60; as also maternal mortality (60 percent), says Dr. Satav.

Kitchen gardens

Supporting the expansion of kitchen gardens in Melghat is the main focus of the Mumbai-based Foundation for Medical Research (FMR) and The Foundation for Research in Community Health (FRCH). Given the absence of land in many villages, the tribal communities are encouraged to plant climbers on their rooftop, using indigenous varieties of vegetables and fruits that are rich in iron and other nutrients. The focus on local varieties of plants is with a view to encourage its household consumption rather than sale. A programme of kitchen gardens however, cannot stand alone and need to be linked to availability of water, sanitation and hygiene, which also impact health, says Tannaz Birdi, Deputy Director, Foundation for Medical Research (FMR). A key learning, Ms. Birdi says, is that while food and nutrition are vital issues for the tribal people, the results of such intervention programmes are not going to be immediately apparent. Meanwhile, promotion of locally available nutrition solutions is important. Talking about milk or groundnut which is not seen is these parts, has little meaning.

Malnutrition in these parts has been so rampant that tribal people equate it with hunger – if they get a plate of rice, they are happy – and hence do not easily grasp the concept of nutrition, says Ms. Birdi. They tend to sell vegetables they grow because their priority is access to cash for basic needs. There is need to introduce variety in the tribal plate, that has long survived on merely dal and rice throughout the year. They need awareness of the local plants, rich in vitamins, which

Need to reinforce the use of traditionally grown nutritious food

can be added to their diet. There is also a need to create awareness of appropriate weaning habits. Many children have been fed only breast milk for up to three years without introduction of complementary feeding beyond six months. It is for this reason that malnutrition sets in, she says.

Workshop recommendations

Public health experts and NGOs attending the consultation on malnutrition have made the following recommendations on the way forward:

A nutrition basket

There is an urgent need to augment the food basket delivered through the government's food security programmes. Apart from cereals, meals should contain a variety of nutritive foods that are fresh, cheap and locally available.

Goa presents a rare example of how states can serve wholesome nutrition through the ICDS programme. In 2008, it was providing a rich fare of ragi (finger millet, sprouted and roasted), gram flour (ground chick peas), groundnut, jaggery (unrefined sugar), dried green peas, mung (sprouted beans), rice and ghee (clarified butter). Packets of dry supplementary food prepared by anganwadis were delivered to homes of all pregnant and lactating mothers and also to infants from six months to two years of age.

The mid-morning snack for children attending the Goa anganwadi, cooked by the anganwadi helper, revealed a weekly menu consisting of sprouted mung usal (mung bean curry), misi roti (a Rajasthani bread

photo Rupa Chinai

Availability of nutritious food

Access to health and nutrition services

Appropriate food according to local culture and tradition

Affordability of food

A concerted effort in these directions can only contest the food crisis in India!

cooked with cornmeal and spinach), rice idlis (rice and dal steamed cake), ladoos (sweets made from peanuts, jaggery and chickpea flour).

Some other innovative approaches taken by the Goa government include starting of a nutrition education camp for adolescent girls, including school drop-outs and young women in the age group 14–45. Here they are taught the importance of nutritious food along with cooking demonstrations with an emphasis on low cost, locally available foods and a stress on salad recipes. At these camps issues such as relationship problems are discussed and vocational training skills related to tailoring, catering and craft are taught.

Such comprehensive approaches towards nutrition knowledge, confidence building and improved purchasing power through skills building of young women are vital to the new health challenges Indians face.

Developing country studies show that when the foetus cannot draw upon the nutrition pool of the mother, it is susceptible to diseases in adulthood. A lot can be done to improve birth weight through proper diet and education of the mother, along with obstetric care. But the mother's nutrition status has to be built up during her adolescent years for interventions made during pregnancy come too late. Hence it is important that the adolescent girl child is nutritionally protected, so that she can be a healthy woman and mother, equipped to take care of her family.

No chemical, industrial additive, genetically modified, or fortified or therapeutic food should be introduced in the health and public food programmes. Every effort must go towards obtaining food that is fresh, wholesome and locally available. This should be encouraged through the growth of kitchen gardens and agriculture policies that provide water, promote horticulture and vegetable cultivation for local consumption.

Reforms in ICDS

The Integrated Child Development Services programme has a key role in reaching out to the under-3 year old infants who are at home and presently beyond the reach of their programme. It is vital that the anganwadi worker monitors the growth and health of this age group by regularly checking their weight, height and other parameters to ensure growth. She must also ensure that these children receive nourishing, complementary food, along with breast feeding from the mother, at the appropriate time.

Instead of its current 'fire-fighting' approach to rescue severely malnourished children (Grade 3 and 4), the ICDS needs to pay equal attention to all under-nourished children. Children termed as mild or moderately malnourished (Grade 1 and 2) need additional nutrition support, while those in grade 3 and 4 need medical intervention.

Involvement of 'Self Help Groups' from within the community to cook hot meals supplied to the ICDS and Mid Day Meal scheme would generate employment and ensure quality care for the children. Trained anganwadi workers should conduct nutritive cooking classes for adolescent girls and women with ingredients that are local, cheap and fresh.

Mothers have an added incentive of coming to the anganwadi centre if they can take back a package of healthy food for the under-3 year old at home – who need special attention of the ICDS programme. It is also important to continuously monitor the nutrition needs of the family (by checking BMI, vitamin and iron deficiency) and facilitate help for those who need it. There needs to be a programme for de-worming adults, which is a factor in adult malnutrition.

Anganwadi workers need training in how to store and manage grains, to learn about local food calendars and what local food is good for the nutrition programme. In the urban areas the problem of grain storage needs to be resolved.

PHOTO NGO Astitva, Solapur

Crèches – a way to combat malnutrition

Anganwadi vacancies need to be filled. There needs to be at least two anganwadi workers in each centre with a clear understanding of each of their roles. The practise of imposing penalties and targets needs to be removed and more robust systems for monitoring malnutrition status of children and other data needs to be instituted.

Increase in financial allocations for nutrition programmes delivered by ICDS and Mid Day Meal scheme, needs to be addressed.

Health services

The public health services need reorientation to address all grades of malnutrition, while simultaneously addressing the entire spectrum of child health needs. The national rural health programme should institutionalize simple measures such as weighing every child who visits a health centre. Those statistics would tell health staff a lot about the child's health and conditions in the family. Most illnesses are linked to the nutrition status. In the absence of a food support programme that is instituted in the early stages of malnutrition, offering drugs or vitamins and vaccines to children will be detrimental to their health and safety.

Hospitals must institute the 'baby friendly' approach which stresses breast feeding norms. Primary Health Centre (PHC) staff need reorientation to a common sense approach on how good counselling can be offered to families. A shortage of paediatric medicines in primary health centres needs to be addressed. Community based monitoring and its involvement in facilitating access to health services should be instituted.

Convergence

There is need to work out how policies can be implemented; how a system can be institutionalised to deliver services, and how a convergence of programmes in health and nutrition can take place. For instance, how can the ASHA (NRHM), Anganwadi workers (ICDS) and ANM (PHC), achieve clarity about their separate roles even as they come together in team work to achieve common goals? Apart from delivery of services, all three have a vital connection with the household and the community and must play their part in the promotion of preventive health education and counselling. All three have a role in deciding how services are to be delivered and the government needs to listen to what they feel and how it should be done.

Public Distribution System (PDS)

India's food programmes must ensure a right to universal access for nutrition security, not just a calorie based food security for some. It should open itself to all who seek its services and assume that those who do not need it will follow a norm of 'self exclusion', based on their own judgement of need.

Non-perishable food items should also be included in the PDS

Meanwhile grains supplied through the PDS should meet the nutrition needs of every person within the household for the entire month. The present allocations, only focusing on cereals, are inadequate in quantity and quality, barely sufficient for half a month in a family of five persons.

Agriculture policy must be augmented to supply a variety of non-perishable items through fair price shops at subsidised rates – this should include lentils, sprouts, seeds (sesame), nuts (peanuts, groundnuts) – that can add micronutrients to household diets.

The government must act to deal with the mounting public grievances over the running of the PDS run fair-price shops: issues such as the lack of accountability and corruption; the non-availability of grains; timings when they are open.

Maternal benefits

The Dr. Muthulakshmi Reddy Maternity Benefit Scheme in Tamil Nadu gives cash support of Rs 1,000 per month for six months starting from the 7th month of pregnancy, for care during pregnancy and after delivery. This enables the mother to access adequate nutrition during pregnancy and lactation; as also supplementary nutrition from the ICDS programme. She can rest without fear of losing daily wages; remain close to her baby and exclusively breastfeed it during those first three critical months after delivery. This scheme is worthy of emulation by other states.

Day care or crèches

Across the country, women are forced to get back to work immediately after delivery. They spend long hours in paid or unpaid labour. They need support to provide adequate care and attention to their children, especially those under-three years of age. They need safe places or crèches, close to their work sites, run by trained workers, where they can keep their infants, and where their older children will receive hot, cooked meals and health care.

truth...

Malnutrition cannot be normalised. Public services should be geared towards ensuring food security

Convergence of all policies and programmes is the key to effective service delivery

The Narotam Sekhsaria Foundation's take on the way forward

Drawing from the above consultation recommendations, the Narotam Sekhsaria Foundation understands that in order to address India's nutritional crisis a multi-pronged approached is to be adopted. Expert advice and experience sharing by practitioners point to the best practices that can be implemented at the community level. They also point to the issues of advocacy with policy makers.

PHOTOS Narotam Sekhsaria Foundation

Putting food into our nutrition: The obsessive focus on cereals and calories is erroneous

The key issues emerging from the consultation highlight the need to strengthen the Integrated Child Development Services (ICDS); plug loopholes in the Public Distribution System (PDS) and ensure its universal access; reorganize the public health system's response to cases of malnutrition; enable convergence of health and nutrition programmes; universalize maternity benefit schemes and provide for day care and crèches.

Government and civil society can together evolve people centric, sustainable opportunities to address the nutrition crisis in India

The Foundation believes that the core responsibility to address the nutrition crisis rests with the government. Civil society can however intervene to help identify gaps in the implementation of government programmes; present innovative and indigenous solutions and conduct large scale capability building of both the community and the service providers. Hence, the Foundation would like to engage with initiatives aimed at providing people-centric, sustainable opportunities to address the nutrition crisis.

Drawing from the above issues, the Foundation feels the need to address this in a phased manner. The methodology of addressing these issues would be to first integrate the nutrition programme within existing interventions in public health. Secondly, to roll out special support programmes which address the nutrition issue. Though an intervention like this is required on a large scale, the Foundation intends to prioritize its programmes particularly for the urban poor, tribal communities and other vulnerable groups.

The Foundation intends to initiate the following programmes:

1 Firstly, the Foundation intends to launch a programme aimed at strengthening the ICDS. It understands that the ICDS programme is the only one of its kind that has a far reach within the community. That the programme is designed for the most vulnerable is beyond dispute. Ground evidence however shows lacunas in programme implementation. Hence, for the Foundation it would be important to design a programme that addresses this need. The major components of this programme would be capacity building of civil society groups and government personnel for better implementation of the programme; developing strategic linkages between the ICDS programme and the public health system; evolving a community based monitoring structure for the implementation of ICDS and eventually demonstrating a model which can be replicated in other geographies.

2 Secondly, the Foundation has always been interested in supporting innovations. Hence it would be interested to look at innovative and ground-breaking initiatives that address the nutrition crisis among the most vulnerable communities.

3 The Foundation believes in knowledge sharing. Hence the third initiative of the Foundation would be to provide a platform for academicians and practitioners to deliberate on issues related to the nutritional crisis. As a part of this initiative the Foundation intends to support initiatives in research and documentation on issues related to the nutrition crisis.

APPENDIX 1

Government intervention programmes on health and nutrition in India

The Government of India has launched several programs to control malnutrition and reduce the growing rate of under nourished children:

1 Integrated Child Development Scheme (ICDS)

Started in 1975, it is India's primary response to the nutritional and developmental needs of children below six years, pregnant women and nursing mothers. It is implemented through a network of over one million village-level Anganwadi Centres (AWC), staffed by Anganwadi Workers (AWW) and Anganwadi Helpers (AWH).

2 Special Nutrition Programme (SNP)

Launched nationwide in 1970–71. It provides supplementary feeding to the extent of about 300 calories and 10 grams of protein to preschool children and about 500 calories and 20 grams of protein to expectant and nursing mothers for 300 days a year.

3 Balwadi Nutrition programme

Implemented since 1970–71 through five national level voluntary organizations. The central grant is given for supplementary feeding of children. It consists of 300 calories and 10 grams of protein per day for 270 days a year. During 1991–92, about 0.23 million children in the age group 3–5 years in 5,640 balwadis, were covered by the scheme.[1]

4 Wheat Based Supplementary Nutrition Programme (WNP)

A centrally sponsored scheme, WNP was introduced in 1986. This programme follows the norms of SNP or of the nutrition component of the ICDS. Mothers are covered under this programme. This scheme is now being transferred to the State Sector.

5 Tamil Nadu Integrated Nutrition programme

Implemented in the State of Tamil Nadu since 1981. At present the scheme covers 316 blocks in Tamil Nadu. Under this project nutritional surveillance and supplementary nutrition is being provided to children below six years as also expectant and nursing mothers.

6 Mid Day Meal programme (MDM)

Operated from 1962–63, it is a centrally sponsored scheme covering all states. The objectives were: (A) to improve nutritional status of school children and (B) to attract children to enroll themselves into school and encourage regular attendance by providing supplementary nutrition. Today, with more than 100 million children covered; India's Mid Day Meal programme is by far the largest nutrition programme.

7 Nutritional Anaemia Prophylaxis programme

The Government of India launched a prophylaxis programme in 1970 to prevent nutritional anaemia in mothers and children. Under the programme, expectant and nursing mothers as well as women acceptors of family planning are given one tablet of iron and folic acid containing 60 mg elemental iron (180 mg of ferrous sulphate and 0.5 mg of folic acid) and children in the age groups of 1–5 years are given one tablet of iron containing 20 mg elemental iron (60 mg of ferrous sulphate and 0.1 mg folic acid) daily for a period of 100 days.

8 Prophylaxis programme against blindness due to Vitamin A deficiency

The programme was initiated by the Government in 1970. Under this programme children in age group 1–5 years are given an oral dose of 0.2 million I.U. of vitamin A in oil every 6 months. Maternal and Child Health Division of Ministry of Health & Family Welfare is implementing the programme on anaemia prophylaxis and prophylaxis against Vitamin A deficiency.

9 Goitre Control programme

A national goitre control programme was initiated by the Government of India in 1962 to identify goitre endemic regions and to assess the impact of goitre control measures.

10 National Diarrhoeal Diseases Control programme

The programme was launched in 1981 to reduce the mortality in children below five years due to diarrhoeal diseases through introduction of Oral Rehydration Therapy (ORT). The Anganwadi Centres of the ICDS Scheme have served as nucleus for the propagation of Oral Rehydration Therapy (ORT) which has been found to be an effective measure of preventing dehydration caused by diarrhoea.

11 Function of Food and Nutrition Board

The Food and Nutrition Board as reconstituted on 26 July 1990, advises Government, coordinates and review activities with regard to food and nutrition, extension education, development, production and popularization of nutritious foods and beverages. These measures are required to combat deficiency diseases. It also seeks conservation, efficient utilization and augmentation of food resources, by way of food preservation and processing.

12 National Nutrition Monitoring Bureau

The nutrition division, set up in 17 States and Union Territories, assesses the diet and nutritional status in various groups of the population. It also conducts nutrition education campaigns and supervises supplementary feeding programmes, besides other ameliorative measures.

13 National Children's Fund

The National Children's Fund was created during the International Year of the Child in 1979 under the Charitable Endowment Fund Act, 1890. This Fund provides support to voluntary organizations that help the welfare of children.

14 United Nations Children's Fund (UNICEF)

Department of Women and Child Development is the nodal department for UNICEF. India is associated with UNICEF since 1949. Traditionally, UNICEF has been supporting India in a number of sectors like child development, women's development, urban basic services, support for community based convergent services, health, education, nutrition, water and sanitation, childhood disability, children in especially difficult circumstances, information and communication, planning and programme support.

15 National Rural Health Mission

This mission was created for the years 2005–2012, and its goal is to "improve the availability of and access to quality health care by people, especially for those residing in rural areas, the poor, women, and children."

The subsets of goals under this mission are:

- Reduce Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR).
- Provide universal access to public health services.
- Prevent and control both communicable and non-communicable diseases, including locally endemic diseases.
- Provide access to integrated comprehensive primary healthcare.
- Create population stabilization, as well as gender and demographic balance.
- Revitalize local health traditions and mainstream Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy systems (AYUSH).
- Finally, to promote healthy life styles.

Other programmes by Government of India

- *Navsanjeevani Yojana*: To tackle malnutrition and infant deaths especially in tribal areas.
- *The Matrutav Anudan Yojana*: To provide antenatal care for tribal women.
- *The Janani Suraksha Yojana*: A programme for Scheduled Caste/Scheduled Tribe and Below Poverty Line people to reduce Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR).

• *The Pada Swayamsevak*: Local volunteers from the pada (locality) are selected and trained to improve liaison between villagers and health institutions.
• *The Bharari Pathak programme*: This has an honorary mobile doctor with two paramedical staff, equipped with vehicle and medicines, to provide medical services in remote tribal areas. Its activities include examining children 0–6 years, treating and providing antenatal and postnatal care.

Conclusion

The aim of these nutritional programmes is to raise the nutrition level of local populations, particularly mothers and children, through supplementary feeding programmes, with or without externally provided foods. These are long term programmes requiring careful planning and coordination of different agencies.

APPENDIX 2

Range of interventions by NGOs in India

1 Community based behavioural intervention programmes

Community based behavioural programs include a range of interventions. These interventions have a life cycle approach. Interventions in reducing the incidence of malnutrition at the community level are:
• Working with Village Health Committees at the village level, alongside similar interventions in urban areas with women and adolescent groups. Adolescent training programmes are conducted.
• Work with women's groups to improve the mother's knowledge on infant and young child feeding practices.
• Preparing training modules containing Information, Education and Communication (IEC) material to impart knowledge regarding Infant and Young Child Feeding (IYCF) Practices to the women's group.
• Providing crèche facilities for working women who cannot afford private babysitting facilities and who do not have anyone at home to take care of their children when they leave home for work.
• Providing children with supplementary nutrition in the balwadis day care centers/government and aided schools.
• Community based surveillance and management systems for immunization, women's health and child health.
• Service provision for reproductive health of women as also training programmes for the development of adolescent girls and boys above 14 years of age.
• Providing preventive and curative level services to children.
• Intervention during pregnancy and delivery: Providing antenatal and postnatal care to mothers and neonates, as also training village health workers in home based neonatal care.
• Providing a clinic for Directly Observed Treatment (DOT) of tuberculosis patients.
• Health check-up camps.
• Promotion of local kitchen gardens; use of locally grown nutritious food sources based on collection of fruits, flowers and leaves.
• Measures to bring down the number of early marriages amongst girls; provide Iron Folic Acid (IFA) tablets to young girls; improve diet of pregnant mothers and lay stress on breastfeeding right from the birth of a child
• School Health Annual Report Programme (SHARP) NGO along with Sarva Shiksha Abhiyan, District Education Council and C.R.C. Bakrol initiated a school health programme for combating malnutrition in India. The unique feature of this programme is that all the health records of school children will be digitalised and kept until the child passes out of school. School Health Analysis and policies will be made school wise and the mothers of the students will be educated on nutrition, food hygiene and food adulteration. The mothers will be encouraged to form Self Help Groups (SHG) where they will make healthy snacks for students, which can be consumed by their own kids and the surplus can be sold at the school site or market convergence.

2 Special programmes for the vulnerable population

• Reducing the incidence of low birth weight babies by improving knowledge, skills and attitude of the tribal communities, taking the help of hamlet level community health workers in tribal areas.
• Initiating an innovative counsellor programme by appointing local tribal youth in all government hospitals of Melghat. This has facilitated interaction between the patients and the doctors, leading to an improved quality of care, while challenging corruption and vested interest within the system.
• To create an awareness of the high nutrition value of traditional products and support their increased production and sale through self-help groups.
• Providing supplementary nutrition to Persons Living with HIV/AIDS (PLHA), the tribal people; vulnerable children in rural areas and slums, amongst others.

3 Advocacy level

• *Right to Food campaign*: This campaign demands the need to address the structural roots of hunger in India. In concrete terms, the campaign demands a comprehensive 'Food Entitlements Act', going well beyond the United Progressive Alliance (UPA) manifesto with its limited promise of 25 kgs of grain at Rs 3 per kg for BPL households. Aside from an overarching obligation to protect everyone from hunger, as well as to promote sustainable and equitable food production, essential provisions of the proposed Act include: a universal Public Distribution System (providing at least 50 kgs of grain per family with 5.25 kgs of pulses and 2.8 kgs of edible oils); special food entitlements for destitute households (including an expanded Antyodaya programme); consolidation of all entitlements created by recent Supreme Court orders (For example: cooked MDM in primary schools and universal access to the Integrated Child Development Scheme (ICDS); support for effective breastfeeding (including maternity entitlements and crèches); safeguards against the invasion of corporate interests in food policy; and elimination of all social discrimination in food–related matters. Further, says the campaign, the Act must include strong accountability and provision for redress of grievances, including mandatory penalties for any violation of the Act and compensation for those whose entitlements have been denied.
• Capacity building of health care providers and ICDS staff (Anganwadi Workers, Supervisors and Child Development Project Officers) to deal with malnutrition.
• Establishing Child Development Centres for addressing the needs of severely malnourished children.
• Starting ICDS anganwadis on the construction work sites on demand.
• Intervention to ensure provision of mandated public health services through public pressure groups and informal forums.
• Facilitating government services through community mobilization. This includes communication campaigns on behaviour change; case management of maternal and infant health through promotion of preventive and curative health; strengthening the link between communities and their health facilities.
• At service delivery level some NGOs work as catalysts to bridge the existing gaps in the mandated public health care delivery, by ensuring regular supplies of essential drugs, provide capacity building.
• Building capacities of the local community based groups such as women's SHG groups, adolescent girls and boys groups, through various participatory exercises – using micro planning as a tool towards community mobilization.
• Training of adolescent girls from tribal areas.

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Glossary

AIDS	Acquired Immunodeficiency Syndrome
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWC	Anganwadi Centre
AWW	Anganwadi worker
BEST	Brihanmumbai Electric Supply & Transport
BMI	Body Mass Index
CEHAT	Centre for Enquiry into Health and Allied Themes
CHW	Community Health Worker
DWCD	Department of Women and Child Development
ECCE	Early Childhood Care and Pre-school Education
EGS	Employment Guarantee Scheme
FAO	Food and Agriculture Organization
FMR	Foundation for Medical Research
FRCH	The Foundation for Research in Community Health
GHI	Global Hunger Index
GOI	Government of India
HIV	Human Immunodeficiency Virus
ICDS	Integrated Child Development Service
IFA	Iron Folic Acid
IFAD	International Fund for Agriculture Development
IFPRI	International Food Policy Research Institute
LHW	Lady Health Worker
MAHAN	Meditation, Addiction, Health, AIDS Nutrition
MDM	Mid Day Meal
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MLA	Member of Legislative Assembly
NGO	Non-Government Organization
NFHS	National Family Health Surveys
NREGA	National Rural Employment Guarantee Act
NRHM	National Rural Health Mission
PDS	Public Distribution System
PLWHA	People Living with HIV/AIDS
SAP	Structural Adjustment Programme
SATHI	Support for Advocacy and Training to Health Initiatives
TPDS	Targeted Public Distribution System
WCD	Women and Child Development
WFP	World Food Programme
WHO	World Health Organization

About Narotam Sekhsaria Foundation

Making a lasting and
sustainable impact on society.

The Narotam Sekhsaria Foundation was founded in 2002 through an endowment from Mr. Narotam Sekhsaria.

The Foundation supports initiatives that enhance the quality of people's lives across India. Narotam Sekhsaria Foundation believes in building skills and capabilities of people and communities, to deliver a sustainable and lasting impact on society.

To this end, the Foundation partners with charitable and philanthropic initiatives and developmental enterprises, by funding and mentoring the programmes that enable better access to healthcare, governance, education, livelihood and art & culture.

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