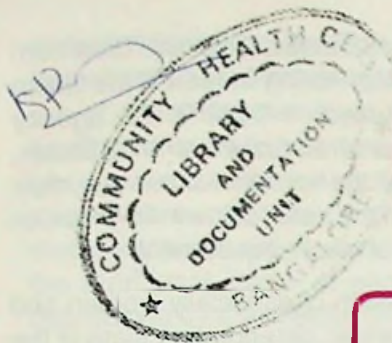




FACTS against MYTHS

VIKAS ADHYAYAN KENDRA

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INFORMATION BULLETIN

Paradox of Hunger & Overeating: The Myths behind the Nutrition-Malnutrition Complex - Part I

"You can have a mandatory 2,400 or 2,100 calories a day and yet be very poor. India's problems differ from those of a Somalia or Ethiopia in crisis.

Hunger...is far more complex here.

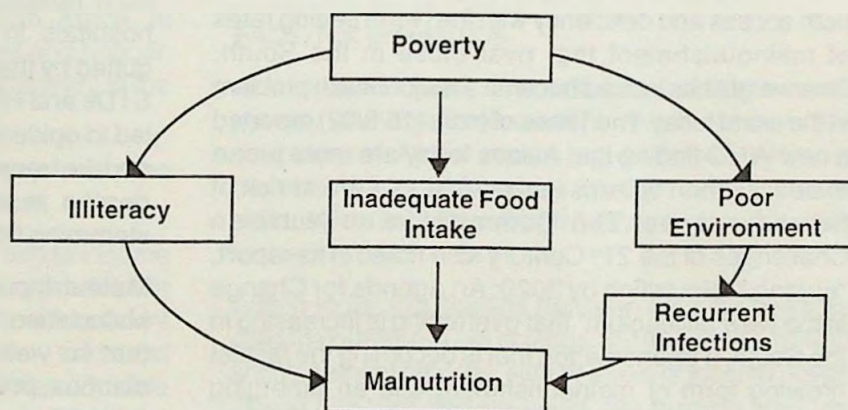
It is more low level, less visible..."

— P. Sainath, "Everybody Loves A Good Drought" (1996)

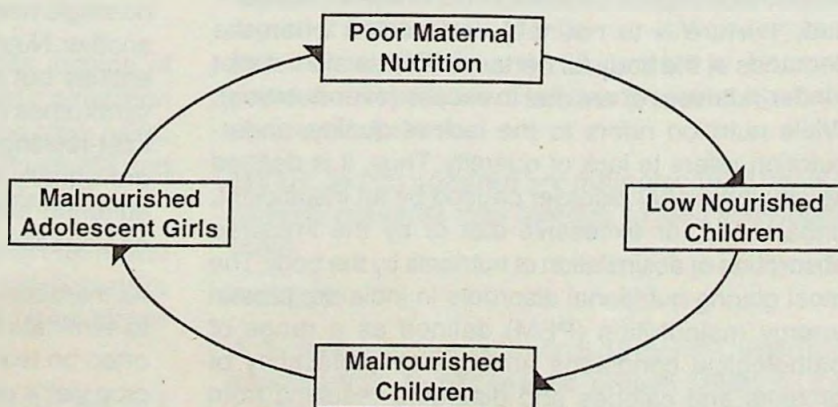
COMMENT

Since Independence, India has made impressive strides in terms of material and social progress. One major gain has been in overcoming famine which, in the past, especially towards the end of the colonial era had brought untold misery to millions at frequent intervals e.g. the famines of Madras (1876-78) and Punjab (1896-97). Today, famines are a phenomenon of the past. In stark contrast, however, are the persistent famines in Africa and currently famine in South Africa is already taking millions of lives. Ironically, India and South Asia, in spite of overcoming famine, is way behind Africa in terms of improvement of human nutrition! Calculations of general undernourishment – what is sometimes called 'protein-energy malnutrition' – is nearly twice as high in India as in Africa.

Multifactoral Aetiology of Malnutrition



Trancegenerational Cycle of Malnutrition



Despite famine, however, Africa succeeds in managing a much higher level of regular nourishment for its people than does India¹ where almost half of all are chronically undernourished, and over half of all adult women suffer from anemia. In maternal undernourishment as well as the incidence of underweight babies, and also in the frequency of cardiovascular diseases in later life, India's record is among the very worst in the world.

This paradox apart, misconceptions on hunger (Cf. earlier issues of FAM) are also commonplace. It continues to be viewed as resulting from a desperate scarcity of food; occurring only in poor countries and among the poor! Hunger in the South is indeed most severe but the problem is not of food scarcity. Government godowns are over-flowing with food grains. In 1998, stocks were around 18 million tonnes and since then there have been a 7% increase. According to the daily, the Economic Times (15/7/02) stocks have risen to 649.3 lakh on May 31, 02 comprising of 233.3 lakh tonnes of rice and 416.1 lakh tonnes of wheat. So high are the stocks that the Government recently decided to distribute a small amount as relief to Afghanistan. Thus, on the one hand there are huge food mountains side-by-side the largest number of the undernourished and on the other, are increasing number of overfed people in the South and the underfed in the North.

The concept of malnutrition today, therefore, includes both access and deficiency with the North seeing rates of malnourishment that rival those in the South. Overweight has indeed become a major health problem in the world today. The Times of India (16/8/02) reported a new WHO finding that Asians today are more prone to obesity than citizens in the West and are at risk of heart diseases. The Commission on Nutrition Challenges of the 21st Century also noted in its report, "Ending Malnutrition by 2020: An Agenda for Change in the New Millennium" that overeating is increasing in the South, a phenomenon that is becoming the fastest growing form of malnourishment and an emerging nutritional concern providing a whole new dimension to the so-called nutrition-malnutrition complex.

Malnutrition implies imperfect nourishment ('malus' – bad, 'nurture' – to nourish) and occurs when the demands of the body for certain nutrients are not met (under-nutrition) or are met in excess (over-nutrition). While nutrition refers to the lack of quality, under-nutrition refers to lack of quantity. Thus, it is defined as any nutritional disorder caused by an insufficient, unbalanced, or excessive diet or by the impaired absorption or assimilation of nutrients by the body. The most glaring nutritional disorders in India are protein energy malnutrition (PEM) defined as a range of pathological conditions arising from deficiency of proteins and calories and disorders resulting from deficiencies of iron (iron deficiency anemia, vitamin A (*keratomalacia* or nutritional blindness), iodine (goiter),

and vitamin B (*Angular Stomatitis*, *Glossitis*). Data from the National Nutrition Monitoring Bureau of the Indian Council of Medical Research (ICMR), the agency monitoring the nutritional status in various States, revealed that nearly half the households surveyed, diets were deficient even on the basis of lowered yardstick of adequacy (m-2SD) of mean requirement.

The dismal state of health of especially women and children is part of the wider, deteriorating state of the health sector as a whole precipitated by shifts in the global economy in the early 90s and the resultant WB/IMF imposition of the SAP conditionalities and the liberalization of the economy. With the subsequent withdrawal of the state of its social welfare obligations e.g. withdrawal of the PDS scheme, these changes have led to spiraling food costs and threatened social, and especially food security, further aggravating the situation of poverty and unemployment. As women bear the responsibility of providing nutrition within the family, shrinking resources and growing poverty adversely affects their lives as small-scale producers, as providers of nutrition to the family, and as consumers. With commercialisation and the corporitisation of healthcare treatment is also getting beyond the means of the poor considered as 'liabilities' just as the well off are viewed as "markets" and "billable" resources. According to a Times of India (August 12, 2002) the cost of cardiac surgery, for instance is i) Rs.35-50, 000 in public hospitals ii) Rs.1.5-2 lakh in trust hospitals and iii) 1.2-2.4 lakh in corporate hospitals. In such a situation, the healthcare system gutted by the SAP is even less prepared for the rise of STDs and HIV. Lest we forget: the changes in the 90s led to epidemics of malaria, diarrhea and encephalitis and, in recent months there have been starvation deaths in various parts of the country, directly stemming from recent policy changes.

Malnutrition is a fact of life. Disease is another. Malnutrition, however, stands at the root of all diseases that so violently affect infants viz., measles, infant diarrhea, polio, whooping cough and neonatal tetanus. It is both a cause and consequence of poverty and social inequality. Further, the mechanisms of human nutrition and human disease are highly complex and no single health problem can occur without facilitating another. Nutritional deficiencies seldom exist as distinct entities but normally occur as complex malnutrition syndromes covering a wide spectrum of deficiencies inter-relating in a complex manner.² Disease problems are equally complex and few villages can be found suffering from clear textbook cases relating only to one specific illness.

As mentioned in earlier issues of this publication efforts to eliminate hunger, disease and poverty the focus is often on technological quick fixes aimed at boosting crop yields and producing more food through so-called scientific breakthroughs as genetic engineering rather than addressing its deeper, underlying causes. indeed,

malnutrition is a culmination of a number of factors both direct and indirect: availability of food, purchasing power of the people; level of nutrition knowledge, healthy consumption pattern, sanitation, etc. and as well as to crucial issues like meager incomes, inequitable distribution of land and the disenfranchisement of women. All these do impact the nutritional status of people. These cannot be determined by the criterion of adequate diet alone or just to one set of factors. Nonetheless, myth and misconception indeed permeate the world's understanding of malnutrition, and policy responses have been wildly off the mark in addressing the problem. Confronting this epidemic of poor nutrition will have widespread benefits, but before that occurs, the myths that obscure the causes of malnutrition especially among women and children must be dispelled.

MYTH: *Unlike children in Africa Indian children are not as malnourished.*

FACT: Not so!

Some 47 per cent of India's children below the age of 3 years are malnourished (underweight). In Africa, the proportion is on an average, 30 percent. 30 out of 37 countries in this continent report lower levels of child malnutrition than India. Bihar (54 per cent) and M.P. (55 per cent) report child malnutrition rates higher than the maximum reported in Africa by Angola (51 per cent).

Evidently, India does much worse than Africa. In avoidance of endemic undernourishment and hunger, India has done worse than nearly every country in the world.

MYTH: *Low per capita income of people is also among the main causes of malnutrition.*

FACT: Not so! Worldwide, levels of per capita income are not correlated to child malnutrition in any predictable manner. 28 out of 37 countries of the African continent have a lower per capita income than India – and most of them report lower rates of child malnutrition. Outside Africa there are also other countries e.g. Vietnam, Mongolia and Haiti that report lower levels of income as well as lower levels of child malnutrition than India itself viz.,

- ✧ Manipur reported a per capita income of Rs.8,114 (in 1997-98) and a child malnutrition rate of 28 percent. Gujarat, on the other hand, reported a per capita income of Rs.16,251 and child malnutrition rate of 45 per cent;
- ✧ Orissa (50%) and Maharashtra (51%) report similar levels of malnutrition, but Maharashtra's per capita income is almost 3 times higher than that of Orissa;
- ✧ Kerala and Karnataka report similar levels of per capita income. Yet, 27 per cent of children

under age of 3 are malnourished in Kerala. The figure is 44 per cent in Karnataka;

MYTH: *Another factor in the high rate of malnutrition among children is the inequality in income distribution rather than the income-level.*

FACT: Child malnutrition rates are lower than India's among many countries that report similar levels of income inequality. Income inequality in African countries like Botswana, Mozambique and Cote d'Ivoire, for instance, is similar to India's [measured by the 'gini index (that is, the index that measures the extent of equity in the distribution of income (or consumption) among individuals or households within a country. A value of 0 represents perfect equality; a value of 100 perfect inequality) of income distribution]. Yet child malnutrition in these three countries ranges between 24 and 29 per cent, as against 47 per cent in India.

Moreover, compared to India, child malnutrition is lower among many countries in Africa, with not only greater income inequality but also lower per capita incomes. West African counties of Gambia, Mali, Nigeria and Guinea-Bissau, for example, report both lower levels of income and greater income inequality, and yet levels of child malnutrition in these countries are lower than in India.

MYTH: *Income poverty is a major underlying cause of malnutrition.*

FACT: Not entirely true.

At a national level, the linkages between income poverty and child malnutrition are not obvious. Most countries of Africa report higher levels of income poverty than India even though levels of child malnutrition in India are significantly higher than in the former.

Within India, too, the link between poverty levels and child malnutrition is not obvious. In 1993-94, Tamil Nadu and W. Bengal reported similar levels of income poverty (35-36 per cent levying below the poverty line), and yet in 1998-99, only 37 per cent of Tamil Nadu's children below 3 years were malnourished as against 49 in West Bengal. Haryana (35 per cent) and Assam (36 per cent) reported similar levels of child malnutrition despite the fact that in 1993-94 only 25 per cent of Haryana's population lived below the Poverty Line as against 41 per cent in Assam.

MYTH: *Indian children are malnourished because poverty prevents their families to feed and nourish them.*

FACT: No so!

At a very young age, between 6-18 months, when most infants begin to experience growth faltering, food availability within the household is usually not the critical factor causing malnutrition. It is very often

inadequate knowledge about feeding practices that are in the best interest of the child. The denial of as little as 200-300 calories in a young child's daily diet is what makes the difference between normal growth and the faltering that starts the descent towards illness and death. We are talking of half a 'chapatti' dipped in 'dal'. Equally critical for preventing malnutrition during early infancy is the quality of care and attention that young infants receive when being fed. Infants do not eat by themselves, and feeding them takes time – a luxury few rural women can afford, and a chore those older siblings can perform satisfactorily.

MYTH: Reports of deaths of children by malnutrition are not as alarming as made out be by the media, etc.

FACT: The source of this false claim is the report by the Maharashtra Government's Tribal Department, presented on April 24, 2001. Independent institutions have strongly challenged the government's claim maintaining that the Government's figures were misleading. For instance,

1. The Tribal Research Training Institute (TRTI), Pune, maintained that malnutrition was the cause of 71.5 per cent deaths among children in Nashik Division in the period 1999-2000 and 2000-2001 respectively. It held that the Government tribal department had combined and generalized the cause of death of children by including cultural factors, poor social infrastructure, etc., without attempting to examine or focus on malnutrition as the harbinger of death. The Department had taken a sample survey of 143 families who lost children below the age of 6 years, in 24 villages of Dhadgaon, Akalkuwa and Navapur blocks in Nandurbar District of Nashik revenue division. A total of 158 children had died in 143 families surveyed. The deaths comprised 94 males and 64 females. 42 per cent of the deceased children were in the age group of 1 to 6 years. That nutrition related deaths accounted for 71.5 per cent of the deaths was also confirmed by verifying the nutritional status of the siblings of the deceased children where the extent of malnutrition was 76.5 per cent. Its report on the nutritional status of the 136 siblings also indicated that 76.5 per cent of these children were malnourished, including 40 per cent suffering from severe malnourishment. (TRTI derived its conclusions from actual weight for age measurement.) (See Box on this page.)

Relatedly, semi-starvation diets have also led to people becoming more vulnerable to infectious and communicable diseases like Malaria, Gastroenteritis, Typhoid, Hepatitis and TB.

2. The Health Institute of Management at Pachod recently highlighted that Indian women also have the highest prevalence of iron deficiency anemia. Trained attendants attend only 1 to 3 others at the time of childbirth. As a result 1.2-m. mothers die each at the time of delivery. This is apart from the problem of gynecological morbidity that women in both rural and urban areas experience which was highlighted in a recent paper³ on this issue. Another recent study⁴ notes that in Maharashtra itself almost half of the women (48.5%) are anemic. This is not very different from the national prevalence of anemia at 51.8%. However, two features are striking, this study notes. Firstly, the prevalence of 'severe anemia' is very high in this State i.e. almost 3% of women have severe anemia (hemoglobin less than 7 gms/100 ml), placing it among the two worst states of the country in this respect. Besides, certain socio-economic groups of women within the State have a higher level of anemia. Adivasi women are much more frequently (64.2%) anemic. On the other hand, non-slum women in this City have significantly lower levels (37.4%) of anemia. Of significance too is that (currently) unmarried women (58.2%) have a higher level of anemia compared to (currently) married women. This highlights the fact those unmarried adolescent women, and also

Officially Recognised Deaths

The administration account of the deaths as on March 11 is as follows:

Date	Taluka	Village	No. of dead
28.02	Khanpur	Pandunda	1
		Divda	1
1.03	Ghoganbi	Rinchia	1
		Kadana	1
		Khanpur	21
		Halol	5
2.03	Kalol	Kalol	16
		Linnawada	1
		Khanpur	8
		Kalol	7
		Halol	2
3-4	—	—	—
5.03	Santrampur	Anjanvar	8

Source: Combat Law, No. 3, 2002

Explaining Child Malnutrition*

Within India, Sikkim reports the lowest rates of child malnutrition and M.P. the highest. The explanations for this differential stems from the following factors:

1. **Low Birth Weight:** Birth weights of less than 2,500 grams. are very closely linked with poor growth right from infancy to childhood. Indian estimates reveal that 20-30 per cent of babies are born with low birth weight, suggesting that children begin to get malnourished in the womb and indeed suffer from an inter-generation transfer of malnutrition. *Only 13 per cent of Children born in Sikkim are of low birth weight. The proportion is 24 per cent in M.P.;*
2. **Women's Nutrition:** The poor Nutritional Status of Women also adversely affects the birth of babies. Nutritional deficiency among women and mothers is high. Data from the NFHS-2 for 1998-99 suggests that over 1/3rd (36 per cent) of Indian women have a Body Mass Index (BMI) of less than 18.5 kg/m². Added to this, given her inferior status in society, expectant mothers rarely get adequate attention, care, diet and rest let alone time for leisure. *Only 11 per cent of ever-married women in Sikkim suffer from 'Chronic Energy Deficiency' (with a BMI of less than 18.5 kg/m²). The proportion is 38 per cent in M.P.*
3. **Child Malnutrition:** This outcome tends to be better where women enjoy greater freedoms and more autonomy;
 - ✗ Women in Sikkim enjoy far greater freedoms and autonomy than women in M.P. as well as better access to money, greater exposure to the media, and freedoms to go out of the house. The following are some comparative indicators:
 - ✗ The female-to-male ratio of population 0-6 years in Sikkim is 986; it is 929 in M.P.
 - ✗ The average age of marriage for women in Sikkim is 22 years; it is 19 in M.P.
 - ✗ In Sikkim, 42 per cent of women do not need permission to visit friends or relatives; in M.P. only 20 per cent of women enjoy this freedom;
 - ✗ Close to 79 per cent of women in Sikkim has access to money; in M.P. only 49 per cent do;
 - ✗ In Sikkim, 22 per cent of women are not exposed regularly to any media; in M.P. the proportion is 45 per cent.
4. **Child Care:** Failure to introduce supplementary foods at the end of 6-9 months is a major factor accounting for child malnutrition. Breast milk provides vital nutrients through the first year of life; but this is alone is not enough. The energy and calories needed for healthy growth can come only from additional food. Beyond 4 to 6 months, infants must be given solid foods to supplement breast milk. Data from the National Family Health Survey-2 suggests that only around a third (34 per cent) of children, 6-9 months old receive solid and mushy foods to supplement breast-feeding. It is, therefore, not surprising that a child typically becomes malnourished between 6 months and 18 months of age, and remains so thereafter. In most cases, nutritional rehabilitation is difficult. *Close to 87 per cent of children, 6-9 months old, receive breast milk and solid or mushy foods in Sikkim. Only 27 per cent of such infants do so in M.P.*
5. **Education:** This is also an important factor in child malnutrition. The linkage is striking:
 - ✗ Chronic energy deficiency drops significantly with improvements in the levels of education. And it is well known that higher the levels of chronic energy deficiency, the higher will be the levels of child malnutrition.. *Chronic energy deficiency among illiterate women is 43 per cent whereas it is only 18 per cent among women who have finished high school.*
 - ✗ The lower the level of mothers' education, the higher is the level of child malnutrition. Malnutrition among Indian children below 3 years born to illiterate mothers (55 per cent) is more than twice the levels Reported among mothers who have completed high school (27 per cent).

* Little Magazine, 2002

Nutritional Status	No. of girls	Per cent	BMI
Severe Malnutrition	1,352	72.95	less than 16
Moderate Malnutrition	186	10.04	16 to 16.9
Mild Malnutrition	183	9.88	17 to 18.4
Normal	130	7.02	18.5 to 24.9
Overweight	2	0.11	25 to 29.9
GRAND TOTAL	1,853	100.00	

deserted ('parityakta') and single women are likely to have poor nutrition and higher levels of anemia.

Yet, another survey, conducted in 1996, by the National Family Health Survey (NFHS) in Mumbai reported that half the children in Maharashtra suffered variously from acute and chronic malnutrition, growth retardation and wasting (i.e. a deficit of weight for height greater than 20 per cent).⁵ Between April and August 1996, 25,000 Adivasi children between the ages of 6 months to 6 years suffered severe malnourishment and 336 children died of secondary causes e.g. pneumonia, low birth weight, premature birth, dysentery, diarrhea and TB. Researchers Shobha Rao and Vidya Pitre of the Aagharkar Research Institute of Pune corroborated this citing two recent studies carried out in Maharashtra by Dr. Abhay Bang of SEARCH, which noted that there was gross under-reporting of infant deaths and placed

the figure at 80 per cent and that Adivasi hamlets were not covered by the Government. This revelation is also supported by the commissioner of the Tribal Research Institute and that these deaths were due to malnourishment. Further, studies clearly attribute the high rate of IMR to malnutrition although in most cases it may even be due to under-nutrition, or starvation. Most disturbing however is the data on malnutrition of pre-adolescent girls. A women's resource center in Mumbai, VACHA, in its study⁶ of girls in the age group 9-13 discovered severe undernourishment (based on body mass index i.e. height and weight) in 1352 girls, i.e. 72%. Arm circumference can be done only upto 6 years. BMI is body weight in kilograms divided by the square of his/her height in metres. (See also Box on page 6) Only 2 girls were overweight. 183 girls were mildly undernourished. That is, 82-89% is malnourished which is indeed very alarming.

Millions of People



Overweight



Underweight

Overweight and underweight are not arbitrary terms, but are defined using Body-Mass Index (BMI), a scale calibrated to reflect the health effects of weight gain. A healthy BMI ranges from 19 to 24; a BMI of 25 or above indicates "overweight" and brings increased risk of illnesses such as heart disease, stroke, diabetes, and cancer. A BMI above 30 signals "obesity" and even greater health risks. BMI is calculated as a person's weight in kilos divided by the square of height in meters.

Balance Sheet of Health

- ※ 47% children under 3 are underweight, 18% are severely underweight, i.e.; 46% children under 3 are stunted and this is due to chronic undernourishment;
- ※ 16% children under 3 are wasted;
- ※ 36% women aged 15-49 years suffer from chronic energy deficiency;
- ※ 51.8 per cent women suffer from anemia (insufficient iron intake);
- ※ only 58% of mothers received iron-folate supplements during their pregnancy;
- ※ Only 30% of children between 1-3 years of age had received at least one dose of Vitamin A;
- ※ Only 16% of children are breast fed within 1 hour of birth and only 37% on the first day;
- ※ Calorie consumption per capita in rural areas has gone down from 2,266 in 1972/3 to 2,221 in 1983 and to 2,153 in 1993-4.

Source: *Food and Nutrition Security: An Indian Context*, VANI, New Delhi, 2002

Note: References to Africa refers to African countries that lie South of the Sahara.

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