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Child Malnutrition: Trends and Issues

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ABSTRACT Approximately, one out of every three children under five in developing countries is malnourished. Data clearly shows that the worst affected region is South Asia. 50 percent of children in the whole of South Asia are not able to meet their food requirements and are therefore undernourished. Half of the world's malnourished children are to be found in just three countries, Bangladesh, India and Pakistan. In a recent World Bank report (2005) it is indicated that 47 percent of Indian child population under five is still malnourished. Although there is decline in incidence of malnutrition, but why after so many decades of efforts, improvement in agriculture, increase in educational levels, great economic strides and advances in technology, so many of Indian children are still going hungry? The picture as emerging of the situation of the young Indian child in relation to nutrition and development calls for great attention. Experience shows that malnutrition and ill health are traceable partly to economic causes, food availability and partly to educational factors. Ignorance is perhaps the biggest hurdle facing the silent majority in India. For, even while living in poverty, the health and nutrition status would be appreciably better, if people know what to do about it. Many other factors which can help in improving the nutritional status are like small family norms, avenues for employment, safe drinking water, a clean environment, appropriate farm and food policies including prices. But above all women's education, knowledge about sound feeding practices and eating habits, growth monitoring and women supportive socio-cultural norms need to be given more emphasis.

INTRODUCTION

The child population is one of the most important sections of society which being vulnerable needs very careful nurturance. Their growth and development is strong reflection on the future of a country. In any development effort, the starting point should be children for several physiological, social and even economic reasons. A wise investment in children's health, nutrition and education is the foundation stone for all national development. Neglecting children's needs will by contrast condemn them and their society to a vicious cycle of poverty and deprivation (UNICEF 1991). A healthy generation of children will lead to a healthy generation of productive young people and adults.

Nutrition plays a very important role in the physical, mental and socio-emotional development of a child. The infants and pre-school children are most vulnerable to retardation in growth as a result of malnutrition particularly under-nutrition. In the words of Rhode Jon E, there cannot be health without proper nutrition. Regular growth in the first two years is the critical foundation of health throughout a lifetime. Lest a nation was bound to pay the price in terms of malnourished, unhealthy, illiterate and poor future human resource with unrealized physical and mental potential with which they were born, that could have blossomed had they received proper and timely care before birth and in early childhood (Rattan 1997).

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MALNUTRITION AND ITS EFFECTS

Malnutrition is simply defined as imperfect or faulty nutrition. Whenever there was an imbalance between body needs for certain nutrient and their intake, malnutrition could said to have occurred. It could be of two types: under-nutrition - a condition where the body requirements for nutrients are not met, overnutrition when these are oversupplied. But malnutrition and undernutrition are generally used synonymously because a vast majority of the people are undernourished in our country than over-nourished.

Malnutrition is one of the major killers of children in developing countries (Khalakdina 1979). Children and women appear to be the most sufferers. The signs and symptoms are lethargy-

physical and mental, low weight in relation to height and age, diminished skin folds, exaggerated skeletal contours and loss of elasticity of skin (Sharma 1977). Protein calorie malnutrition occurs when the child's diet is deficient in protein calorie. Symptoms of protein calorie malnutrition are dull dry hair, thin hair, dispigmentation, easy pluckability of hair, moonface, clouded eyes, dry conjunctiva, oedema, scarlet and raw tongue. Apart from that there are vitamin and mineral deficiencies in large percent of children. The relationship of malnutrition with retarded growth has been disputed by a NIN Scientist Jaya Rau (1975). According to her, children below five show a remarkable degree of adaptation to malnutrition and continue to live normal lives as certain hormonal changes within the body of malnourished children enable them to maintain normal body functions. The argument is that the effects of malnutrition are limited to the excess and non-essential parts of the human system. The result is a small compact "Paper back" child – a completely viable, workable unit minus the unne-cessary trimmings. This view was confronted with the provoking editorial entitled Paper back children (1975) which questioned that whether we could afford to complacent about reaching a population of paperback people with little nutrition. It emphasized that India should aim at giving its children the protection that they deserve and settle for nothing else (Sharma 1977).

The child receiving only two-third of its calorie requirement may show no outward sign of hunger and even look normal, yet the child is too small for his age, has low resistance to infection and is therefore prone to illness. Studies show that a weight, which is less than 60 percent of the normal, is associated with evidence of functional incompetence. All this emphasizes the complexity of the problem and the need for tackling the nutritional problem consciously and simulta-neously at various levels.

This unacceptable state of affairs leads to a great deal of human suffering, both physical and emotional. It is a major drain on developing countries' prospects for development because malnourished children require more intense care from their parents and are less physically and intellectually productive as adults. It is also a violation of a child's human rights (Smith and Haddad 2000). While there is no dispute that malnutrition must come to an end, debates continue to flourish over what the most important causes of malnutrition are and what types of policies will be most successful in reducing it.

Incidence of Malnutrition

Nearly two and half decades ago, the then Executive Director UNICEF Grant (1983) stated that if the word's political leaders were to walk together through a village in the developing world, they would, only recognize about 2 percent of the child malnutrition around them. Indeed so invisible is the problem that in one recent study, almost 60 percent of mothers whose children were suffering from malnutrition believed that their children were growing normally and developing well. The Third World's hunger is a hidden hunger. Visible malnutrition is rare. And it is time that the skin and bone image of the starving baby- an image which is too often used to represent the developing countries- was replaced by a greater international understanding of what child malnutrition really means. Today an invisible malnutrition touches the lives of approximately one-quarter of the developing world's young children. It quietly steals away their energy, it gently restrains their growth, and it gradually lowers their resistance.

Undernutrition is a common phenomenon and undoubtedly the biggest public health problem in our country today. The economic conditions of a vast majority of our population is so poor that they are in no position to afford even the least expensive balanced diets. A number of nutrition and diet surveys carried out among the adult population groups in various parts of the country have confirmed the existence of widespread malnutrition among the poorer sections of our population.

Approximately, one out of every three children under five in developing countries is malnourished (International Food Policy Research Institute 2005). A myth still persists regarding the prevalence of malnutrition. It is widely believed that malnourished children are mainly found in sub-Saharan Africa. This is contrary to reality, infact they are concentrated in South Asia instead. In the public imagination, the home of the malnourished child is sub-Saharan Africa. But data clearly shows that the worst affected region is not Africa but South Asia where 46% of children under five are moderately or severely underweight, whereas in sub-Saharan Africa it is 28% (UNICEF 2005). According to International Food Policy Research

Institute Report (2005), 50 percent of children in the whole of South Asia as against 33 percent of sub-Sahara African children are not able to meet their food requirements and are therefore under-nourished. The gap exists despite much higher levels of per capita national income, education, technology and availability of safe water in South Asia than in Sub-Sahara Africa (www.ifpri.org).

Half of the world's malnourished children are to be found in just three countries, Bangladesh, India and Pakistan (Rattan 1997). The UNICEF report (1997) as shown in table 1 also confirms the same. It shows that the highest percentage of children with height stunting are in India, followed by Bangladesh, Nepal and Pakistan. Almost similar trend was available in case of underweight population of children in these countries. Although the incidence of malnutrition in all the Asian counteries under report UNICEF (2005) has declined, even then the above countries are leading in malnutrition in almost the same order.

INDIAN SCENARIO: PERIODIC SHIFTS

Different agencies at different times have worked out the incidence of malnutrition at their own level. According to year 1989 data from the National Nutrition Monitoring Bureau, in India about 17% children below five years suffered from severe malnutrition linked to a weight deficit of over 40 percent; nearly 45% children of this age group were estimated to suffer from moderate malnutrition with a weight deficit ranging from 25-45 percent (UNICEF 1991). UNICEF data for the year 1997 (given in Table 1) showed that 65%

Table 1: Nutritional status of children in relation to rural poverty and agricultural production in South Asia (Data Year 1997)

Country	*Height stunting (% children 6-36 months)*	*Under-weight (% children 6-36 months)*	*Rural poverty (%)*	*Expenditure on food (% of total household expenditure)*	*Calories per capita per day*	*Land area cultivated*	*Agri. production (% of GDP)*	*Women literacy (%)*
Bangladesh	64	68	51	60	2019	68	35	22
Bhutan	56	38	-	-	-	3	42	25
India	65	59	39	53	2394	52	34	34
Maldives	50	27	-	-	2580	10	25	99
Nepal	64	43	33	60	1957	17	52	13
Pakistan	63	42	31	38	2316	27	27	29
Sri Lanka	29	34	36	42	2271	29	26	83

Source: Statistics of South Asian Children and Women, UNICEF 1997.

Table 2: Nutritional status of children in relation to rural poverty and agricultural production in South Asia (Report Year 2005)

Country	*% of Infants with low birth-weight (1998-2003)**	*% of Under-fives suffering from*			*% of population below $1 per day*	*GDP per capita Average annual growth rate (%)*	*Women's literacy rate (%)*
		Underweight moderate & severe	*Severe*	*Height Stunting moderate & severe*			
Bangladesh	30	48	13	45	36	3.1	30
Bhutan	15	19	3	40	-	3.7	34
India	30	47	18	46	35	4.0	45
Maldives	22	30	7	25	-	4.5	97
Nepal	21	48	13	51	38	2.1	24
Pakistan	19x	38	12	37	13	1.1	28
Sri Lanka	22	29	-	14	7		89

Source: State of The World's Children, UNICEF 2005. X indicates data that refer to years other than those specified in the column heading, differ from the standard definition or refer to only part of the country.* Data refer to the most recent year available.
Low birthweight : Infants who weigh less than 2500 grams.
Underweight: Moderate and severe- below minus two standard deviations from median weight for age of reference population; Severe- below minus three standard deviations from median weight for age of reference population;
Wasting: Moderate and severe- below minus two standard deviations from median weight for height of reference
Stunting: Moderate and severe- below minus two standard deviations from median height for age of reference

of the Indian infants in the age of 6-36 months in that period were suffering from stunted growth, which was the largest percentage among all South Asian countries under report. It means so many children had their height below minus two standard deviation from median height for age of reference population. Table 1 further shows that 59% of the Indian infants in this age group were underweight. The year 2005 data given in table 2 indicates that in year the population of stunting height under-five age was 46% and 47% of the in this age group are underweight. From which 18% percent are severely underweight which is the largest proportion in South Asian Countries in this category. In a World Bank report (2005) also it is indicated that 47 percent of Indian and 48 percent of South Asian child population under five is still malnourished. Even the recently released third National Family Health Survey (2007) tells a grim story. Around 45.9 per cent Indian children under three are under weight, 38.4 per cent are stunted and 19.1 per cent wasted. Although the data shows a decline in incidence of malnutrition, but why after so many decades of efforts, improvement in agriculture, increase in educational levels, great economic strides and advances in technology, so many of Indian children are still going hungry? Nearly half of the children in India are not able to meet their basic needs of optimal nutrition. For the last 20 years India has sustained the greatest effort in history to improve the nutritional status through its welfare schemes like ICDS (www.ifpri.org).

Table 3 presents the incidence of under-nutrition among children between the age of 6 to 36 months in different States of India (1997) as

Table 3: Nutritional status of children in relation to rural poverty and crop production in different States of India

States	*Rural poverty (% of the population living in rural poverty)*	*Land area cultivated*	*Crop production (Tonnes per capita)*	*Stunting (% children 6-36 months)*	*Underweight (% children 6-36 months)*
Andhra Pradesh	21	63	0.18		51
Arunachal Pradesh	40	5		54	44
Assam	39	44	0.15	52	58
Bihar	53	66	0.13	61	70
Goa	18	8		33	38
Gujarat	29	70	0.10	48	54
Haryana	16	87	0.58	47	41
Himachal Pradesh	16	60	0.27		52
Karnataka	33	74		48	57
Kerala	29	63	0.04	27	32
MadhyaPradesh	42	58	0.28		63
Maharashtra	41	74	0.16	49	61
Manipur	39	7		34	34
Meghalaya	40	50		51	49
Mizoram	40	28		41	34
Nagaland	40	48		32	32
Orissa	58	57	0.18	48	60
Punjab	13	85	0.91	40	52
Rajasthan	34	80	0.24	43	49
Sikkim	40	26			
Tamil Nadu	46	66	0.13		50
Tripura	39	30			50
Uttar Pradesh	41	71	0.24	60	66
West Bengal	48	69	0.16		61
Andaman& Nicobar Islands	46				
Chandigarh	13	18			
Dadra & Nagar Haveli	18	53	0.17		
Daman & Diu			0.12		
Delhi	1	53	0.01	43	47
Lakshadweep	29	0			
Pondicherry	46				
Jammu & Kashmir	26			41	

Source: Statistics of South Asian Children and Women, UNICEF 1997.

depicted through stunted growth and underweight in relation to percent of total rural poverty and crop production. It shows that among all states, Bihar was a home to highest percentage (70%) of children who were under-weight and similarly with stunted growth (61%), followed by Uttar-Pradesh (66% are under-weight and 60% had stunted growth). Kerala had the lowest incidence of malnutrition among all states of India.

In most of the states, as given in table 3, the percentage of underweight children was higher than children with stunted growth (shorter height for age). Majority of the children even in a Punjab study also (AICRP 1998) were normal in body weight as per National standards, but low body weight was more common than low body length. Therefore, short- term malnutrition was more prevalent as compared to long –term malnutrition in rural Punjab.

A sample of rural Bihar households in 12 villages spread over the six regions of the state showed that social –class differences in calorie intake were more pronounced than either regional or seasonal differences (Prasad 1981). NNMB in its periodic surveys in Andhra Pradesh have reported that 25-45 percent of children in 1-3 years of age group in all villages and among all social groups, rich and poor and in both lean and surplus seasons were having energy intakes of less than 50 percent of the recommended daily allowance. (UNICEF 1991). It has been established by earlier studies by National Institute of Nutrition (1982) that the primary dietary deficiency underlying protein-energy malnutrition in India was not that of protein but that of calories. While the daily protein intake ranged from 2.8 gm / kg body weight to 1.7 gm / kg, the daily calorie intakes were 70-75 kcal / kg against the norm of around 100 kcal / kg. Though studies ((NNMB 1975-1989) have shown negligible change in the pattern of average intake of calories and proteins, it has been reported that the percentage of children deficient in calories is far higher than that of children deficient in protein. As suggested by the experts (UNICEF 1991), if the food intake were raised to meet the calorie requirement , the protein needs would have more or less been met. The nutritional challenge then is one of equitable distribution of the available food resources, to reach an adequate quantity of their habitual cereal-legume-vegetable foods to children under five years, with appropriate home-based techniques to reduce the bulk and increase the calorie density.

Poverty and Malnutrition

The major cause of undernutrition has always been reported to be poverty along with ignorance. In the words of Margaret Khalakdina (1975) malnutrition is the most telling index of poverty. Poverty has a vicious cycle. Poverty leads to inadequate food intake and undernutrition further leading to physical growth and development of children, impaired functioning, low productivity again leading to poverty.

Poverty imposes restrictions on food intake of poorer sections of society and the worst sufferers are young children, adolescents and pregnant and nursing mothers. India with 16 percent of world's population, out of which 24%

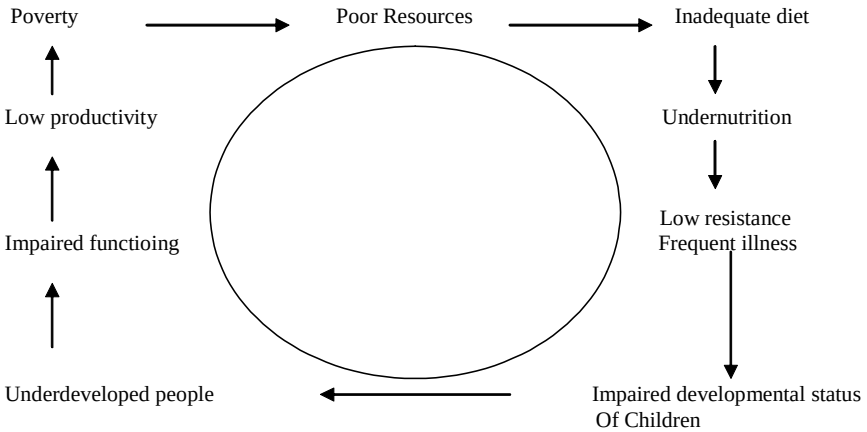

Fig 1. Vicious cycle of poverty

are living in rural poverty. (World Bank 2005). The National Nutrition Policy (1993) found that while at micro-level that group of poor people constituted the nutritionally at risk population, even with in that group women and children represented nutritionally the most fragile and vulnerable sections.

Earlier tables 1 and 2 also show that the countries which have highest percentage of poverty are the ones which possess highest incidence of malnutrition as well. Likewise, table 3 has given that State of Bihar has the highest percentage of rural poverty and the highest incidence of undernutrition (stunting as well as underweight) is existing in Bihar. Studies have also shown that rural poverty is unusually concentrated in the arid zone in the eastern States and among the Scheduled castes (UNICEF 1991). Though the proportion of children with severe malnutrition have declined during the period, but the findings on malnutrition among children in the smaller field studies suggest that the nutritional status and growth patterns of the Indian child in the lower socio- economic strata may not have changed dramatically. In a study (Bhatnagar et al. 2002) undernutrition was more prevalent among women of landless rural families.

Undoubtedly undernutrition is the major enigma of the country, particularly in low income groups. While in the poorer sections there is ill-health due to lack of food, at the same time over-nutrition not only in adults but in children too is also emerging as a problematic issue in affluent societies. A study conducted in AIIMS (Rashid 2005) shocked every one when it reported that a majority of school children in Delhi are over-weight. Similar study on 1000 urban adolescents of Ludhiana (Mohan 2005) recorded that the major cause of urban adolescent obesity was eating out and replacing snacks for meals which comprise of high calorie food. Studies conducted in affluent schools of other cities also present a picture which is in contrast to the situation of other parts of the country. But even within Punjab the rural adolescents do not have assess to the junk food and only eat what ever is cooked at home, therefore the incidence of obesity among rural adolescents is very low as compared to their urban counterparts.

National Food Availability

Food security is achieved when a person has access to enough food to lead an active and healthy life. It is thus a prime determinant of a child's nutritional status. A report (International Food Policy Research Institute 2005), finds national food availability to be a very important factor in reducing child malnutrition rates in the past, being responsible for roughly a quarter of the reduction over 1970–95. However, it also finds that the strength of the impact of food availability depends on how high food supplies per person are. In countries with very low food supplies, such as those in Sub-Saharan Africa and South-Asia, national food availability is as important as improving women's education. But in countries where food supplies are relatively high, such as many countries in East Asia, the Near East and North Africa, Latin America and the Caribbean, they are not as important a determinant of child malnutrition.

During Post–independence, even India has a proud record of achievement in food production-from being a deficit nation. Depending upon food imports in the sixties to having become surplus in food grains in the eighties, is a saga of concerted agricultural research, extension work and development, resulting in a dramatic increase in productivity. Table 1 shows the details of the land area cultivated in different South Asian Countries, GDP percent and per capita crop production. Nearly 52% of the land area in India is under agricultural cultivation as compared to 27% in Pakistan, 68% in Bangladesh and 29% in Srilanka. The agricultural production is 34% of GDP as compared to 27% of Pakistan. The above table of South Asian countries also shows that 65% of the Indian infants in the age of 6-36 months in 1997 were suffering from stunted growth, which was the largest percentage in these countries. Similarly in 2005 (see table 2) though there is some relation between annual GDP growth rate in countries like Maldives and Nepal, but despite 4% growth rate per annum nearly half of the children's population is malnourished either moderately or severly. India has a large area of land under cultivation, and yet from all accounts endemic malnutrition and ill health resulting from malnutrition continue to stalk the country (UNICEF 1997). However, while it is an important part of the picture, from a relative standpoint, this factor does not have as strong an impact as do women's education and status.

Development does not necessarily solve the problem of disparity and deprivation. Though the state of Punjab is only 1.53% of the total geogra-

phic area of the country (Johl 2004), instead as table 2 shows that it had been the major contributor to the grain production of the country (UNICEF 1997). It has substantially added to the increase in Nation's per capita consumption of cereals from 334.2 gm per day in 1951 to 494.1 in 2001 (Johl Committee Report 2004) Punjab itself is a food sufficient state, but it includes the people of all sections of the society, rich as well as poor and there is a wide gap between the top and bottom socio-economic segments of the state. The fruits of development are enjoyed by the land owning two thirds of each village. Majority of the middle class farmers in Punjab are under heavy pressure of debt (Grewal 2004). As far as the poor, development has increased their work opportunities, their income, the total amount of food consumed by the family and the state of nutrition of the male wage earners and even the older children, but not for the other children and mothers who have more work, more food to cook and fewer opportunities for rest. As shown in table 3, 52 percent of children are suffering from malnutrition in otherwise prosperous and food sufficient Punjab.

Health Environment

The quality of the health environment, such as water cleanliness, sanitation, and access to health services, is also known to be a prime determinant of children's nutrition. The report, which uses the proportion of each country's population with access to safe water as a proxy measure, confirms this assumption. Improvements in safe water access during 1970–95 have led to major reductions in child malnutrition. (www.ifpri.org).

In both the cause and the consequence, it is inextricably interlocked with the illness and infections, which both sharpen, and are sharpened by malnutrition itself. Perhaps as many as half of all cases of severe child malnutrition for example are precipitated not primarily by the lack of food but by intestinal parasites, fever and infection – especially diarrhoeal infection- which depresses the appetite, burns the energy and drains away the body weight of the child. The net result is that every day of this last year more than 40,000 young children have died from malnutrition and infection. And for every one who has died, six now live on in a hunger and ill health which will be for ever etched upon their lives (Grant 1983). He further explains that to allow children to die like this every day is unconscionable in a world, which has mastered the means of preventing it.

Women's Education and Malnutrition

Mere economic development or even the adequacy of food at household levels are no guarantee for a stable and satisfactory nutritional status. (NIPCCD 1994). At the same time nutrition has to be tackled independently along with other developmental issues like education of the people. Majority of the people are not aware of the concept of balanced diet and significance of health and hygiene. Across the developing world women play key roles in maintaining household food security and in caring for children on a day-to-day basis, both of which are extremely important factors influencing a child's nutritional status. Women, depending on the region, are often highly involved in food production and acquisition, thus boosting food security. Since child-birth and breast-feeding can only be carried out by women, they are naturally the primary caregivers at the beginning of a child's life. And women are most often the people who feed and bathe children, seek health care when they are sick, protect them from exposure to danger, and support their cognitive and social development. Given these key roles, women's knowledge and abilities and their own physical well-being and decision-making power are crucial to children's nutrition.

It is not surprising, that women's education and status relative to men's is strongly associated with child malnutrition in developing countries. Improvements in female secondary school enrollment rates are estimated to be responsible for 43 percent of the total 15.5 percent reduction in the child underweight rate of developing countries during the period 1970–2005. The estimated contribution of improvements in women's status relative to men's is only 12 percent, mainly because there has been little progress in this area during the period in spite of its strong influence (Smith and Haddad 2000). Tables 1, 2 and 3 are also indicative of this link between women's literacy and occurrence of malnutrition. The countries (like Maldives and Sri Lanka) or states (eg. Kerala) with high female literacy are the ones which show low incidence of underweight or stunted growth among children.

If a mother knows that consumption of green leafy vegetables prevents anaemia, she would certainly include it in her own and her children's diet. Our countryside is rich in green leafy vegetables. Inclusion of groundnuts which is cheap, nutritive and easily available would prove to be a good source of protein (Sharma 1979). Mothers are ignorant about the right age of weaning the child, how to supplement his diet and proper way of cooking foods. It is because of the ignorance that the available resources are improperly used. As per UNICEF report (1991), while the villages in Punjab are in apparent prosperity and only 13 percent of the rural families in the state were below poverty line. The infant morality rate had not come down and the number of low birth weight babies had also increased during that period. When the nutritional status of low and middle socio-economic status children in rural Punjab was compared, it was found that though the higher percentage of children from low SES were suffering from mild and moderate level of long-term malnutrition than the children of middle SES, yet 36% of the girls and 26% of the boys in middle SES families were also suffering from moderate level of malnutrition (Gulati et al. 2005).

Moreover nutrition and food habits have been conditioned in India by a wide array of customs, traditions, culturally perpetuated concepts of good and bad foods, tabooed foods etc. Some of the foods which are very nutritious for children are not taken because they are thought to be hot or cold foods. Even many of the educated mothers believe in these fads and thus do not give to their children (Sharma 1979). Even when conservative families can afford to feed a good diet to both male and female children only the boys are given the rich diet and girls a much poorer one. This is mainly because of the conviction that a girl given rich food comes of age and starts menstruating earlier (Kapur 1975). Otherwise in poorer families the female children are generally neglected and sons get preference in terms of best as well as larger share of food.

Maternal education had a lot of role to play. An educated mother not only could take better care of child nutrition but also help prevent infant morbidity and mortality to a large extent. Infact maternal education was emerging as the single most significant determinant of child mortality (Caldwell 1981). Therefore, the nutritional profile of children and women as emerging from survey reports of different agencies shows that nutritional adequacy has more dimensions than national food grain self sufficiency. Indeed self-sufficiency in food production will not address the problem even of hunger or the calorie gap, unless accompanied by adequate knowledge and purchasing power. Experience shows that malnutrition and ill-health are traceable partly to economic causes and partly to educational factors. For, even while living in poverty, the health and nutrition status would be appreciably better, if people know what to do about it. Ignorance is perhaps the biggest hurdle facing the silent majority in India. Therefore, there is urgent need to emphasie and work more on nutrition education programme for mothers and children themselves.

Gender and Malnutrition

As suggested earlier, development does not necessarily solve the problem of disparity and deprivation. The health and nutrition profile of the girl child through the transition from early childhood to early womanhood does not come through as clearly as the threatened chances of her survival. There have been area specific studies on gender bias in a context of poverty, e.g. on sharing of food within a poor family. The unequal distribution of food in the family, with a definite gender discrimination against the female has been observed even in rich families but the lines of discrimination in poorer societies seem to be etched deeper (Gulati and Jaswal 1995). As earlier explained, poverty certainly contributes to higher chances of malnutrition, but this is doubly so in case of girls. Within the context of overall poverty, gender selective health care, low food intake and nutritional status, deficiency disorders and social constrictions, females are at dual disadvantage of being poor and then girls. Studies in flood - affected West Bengal suggest that in times of economic crises, girls suffer malnutrition more frequently and more severely than boys do. The boys fared far better than the girls consequent on land reform and an over all improvement in nutritional status (UNICEF 1991).

In a prosperous state like Punjab, as compared to males, higher female morbidity and malnutrition during girlhood is indicated (Gulati and Jaswal 1988; Jaswal and Gulati 1996). In a study on different agro climatic zones of Punjab, 92 % of the elementary school girls in Undulating Plain

region were assessed to be suffering from mild to severe malnutrition (Gulati et al. 2003). Nearly 50 percent of the girls and 20 percent of the boys under five years accounted for the high mortality and are nutritionally at risk (UNICEF 1991).

Available data on dietary consumption among 1-18 year olds show that girls consume much less than boys (NNMB 1975-1980). The foundation laid during girlhood is feeble and on which the capacity of young women to cope with the adult life is based. This situation has adverse effects on the health and nutritional status of young mothers and their offsprings. Among the women, expectant mothers are the worst sufferers of malnutrition leading to high incidence of prematurity, low birth- weight and consequent high morbidity or mortality, (Devdas 1980). Studies indicated that there is close association between maternal nutritional status on one hand and her off spring on the other (Palta 1987; Jain and Pathak 2002).

Child Care and Malnutrition

This dimension of child's life suffers from relative inattention. This relates to the workload of women and care available to the child at a time when he or she needs it most. It is estimated that women from the low-income groups mainly landless agricultural labour are able to devote only around half an hour per day on caring for children as compared to other household chores. Studies have shown that majority of the rural children below six years in those States where all men and women work as laborers, were taken care of by their siblings, often their elder sisters. In many of the cases these sibling caretakers are themselves below the age of six. The poorer the family the harder and longer the mothers have to work for sheer survival and the lack of time for attention to the young child becomes acute. Clearly child-care services can be made a focal point for improvements in health, nutrition and education. A review of the studies on nutritional impact of ICDS shows a lower percentage of malnutrition among pre school children in ICDS compared to non-ICDS areas. The monitoring studies conducted by All India Institute of Medical sciences confirmed similar trends to the consequences of nutrition and health components of the programme. The anganwadis that are run under ICDS meet the needs of mainly children between 3 to 6 years and. Where the services are available for younger children, the facilities are mostly in the nature of custodial care, rather than health and nutritional care. Though the family can provide the most for child development, in conditions of social, nutritional and economic deprivations, families have to be helped to care for the young child-through support for health care, nutrition, employment and education (UNICEF 1991).

The picture as emerging from the foregoing paragraphs of the situation of the young Indian child in relation to nutrition and development calls for great attention. Many factors which can help in improving the nutritional status are like small family norms, avenues for employment, safe drinking water, a clean environment, appropriate farm and food policies including prices, subsidies and land reforms, knowledge about sound feeding practices and eating habits, time to time monitoring of child growth, management of primary health services, reduction in the workload of women, and women supportive socio-cultural norms.

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