

Report No. 18667-IN

# India

## Wasting Away

### The Crisis of Malnutrition in India

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Health, Nutrition and Population Unit  
South Asia Region



## ABBREVIATIONS AND ACRONYMS

ANM	-	Auxiliary Nurse Midwife
AWC	-	<i>Anganwadi</i> Center
AWW	-	<i>Anganwadi</i> Worker
BPL	-	Below Poverty Line
CFTRI	-	Central Food Technology Research Institute
CHC	-	Community Health Center
CSS	-	Centrally-Sponsored Scheme
DPEP	-	District Primary Education Program
DWCRA	-	Development of Women and Children in Rural Areas
ECD	-	Early Childhood Development
EPI	-	Expanded Program of Immunization
FCI	-	Food Corporation of India
GDP	-	Gross Domestic Product
GNP	-	Gross National Product
GOI	-	Government of India
ICDS	-	Integrated Child Development Services Program
IDD	-	Iodine Deficiency Disorders
IIPS	-	International Institute of Population Sciences
IRDP	-	Integrated Rural Development Program
IMR	-	Infant Mortality Rate
JRY	-	<i>Jawahar Rozgar Yojana</i>
MCH	-	Maternal and Child Health
MIS	-	Management Information System
MOHFW	-	Ministry of Health and Family Welfare
NCAER	-	National Council of Applied Economic Research
NFHS	-	National Family Health Survey
NIPCCD	-	National Institute of Public Cooperation and Child Development
NIN	-	National Institute of Nutrition
NMMP	-	National Mid-day Meals Program
NNC	-	National Nutrition Council
NNMB	-	National Nutrition Monitoring Bureau
NPAN	-	National Plan of Action for Nutrition
NREP	-	National Rural Employment Program
NSS	-	National Sample Survey
NRY	-	<i>Nehru Rozgar Yojana</i>
PDS	-	Public Distribution System
PEM	-	Protein-Energy Malnutrition
PHC	-	Primary Health Center
RCH	-	Reproductive and Child Health
RLEGP	-	Rural Landless Employment Guarantee Program
SDP	-	State Domestic Product
TINP	-	Tamil Nadu Integrated Nutrition Project
TPDS	-	Targeted Public Distribution System
UIP	-	Universal Immunization Program
ZP	-	<i>Zilla Parishad</i>

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# INDIA

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## **WASTING AWAY: THE CRISIS OF MALNUTRITION IN INDIA**

### **Executive Summary**

#### **Why Review Nutrition?**

1. Despite India's substantial progress in human development since Independence in 1947, more than half of its children under four are moderately or severely malnourished, 30 per cent of newborns are significantly underweight, and 60 per cent of Indian women are anemic. Malnutrition is now seriously retarding improvements in human development and further reduction of childhood mortality.
2. This report forms part of Government of India-World Bank collaboration in nutrition which began in 1980. Its aim is to review the effectiveness, efficiency, and impact of public spending on nutrition in India, and to suggest how these might be enhanced. Several completed and ongoing GOI/Bank studies – on poverty, rural development and foodgrain marketing – complement this report. A synthesis report on food security and nutrition will be prepared in 1999.

#### **Malnutrition in India: A Changing Picture**

3. India no longer faces the famine and epidemics which kept life expectancy barely over 30 years at Independence. Despite progress in food production, disease control, and economic and social development, India accounts for 40 per cent of the world's malnourished children, with less than 20 per cent of the global child population. Malnutrition varies widely across regions, states, age, gender and social groups, being worst in children under two, in the large northern states, and among women, tribal populations and scheduled castes. Fortunately, the most severe form of malnutrition has declined by half in the past 25 years.
4. Malnutrition among young children and pregnant women – the most vulnerable groups – has three main causes: inadequate food intakes; disease – some as common as diarrhea; and deleterious caring practices, such as delayed complementary feeding. Poverty and gender inequity are among the most important factors responsible for the high level of undernourishment. Children who are malnourished are unlikely to reach their physical or mental potential. And the cost of malnutrition to India's gross domestic product (GDP) was estimated to be at least \$10 billion in 1996.

#### **The Response: What India Has Done to Improve Nutrition**

5. India has taken the problem of malnutrition seriously since Independence – more so than many other countries – and has developed appropriate policies and mounted

major programs to address it. These include the Public Distribution System (PDS), the Integrated Child Development Services (ICDS) program, the National Mid-Day Meals Program (NMMP), and several employment schemes providing food for work. ***Overall, however, these policies and programs have had relatively limited impact on nutrition among the poor, because of major problems in effective targeting, implementation, and coverage.*** For example, PDS has not reached the majority of the poor, despite absorbing 0.5 per cent of GDP. This problem was acknowledged recently in its reformulation, the Targeted PDS (TPDS). Similarly, ICDS covers less than half of the target population – with poor quality services – after more than 20 years of operation.

6. On the policy front, National Nutrition Goals set for the year 2000 may not be achieved even by 2010. India spends far less than is needed to deal with its malnutrition problem. Spending on direct nutrition programs, mainly ICDS, NMMP, and micronutrient programs, now amounts to 0.19 per cent of GNP. Sri Lanka, which successfully dealt with malnutrition in the 1980s, spent about 1 per cent of GNP on direct nutrition programs, while simultaneously improving health services, female education, and anti-poverty measures. Spending by Indian states varies dramatically, and most do not allocate resources commensurate with their levels of poverty or malnutrition.

### **Meeting the Crisis: What India Must Do**

7. The first essential requirement, if India is to be successful in dealing with malnutrition, is a higher level of sustained political commitment. This will require a policy and implementation structure which will actively lead, monitor and sustain national, state and local level action in many sectors, including agriculture, industry, water and sanitation, in addition to those implementing the programs already mentioned. It will also require a major effort to better target nutrition programs, and to substantially increase their quality and impact. Decentralization of program implementation and major involvement of *panchayati raj* institutions, where they work on behalf of the poor, will be crucial. And an annual review of progress against the nation's nutrition goals in a highly-visible national forum will be imperative to maintain the momentum.

8. Households below the poverty line (BPL)<sup>1</sup> need to be reached by all of the nutrition programs to achieve major impact: the employment schemes and Targeted PDS to assure adequate income and food availability; ICDS to meet the nutrition and health care needs of young children and pregnant women; and NMMP to provide school-age children with the incentive and nutritional support to learn. This report recommends the following priority actions for each of the major nutrition efforts:

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<sup>1</sup> India defines its "poverty line" in nutritional terms. It is the consumption expenditure level below which a household (of 5.5 persons on average) cannot meet the recommended intake of 2400 calories per adult in rural areas or 2100 in urban areas.

### Integrated Child Development Services Program

- reach 6-24 month-old children and pregnant women, especially those living in hamlets, either by hiring a second worker or by separating the pre-school education component for 3-6 year-olds from the rest of the program;
- enhance quality markedly through better training, supervision and community ownership;
- establish a reliable monitoring and evaluation system as soon as possible; and
- freeze further expansion until quality and impact are measurably improved and meet substantially higher standards in current program areas, which should be achievable within three to five years, with sincere efforts.

### Public Distribution System

- target PDS effectively to the poor, directing the entire food subsidy at the population below the poverty line;
- carefully monitor the Targeted PDS program to ensure that it reaches the poor; and
- re-allocate 10 per cent of the PDS budget to ICDS, starting in 2002 or when ICDS service quality has improved sufficiently, whichever comes later, to finance ICDS expansion to cover all those in need.

### National Mid-Day Meals Program

- target by area, using low educational attainment and poverty criteria;
- target on pre-school as well as primary school children in areas not covered by ICDS; and
- provide a mid-morning snack rather than take-home rations or a mid-day meal.

### Health Sector

- invest heavily in upgrading the nutrition skills of all health workers, including doctors, e.g., in management of moderate and severe malnutrition, counseling parents of sick children, and assuring iron-folate supplementation of all pregnant women; and

- improve collaboration between the *anganwadi* worker and the auxiliary nurse-midwife, particularly to achieve full coverage of 6-24 month-old children and pregnant women.

#### Rebuild Institutional Capacity

- rebuild India's eroded capacity for nutrition action, training, research and advocacy by making key nutrition institutions autonomous, and investing in nutrition institutions, including NIN, NIPCCD, CFTRI, colleges of home science, and nutrition-related departments in medical colleges; and
- advocate attention to nutrition much more widely, for example, among politicians, those concerned with the improvement of women's status in India, and national data collecting agencies.

9. Lost productivity, illness and death caused by malnutrition cost India at least \$10 billion every year. The cost of the above actions would be relatively small, at about \$80 million per year for ten years. The cost of expanding an improved quality ICDS could be financed by re-allocating about 10 per cent of the PDS budget after 2002. Nothing less will deal with the crisis of malnutrition in India.

## Chapter 1

### Why Review Nutrition?

#### A. The Setting

1.1 India has made substantial progress in human development since Independence in 1947. In 50 years, life expectancy has doubled, mortality has fallen by more than half, and fertility has declined by more than two-fifths. Poverty levels have been reduced by about two-fifths, from over 50 per cent in the 1950s to 35 per cent in the 1990s. Nutritional status has also improved. Famine no longer stalks the land, the country has become self-sufficient in food – one of the world's great achievements in development – and the extreme ravages of malnutrition, such as kwashiorkor and marasmus, are now relatively rare. Yet more than half of Indian children under five are moderately or severely malnourished, 30 per cent of newborns are significantly underweight, and 60 per cent of Indian women are anemic. These manifestations of malnutrition are unacceptable. They reflect the neglect of children and women and their high risk of illness and death. They end in failure to achieve full physical and mental potential, lower productivity, and blighted lives.

1.2. Improvements in nutritional status have not kept pace with progress in other areas of human development, for several reasons. First, nutritional status is closely linked to poverty and gender inequity, both of which remain grave problems in India. Second, most malnutrition<sup>2</sup> is less visible than other forms of human suffering, and hence commands less urgent attention. And third, improvements in nutrition require a relatively complicated and inter-related set of actions for which substantial capacity, coordination and commitment are essential. Malnutrition *is now seriously retarding improvements in human development more broadly*. For example, there is growing evidence that reductions in infant and child mortality are becoming increasingly hard to achieve. From 1991 to 1995, the infant mortality rate (IMR) declined by 7.5 per cent, compared with 17 per cent in the period 1986-1990. Malnutrition is now a *silent emergency* which demands greater priority than ever before in Independent India.

#### B. The Reasons for a Review

1.3 The Government of India (GOI) and the World Bank have collaborated to improve nutrition since 1980, when the Tamil Nadu Integrated Nutrition Project (TINP) began. Since then, the Bank has financed a second phase of TINP, and four projects in support of the Integrated Child Development Services (ICDS) program in nine states. Bank assistance to India has totaled \$753 million, equivalent to more than one quarter of Bank assistance to nutrition worldwide over the past 18 years. Within India, Bank assistance to Central Government expenditures on ICDS doubled from about 15 per cent to 30 per cent between 1991 and 1998.

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<sup>2</sup> In this report, malnutrition is defined as poor nutritional status caused by some combination of low food intake, illness, and inadequate care. We include micronutrient deficiencies in the term "malnutrition", but not the problems of overnutrition (e.g., obesity), although these are increasing among the affluent in India.

No other donor, except UNICEF, provides sizeable support to ICDS, but CARE and the World Food Programme give commodity assistance. In 1997, the GOI and the Bank agreed to conduct a collaborative review of nutrition to inform further joint action in this area. Accordingly, the objective of the analysis and dialogue summarized in this report is to review the effectiveness, efficiency and impact of public spending on nutrition programs in India, and to identify how these could be enhanced.

1.4 The GOI and the Bank are concurrently collaborating on a series of related analyses, including “Reducing Poverty in India: Options for More Effective Public Services”, “Rural Development: Options for a Growth, Poverty Oriented Fiscal Adjustment Strategy”, and a planned “Summary Report on Food Security and Nutrition in India”. This report will contribute to and complement these other studies.

1.5. The report will focus on selected major issues which have emerged from ongoing dialogue between the Bank and Government and non-governmental counterparts, including a National Nutrition Workshop on September 2-3, 1998, and a GOI-Bank workshop on June 17, 1998. It draws extensively on background papers by Professors James Levinson and R. Radhakrishna and the large body of literature on nutrition programs in India. Chapter 2 describes the changing face of nutrition in India, and the current situation, causes and consequences of malnutrition. Chapter 3 summarizes plans and programs implemented since Independence, and discusses the extent to which the poor are being reached by these efforts, their effectiveness and efficiency, and public spending on nutrition. Chapter 4 sets forth conclusions and recommendations for action in four areas:

- building India’s commitment and institutional capacity to combat malnutrition;
- enhancing the quality and impact of ICDS to substantially higher levels;
- strengthening nutrition action by the health sector; and
- improving food security at the community and household level.

## Chapter 2

### Malnutrition in India: A Changing Picture

#### A. Progress since Independence

2.1 Prior to 1947, national food shortages and a very high burden of disease, often resulting in famine and epidemics, kept life expectancy in India barely over 30 years. Low agricultural production, undeveloped transportation systems, discrimination based on gender and caste, and woefully inadequate water and sanitation, made life short and harsh for the majority of Indians. Extreme forms of protein-energy malnutrition (PEM) and deficiencies of micronutrients (Vitamins A, B, C and D, iodine and iron) were commonly seen.

2.2 Since Independence, India has made great strides in food production and distribution, and in the control of infections, which have significantly changed the nutrition picture. Several vitamin deficiency diseases have abated or greatly diminished. By the mid-1960s, nutritionists and medical practitioners had begun to use growth retardation in children as the main yardstick of malnutrition, a more subtle measure than the frank signs of malnutrition which were visible earlier. Degrees of underweight for age were classified as "severe", "moderate" or "mild". Today these are the main indicators of malnutrition among individuals (children); they are also a marker of households where food, health and/or caring practices are inadequate.

#### B. The Current Situation

2.3 The Silent Emergency. India accounts for less than 20 per cent of the world's child population but it has 40 per cent of the malnourished children. PEM is the most widely prevalent form of malnutrition among children: over half (53 per cent) of those under four years old have the moderate and severe forms (International Institute of Population Sciences (IIPS), 1995). India, and South Asia as a whole, have higher rates of malnutrition than any other region of the world, including sub-Saharan Africa. Among large countries, India ranks second only to Bangladesh in the proportion of young children affected. In addition, iron deficiency anemia is rampant among children and women, especially pregnant women. A nationwide survey found that 87 per cent of pregnant women were anemic (Indian Council of Medical Research, 1989). Vitamin A and iodine deficiency diseases are the other serious problems, concentrated in specific areas. These micronutrient deficiencies seriously affect physical and mental performance in individuals, in addition to increasing the country's burden of disease.

2.4 Malnutrition varies widely across regions, states, age, gender and social groups, being worst in children under two, in the populous northern states, in rural areas, and among women, tribal populations and scheduled castes. For example, in Kerala, 29 per cent of children under four are moderately or severely underweight, while the corresponding figures for Bihar and Uttar Pradesh are 63 and 59 per cent, respectively (IIPS, 1995).

2.5 Evidence from many sources demonstrates that malnutrition, while still unacceptably high, has declined substantially in the past two decades. For example, National Nutrition Monitoring

Bureau (NNMB) data from eight states show that severe protein-energy malnutrition declined from 15 per cent in 1975 to less than 7 per cent in 1996 among 1-5 year-old children, and severe and moderate malnutrition combined among these children declined from about 63 per cent to 49 per cent in the same period. The National Family Health Survey of 1992-93 provides the comparable figure of 53 per cent severe and moderate malnutrition among 0-4 year-olds in the country as a whole. Similar progress is evident in micronutrient malnutrition.

### C. Causes and Consequences of Malnutrition in India

2.6 Malnutrition is most serious amongst the biologically most vulnerable – young children, particularly those under two, and pregnant women. Very young children require much more food per kilogram of body weight than adults, a fact that is inadequately understood. The vulnerability of women in pregnancy is also related to their nutritional status during adolescence.

2.7 Malnutrition results from a combination of three key factors: inadequate food intake; illness; and deleterious caring practices. Underlying these are household food insecurity, inadequate preventive and curative health services, and insufficient knowledge of proper care. In India, household food insecurity stems from inadequate employment and incomes; seasonal migration, especially among tribal populations; relatively high food prices; geographic and seasonal maldistribution of food; poor social organization; and large family size. The country still has a high burden of disease, especially of preventable communicable diseases, and inadequate health services. In addition, caring practices in the home – including feeding, hygiene, home-based health care, decisions to use available health services, and psycho-social stimulation of children are inadequate, due substantially to the lack of education, knowledge, skills and time among families, especially mothers. These problems have their roots in the socio-cultural and economic processes that determine access to and control over resources, including information, education, assets, income, time and, even, how resource-allocation decisions are made in society.

2.8 A major determinant of PEM is household caloric inadequacy. According to the 1993-94 round of the National Sample Survey (NSS), the most recent major round available, about 80 per cent of the rural population and 70 per cent of the urban population had caloric intakes below the 2400 calories per adult recommended for rural areas and 2100 calories recommended for urban areas, respectively. In 1993-94, the poorest 30 per cent of India's population (or about 300 million people) consumed, on average, fewer than 1700 calories per day. The poorest 10 per cent consumed less than 1300 calories per day (Shariff and Mallick, 1998). At lower levels of caloric intake, people simply do not survive for long.

2.9 While poverty largely explains the high level of malnutrition in India, additional factors are responsible for the concentration of the problem among women and children. ***Foremost is the low status of women in Indian society, which results in women and girls getting less than their fair share of household food and health care.*** Adult women comprise one-third of India's labor force, and are usually engaged in heavy manual tasks which place additional caloric demands on them. Women's heavy burden of child-bearing adds to the problem: India's total fertility rate is still 3.5 children per woman. Poor eating habits during pregnancy itself – such as

“eating down” in fear of a difficult delivery caused by a large baby -- and food taboos are widespread even among urban dwellers. The majority of Indian women are not reached by education, or even nutrition and health information of practical relevance, which could help to rectify some of these problems. Inadequate diets among the poor, skewed intra-household distribution of food, and inadequate caring practices, result in the high rate of anemia and inadequate weight gain among pregnant women, and low birthweight among their infants.

2.10 Lack of information and education among women also underlies child malnourishment. Low birthweight babies will most likely remain in a low growth trajectory, susceptible to malnutrition, disease and death. While breastfeeding fortunately remains a prevalent practice in India, exclusive breastfeeding is rare, and the use of inappropriate liquids such as “sugar-water” conveys infections which cause growth faltering to begin soon after birth. In addition, the age of introduction of nutritious complementary foods is unacceptably high. The average Indian child in a poor family still receives little other than breast milk and unhygienic fluids up to the age of nine months, instead of beginning on other foods around five months. Thereafter, although semi-solid foods may be given, young children are fed an insufficient number of times a day, and get a diet of inadequate quality. Coupled with the heavy load of infections, and the lack of basic health care, children fall into low-growth paths and often succumb to one of the common illnesses -- diarrhea or acute respiratory tract infections being amongst the commonest causes of death.

2.11 Malnutrition is directly or indirectly associated with more than half of under-five deaths worldwide. While India has successfully brought down infant mortality from 146 per 1000 live births in 1951 to 72 in 1996 (GOI, 1998), most of the children who survive are malnourished. Indeed, widespread malnutrition among children and mothers is a major barrier to further reduction in mortality rates, including those among pregnant women. India’s maternal mortality ratio (MMR, of 420 per 100,000 live births; IIPS, 1995) is unacceptably high. The country accounts for approximately one-quarter of all maternal deaths the world over.

2.12 High levels of anemia, low pregnancy weight gain, repeated acute infections, major chronic diseases such as tuberculosis, and inappropriate management of deliveries are important determinants of maternal and infant deaths. A large proportion of adult Indian women are at high risk of maternal mortality – their low pre-pregnancy height or weight may cause obstetrical difficulties. Moreover, a vicious inter-generational cycle commences when a malnourished or ill mother gives birth to a low birthweight girl child: she remains small in stature and pelvic size due to further malnourishment, and produces malnourished children in the next generation.

2.13 Malnourishment can also significantly lower cognitive development and learning achievement during the pre-school and school years, and result later in low worker productivity. Nutritional anemia is implicated in low physical and mental performance, and is exacerbated by common worm infestations. Malnutrition not only blights the lives of individuals and families, it also reduces the returns on investment in education and acts as a major barrier to social and economic progress. Malnutrition reduced India’s gross domestic product by between 3 and 9 per cent in 1996, or approximately \$10-28 billion (Administrative Staff College of India (ASCI), 1997). The higher figure is greater than the sum of India’s current public expenditures on nutrition, health and education combined.

**2.14** *While mortality has declined by half, and fertility by two-fifths, malnutrition has only come down by about one-fifth in the last 40 years. The inescapable conclusion is that further progress in human development in India will be difficult to achieve unless malnutrition is tackled with greater vigor and more rapid improvement in the future than in the past.*

## Chapter 3

### The Response: What India has Done to Improve Nutrition

#### A. Of Goals, Plans and Programs

3.1 Following a long history of nutrition efforts, India established National Nutrition Goals for the year 2000 in 1993. The most important of these are:

- to reduce severe and moderate malnutrition among young children by half;
- to reduce the incidence of low birthweight to less than 10 per cent;
- to eliminate blindness due to vitamin A deficiency;
- to reduce iron deficiency anemia in pregnant women to 25 per cent;
- to reduce iodine deficiency disorders to 10 per cent through salt iodization;
- to produce 250 million tons of foodgrains; and
- to improve household food security through poverty alleviation programs.

However, as the year 2000 approaches, it is clear that none of these goals is likely to be met: the rates of malnutrition and poverty remain far higher than planned, and foodgrain production is below expected levels. What has gone wrong? This chapter examines what India has done to address the malnutrition problem since Independence, and why these efforts have failed to produce the expected results.

3.2 Since the 1950s, India has, relative to most other countries, taken its malnutrition problem seriously in policy-making and planning, and mounted important programs to address it. In the first two Five-Year Plans (1952-61), nutrition efforts consisted of public health measures to prevent nutritional deficiencies, maternal and child feeding and school feeding programs, and development of the food and vitamin industries. During the 1960s, increased food production was the advocated solution, and India's achievement of self-sufficiency in food grains as a result of the Green Revolution in the 1970s is well known.

3.3 These approaches formed the core of integrated efforts to address malnutrition, based on an understanding of its multiple causation. The first national nutrition scheme, the Applied Nutrition Programme, introduced in 1961, combined a demonstration approach to increasing food production at the village level ("kitchen gardening" or "nutrition extension") with an important new element: nutrition education. Recognition that malnutrition persisted despite the achievement of national self-sufficiency in food led to increased emphasis on supplementary feeding programs, and the health sector launched national prophylactic schemes against anemia and nutritional blindness (vitamin A deficiency), targeted at women and children.

3.4 In the Fifth Plan (1974-79), India introduced the Integrated Child Development Services (ICDS) scheme, which combined nutrition and health education, supplementary feeding, maternal and child health services, and preschool education. This program is the longest-running of India's nutrition efforts, and the world's largest nutrition program. It expanded rapidly from 100 blocks at the end of the Fifth Plan period to 1000 in the Sixth Plan (1980-85), about 2000 in

the Seventh (1985-90), and over 4000 or 70 per cent of the 5738 development blocks in the country during the Eighth Plan period (1992-97). Although the Government of India proposed to universalize the program (i.e., to cover all rural areas and urban slums in the country) during the Eighth Plan period, it ran short of resources, leaving this goal to be achieved, possibly during the Ninth Plan (1997-2002).

3.5 The 1980s also saw the extension of the Public Distribution System (PDS), and food-for-work gained importance as a household nutrition support measure through the National Rural Employment Program (NREP). Various state-level schemes aimed at alleviating poverty were also developed. The well-known “two-rupee rice scheme” provided a large food subsidy, which has subsequently been reduced, to the people of Andhra Pradesh, and inspired modifications of the PDS. A first revision, the Revamped PDS, focused on providing subsidized food to “all people in poor areas,” while the Targeted PDS (TPDS), which began in 1997, aims to provide food for “poor people in all areas.”

3.6 Maharashtra’s successful Employment Guarantee Scheme ultimately encouraged the revamping of centrally-sponsored employment programs such as the Rural Landless Employment Guarantee Programme (RLEGP), which was combined with the NREP to form the (rural) *Jawahar Rozgar Yojana* (JRY) in 1989 (and urban *Nehru Rozgar Yojana* in 1990). These schemes provide direct nutrition support to participating households by paying part of the workers’ wages in the form of foodgrain (1 kg per person-day worked). This approach was carried forward by the Employment Assurance Scheme (EAS), and the recent TPDS also makes provision for grain payments to workers from households below the poverty line (BPL).

3.7 In Tamil Nadu, the Chief Minister’s Noon Meal Program began in the late 1980s to feed large numbers of pre-school and school children daily. The apparent success of this scheme, the presence of school meal programs in several other states, and the availability of large buffer stocks led to the expansion of mid-day meals as a national program in 1995. Over time, the micronutrient supplementation programs run by the Ministry of Health and Family Welfare, namely, the National Anemia Prophylaxis Programme, Vitamin A distribution, and National Iodine Deficiency Disorders Control Programme have also expanded nation-wide.

## **B. Nutrition Policy for the Twenty-First Century**

3.8 India formulated its National Nutrition Policy in 1993 (GOI, 1993). The policy stresses the importance of direct nutrition interventions for vulnerable groups, including the expansion of ICDS, nutrition and health education, programs for adolescent girls, better care of pregnant women, and control of micronutrient deficiencies. In addition, the policy calls for longer term institutional and structural changes through land reforms, increased and balanced food production, improved incomes, PDS, education, information and communication, nutritional surveillance, and community participation. The policy also mentions the need to pay special attention to landless laborers, urban slum dwellers, hill people, seasonal nutrition problems, natural disasters, and the emerging problems of overnutrition among the affluent. It provides a framework for several nutrition-relevant sectors to work toward nutritional objectives and measure their achievements against nutritional goals. While implementation responsibility is

spread across many sectors, the Department of Women and Child Development (which manages the ICDS program) is charged with monitoring progress toward achievement of the National Nutrition Goals (para 3.1).

3.9 A National Plan of Action for Nutrition (NPAN) laid out actions for 14 concerned sectors (GOI, 1995). Some of the guiding principles of the NPAN are: emphasis on the needy; sectoral coordination and convergence of services; participation of local governments and NGOs; widespread information and education and social mobilization; detailed problem analysis, use of management information, and appropriate operational research. The NPAN discusses the mobilization of resources for nutrition interventions, placing responsibility with the state governments, local government bodies, and communities. A National Nutrition Council (NNC) was constituted in 1995 to oversee implementation of the NPAN and state-level councils were also to be set up. While all these efforts are in the right direction, their potential has yet to be realized.

### **C. Current Nutrition Programs: How Well Do They Work?**

3.10 India will enter the 21<sup>st</sup> century with a supportive policy framework to tackle its immense malnutrition problem, and several active programs which could succeed in reducing malnutrition significantly. The most important programs are the ICDS, the TPDS, food-for-work through JRY, NRY and EAS, the National Mid-Day Meals Program (NMMP), and the micronutrient (iron-folate and vitamin A distribution, and salt iodization) schemes. These programs aim to reach significant segments of India's undernourished population -- poor households through the PDS and employment schemes, young children and mothers through the ICDS and health efforts, and school children through the NMMP. Brief reviews of each program are provided below. This report does not deal with the functioning, expenditures or impact of wages provided through JRY, NRY or EAS, nor with India's credit programs for the poor, the Integrated Rural Development Programme (IRDP) and the program for Development of Women and Children in Rural Areas (DWCRA). Although these programs may have nutritional impacts, these would derive from increased incomes and consumption expenditure.

3.11 There are few direct private sector efforts for nutritional improvement among the poor. Some NGOs concerned with health have focused on the treatment or prevention of malnutrition among women and young children; and some broad-based development efforts have, for example, supported community nutrition measures, such as grain banks or food distribution. In the aggregate, however, these efforts reach a miniscule proportion of the country's poor, and would need to be multiplied several hundred-fold to have a significant impact on India's malnutrition problem. In the short term, efforts would be useful to increase the attention of private medical practitioners to nutrition, of media to malnutrition and its effects, and to disseminate information about successful NGO programs.

### **Targeted Food Supplementation**

3.12 The Integrated Child Development Services Program (ICDS). ICDS provides six services to 0-6 year-old children and mothers: supplementary feeding; immunization against the

preventable diseases of childhood; health check-ups and referral; health and nutrition education to adult women; and pre-school education to 3-6 year-olds. Although the 0-6 year-old population of areas covered by ICDS is already 63 million, and the population of pregnant and lactating women is 13.6 million, only 30 million children and 5.2 million mothers are actually covered by supplementary feeding and 15 million 3-6 year-olds by pre-school education. Coverage figures are not available for the other services. ICDS also includes, in fewer than 10 per cent of the 4200 program blocks, schemes for adolescent girls' nutrition, health, awareness and skill development; and in some areas it has been linked with women's income-generating programs. All ICDS services are delivered through a village center, the *anganwadi*, by a trained village woman who is assisted periodically in the health tasks by an Auxiliary Nurse Midwife (ANM) from the health sub-center.

3.13 The program is targeted at poor areas, and increasingly at poor households. Program guidelines call for the food supplements (which are limited to 40 per cent of the expected beneficiary population of an *anganwadi*) to be given preferentially to children and pregnant women from households at high risk of malnutrition -- those of landless laborers, marginal farmers, scheduled castes or tribes. The adolescent girls' and women's programs are intended to improve health and nutrition over the longer term through improvements in women's skills and access to resources. However, evaluations of ICDS have found its impact on nutritional status to be limited (NFI, 1988; NIPCCD, 1992). Among the reasons for this are:

- inadequate coverage of children below 3 years of age, of those at greatest risk of malnutrition, and of women and children living in hamlets;
- irregular food supply, irregular feeding and inadequate rations;
- poor nutrition education of mothers (and none of families) to encourage improved feeding practices in the home and other relevant behavioral changes;
- inadequate training of workers, particularly in nutrition, growth monitoring, and communication;
- *anganwadi* worker (AWW) overload, and weak and unsupportive supervision of AWWs, resulting in the neglect of crucial nutrition-related tasks; and
- poor linkages between ICDS and the health system.

3.14 *In general, the quality of ICDS services is low. Although the services are much in demand, they are generally poorly delivered and uncoordinated. Worker training, in-service supervision, community support – indeed, community involvement in any sense – remain major gaps. Although there are exceptions, anganwadi facilities and environments are sorely inadequate and the program does not inspire the good health, hygiene and nutrition-related behaviors that are so essential to changing the status of children and women in poor*

***households. To make a significant impact on nutrition and health, a great number of improvements are needed in ICDS – which are described in Chapter 4.***

3.15 The National Mid-Day Meals Programme (NMMP), which began in 1995, aims to increase primary school attendance and retention, as well as to improve the nutritional status and learning achievements of school children, generally in the 6-11 year age-group. Some states, e.g., Andhra Pradesh, emphasize education of the girl child through this program. It purportedly covers 91 million children, but the actual number fed is far lower than this. School meals are provided in many areas in five states, while take-home rations are the norm in the majority of states. About 23 per cent of the GOI education budget in 1997-98 and 16 per cent in 1998-99 were earmarked for this program. The program is currently short of funds and continuation of its existing coverage is therefore uncertain.

3.16 While the NMMP is believed to have increased the numbers of children attending school, its impact on nutritional status and cognitive development among the children is unknown. In other countries, school feeding has been found to increase learning achievement more when provided as a “breakfast” to hungry children than as a noon meal. The NMMP strategy, which provides a child who has attended school regularly with a take-home ration of 3 kgs of dry cereal, will have no impact whatsoever on the nutritional status of that child unless she/he consumes the food. To enhance nutrition and health status, food intake would need to be assured and accompanied by deworming, vitamin A and iron, and control of infections. These improvements in the NMMP would require state commitment to providing cooked meals at school, substantially increased management capacity, improvements in the school health program, and a larger quantum of resources than is currently available from either GOI or the state governments. Most countries have found universal school feeding programs unsustainable.

3.17 An objective evaluation of NMMP is urgently required to measure its impact on enrolment, retention and learning. This would provide the basis for necessary programmatic changes. But even without such an evaluation, ***given GOI and state resource constraints, there is a strong case for area targeting of the NMMP, for example, to districts chosen on the basis of low school attendance and high poverty ratios. In addition, in blocks not covered by ICDS, program resources could be reallocated to younger children attending preschool centers run by the Department of Education, as they are usually more malnourished than primary school-aged children.***

### **Micronutrient Programs**

3.18 The National Nutritional Anemia Control Programme aims to reduce anemia among women of reproductive age and pre-school children by providing iron-folate supplements, identifying and treating cases of severe anemia, and promoting the consumption of iron-rich foods. In 1992, about 50 per cent of women received iron-folate supplements during ante-natal care, though significant differences in coverage were found between urban and rural areas, and by age, education, and number of children (IIPS, 1995). The majority of poor women do not obtain adequate supplementation. Major shortages of iron-folate tablets have plagued the

program continuously. Other problems include: lack of worker motivation to distribute tablets, and inadequate education of women and communities about their value -- many women who receive the tablets do not consume them. As a result, India's very high rates of anemia persist, especially among pregnant women, and the impact of severe anemia on birthweight and maternal mortality is profound.

3.19 The Vitamin A Prophylaxis Programme targets children between 1 and 5 years of age for a six-monthly dose (200,000 IU) of vitamin A, and 6-11 month-old infants for a 100,000 IU dose. Therapeutic doses are given to those with detected deficiencies, and the program promotes improved dietary intake of vitamin A-rich foods. The Ministry of Health reported 68 per cent coverage of 6-11 month olds, and 25 per cent coverage of 1-5 year-olds in 1996, but field reports suggest that coverage is considerably lower. Persistent shortages of Vitamin A restrict the program, along with poor logistics and low community awareness. ICDS has the potential to address at least the last two of these problems.

3.20 The National Iodine Deficiency Disorders Control Programme, which has concentrated largely on ensuring the iodization of salt, is the most successful of the micronutrient programs. However, production of iodized salt falls far short of requirements, and quality control and transportation remain bottlenecks. Although most states have banned the sale of non-iodized salt, this is still available widely, even in goiter-endemic areas. The poor probably benefit least from this measure as they are more likely to consume unprocessed salt.

### **Food Subsidy Programs**

3.21 The Public Distribution System (PDS). India spends approximately 0.7 per cent of its gross domestic product (GDP) on food subsidies (Radhakrishna, 1997), including 0.5 per cent on the Public Distribution System. PDS, which is essentially untargeted, began in the late 1950s to support grain prices and assure buffer stocks when supplies were short. PDS provides cereals and other essential items to card holders at subsidized rates. There are 400,000 Fair Price Shops throughout the country, up from about 48,000 in 1960, supplied with centrally-issued foodgrains through the Food Corporation of India (FCI) and state procurement. The program purportedly covers 85 per cent of people in the country, though the actual coverage is closer to 60 per cent. The amount of foodgrain distributed reached 20 million metric tons in 1997.

3.22 While PDS has been an important buffer against local food shortages, it has fallen short in many respects as a measure to provide food security to the poor. It has been inadequately targeted, with a large number of beneficiaries actually coming from non-poor households. Many of the poorer states do not obtain the requisite quantities to cover their needy populations -- they take less than their share of supplies from the PDS mainly because of weak administrative capacity and inability to move the food stocks. There are serious leakages in the program, with supplies often finding their way to the open market. The PDS is a high-cost operation relative to the caloric support it provides: it costs about three times as much for the PDS to provide a given number of calories to a household, compared with ICDS (Subbarao, 1990). Most important of all, as late as 1997, access of the poor to the PDS was very limited, and particularly weak in the states with the highest incidence of poverty (Subbarao, 1997).

3.23 The Targeted Public Distribution System (TPDS). In early 1997, the Central Government introduced the Targeted PDS (TPDS) aimed at better coverage of households below the poverty line. Under the TPDS, BPL households are given a special identity card to obtain up to 10 kg of rice or wheat per month at half the issue price. The Central Government will allot adequate stocks to each state to cover the requirement for BPL households and, in most states, it will allocate additional amounts for those above the poverty line as a transitory measure. The TPDS guidelines imply that the second, non-targeted channel will be phased out gradually. However, while the TPDS is designed to improve food supplies in the poorest households, it has not gone far enough in a number of ways. The quantity of subsidized grain provided amounts to a marginal supplement of 100 calories per person per day, far less than the estimated gap of poor people in rural areas. Secondly, the PDS in most states will still provide large quantities of subsidized food to non-poor households, although this food could be targeted at needy children and mothers, for example, through ICDS. While politicians may waiver at such reallocation, it is likely that more rural poor households would be helped immediately through ICDS than through TPDS because of its wider reach and targeted nature. Finally, it is unclear how the TPDS will plug leakages, particularly in the absence of a rigorous monitoring system.

3.24 India's food grain production has continued to increase fairly steadily, though population growth has eroded these gains somewhat. Per capita availability of foodgrains was 384 kgs in 1960 and 464 kgs in 1996. Unfortunately, however, the production of pulses, an important constituent of the vegetarian Indian diet, has fallen from 65.5 kgs per capita to 34 kgs in the same period, although availability has been boosted somewhat by imports. To ensure proper nutrition, adequate quantities of pulses or other protein-rich foods such as milk, eggs, or meat (which are also in short supply) must become more widely accessible, requiring increased production, improved distribution and consumption. Unless the prices of these commodities are reduced substantially – through vastly increased availability – they will remain out of reach of the poor.

3.25 There is little independent corroboration of the extent to which the employment programs have supplemented the incomes and food available to the poor, though they are intended for this purpose. The programs are unfortunately fraught with leakages so that official data on the number of person-days of work cannot be assumed to accrue fully to the poor. The efforts of the employment programs to provide household food support by part payment in grain have been poorly implemented, and the programs have also fallen short of meeting other nutritionally-relevant objectives, such as ensuring that 30 per cent of beneficiaries are women, or raising participant families above the poverty line.

### **What is Wrong in the Aggregate?**

3.26 Although we have pointed out the main deficiencies in each of the nutrition-related programs being implemented in India, it is also necessary to ask why the programs taken together have failed to combat malnutrition successfully. Each program appears well-conceived, but in most cases implementation has been weak – particularly with regard to ensuring the access of the poor; and there are virtually no synergies between them. Overall, the direct nutrition programs are insufficient to the task, uncoordinated, lack regular monitoring and evaluation, and have limited impact. If the current programs were properly targeted, rationalized and improved in

quality, they could succeed in substantially reducing malnutrition within the next two decades, particularly in the context of India's projected economic growth over this period. Recent developments in India, such as economic reforms, globalization processes, and the high skill-intensity of demand for labor, may increase the poor's vulnerability to shocks, and emphasize the need to strengthen programs such as ICDS and TPDS.

3.27 Although the nutrition-specific actions are embedded in a broader policy framework that emphasizes employment-intensive economic growth, greater access to social services, and specific poverty alleviation measures, the potential synergies among these wider efforts and the direct nutrition programs remain largely undeveloped. The Department of Women and Child Development has not been able to bring about coordination among the many institutions involved in the nutrition-related sectors. Indeed, without adequate support from the ministerial-level National Nutrition Council, it is unlikely to be able to do so. Furthermore, unless the Department itself is strengthened, it would not be able to play a more forceful role in advocating enhanced efforts for nutrition.

3.28 The grinding poverty of rural (and urban slum) India suggests that BPL households need to be reached by *all* of the programs mentioned above: the employment schemes and TPDS to ensure adequate income and food availability to poor households; ICDS to care for the nutrition and health care needs of vulnerable women and children; and the NMMP to provide school children with both the incentive and nutritional support to learn. However, the affordability of all these programs is questionable and, therefore, in the context of inadequate resources, it is necessary to examine their relative costs and contribution to achieving nutritional objectives. This is done in the next section.

#### **D. Government Spending on Nutrition Programs**

3.29 Nutrition Spending by the States. Table 1 provides information on nutrition spending in 12 major states during the 1992-1995 period as a percentage of their State Domestic Product (SDP). Nutrition spending varies widely by state, with no apparent correlation with the level of need, as measured by either the extent of poverty, the prevalence of malnutrition, or the state domestic product (SDP)<sup>3</sup>. Of the 12 major states for which data are available, nine spent less than 0.25 per cent of SDP, Orissa and Gujarat spent between 0.25 per cent and 0.5 per cent, and only Tamil Nadu spent more than 0.5 per cent of SDP.

3.30 Examining nutrition expenditure per child reveals a similar picture. Among the 12 states surveyed, per child expenditure in 1994-95 ranged from a high of Rs. 317 in Tamil Nadu to Rs. 31 in Rajasthan and West Bengal. Expenditures per malnourished child in the 12 states ranged from Rs. 732 in Tamil Nadu to Rs. 36 in West Bengal. Radhakrishna and Narayana (1993) reported that per child expenditure on nutrition was also very low in the poor states of Uttar Pradesh and Bihar throughout the period 1974-1990. Tamil Nadu accounted for 7 per cent of the

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<sup>3</sup> As the relationship between these variables is complex, and data are for overlapping years, we cannot impute cause and effect between levels of spending and malnutrition or poverty levels.

malnourished children in the 12 states in Table 1, but for 37 per cent of the total nutrition expenditure. On the other hand, Rajasthan, Madhya Pradesh and West Bengal accounted for half of the malnourished children in the 12 states, but spent only about one-fourth of the total expenditure in 1994-95. In sum, most of the 12 states were not allocating resources to nutrition commensurate with their malnutrition or poverty problem.

3.31 Public spending on nutrition programs is a necessary but not sufficient condition for reducing malnutrition, which is a function of many variables. For example, Rajasthan has less malnutrition than Tamil Nadu, despite spending far less as a proportion of SDP (see Table 1). Similarly, there is little correlation between state-level spending on health programs and levels of mortality. Nutritional status, like health status, is determined by multiple factors: income and poverty; educational attainment; gender equity; and historical rates of investment in the social sectors and on anti-poverty programs, to name a few.

**Table 1. Nutrition Spending in Selected States, 1992-1995**

State	Population Below Poverty line (per cent)	Severe and Moderately Malnourished Children (per cent)	Net Annual State Domestic Product Per Capita (Rs.)	Nutrition Spending As a Per Cent of State Domestic Product		
				92-93	93-94	94-95
Andhra Pradesh	23	49	5718	0.11	0.10	0.11
Assam	41	50	4973	0.11	0.12	0.17
Gujarat	24	50	8164	0.31	0.31	0.29
Haryana	25	38	9037	0.17	0.17	0.16
Karnataka	33	54	6315	0.08	0.08	0.10
Kerala	25	29	5768	0.10	0.09	0.12
Madhya Pradesh	43	57	4544	0.20	0.16	0.18
Maharashtra	37	54	9806	0.08	0.08	0.08
Orissa	49	53	4114	0.32	0.33	0.36
Rajasthan	27	42	5257	0.09	0.12	0.13
Tamil Nadu	35	48	6670	0.62	0.53	0.58
West Bengal	36	57	5541	0.07	0.08	0.08

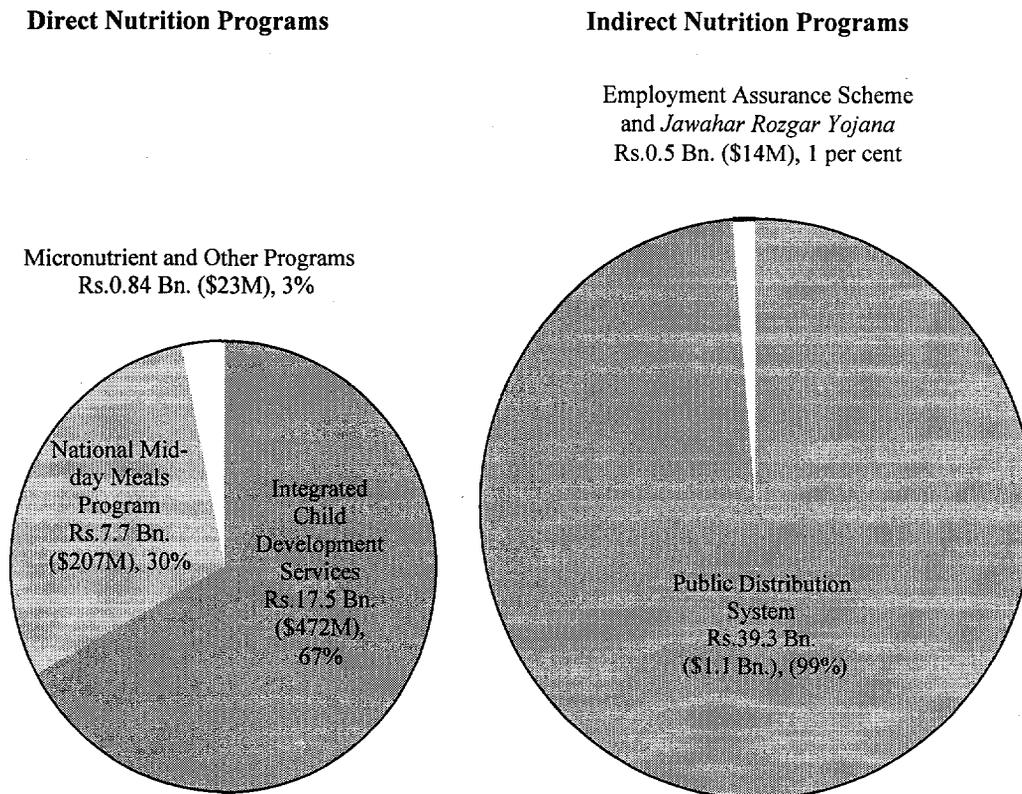
**Note:** Nutrition spending figures include GOI and state government expenditures on ICDS, NMMP and other nutrition programs.

**Sources:** State government budgets; Planning Commission, "Expert Group on Estimation of Proportion and Number of Poor, 1993-94;" and International Institute for Population Sciences (IIPS), National Family Health Survey (MCH and Family Planning) India, 1992-93. (Bombay, 1995).

3.32 Total Government Spending on Nutrition. GOI and state spending on direct nutrition programs consists predominantly of the ICDS, NMMP and micronutrient programs. Figure 1 provides a rough estimate of the average expenditures on these programs for the period 1995 to

1998. India spends a considerably larger amount on indirect nutrition programs, even if only the cereal subsidy component of PDS and the food grain component of the centrally-funded employment programs are included (Figure 1).

**Figure 1. Average Annual Total Government Spending on Direct and Indirect Nutrition Programs, 1995-1998**



**Note:** ICDS costs include GOI and state-financed supplementary food expenditures; NNMP costs are all GOI expenditures; Micronutrient & Other Program costs include GOI expenditures on National Iodine Deficiency Disorders Control Program plus 5 per cent of the Department of Family Welfare budget to cover the Iron and Vitamin A distribution programs; PDS costs are the total cereal subsidy and EAS/JRY costs are for the food grains provided.

**Sources:** Central Government expenditure budgets, Departmental budgets and Economic Survey, 1997-98.

3.33 India spends far less on nutrition programs than what is needed to reduce the extent of malnutrition among children under five years of age and pregnant and lactating women. From 1985 to 1990, the average annual expenditure by the states and GOI on direct nutrition programs (mainly ICDS and NNMP) amounted to 0.15 per cent of gross national product (GNP) (Subbarao, 1993). Spending has increased in the 1990s, as a result of the expansion of ICDS and of the NNMP in 1995 and now amounts to about 0.19 per cent of GNP. In contrast, Sri Lanka, a country recognized to have achieved considerable success in reducing the level of malnutrition, spent about 1 per cent of its GNP on direct nutrition programs during the mid-1980s (World Bank, 1993). Given the magnitude of the malnutrition crisis, India should be prepared to spend a

minimum of 0.5 per cent of GNP on direct nutrition programs, more than double the current spending.

3.34 Although we have not counted the important contributions of economic growth and employment, agriculture, women's programs, education, health, water and sanitation to improved nutrition, India is not spending enough on direct nutrition programs by any standard. And what about the composition of spending and the quality and impact of each program? Is India allocating resources appropriately among programs? What are the returns on these investments? And how might these returns be increased, given scarce resources? There is clearly a need to increase the size of the nutrition resource 'pie'; but there is also scope to improve the returns on investments, and to reallocate resources to enhance effectiveness. ICDS has the greatest potential for bringing about the behavioral changes in health, care and feeding practices required to reduce malnutrition among women and small children. Similarly, TPDS, if it reached the poor, could have major impact on household food security, a significant part of the malnutrition problem. Chapter 4 addresses the questions of quality and impact of the programs, and suggests options for change which could increase the returns on program investments from a nutrition perspective. It then suggests how the pie might be better divided to deal with the malnutrition crisis.

## Chapter 4

### Meeting the Crisis: What India Must Do

#### A. Four Areas for Action

4.1 India's nutrition policies and plans have been generally sound, but their implementation has been woefully inadequate. Two essential ingredients for success are missing: adequate and sustained commitment to the actions required to deal with the malnutrition problem; and the capacity to implement, evaluate and revise the programs aimed at reducing malnutrition. Meeting the National Nutrition Goals which were set for the year 2000 even by 2010 demands action, and demonstrated success, mainly in four areas. *First*, the country must put into place the leadership structure and administrative capacity to ensure commitment to, and management of, the programs required to deal with the massive challenge. This encompasses the policy, planning and implementation structure, and the institutional and individual capacities necessary to make it work effectively. *Second*, the ICDS program must greatly improve the quality of its services, and their impact on vulnerable groups. Both the quality of services and their impact must be regularly monitored and evaluated – and improvements made continuously. *Third*, the health sector must give higher priority to malnutrition and ensure that its actions have far greater impact on the problem than they do now. And *fourth*, India must do better at providing food security to the poor at the community and household level. Sustained success in these four areas is essential if India is to deal effectively with the crisis of malnutrition and prevent both its human and financial resources from *wasting away*. This chapter discusses why these actions are critical and how they can be achieved. It ends by estimating the resource needs for each strategy, and for the set of actions as a whole.

#### B. Building Commitment and Capacity

4.2 Political Commitment is Crucial. India needs to manifest far greater political will to combat its malnutrition problem. Although a National Nutrition Council was constituted in 1995, it has yet to meet, and the proposed state Nutrition Councils have yet to be established. Such a policy structure is vital and must actively lead, monitor and sustain national, state and local action to address malnutrition across the many sectors involved. And it must be ably assisted by expanded and strengthened Departments of Women and Child Development (DWCD), especially at the Center. A high level of commitment and technical and managerial expertise at central and state levels are required to rebuild India's once substantial capacity for nutrition training, research and evaluation. This will require renewed attention to institutions, such as the National Institute of Nutrition, and the provision of incentives to attract the best and brightest Indians to careers in nutrition. India needs to mount a massive and sustained effort to inform policy-makers, the public, the professions, the media, and all walks of life, that the country's future social and economic development depends crucially on reducing the scourge of malnutrition. Most important of all, it will require an unshakeable determination on the part of policy-makers, program managers, functionaries, and beneficiaries to increase the quality, cost-effectiveness, and impact of nutrition programs. Some states, for example, Tamil Nadu, and agencies, such as CARE, have strong records of action in dealing with nutrition, which provide

models for strengthening the policy, planning, and implementation framework for improved nutrition.

4.3 Strong Nutrition Institutions are Critical. India's institutional capacity in nutrition began to decline in the 1980s and today is deplorably weak. Earlier, India had a vibrant and internationally-renowned set of nutrition institutions. Nutrition activities were well developed in agricultural universities, colleges of home science, some medical colleges, and in national institutes such as the All-India Institute of Public Health and Hygiene in Calcutta. The National Institute of Nutrition (NIN) was at the forefront of research and training in nutrition science for the country, and internationally.

4.4 India needs to recognize the current gap openly, and provide the resources to build institutions capable of dealing with its vast and varied malnutrition problems. The ultimate goal must be to ensure that there is sufficient capacity to undertake the policy-making, program design, implementation, training, monitoring and research tasks required to address malnutrition in the country. There is a pressing need to document the nutritional situation, study its determinants and consequences, design appropriate interventions, and manage their implementation within the context of 21st century science and political economy. There is also urgent need to train people, from village-level workers to medical specialists and policy-makers, and greatly expand public awareness of malnutrition through communications and education. Institutions are needed in every major state of the country, as nutrition problem identification and program responses must be region-specific. Rebuilding capacity should begin by mapping existing institutions and their capabilities, and measuring these against what is needed to revitalize nutrition efforts. To understand both the quantitative dimensions and qualitative nature of the re-building required, it will be necessary to carry out needs assessments of key institutions and an overall human resource planning exercise. Beyond this, a phased approach should be adopted to increasing the size and number of institutions and to bringing about qualitative improvements in existing ones.

4.5 Leadership and Networking. Among nutrition institutions, NIN and the National Institute of Public Cooperation and Child Development (NIPCCD) could be instrumental in expanding capacity in both research and training. They should be granted autonomous status and financed separately from the Indian Council of Medical Research, and the Department of Women and Child Development (DWCD), respectively, where, in recent years, they have not received the support required. They could then catalyze a network of institutions concerned with nutrition. These institutions must be action-oriented. There is vast scope in India for new programs at the local level to deal with malnutrition, and for improved management of existing programs. Similarly, the Food and Nutrition Bureau, which was earlier under the Department of Food but has now been brought under the Department of Women and Child Development, must be revitalized to play a greater role, particularly in ensuring appropriate food production and availability for nutrition improvement. What is needed is sustained effort to develop nutrition leadership among all these institutions, and competitive processes to allocate resources to innovative and effective initiatives. Upgraded equipment and methods of teaching are necessary to encourage a new -- and modern -- generation of nutrition scientists, practitioners and policy analysts. There is also a need to reduce the gender-stereotyping of nutrition and attract more men

into the field, while at the same time ensuring that women are well-represented in leadership positions.

4.6 Building Capacity for Nutrition. ICDS requires large numbers of *anganwadi* workers, supervisors, and officers to be trained initially, and provided with refresher training and short courses in special skills and topics. NIPCCD has carried out assessments of the training capacity for ICDS in different states. Completion of these assessments and an overall mapping, along with rigorous analyses of the number of persons requiring training, will determine how many more training centers need to be established for the different cadres, and where these should be located. The DWCD aims to decentralize responsibility for training and its planning, which is a welcome move. In addition, improvements need to be made urgently and continuously in the content and quality of training, and quality and impact monitored. The establishment of a streamlined Management Information System (MIS) for training in ICDS is long overdue. The national training component of the World Bank-assisted Woman and Child Development Project provides a ready framework and finances for these tasks.

4.7 Basic health workers and ANMs also require solid training in nutrition. This calls for the development of nutrition curricula to be incorporated in their current training, and requires a similar assessment of training capacity and monitoring of quality – as well as of the *use* to which this training is put. In particular, the joint training of ICDS and health workers requires additional capacity and innovative methods and materials to be developed, and extensive follow-up.

4.8 The strengthening of medical education to address malnutrition is critical to the development of adequate nutrition services in the health system, as well as to the revitalization of nutrition research in the field, and in medical colleges and hospitals. Curriculum development, new training methodologies, and grant/award programs for practical applications are required. Doctors need to be trained in nutrition, and their involvement in nutrition diagnosis, education and monitoring must be fostered. Doctors and other workers must *at least* be able to manage moderate and severe malnutrition, counsel parents of sick children on proper feeding and care, and make sure all pregnant women receive iron-folate supplements. Medical colleges need to play a far greater role in community nutrition, beyond their current role in training and research for ICDS. Nutrition has to become part of the agenda of the health sector at every level.

4.9 Research for Action. There is currently a paucity of nutrition research, whether policy, field or laboratory, although there are many institutions in the country which have interests in nutrition. Increasing the budgets of these institutions is required to reinvigorate research, particularly practical, action-oriented research. The institutions need to take a greater role in programs such as ICDS, and carry out relevant operational research and policy studies. A program of grants is also needed for demographic and social science research institutes, NGOs and other field-based organizations to develop nutrition interests and capability.

4.10 Among priority areas for research are:

- program-driven nutrition studies, i.e., operational research that emanates directly from constraints to program effectiveness, for example, in reducing low birthweight and anemia;
- analysis of nutrition needs at the local level and how programs (TPDS, ICDS, health, water and sanitation, etc.) can be designed to meet these needs;
- nutrition status measurement and determinants analyses, including surveys and qualitative studies;
- scientific and technological research, especially on major problems such as anemia, and nutrition-infection relationships;
- studies on the nutrition consequences of new economic (including agriculture) and social policies and programs; and
- economic studies, e.g., cost-benefit and cost-effectiveness analyses of nutrition interventions.

4.11 Nutrition Monitoring. India needs to establish a broad-based, efficient system to collect and analyze nutrition data and use it for decision-making and advocacy. The emphasis must be on collecting relevant and manageable amounts of high quality information – not on large quantities which are liable to remain unutilized. Nutrition status data must be collected and made available at regular intervals, at least annually. The National Nutrition Monitoring Bureau (NNMB) was an excellent idea in this regard, but it has unfortunately not been as active and rigorous as desirable. A carefully targeted and reliable system is urgently needed, using the best data collection, computerization and analysis methods. This should be linked to the National Sample Survey (with appropriate modifications of this effort) and to the ICDS program. The ICDS system for gathering data on children and mothers, and reporting these monthly, urgently needs to be improved. Although the concurrent evaluation of ICDS which was recently piloted by the National Council of Applied Economic Research (NCAER) may be useful, it is no substitute for a well-functioning monitoring system (NCAER, 1998). An Expert Task Force has been constituted to develop a Nutrition Surveillance System for the country, and the Food and Nutrition Bureau is developing district nutrition profiles using several relevant indicators, but neither of these efforts would be necessary if the NNMB and ICDS systems were strengthened and expanded. A high-level authority, such as the National Nutrition Council, should receive and review nutrition data at least annually and ensure progress in reducing malnutrition. Appropriate nutrition data should be used for policy making, program planning, local interventions and focused research.

4.12 Advocacy and Communication. There is currently little effort in the country to advocate better nutrition or communicate nutrition messages of vital importance to the public. Extension workers in agriculture (in addition to health and ICDS), schools, mass media including national and regional broadcast media -- are some of the channels which could be used to promote awareness of nutrition as a community and national development challenge. Programs that educate individuals and families about good nutrition and the consequences of malnutrition, as well as efforts to inform policy-makers, planners and managers are sorely needed. A structured program of advocacy meetings is required for government officials and leaders at the national,

state and district levels, to ensure a common frame of reference for understanding malnutrition and how to deal with it.

4.13 Institute an Annual Progress Review. Until the malnutrition crisis is overcome, India needs to conduct an annual review of progress against its quantified national nutrition goals. This would be best accomplished by holding a high-visibility national workshop annually, attended by the country's top policy-makers and leaders. Such a rigorous assessment could be carried out each year during National Nutrition Week, and demands heavy media coverage. GOI should also consider instituting an annual National Nutrition Award for the state or district that is most innovative and successful in reducing malnutrition.

### C. Enhancing the Quality and Impact of ICDS

4.14 ICDS now covers approximately 70 per cent of the country's development blocks. It is relatively well targeted to the poorest areas, especially those populated by India's most down-trodden groups, the Scheduled Castes and Tribes (Chatterjee, 1997). Among its most important assets are a holistic approach to child development, and the use of locally-recruited, village-level workers. Beneficiaries value the pre-school and child-feeding features of the program.

4.15 Unfortunately, ICDS is not having the intended nutritional impact on young children and mothers nation-wide. Most fundamentally, this is because its effective national coverage is low. For example, supplementary feeding in ICDS is provided for only 30 million of the country's approximately 162 million 0-6 year-olds – less than one child in five. If the feeding were well targeted to the poor, estimated at about one-third of the population, it would still reach less than half of those in need. Even within the covered blocks, less than 50 per cent of children are reached, and these may not include the most needy. Over time, for many reasons, the program's main focus has become food supplementation and pre-school education for 3-6 year-olds, to the neglect of children under three, especially those aged 6-24 months. Moreover, as the 1992 NIPCCD evaluation demonstrated, ICDS had not brought about the behavioral change necessary among families to prevent malnutrition in young children or low birthweight babies. ***Importantly, no monitoring and evaluation system exists which can reliably gauge the impact of ICDS on its primary objectives.***

4.16 ICDS is a highly-centralized program, and its top-down approach is a major reason why community ownership and management, although intended, are virtually non-existent (Chatterjee, 1996). The program is seen by beneficiaries, bureaucrats and politicians alike as a government program providing feeding and pre-school education. In addition, ICDS has followed a standard approach to implementation in each development block, although substantial variations in malnutrition, and its social and economic determinants, call for flexibility and responses tailored to local needs, cultural preferences, and capabilities. In 1997, the GOI began to devolve centrally-sponsored schemes (CSS) to the states. ICDS was not included in the first wave of devolution, but the Department of Women and Child Development (DWCD) has begun to decentralize its activities, beginning with the key area of worker training.

4.17 The Government has endeavored to implement the key recommendations of the NIPCCD evaluation, but efforts to improve the quality of ICDS have so far been overshadowed by the priority given to universalizing program coverage. ICDS needs to improve its quality, effectiveness, efficiency and impact, and ensure its sustainability for as long as necessary. How can ICDS be strengthened for the 21st century, to make a major impact on malnutrition in the first decade? Reaching young children at risk, and the women most likely to have low birthweight babies, is the key to increasing the impact and cost-effectiveness of ICDS and thus its contribution, as India's major direct nutrition program, to reducing malnutrition. Given the extent of the problems revealed in the NIPCCD evaluation and numerous other studies, the case for reform is strong. The changes need to achieve at least the following four objectives:

- improved *targeting*, especially to reach those children under two and pregnant women who are most at risk of malnutrition;
- greatly enhanced *quality* of services and impact, particularly on behavioral change;
- establishing *a reliable monitoring and evaluation system* as soon as possible; and
- community *ownership* and management of the program.

***Until these improvements are achieved, the ICDS program should not be expanded beyond the current number of blocks. The area targeting approach has ensured that the neediest blocks are covered. Available resources should be used instead to improve the coverage of villages and hamlets within these blocks, and the quality of services.*** Rigorous criteria such as coverage with growth monitoring, deliveries by trained attendants, improved nutritional status and birthweights should be used to determine whether program quality has improved sufficiently.

4.18 Reaching Those Most at Risk. There is now a consensus within India and globally that reaching children aged 6-24 months and pregnant women most at risk is critical to ***preventing*** malnutrition. These groups need a few specific health interventions, nutrition support, and appropriate information. No major program in the world has succeeded in meeting the health and nutrition needs of these target groups and simultaneously succeeded in imparting pre-school education to 3-6 year-olds through a single worker. ICDS has also failed to do so. TINP reduced severe and, to some extent, moderate malnutrition by devoting a worker only to 6-36 month-old children and pregnant and lactating women. When pre-school education was added to the program in a second phase, a separate worker was employed. The single over-burdened *anganwadi* worker (AWW) of ICDS cannot simultaneously manage pre-school education and supplementary feeding at the *anganwadi* center (AWC), and also undertake the outreach necessary to provide care to 6-24 month-old children and pregnant women at risk.

4.19 The GOI/Bank workshop held in June 1998 produced several proposals for refocusing ICDS on the young child and pregnant woman:

- a second worker for pre-school education, selected and financed by the village *panchayat*;
- a village-level health worker, financed by the community or the health system; or
- the training of adolescent girls, women, youth, *dais*, teachers and others to assist the AWW.

4.20 No solution is likely to be applicable to all situations, but it is imperative to adopt one of them or make some other change in order to achieve ICDS's objectives of preventing malnutrition in young children and reducing the number of low birthweight babies. Where village *panchayats* are strong, the second worker is likely to be the best option. Given previous poor experience in India with the Community Health Worker program, the second option would be viable only where the health system can properly train and support such workers. The third option, with responsibility and accountability resting on no single individual, requires a high level of community cohesion and collaboration and would, therefore, only work in select locations.

4.21 ***A radical alternative is more likely to solve the problem of anganwadi worker overload: separate services to 3-6 year-old children from those for 6-36 month-olds and pregnant/lactating women.*** The demand for pre-school education, and for feeding 3-6 year-old children, could be met by a second worker in ICDS or by devolving these services to the Department of Education or to local authorities. The District Primary Education Program (DPEP) already delivers pre-school education services in some districts; and the feeding of 3-6 year-olds could become part of the National Mid-Day Meals Programme (NMMP), as discussed below.

4.22 **Targeting and Sustainability.** ICDS food costs now account for about two-thirds of the total cost of the program (Radhakrishna, 1998). Virtually all states, with the exception of Tamil Nadu, consistently under-finance the food component, which is solely their responsibility, because of its high cost and logistic difficulties. This results in frequent food shortages. The NIPCCD evaluation reported that disruptions in food distribution occurred for periods of over 90 days in 27 per cent of *anganwadis*, and that the average duration without food was 64 days per *anganwadi* per year (out of an intended total of 300 feeding days). Evaluations also show that many of the children and women most in need are not reached. With progress towards universalization of ICDS, many states are finding the burden of providing food according to ICDS norms ever more difficult to bear. On the other hand, it is politically difficult for states **not** to provide food to children under 6, when the NMMP is attempting to feed all public primary school children in the country.

4.23 Convergence of the ICDS and NMMP programs offers an attractive policy option from the standpoint of both pre-school education and nutrition. Given the chronic under-funding of NMMP, a way will have to be found to target the program, as suggested in para. 3.17. In addition to area targeting of NMMP to enhance its cost-effectiveness and impact on its primary educational goals, targeting the feeding on younger children would enhance its impact on nutrition, and through that, on learning. In fact, the scientific evidence suggests that feeding very

young children and preschoolers, rather than 6-11 year-olds, would have a greater impact on child learning and overall development. Targeting food distribution to those most in need and most likely to benefit, both in ICDS (the 0-3s) and NMMP (the 3-6s), and ensuring that 'lean periods' are covered on a priority basis, would also contribute to resolving the problem of the mounting costs of these feeding programs, which are unlikely to be sustained even at current levels.

4.24 Enhancing the Quality and Impact of ICDS. The principal reason why ICDS is not covering the under-twos and pregnant women is that the AWW cannot reach these target groups, mainly through home visits, while she is burdened with child-feeding, pre-school education, record-keeping and many other duties at the *anganwadi*. Nor can she focus on the communication of key messages to mothers to change behaviors related to child care, breastfeeding, introduction of complementary feeding, antenatal care, dealing with anemia, etc. Once freed from the responsibility of supplementary feeding and pre-school education, she would have the time to care for those most at risk of malnutrition. But she will only be effective in bringing about behavioral change if she is better trained and supported for that role. A positive development is that DWCD and the states are now engaged in a major effort to enhance the training of AWWs and other workers, with partial support from the nation-wide training component of the Woman and Child Development Project approved by the Bank in June 1998. Strengthening the supportive supervision of the AWW is the other indispensable requirement to increase the effectiveness of ICDS in preventing malnutrition. If these objectives were achieved, ICDS could expect to reduce child malnutrition to the same extent as TINP, which lowered severe malnutrition rates by half in less than five years, and also to reduce moderate malnutrition substantially.

4.25 Decentralized Management and Community Ownership. Once ICDS has adopted strategies to ensure that very young children and pregnant women are reached, and that feeding is appropriately targeted, the next major step is to ensure a community context in which the strategies will flourish. To achieve community ownership, ICDS must first devolve responsibility to the states, to adapt the basic model to their particular problems and needs, and to take full charge of program management. In addition to GOI's announced intention to devolve centrally-sponsored schemes to the states, and ICDS's efforts to decentralize training, the emergence of *panchayati raj* institutions, charged with major responsibility for the social sectors and growing in capability, make decentralization to communities more feasible now than ever before.

4.26 Below the state level, decentralized management could, in principle, be achieved by many routes: delegating the implementation of ICDS to the private sector and/or NGOs; setting up autonomous societies at the district or block levels; and/or devolving responsibility to the district, block and village *panchayats*. Neither the private sector nor NGOs offer a viable option, mainly due to the massive scale of services demanded by the size of the malnutrition problem. Private efforts can, however, complement ICDS in important ways, notably by experimenting and disseminating information about innovations that work.

4.27 Devolving implementation responsibility to district-level societies offers some promise. There are successful precedents for this in education (DPEP) and health (Blindness, Leprosy and Tuberculosis programs). The district, averaging about ten blocks nation-wide, provides a sound organizational unit for ICDS services, offering both a critical mass for cost-effective training programs and a reasonable span of managerial control. Importantly, organizing ICDS services at the district level would offer a key advantage that organization at state level would neglect: an ability to adapt closely to local conditions.

4.28 The district approach might have five key features. First, it could formally involve the *Zilla Parishad* (ZP) for the purpose of initiating community ownership. Second, it could operate through a registered society (RS) at the district level, to provide administrative flexibility and accountability. Third, funding could pass to the registered society on a nationally equitable and transparent basis. Fourth, progress against agreed and verified performance goals could provide the basis for continued funding. And fifth, considerable implementation flexibility could be encouraged to ensure that ICDS better served the needs of individual communities, and thereby achieved program goals. An unerring focus on providing program benefits to the poor in all communities would be essential.

#### **D. Strengthening Nutrition Action by the Health Sector**

4.29 Improving nutrition in India now depends more than ever on effective action by the health sector. Indeed, this is imperative because further reductions in infant and child mortality will be difficult to achieve in the face of rampant malnutrition. The task is doable because the basic know-how and tools to break the nutrition-infection cycle, which critically determines malnutrition, are in the hands of health workers. Moreover, improvements in water, sanitation and personal hygiene depend on the health sector. Despite some recent improvement (Sachdev, 1997), the prevalence of low birthweight, usually estimated at one-third of births, is a huge barrier to further improvements in the nutrition and health status of children. Mothers must enter pregnancy in good nutritional status, if they are to emerge from the birth process healthy and give birth to healthy infants. This, in turn, means that adolescent girls must receive care to ensure that they enter the reproductive period in good physical condition. These life-cycle goals are not currently being achieved in India, but they *are* achievable if a major effort is made by both families and programs. For example, in Gambia, a low-income African country, research demonstrated that low birthweight could be reduced by 50 per cent and infant mortality by 40 per cent through substantially increased food intake during the latter half of pregnancy (Ceesay *et al*, 1997).

4.30 Collaboration between ICDS and the health delivery system has improved in recent years. Most progress has been achieved in immunization, around which the AWW and the Auxiliary Nurse-Midwife (ANM) have demonstrated good teamwork. But despite its great potential, this partnership has been far less successful in identifying pregnancies early, detecting women at particular risk, providing antenatal care, and conveying vital health and nutrition messages to women. Far too many women at high risk escape the attention of the AWW and ANM until late in pregnancy, or altogether. This reduces their chances of proper weight gain, of receiving supplementary food from ICDS, and tetanus immunization and iron supplements, and thus the

probability of good outcomes to their pregnancies. *Improving the alliance between the village-based AWW with a catchment population of around 1000, and the ANM, with about 7000-8000 population, is the key to improving the role of the health sector in nutrition.*

4.31 Training in Nutrition. Weak nutrition training of health personnel compounds the difficulty of assuring effective nutrition-health collaboration. In India, as elsewhere, nutrition is a neglected topic in schools of medicine, nursing, and other health personnel. Progress in this area is critical to achieving an integrated approach to nutrition and health. In the short term, the key priority is to strengthen ANM training in nutrition. ICDS has recently taken steps to strengthen and decentralize its training program, which should make the future AWW a more able partner to the ANM. But the ANM, who starts out with higher educational qualifications, and is trained for a considerably longer period than the AWW, must receive complementary training to carry out her nutrition-related role. In addition, these workers need joint protocols, joint training, and much better on-the-job supportive supervision.

4.32 Doctors in rural service are poorly equipped to deal with malnutrition, although malnutrition is associated with half of all child deaths. Individual doctors and the staff of primary health centers (PHCs) and community health centers (CHCs) must be able to quickly recognize nutritional disorders, to manage low birthweight and malnutrition, and, most important of all, to provide mothers and families the advice and assistance on breastfeeding, weaning, and caring practices that will *prevent* malnutrition.

4.33 Reaching 6-24 Month-Olds and Pregnant Women. The AWW must reach out to these two vulnerable groups. She must identify and bring to the care of the ANM those women and children who are most at risk of malnutrition and illness. TINP came close to achieving this objective by emphasizing home visits and ensuring strong community involvement in the program. In addition to antenatal care, iron supplementation and immunization, which are relatively easy to deliver, the AWW and ANM must provide adequate information and motivation to mothers to bring about behavioral change.

4.34 Reaching Adolescent Girls. Ensuring that adolescent girls reach reproductive age with the best-possible education, health and nutritional status is arguably the biggest challenge facing India's social sectors. Feasible approaches have yet to be found, and the initial efforts of ICDS to reach adolescent girls have had mixed success. ICDS is now attempting to reach this target group with iron supplements and periodic deworming, an effort which deserves careful evaluation and appropriate strengthening. Indeed, this area calls for good operational research, so that different approaches are carefully assessed to see which work best in different parts of the country. Of critical importance is the need to impart nutrition and health education to adolescent girls through the ICDS and health services.

4.35 Decentralization. Devolving responsibility to communities for reaching all these groups is likely to achieve better results than those to date. This applies equally to ICDS, Health and Family Welfare programs. The more communities themselves become involved in the management of these problems, which have strong social underpinnings, the greater the likelihood of success, as demonstrated by some NGO programs and innovative efforts in the

public sector. If AWWs and ANMs are accountable to local communities, for example, by having their stipend and salaries paid through the local *panchayat*, they are likely to be much more effective in reducing malnutrition in India.

4.36 What have been the main impediments to Departments of Health and Family Welfare taking greater responsibility for nutrition? The current organizational arrangements create unnecessary barriers. While the Department of Women and Child Development (DWCD), in the Ministry of Human Resource Development, is the nodal department for nutrition, and responsible for ICDS, the Ministry of Health and Family Welfare (MOHFW) is in charge of key interventions against malnutrition, including micronutrient fortification and supplementation programs. Furthermore, the MOHFW is divided into two departments, with the Department of Family Welfare responsible for MCH, including iron and Vitamin A programs, and the Department of Health looking after iodine deficiency disorders.

4.37 The organizational arrangements also differ by state, with some having combined, and some separate, Health and Family Welfare departments. In most states, as at the Center, the ICDS and Health and Family Welfare Departments are separate. In Gujarat and Sikkim, ICDS is combined with Health and Family Welfare, but coordination between these sub-departments is also weak. Given this division of responsibility at central and state levels, it is small wonder that collaboration is not optimal. The immediate need is for the Health and Family Welfare authorities to give far higher priority to nutrition. If this is not done, they are unlikely to achieve their health goals. Senior officers in charge of nutrition are needed in the departments of Health, Family Welfare and Medical Education. Once that commitment is evident, serious consideration should be given to merging the Reproductive and Child Health (RCH) and ICDS programs, which need to work seamlessly at the village level, if either is to succeed in its mandate.

## **E. Nutrition Security at the Community and Household Level**

4.38 For the vast majority of India's poor -- numbering over 350 million people -- malnutrition begins with inadequate purchasing power. Despite five decades of poverty alleviation programs providing wage employment, subsidized credit, and food-for-work, these millions cannot look forward to "two square meals a day". While the malnutrition of young children and pregnant women, who are among the worst sufferers, can sometimes be dealt with by marginal reallocations of food within their households, improving the overall food security of poor households is an urgent imperative.

4.39 The Targeted PDS has great potential to provide extra food to poor households. Its success in reaching the poor needs to be carefully monitored -- and accelerated. Anecdotal evidence suggests coverage of the poor is increasing in Uttar Pradesh and Bihar, but documentation of overall trends is lacking and urgently needed. The plan to issue new cards for households below the poverty line is important, and the program must not be swayed from this intention by political compulsions at any level. BPL households must be selected properly and transparently. In the past, other schemes which had the express intention of targeting the poor (such as Andhra's two-rupee rice scheme) were diluted by improper allocation of cards. There is ample evidence that when the better-off gain access to programs such as the PDS, the poor are

pushed out. The lack of success of the Revamped TPDS is an indication that, despite good intentions, it is even difficult to get food supplies into poor areas.

4.40 Another compelling reason to ensure appropriate targeting of cards and supplies is that, if TPDS is to have any nutritional impact, the allocations to poor households will need to be increased. As described in para 3.21, the current TPDS provision of 10 kgs per household provides an additional 100 calories per person per day, which is inadequate for the poorest households. If TPDS is to bring caloric levels for the poorest 30 per cent from the current average of about 1500 calories per person per day to even an average of 1900 calories, a reasonable objective for the program, an allocation of an additional 30 kgs per household is necessary beyond the currently proposed amount. These allocations are based on the assumption that these very poor households are very likely to maximize their expenditure on food when it is highly subsidized. Providing additional grain allocations during the months when it is most needed by rural households, the pre-harvest and rainy seasons, is especially critical to prevent vulnerable children and pregnant women from declining in nutritional status and, often, succumbing to disease and death during these periods.

4.41 However, there is grave danger that the TPDS, like its parent PDS, will be usurped in time by those who do not need to receive subsidized food. To prevent this, the government needs to design other safety mechanisms. For example, it could allocate the contracts for Fair Price Shops to community groups and cooperatives on a larger scale. This strategy has been tried with some success in reaching the poor in some states, such as Andhra Pradesh and Tamil Nadu in the south and Madhya Pradesh and Rajasthan in the north. In particular, women's groups have proved able in managing the ration shops and ensuring more equitable access to the subsidized commodities, which include foodgrains, sugar, edible oils, kerosene, matches and soap. Group-managed shops are more likely to be transparent, can be just as efficient as those managed by individual traders, and can also assist in building up demand from the poor for better services across the board.

4.42 Women's groups could also be instrumental in rationalizing the nutrition-related programs that exist at the village level, including the ICDS and NMMP, ensuring that households, women and children most at risk are covered by the relevant programs. The small food supplements provided to pregnant women and under-sixes in ICDS could go a long way to ensure better nutrition and health of these vulnerable groups if combined with steady and relatively adequate food availability in their households. Currently, ICDS food supplements tend to substitute for household food both at the individual level, and for the household as a unit. Similarly, the nutritional value of mid-day meals could be enhanced by targeting those most in need – 3-6 year-olds who have been malnourished in early childhood, and adolescent girls (and some boys) who are about to enter their growth spurts.

#### **F. What Must be Done and What Will it Cost?**

4.43 Many of the actions needed to achieve the above objectives involve relatively little additional cost. Assigning higher priority to nutrition training, devolving responsibility to the state, district and village level, and fostering greater health-nutrition collaboration do not increase

the cost of programs. Having a second village-level worker for health or pre-school education will involve additional cost, but not a very large one, especially in the context of overall spending on food and nutrition. On the other hand, expanding ICDS or NMMP to fully cover their target groups would require a large increase in funding. ***What is needed most is political will, community ownership, strengthening the work ethic, and supporting workers with the tools they need to do their jobs.***

4.44 Political Commitment. The most critical resource required to reduce malnutrition in India is not financial, but political, commitment. Malnutrition fails to receive the priority it deserves in India, as in many countries, because it is largely invisible, because program efforts must extend across many sectors and levels, and, most important of all, because ***sustained*** political commitment is required for the long and difficult task of ***prevention***. Inadequate commitment to dealing with the problem effectively is manifest also in the corruption that pervades the programs, which results in little reaching the poor. It is necessary to address this urgently. Political choice in favor of improved nutrition should be demonstrated by sustained allocation and proper direction of the necessary financial and human resources. The critical needs of each of the four action areas described above, and their resource requirements, are discussed below.

4.45 Enhancing the Quality and Impact of ICDS. The priority actions in ICDS are:

- ensuring attention to 6-24 month-old children and pregnant women;
- enhancing quality and impact through better training, supervision, and community ownership;
- establishing a reliable monitoring and evaluation system as soon as possible; and
- reducing AWW overload and improving coverage of hamlets by either hiring a second worker or separating the pre-school education component from the rest of the program.

The proposed measures to decentralize ICDS and place its management increasingly in the hands of *panchayati raj* institutions are likely to be budget-neutral in the medium-term. But the extensive training that will be required immediately will cost additional resources. The Bank-financed Woman and Child Development Project could provide the necessary resources for the next five years from the \$100 million national training component. Additional resources of about \$30 million a year are required for the second worker, and for the quality improvements that are necessary. ***Coverage expansion of ICDS should be frozen until the quality and impact of the program is satisfactory, which should be achievable within 3-5 years if sincere efforts are made.*** Following this, reaching all those in need nationally, i.e., the one-third of families living in poverty, would cost on the order of an additional \$250 million a year. All told, ICDS will need an additional \$300 million/year to have a substantial impact on malnutrition.

4.46 Household Food Security through TPDS. From a nutritional standpoint, the urgent priorities for TPDS are:

- effective coverage of the poor, and shifting the food subsidy entirely to the population below the poverty line;
- careful monitoring to ensure benefits reach the poor; and
- ensuring that the vulnerable are reached quickly with needed supplies during droughts and other disasters.

***When substantial progress in improving ICDS is evident, say, in three years, 10 per cent of PDS funds should be reallocated to finance the needed expansion of ICDS.***

4.47 Increasing the Impact of NMMP. This could be achieved by two actions:

- targeting NMMP by area, using low educational attainment and poverty criteria; and
- targeting food on pre-school as well as primary school children, in areas not covered by ICDS.

These goals could be achieved without additional resources and would increase substantially the overall education and nutrition impact, and the cost-effectiveness of the program.

4.48 Strengthening the Contribution of the Health Sector. The priority actions needed in the health sector are:

- training programs to assure a quantum leap in the nutrition knowledge and capacity of all levels of health workers; and
- much greater synergy with nutrition programs, especially ICDS, and especially by focusing ANM-AWW collaboration on 6-24 month-olds and pregnant women.

The cost would not exceed \$5 million annually, and the prospect of attracting external financing would be good.

4.49 Rebuilding Institutional Capacity. Rebuilding India's capacity for nutrition action, training, research and advocacy will require:

- a high-level policy, planning and implementation structure;
- involving *panchayati raj* institutions in a major way;
- setting clear quantitative goals and auditing them at least annually in a high-profile national conference; and
- making key institutions such as NIN and NIPCCD autonomous.

Additional funds will be needed for 10-15 years, on a sustained basis, in order to assure a steady build-up of capacity to undertake the tasks outlined in Section B, and to provide the environment necessary to attract scientists and other professionals to careers in nutrition. Approximately \$5 million per year will be needed for NIN and NIPCCD, plus about \$20 million per year for 20-25

colleges of home science, medicine or other agencies, such as CFTRI. The World Bank is a possible source of financial support for capacity building.

4.50 Total Cost. The annual total of additional resources needed is around \$80 million for a period of ten years: a total investment of around \$800 million, excluding the cost of expanding ICDS, which could be financed by re-allocating about 10 per cent of the PDS budget. Since the achievement of nutrition goals is a responsibility shared amongst several departments, reallocation of resources across departments must be guided by their relative effectiveness in combating malnutrition. When one considers that the cost of malnutrition in lost productivity, illness and death is at least \$10 billion annually, the cost-benefit ratio of these investments is readily apparent. Nothing less will overcome the crisis of malnutrition in India.

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