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HUNGER BRIEFING PAPER SERIES:
NO.1

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Targeted Interventions against Hunger:

A Case for Preschool and School Feeding

Human Development Report Unit
UNDP Regional Centre in Colombo

RCC Hunger Briefing Paper Series

The Hunger Briefing Paper series has been developed as a knowledge resource for policy makers as part of the UNDP Regional Centre in Colombo Asia Pacific Hunger Campaign. The Hunger Campaign, launched in May 2008 in collaboration with FAO, is based on a seven-point agenda of process, partnership and policy: instituting targeted interventions, such as school feeding programmes; judging development outcomes through hunger impact; reviving public investment in agriculture; building a national and global coalition; making primary education mandatory; providing relief to poor consumers for staple foods; and rebuilding global food policy, including increasing investment in international research institutes. More details on the Hunger Campaign can be found at http://hunger.undprcc.lk/insideap/index.html

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Targeted Interventions against Hunger:

A Case for Preschool and School Feeding

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Published in October 2008

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ISBN: 978-955-1416-27-0

Layout and design by A&D Advertising
Cover photo by REUTERS/Cheryl Ravelo

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Acknowledgements

This hunger briefing paper written by Anuradha Rajivan of the Human Development Report Unit, is the first in a series of Hunger Briefing papers, prepared for the UNDP Regional Centre in Colombo (RCC) Asia Pacific Hunger Campaign. The Hunger Campaign, based on a seven point coalition of process, partnership and policy is a collaborative initiative of the UNDP RCC and the Food and Agriculture Organisation of the United Nations Regional Office for Asia and the Pacific (FAO-RAP). This briefing paper discusses the urgent need for targeted interventions, such as school feeding programmes, in combating hunger in the Asia Pacific region.

This paper, which is based on earlier research work by the author, benefitted from the discussions and feedback at the UNDP Technical Workshop on MDG Based Planning and Development of a Pro Poor Policy Framework held in Bangkok, Thailand in February 2007. Complementary research support provided by Omar Siddique and statistical support by Niranjan Sarangi and Manoja Wickramarathne of the RCC Human Development Report Unit is gratefully acknowledged.

I also wish like to acknowledge the contribution of RCC's Knowledge Resources Committee members: T. Palanivel, Pramod Kumar, Biplove Choudhary, Paul Steele and Yubaraj Khatiwada for their valuable input in finalizing the manuscript. The editorial support provided by Manisha Mishra and Kirsty Hayes is gratefully acknowledged.

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I The Context: Nutrition Concerns in Asia

Hunger and malnutrition[1] have been particularly resistant to change in Asia. While Asia's is an enviable growth story, with steadily declining income poverty in most countries, hunger and malnutrition have proved much harder to combat. Although the recent rise in global food prices is being hotly debated internationally, malnutrition has been a serious pre-existing issue, exacerbated during particularly adverse periods - sudden changes in prices, disasters, or conflicts. Malnutrition at both ends of the spectrum is of concern - undernutrition due to a shortage of calories and malnutrition due to rapidly changing lifestyles among the poor and the rich, resulting in excesses or shortages of certain nutrients, including obesity[2]. National policies have tried to respond to the issue in different ways. The focus of this paper is on direct feeding schemes for the nutritionally vulnerable as a strategic policy intervention and operationalising the idea of the right to food. A recent example of interest is from a developed country like Scotland, which introduced healthy and free school meals in 2007 for all income classes in the first three years of schooling[3] in order to build pro-health eating habits.

After a discussion of nutrition concerns in Asia, in section II the paper explores the concept of right to food. In section III the experience of India is presented where a scaling-up has taken place to the national level, following a pioneering state in which direct food investments targeted at the nutritionally vulnerable groups have come to stay through school and preschool feeding. Section IV examines the potential and limitations of direct food investments and finds that while the potential is enormous, going well beyond hunger, the existence of such schemes does not automatically result in the realization of these benefits. There are some persisting issues that continue to need policy attention for the programme to be successful. Section V looks at costs and financing. Finally, section VI captures overall messages and conclusion.

Malnutrition in children contributes to over half of child deaths, globally[4]. With food deprivation, the debilitating effects of infectious diseases and general neglect are compounded. Over 150 million children under age five in the developing world are underweight for their respective ages, including almost half the children in southern Asia. Malnutrition among children is a pretty good reflection of the condition of the population as a whole. We see progress in East Asia where the numbers more than halved, declining from 24 to 10 million children malnourished over the period 1990 to 2003. From 1996 to 2005, the share of underweight-for-age children in China was eight percent, Malaysia 11 percent, Thailand 18 percent; though in the Philippines, at 28 percent, it was higher. In South Asia, the share of children below five undernourished is much higher on an average, with Bangladesh at 48 percent, India 47 percent, and Sri Lanka 29 percent. The South Asia figures are comparable with or even worse than some of the poorest countries in the world such as Burkina Faso with 38 percent or Sierra Leone 27 percent (UNDP 2007)[5]. And even in East Asia, there are continuing concerns about internal inequalities.

The problem of malnutrition is wider and more persistent than income poverty (Rajivan, A, 2004). Table 1.1 shows that the share of children under five who are moderately or severely underweight is higher than the share of population living under a dollar a day in Asia-Pacific. If micronutrient deficiencies, anaemia among women and adolescent girls, and other forms of adult malnutrition are added, the share of population malnourished is more than 50 percent. Simultaneous existence of nutritional deprivation among some sections and obesity among others is a modern paradox. With food surpluses globally, overflowing supermarket shelves people still cannot take food security for granted. Recent dramatic increases in staple food prices are likely to plunge still more people into hunger.

Table 1.1:

Nutrition status and poverty in Asia and the Pacific

Sub region	% of under-fives underweight (moderate & severe) 1996-2005*	% of population below US$ 1 a day, 2004**
East Asia and Pacific	15	9
South Asia	46	31

* Moderate and severe - below minus two standard deviations from median weight-for-age of reference population; severe - below minus three standard deviations from median weight-for-age of reference population (Source: DHS, MICS, WHO and UNICEF). Data refer to the most recent year available during the period 1996-2005.

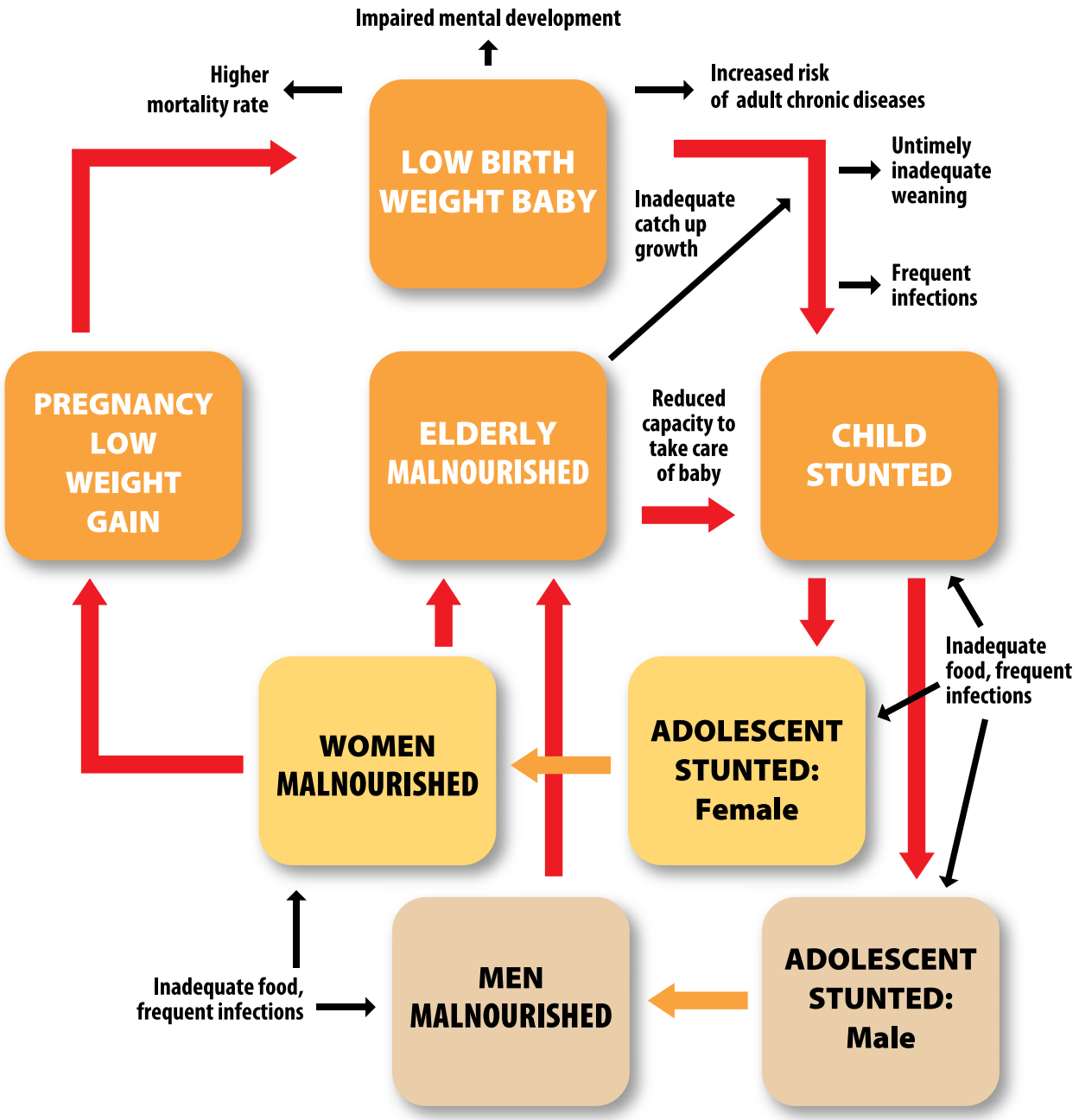
** World Bank, 2007

The social and private costs of poor nutrition and health can be enormous. Food addresses basic survival and sustenance - the hunger and health Millennium Development Goals (MDGs). Food combats undernutrition, morbidity, mortality, and builds people's capacity to resist and recover from disease. Investment in nutrition can reduce health care costs and cut down the

incidence of non-communicable diseases. It reduces income poverty by promoting productivity; and reducing lethargy and absenteeism from work, as well as household expenditure on curative care. Good nutrition promotes cognitive, psycho-social and brain development, and reduces classroom hunger, contributing to educational attainment. Combating hunger and reducing the prevalence of malnutrition are aims common to many national plans.[6] Nutrition security is thus important, both due to its instrumentality in achieving economic growth and as an end in itself, contributing to physical and mental well-being, widening capabilities for the present and succeeding generations - for human development.

A visual depiction of the life-cycle of human malnutrition in Figure 1.1 illustrates how it can be transmitted across generations (Rajivan,

Figure 1.1
Life Cycle of Human Malnutrition



2004). Much of childhood developmental failure is a result of low birth weight[7]. In Asia nearly one third of babies are underweight and more than half the adult women in South Asia weigh less than 45kg, the level at which risks in-utero and on delivery increase dramatically (ADB, 1999). Small (stunted) baby girls grow up to become small adolescents and undernourished mothers. It is not uncommon for girls in Asia, especially in South Asia, to become teen-aged mothers while their own bodies are still growing. With low weight gain during pregnancy, they, in turn, have low birth weight infants. Relative neglect of girls and inaccurate and inadequate knowledge of factors that influence nutrition outcomes contribute to transmitting malnutrition across generations.

India has used direct food interventions as a policy instrument in a number of its states, some more successful than others. With a population of 1.1 billion spread over 30 states and five Union Territories, enormous diversity and inequities, India is more like 25 countries, some of them LDCs[8]. The population of some of the individual states (Uttar Pradesh 166 million, Andhra Pradesh 76 million, Tamil Nadu 62 million, Maharashtra 97 million) compares with many country populations (Philippines 88 million, Republic of Korea 48 million, Nepal 28 million, Malaysia 24 million, Sri Lanka 20 million). Hence, the experience of even a single state can have relevance for other countries.

India is, both shining and whining simultaneously, with some extreme contrasts. Its annual GDP growth rate has been high at over nine percent in 2006 (up from only six percent per annum in the 1980s and 1990s). Poverty is falling - the national poverty share halved between 1977-78 and 2004-05.

Table 1.2
Declining poverty in India, 1977-78 to 2004-05

Poverty definition	1977-78	1999-2000	2004-05
USD 1 per day	51	36	34
National	51	26	22

Sources: Government of India, 2007a. World Bank, 2007

There has been a jump in savings in India - at 32.4 percent as of March 2006, this was up from the 1990-2004 average of 25 percent[9]. There has also been a jump in investment to 33.4 percent which is a breakthrough from a 26 percent average in the last 15 years. FDI inflows are growing with net inflows at US$4.7 billion in 2005-06 and a further acceleration in 2006-07 representing an approximate doubling over the previous year[10]. Corporate entrepreneurial success stories are plenty - deeper and broader than perhaps even China in terms of world class companies - IT, telecom, pharmaceuticals, energy, steel and auto components. The country has a high stock of human capital which can unshackle the country's potential - finally providing a demographic dividend.

But amidst growing wealth, half India's children are clinically underweight. Malnutrition

is at least twice poverty[11]. As against a poverty percentage of around 22 per cent (based on national measures - 34 per cent based on a-dollar-a-day) in 2004-05, under five malnutrition was clearly higher at 42.5 percent around that period (Third National Family Health Survey, 2005-06). If micronutrient deficiencies (iron & folic acid, calcium, iodine) are added, then more than half the population is malnourished. Anemia is prevalent among a majority of females. As seen in tables 1.3 and 1.4 anemia levels in India are high and even appear to have risen for critical groups like children, adolescents and women. Among 6-14 year olds in selected urban locations anemia ranged between 14 percent (Chennai) to 96 percent (Kolkata). At the national level among children under six the levels have gone up from the already high 74 percent to 79 percent; they have also increased among married women and even more so among pregnant women. Male-female gaps are significant. In 1996 nutritional anemia among women who have ever been married stood at 56 percent whereas among men it was 24 percent (15 to 49 years)[12]. Moreover, as table 1.4 shows, anemia among married and pregnant women continues to exceed 50 percent even in 2005-06, whilst that among married men is only around half that, at 24 percent.

Table 1.3

Percentage anemic in selected urban locations of India, 1996

Location	% Anemic (Hb<12g/dl)	Location	% Anemic (Hb<12g/dl)
Chennai	14	Varanasi	68
Hyderabad	60	Baroda	91
New Delhi	67	Kolkata	96

Source: Government of India, 1996

Table 1.4

Anemia among children and adults in India, 1998-99 and 2005-06

	% of 6-36 months anemic			% of married women 15-49 anemic			% of pregnant women 15-49 anemic			% of married men 15-49 anemic		
	NFHS2 1998-99	NFHS3 2005-06	Difference	NFHS2 1998-99	NFHS3 2005-06	Difference	NFHS2 1998-99	NFHS3 2005-06	Difference	NFHS2 1998-99	NFHS3 2005-06	Difference
India	74.2	79.2	5.0	51.8	56.2	4.4	49.7	57.9	4.4	n.a.	24.3	-
TN	69.0	72.5	3.5	56.5	53.3	-3.2	57.1	53.1	-3.2	n.a.	16.6	-

Note: Anemia was defined as hemoglobin level <12 g/dl in children 6-36 months; < 11 gm/dl in non-pregnant women; < 10 gm/dl in pregnant women; <13.0 g/dl in married men.

Source: IIPS, 2007

Further, newer problems are surfacing even among the poor - lifestyle related malnutrition and non-communicable diseases like high BP, diabetes, coronary heart disease, etc. Consequently overweight and obesity figures are starting to be recorded - initially among women and more recently among men as well. Table1.5 shows the percentage of Indian adults 15-49 years who are overweight or even obese based on body mass index[13] for ever-married adults aged 25 to 30 years for whom data is available nationally.

Table 1.5

Overweight and obesity estimates among ever-married adults, 15 to 49 years, 1998-99 and 2005-06

	Women overweight or obese (%)		Men overweight or obese (%)	
	NFHS2 1998-99	NFHS3 2005-06	NFHS2 1998-99	NFHS3 2005-06
India	10.6	14.8	n.a.	12.1
TN	14.7	24.4	n.a.	19.8

Based on Body Mass Index (BMI) kg/m2; a BMI of 25 or more is taken as overweight of which 30 or more is taken as obese)

Source: IIPS, 2007

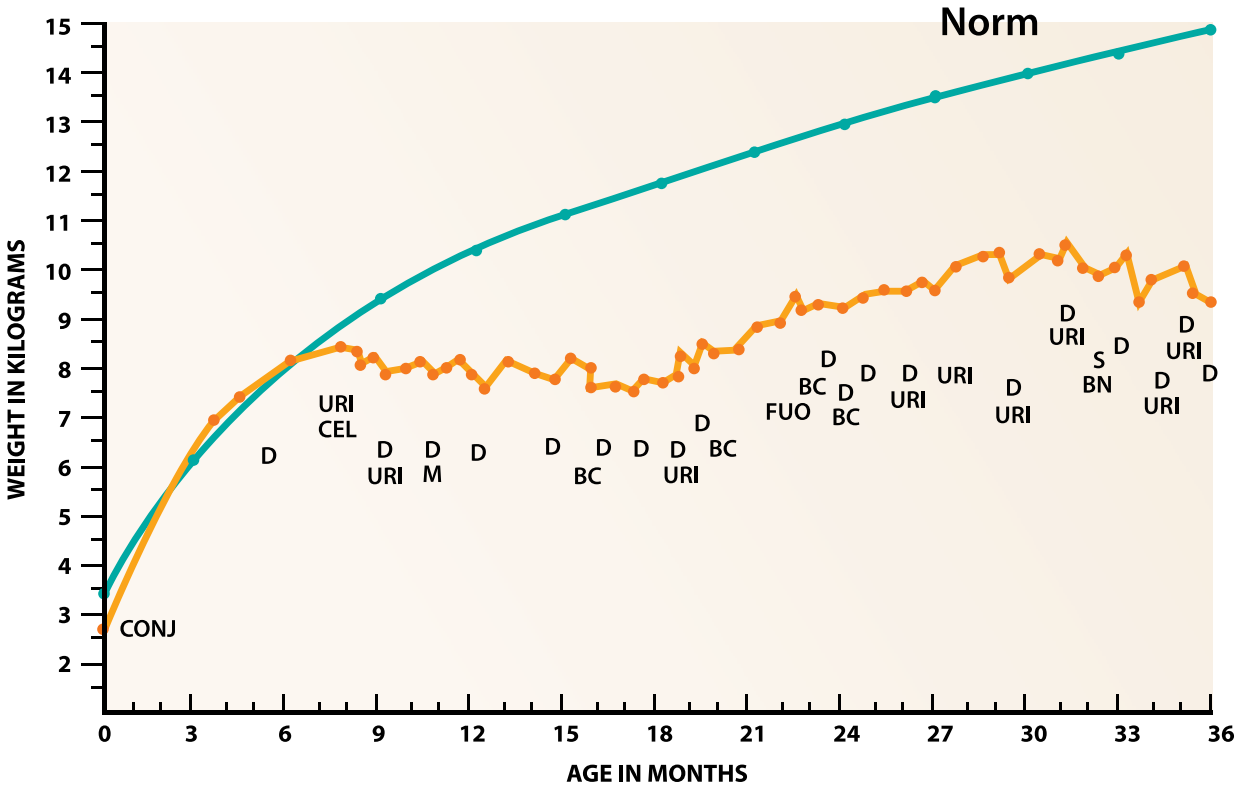
Outside South Asia, very few countries have such high levels of malnutrition. India is roughly on par with Burkina Faso, Niger and Sudan, which, in fact are a little better. In China, comparable malnutrition stands at just eight percent on average[14], though there are concerns regarding internal regional disparities.

The situation in Asia represents an 'invisible emergency'. When most of the population is undernourished, small body sizes as a result of growth faltering appear 'normal', becoming invisible to an untrained observer. Parents are not alarmed and public policy does not respond. Undernutrition does not get attention the way communicable diseases and deaths do. It is through techniques like growth charts that plot actual weights against an external 'norm' that we can 'reveal' malnutrition. For example, Figure 1.2 represents a sample growth chart where actual weights for corresponding ages of a child up to 36 months of age are plotted against a 'norm'. Growth faltering is evident right through the chart after the first six months[15]. Since the child is undernourished, almost every infectious episode results in a drop in weight.

A question is sometimes raised regarding norms: why should international norms be used? Are they not external? Should norms not be from within ethnic groups? While body size is an outcome of both genetic and environmental factors, most variation seems to be explained by the circumstances in which people live. The gap within groups is much more than the gap across. For example, figure 1.3 presents mean heights among seven year olds from eight countries.

Figure 1.2

Inadequate Nutrition, Illness, Growth Faltering: Tracking a Child to 36 Months



KEY

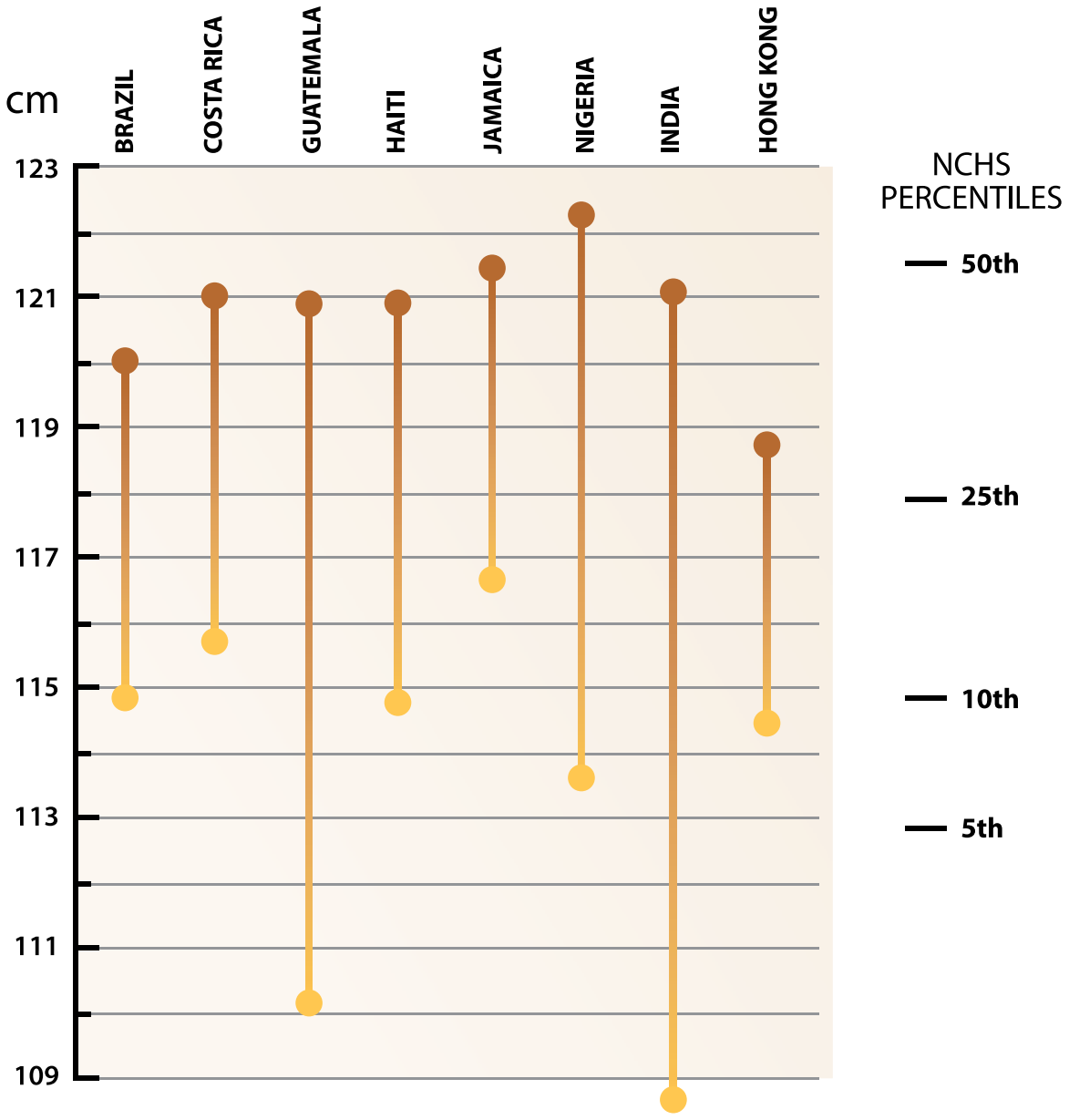
D	**Diarrhoea**	FUO	**Fever of unknown origin**
BC	**Bronchitis**	I	**Impetigo**
BN	**Bronchopneumonia**	M	**Measles**
CEL	**Cellulitis**	S	**Stomatitis**
CONJ	**Conjunctivitis**	T	**Oral Thrush**
		URI	**Upper Respiratory Infection**

Source: UNICEF, 1983

The dark circles at the top end represent mean heights among the better off sections and the clear circles at the bottom among those from low socioeconomic status. There is not much variation *across* ethnic groups - the dark circles across Brazil, Costa Rica, Guatemala, Haiti, Hong Kong, India, Jamaica and Nigeria are not that much apart. However, the gaps *within* countries across socioeconomic groups are much more - India and Guatemala showing the widest in-country gap. The problems are clearly more in the realm of social science rather than biology. This is good news as it provides room for changes through policy, bringing the importance of food and nutrition security to the center stage.

Figure 1.3

Ethnic vis-à-vis Socioeconomic Factors: Height Variations among Seven Year Olds



Mean heights of 7 years-old boys of high (●) and low (●) socioeconomic status

(Adapted from Martorell and Habicht, 1988)

II How Meaningful is the Right to Food?

There is a significant gap between declaring that individuals have the right to food and a common understanding of what it means. Internationally, the right to food has been recognized since the adoption of the Universal Declaration of Human Rights in 1948. Further, as of mid 2008 more than 150 states have become parties to the 1966 International Covenant on Economic, Social and Cultural Rights which requires states to legislate for the right to adequate nutrition[16,17]. At the national level the Right is part of the constitutions of more than 20 countries. Nevertheless, while the Right is asserted, and has considerable support from civil society organizations (CSOs), its understanding and operationalizing continues to be debated.

Conceptually, the right to food is much less clear than other rights like the right to information or to free speech. Who does one enforce it against and how? Can parents be held liable? Can society at large? Can the State? Is it practical to punish poor parents? It is generally agreed that the right to food does not imply that states must provide food to everyone[18]. Then how meaningful is the Right?

Right to food is a bit like the right to education - another right not well understood. But once it achieves social legitimacy, it becomes real. No one today questions that children should be in school full-time, rather than in the labour force, unlike the days of the industrial revolution. Once people come to *expect* and *demand* social and economic rights as a matter of course, state policies tend to respond and have in the case of education done so, making it a *de facto* right. In India the right to education has been incorporated in the constitution. Right to food, however, is not so explicitly defined by law.

Operationalising the right to food is also a complex issue. The core elements of the right to food consist of *availability, food safety* and

acceptability[19]: One could take alternate positions regarding who is responsible: the people, CSOs, experts or governments. In practice all are equally important in addressing hunger and malnutrition - the people to obtain access and tackle intra-household issues, the CSOs to lobby and hold authorities accountable, the experts to provide the right knowledge, and governments, as the ultimate duty holders, to ensure that all citizens are well nourished through providing access and knowledge.

Even though food has not quite been acknowledged as a legally enforceable right, in late 2001, India's Supreme Court responded to a public interest litigation[20] and ordered all government and government-assisted primary schools to provide cooked mid-day meals for school students and preschoolers below six[21]. Parents can demand the meals and enforce through courts if necessary, putting the onus on governments. None of the state governments in India liked it; it was considered a budgetary and organizational nightmare.

Governments around the world have used several different instruments to promote food security - bolstering food production, building buffer stocks of grain, price stabilization to benefit farmers and consumers, public distribution networks, employment schemes and direct nutrition investments through programmes such as school and pre-school feeding. The focus of this paper is on the potential and limitations of direct nutrition investments through school and pre-school feeding programmes - schemes perhaps most resisted by governments but most popular with the poor. Such schemes contain elements of all dimensions of the core content of the right to food - availability, food safety and acceptability.

If a reader feels that direct feeding schemes are a waste of time and resources, you are not alone. But the matter is worth thinking through again.

Preschool and school feeding is an important step towards the right to food, though not sufficient. Meals (as against raw grains) also contribute to the right to education as they:

- facilitate attendance, combat class-room hunger, enhance learning
- promote gender equity - keep girls in school

They also have other benefits as they:

- *foster social equity - in the case of India, combating caste discrimination and untouchability*
- *provide employment - direct and indirect*
- *impart nutrition education and promote healthy eating habits*
- *offer opportunities to promote habits of personal hygiene*
- *promote good health*

Thus, publicly funded feeding can not only contribute to the right to food, but also to a number of other goals that go beyond combating hunger.

III From India's Pioneer State to National Scaling-up: Relevance for Asian Developing Countries

Tamil Nadu, the pioneer state. India's case makes an interesting study because it has scaled-up from a single state, Tamil Nadu, to cover all states. It demonstrates the operation of key principles for success and also helps identify limitations and continuing problem areas. A few other states did operate smaller variants of direct feeding schemes, for example, in Gujarat primary schools were covered and in some other states 'dry rations' were provided under the eligible national schemes[22]. But most states never went beyond supplying dry rations. Judicial intervention has changed that, putting pressure on state governments to respond. The experience of India can provide useful pointers relevant to other developing countries, given that overall development, including income poverty reduction, may not automatically translate into a reduction of malnutrition. It could help countries refine their own goals and priorities and better assess resource needs of time, funds, technical knowledge and personnel to achieve the aims they set for themselves in a shorter time.

In Tamil Nadu (TN) near-universalised feeding for the nutritionally vulnerable population through visible, public funding has been in place *well before judicial intervention*. The State's effort is a unique combination of pressure from above and below resulting in a wide network of feeding centres in-between. In spite of a trend reduction in malnutrition observed in the State, it has nevertheless persisted, both, among the

poor and the non-poor, even with the introduction of the Programme, at levels high enough to continue with policy attention.

While the State has a long history of providing food outside the home for young children and mothers, starting from 1956 and some even earlier, the early efforts at school feeding were sporadic and faced several operational difficulties. It was not until 1982 that, for the first time, the hardest to reach group was included - preschoolers between 2-5 years. The State has never looked back. The original aim was to combat hunger, but over the years it has become integrated with addressing malnutrition. The political value of publicly visible feeding in a democratic set-up was not lost to decision makers - hunger was well understood as a potent tool for electoral victory. Over the years, nutrition concerns were also integrated with addressing hunger so the full benefits of providing food could be reaped. Starting with a small, pilot nutrition scheme[23], nutrition oriented schemes and hunger oriented feeding schemes, first operated in parallel, and were subsequently integrated as there was a convergence of interests between what was democratically attractive (visible, publicly funded feeding schemes) and what was technically recommended (multi-sectoral nutrition schemes). Today, the nutrition-cum-child-development programme is so well entrenched in the State that it has become a *de facto* entitlement.

Food has become an integral part of the school and pre-school routine - like a blackboard. Centres function every day. An impressive physical infrastructure is in place with buildings for most centres. Earmarked staff (a cook, a helper, an organizer) and equipment such as scales, utensils and mats are in place. Through the network of centres that operate at village level, in urban wards and schools, a daily noon meal is provided to preschool and school-age children with supplementary feeding to children below 24 months. Certain categories of adults who are nutritionally vulnerable or in need of social protection such as pregnant and nursing women,

the destitute and old can also have a hot mid-day meal every day. The menu is nourishing and varied (rice, sambar, different vegetables, tri-weekly egg, supplements). Linkages with other issues such as health have also been established (growth monitoring, immunization, deworming, iron and folic acid, vitamin A administration). Particular attention is paid to the needs of nutritionally vulnerable groups like pregnant and nursing women, adolescent girls and children below 24 months. Communication on nutrition is also provided. Thus, while one may debate about quality, variations in functioning, staff motivation and skills, location issues, etc., over 90,000 centres actually function everyday, covering no fewer than 8.6 million persons[24]. It is not dry rations or precooked items like biscuits that are supplied; rather, hot rice meals cooked on the spot and served to all participants[25]. In spite of the sheer mind-boggling logistics, the scheme has grown and stabilized, covering about eight percent of the state's population.

The Tamil Nadu (TN) case is interesting for a number of reasons. First, this state in southern India with a population of approximately 62 million, according to the 2001 Census, and a land area of 130,058 sq km (Government of Tamil Nadu[26]) is comparable in size to many developing countries of Asia. For example, in comparison, Nepal has a population of around 28 million and area of 140,800 sq km; Sri Lanka a population of 20 million and area of 65,610 sq km; Philippines a population of 88 million and an area of 300,000 sq km; and Bangladesh a population of 144 million in an area of 144,000 sq km[27]. Secondly, Tamil Nadu is the first, and perhaps the only, state government in India to have officially proclaimed its aim of making the state malnutrition free (April 2002[28]) by 2020 and to have in place a coherent policy for achieving this (November 2003[29]). Thirdly, the policy is backed by budgets through a combination of State funding, Central allocations and World Bank support. Finally, it is also interesting because even after

Table 3.1

Coverage Under Pre-school and School Feeding Schemes in Tamil Nadu, 2007-08

Centres		Number of participants		
Type of centre	**Number of centres**	**Children**	**Adults: AN/PN & pensioners**	**Total**
Pre-school, child welfare centres (predominantly ICDS, rural & urban) covering ages 6 - 60 months & nutritionally vulnerable adults	50,433	1,814,000	570,000	2,384,000
School Noon Meal Programme Centres (rural & urban) covering ages 5 - 14 years	41,663	6,268,000	Nil	6,268,000
Total	**92,096**	**8,082,000**	**570,000**	**8,652,000**

AN/PN = Ante-natal/post-natal women, i.e., pregnant or nursing women

Source: Government of Tamil Nadu, 2008

World Bank funding was supposed to end under an experimental nutrition project, the Bank was reluctant to withdraw despite the State having demonstrated its ability to scale-up and go beyond the Bank funded project in coverage - reflecting a desire to continue being associated with an overall winner, despite the scheme's well recognized shortcomings.

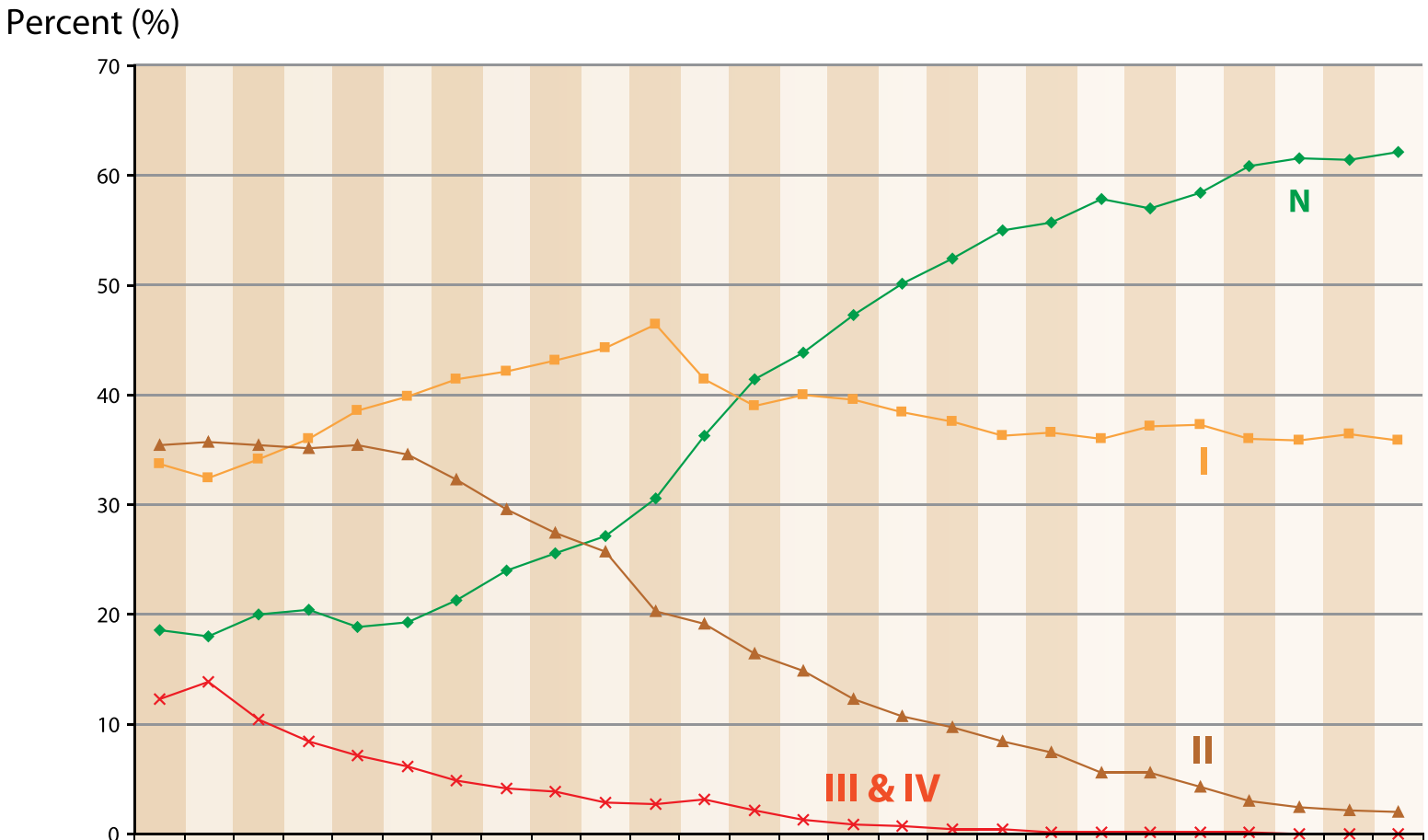
Three features of the TN case are noteworthy. *First*, there has been sustained political will from above resulting in public policy attention with budgetary allocations for combating hunger and malnutrition. It is perhaps the only case where hunger and malnutrition have entered the political discourse and *remained there consistently for over four decades, fully backed by funding*. This happened despite contrary advice from experts (too populist), the finance department (fiscal burden will be unsustainable), and bureaucrats (operations considered too massive and complex). *Second*, there has also been pressure from below with the feeding programmes becoming so popular and well received by the population, that it is difficult for centre's staff to let a facility remain closed for any length of time without local reaction and immediate enquiry. *Third*, while political will triggered off the pressure from below, pressure from beneficiaries, in turn, has contributed to the *retention* of political will over time regardless of the party in power. The interests of nutritionally vulnerable groups have coincided with prospects for democratic spoils in such a way that no party in power has reduced allocations to the Programme. As public funding of the statewide nutrition effort has come to stay, Tamil Nadu is on the verge of establishing child rights to nutrition security.

The Programme is not without its problems, of course, both in process and results. Both, the ingredients and cooked food are attractive items for the poor and for programme staff, many of who are themselves not well off. Complaints of food diversion do surface through inflating attendance, feeding unregistered persons, inadequate use of vegetables or pulses. However, pressure from above due to strong political will, combined with parental pressure from below due to expectations that have been strengthened over the years, ensure not just built-in limits on diversion, but also quality and regularity, ensuring the relatively smooth functioning of the Programme. Then there are second generation issues emerging due to changing food habits and emergence of newer nutrition problems among the poor, population relocation, remote location access, continuing staff motivation and training, and most importantly, the rather limited participation of beneficiary households or local communities in design, implementation or management. Given that the State is committing resources to counter nutritional deprivations, whether, in fact, malnutrition can be reduced to such an extent that it is no longer a public health issue, would depend on how the State facilitates knowledge management on nutrition to complement more tangible direct nutrition inputs so that individuals and households, as also other stakeholders, are enabled to make pro-nutrition choices.

What has been the change in the nutrition condition? Based on weight-for-age data, figure 3.1 shows the trend observed over 24 years, from 1983 to 2008, based on growth monitoring of participating children under 36 months of age under the WB ICDS III scheme. Records have been maintained for participants. Equivalent non-participant data are not available for suitable controls, given ethical issues involved in measuring without feeding some of the children in a rural poverty situation.[30] The data is cross-sectional, i.e. we do not have tabulations for how each child performed over three to four years. And there is a negative selectivity bias in that data is from participants who are largely from poor households who are likely to face higher nutritional stress, leading us to overestimate. Nevertheless, with these caveats,

Figure 3.1

Trends in Nutrition Status of Participating Children 0-36 Months in Tamil Nadu, 1983 to 2008.



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008 (Jun)
Normal	18.60	18.00	20.00	20.50	18.80	19.30	21.30	24.00	25.60	27.10	30.60	36.30	41.50	43.80	47.30	50.10	52.37	54.98	55.70	57.90	57.05	58.37	60.89	61.64	61.42	62.18
Grade I	33.70	32.50	34.10	36.00	38.60	39.90	41.50	42.20	43.20	44.30	46.40	41.40	39.00	40.00	39.60	38.50	37.52	36.27	36.60	36.04	37.18	37.23	36.04	35.86	36.40	35.81
Grade II	35.40	35.70	35.50	35.10	35.40	34.60	32.30	29.60	27.40	25.70	20.30	19.10	16.50	14.90	12.30	10.70	9.66	8.39	7.49	5.60	5.60	4.28	2.99	2.44	2.14	1.98
Grade III & IV	12.30	13.80	10.40	8.40	7.20	6.20	4.90	4.20	3.80	2.90	2.70	3.20	2.10	1.30	0.80	0.70	0.45	0.37	0.21	0.19	0.17	0.12	0.08	0.06	0.04	0.03

Source: Office of the Project Coordinator, ICDS, GoTN

a clear and steady decline in severe malnutrition (grades III and IV) is observed from a little over 12 percent to negligible levels. The severest forms of malnutrition seem to have almost disappeared. At the same time, the percentage of normal children has gone up from under 20 to over 60. This is a significant achievement. The moderately malnourished (grade II) percentages have also declined from over 35 to under single digit numbers. The mildly malnourished (grade I) does not show any trend due to the likelihood of children from moderate and severe malnutrition categories climbing into grade I, while those from grade I joining the normal category. These are combined effects without segregating the effects of state investments in nutrition from the overall development effects.

Other data sources also show relatively lower overall malnutrition and trend improvement in Tamil Nadu[31]. For example, table 3.2, which presents comparable data from the NFHS surveys among the population as a whole, confirms this.

Tables 1.3 and 1.4 above show lower anemia percentages among children and adults in Tamil Nadu as compared with India as a whole. And in a situation of increasing anemia at the national level among women, the Tamil Nadu percentages actually declined.

Scaling up to the national level. Given Tamil Nadu's experience as a background, it was a public interest litigation, which resulted in generating pressure from above at the national level. The Supreme Court Orders of November 28, 2001 directed all states to introduce cooked Mid-Day Meals (MDMs) in primary schools within six months. The result was that most states missed the deadline as they could not or did not comply. The sheer logistics, management and budgets were mind-boggling. Yet, this pressure from above contributed to a steady expansion of school lunches as most states, after some reluctance, complied - Rajasthan, Karnataka and even Bihar and Uttar Pradesh. No doubt this was a victory of sorts, but it was soon clear that judicial

Table 3.2

Change in IMR and nutritional status of children, India and Tamil Nadu, 1992-93, 1998-99 and 2005-06

Indicators	India			Tamil Nadu		
	1992-93	1998-99	2005-06	1992-93	1998-99	2005-06
IMR	79	68	57	68	48	31
Children under 3 stunted (%)	n.a.	46	38	n.a.	29	25
Children under 3 underweight (%)	52	47	46	46	37	33

Source: IIPS, 2007

intervention needed to be supplemented with pressure from below to make it politically worthwhile - linking MDMs to electoral prospects as in Tamil Nadu. Political will is critical for quality and sustainability of the Programme but has varied highly across states. So it has been necessary to generate wider pressure from below. This is happening through a nation-wide 'Right-to-food Campaign' by an informal network of supporters committed to the right to food.

Initial reversals and difficulties should not daunt protagonists in the battle against malnutrition. Even in Tamil Nadu, in the early years, experiences were not always good. For example, in 1974 the headmaster was tasked with managing school meals with the help of teachers. This distracted from teaching. There were also high variations in quality from school to school. Administering the Programme was a daily struggle for school management in Tamil Nadu. The gap subsequently identified was the absence of dedicated staff. It was only after 1982 that funding for MDMs was a first call on the state's resources and things started to change. The Tamil Nadu model was found effective in many ways as a 2003 survey revealed[32]. For example, it:

- addressed intra-household issues, removing existing 'social' biases against girls,
- contributed to common dining and socialisation of children at a very early age due to universal feeding (as against targeted feeding),
- was administratively efficient as the targeting took place automatically through the location of the programme in government facilities, which by and large excluded the well off (however, those out of school tend to get omitted; however, this acts as an incentive to parents to send children to school),
- encouraged social equity through a preference for dalits and widows among staff (but in places where preexisting caste-based habitations existed, children attending local facilities anyway led to segregation),and
- community watch and participation helped retain regularity and quality (but there was limited participation of local bodies and a struggle to claim political mileage).

The survey explored the implementation of the MDM scheme in some other states as well. In the state of Chhattisgarh, for example, cooking took place in soot covered classrooms, there were swarming pupils, utensils were inadequate, cooks struggled and got children to help. The teacher wished for school feeding to be stopped as it distracted children, turned the classroom filthy after food and meant that no teaching took place after lunch. The gap in this case was inadequate political will combined with inadequate funding, infrastructure and management.

In Rajasthan, the situation was found to be different. Political will was in place, logistics were well managed and monitoring took place. But the meal was identical every day (*ghoogri* - boiled wheat & jaggery) and the infrastructure was poor. Upper caste children were found to bring food from home food, making social inequalities explicit. The gap identified here was under funding.

IV Potential and Limitations

The potential of direct food interventions goes beyond the more commonly understood benefits of combating hunger, malnutrition and ill-health. Good nourishment can promote the capacity to resist and recover from disease. It can improve earning capacity through improved productivity, reduced absenteeism and loss of work days. By reducing expenditure on curative services, it can save household and governments scare budgetary resources. Better nutrition can break the cycle of inter-generational transmission of malnutrition. Direct school feeding can promote education through a reduction in class room hunger, better attendance, cognitive development, school readiness. It can promote gender equity to the extent that providing food at schools makes it more likely for girls to remain in education. It can also promote women's employment when they become freer to work for remuneration rather than be limited by the unavoidable burden of unpaid domestic work such as providing mid-day meals. Uni-

versal feeding facilitates joint dining which can promote social equity, spread egalitarian values, and break barriers of caste and class. Appointing cooks from the lower castes can teach children and adults to overcome caste prejudices, which are very significant in caste-based societies like India, especially in rural areas.

At the same time, the limitations also need to be recognized. The health-nutrition benefits are not automatic. Sharing of entitlements among non-target population like the rest of the family or even with farm animals, as happens with take-home dry rations, can reduce benefits. Substitution through cutting back on home food reduces the extent of the additionality. In respect of education benefits, expectations have to be realistic as there could be a mismatch between objective and instrument - food cannot substitute for teachers, text books or buildings. Education ministries are unlikely to use their limited budgets for food as food is an instrument, one of many, which addresses only one side of the equation - the demand for education. School teaching can actually get interrupted without separate provisions for staffing, etc. In respect of social equity, poor quality food can do more harm than good as inequality could be widened or revealed if children from relatively better off households prefer bringing food from home. Sharp targeting does the same and can lead to poorer children and Dalits being discriminated against. Then again, political will varies across the states. In spite of the long experience of a state in India, it needed judicial intervention for the scheme to be made universal. So far, only some states have taken the issue up seriously and are realizing the political mileage from visible food provision.

Another set of issues arises because the concept of nutrition status is not widely understood the way huger is, even among the better off. It is not just a matter of excess or shortage of specific nutrients: utilization and absorption of food is affected by infectious episodes, intestinal parasites, etc. And malnutrition, in turn, increases susceptibility to infections - a synergistic relationship. Thus, nutrition status is an outcome of a number of bio-medico-socio-economic processes interacting over time, and without addressing the non-food factors simultaneously, effectiveness of direct food interventions would be limited.

Nevertheless, the shift from a drug based approach to a food based approach has been a big improvement. Countries now need to make the next shift - to a knowledge based approach, understanding nutrition to make pro-nutrition choices. A recognition of the non-food factors - like poor absorption at cellular level, poor sanitation, personal hygiene and infections, drinking water quality, low birth weights, inadequate/ inaccurate knowledge, quick successive births and high parity, low weight gain in pregnancy, low heights and weights of adolescent girls, inadequate understanding of female health and nutrition, geriatric health and nutrition - is just as important. As part of managing knowledge, a number of inaccurate beliefs also need to be countered e.g. soda cures gas; peas and daals are too 'heavy' for children depriving them of an important source of protein; sprouts are suitable mainly for the old; iron tablets in pregnancy will result in a dark child; papaya causes abortion; tea is good for health; bananas cause colds; and so on.

Clearly, unlike drugs or food, nutrition status cannot be *'delivered'*. Good nutrition requires that people themselves actively participate, respond and take action based on correct information. In recent years, unfortunately, a new dimension has been added. Even in rural areas and among the urban poor there is an increased consumption of fizzy drinks, processed and packaged foods loaded with preservatives, colours and artificial flavours that are relatively expensive. Together with undernutrition, we

are also simultaneously beginning to find rural obesity and other lifestyle related diseases as globalisation contributes to lifestyle changes. The poor seem to have started spending scarce household resources on relative expensive, but nutritionally poor, processed foods. Hence it is very important to make available nutrition education to complement other nutrition inputs.

Even in Tamil Nadu, while we observe improvements among programme participants, other data indicate that the overall prevalence of malnutrition in the state continues to persist. As per data from the Third National Family Health Survey (2005-06), among children under age of 5 years, 30 per cent are underweight, 31 per cent are stunted and 22 per cent of newborns are categorized as low birth weight. New batches of underweight babies further contribute to the incidence of malnourishment, including among the next generation. Adding other correlates, including social and lifestyle related factors which are prevalent among both, the better off and the worse off, reasons for concern continue. While the existing malnourished are being addressed through a fairly efficient management of malnutrition, a critical concern is how does one minimize new batches of the malnourished? These were the motivations for Tamil Nadu's state policy on nutrition.

V Costs and Financing

How much do direct food investments cost? The main components are a combination of capital costs, recurring costs and provisions for maintenance. These have, of course, to be costed locally. The main components under each are:

Capital : one time costs for infrastructure (buildings with kitchen and toilet, storage, and a water source) and equipment (utensils, containers, mats to sit on etc.)

Recurring : ingredients (for a given scale of rations per head), transport, conversion costs (i.e. converting raw ingredients into cooked food covers condiments, fuel and staff), and administration

Maintenance : repairs and periodic replacement to account for wear and tear

In most cases, it is easier to secure funding for one time capital expenses. It is harder to commit resources for recurring and maintenance expenses. Using the example of India, an estimate for average[33] daily recurring cost per capita is as follows:

	Rs.
Grains (rice/wheat) (100 gm)	1.30
Transport	0.12
Conversion costs (daal, vegetables, salt, oil, condiments, fuel, personnel)	2.30
Admin, M&E	0.03
Sub-total	**3.75**
Other (incidentals)	0.20
TOTAL - USD 0.094 (approximate)	***3.95***

In India, the conversion costs are shared by the central government and the states. However, not all states are contributing their expected share of Rs.1.00. Some states like Tamil Nadu and Andhra Pradesh are examples of adequate contribution, which is reflected in quality - different menus every day, mid-day meals have become as 'normal' as a blackboard. In Tamil Nadu, this has amounted to a share of about 2 to 4 percent of total annual revenue expenditure.

Financing of these expenditures in India been done jointly by the centre and state governments. In states with stronger political commitments, once nutrition was an identified policy priority, resource flows have followed. Many of the existing ongoing development schemes have been used to fund parts of the costs. For example, to cover capital and replacement costs, the Employment Guarantee Scheme, rural works, urban development and slum improvement schemes were made eligible for NMP. Local contributions were also encouraged not only for resource supplementation but also for community buy-in. Grains from the public distribution system were used towards the cereals used for the mid-day meals.

Donor financing is also an option. However, by and large for the present, the right to food is less accepted than education. There seems to be a willingness to support education, however. To that extent, rather than food *per se*, Food for Education (FFE) is considered to be a more acceptable strategy. Without building a greater legitimacy for combating hunger, this more or less rules out donor financing for pre-school ages which are nutritionally more vulnerable. Even in the case of Tamil Nadu, the World Bank agreed to support other than food costs for pre-school ages - expecting families to bear that part, and recommending sharp targeting of supplements.

This is a fairly strongly held position within most governments as well. Hunger is expected to be in the realm of the household. Hence, longer term interventions like income generation have been the preferred instruments to deal with hunger and malnutrition. But, based on the discussion above, there is an argument for direct food investments as well, more so as decline in poverty has not resulted in corresponding nutritional improvements. Policies should not only aim to prevent future malnutrition, given the size of the problem, they should also tackle current hunger and malnutrition.

Finally, while money is important, money alone is not enough. Complementary policies that include institutional changes, including harnessing inter-ministerial synergies and capacity development are equally important to get the maximum benefit per dollar.

VI Overall Messages and Conclusion

The paper has four overall messages: First, direct nutrition intervention can contribute to the right to food with the potential to address critical development concerns - poverty, hunger-nutrition, health, education and social equity. Second, it must, however, be recognized that the benefits are not automatic - they depend upon the design and quality of implementation. Third, poor design and implementation can actually do more harm than good. Fourth, one needs to have realistic expectations about effects as there are a number of 'other' contributory factors, which need to be addressed simultaneously. Hence, it is critical to combine administrative capacities with technical inputs backed by adequate budgets. To operationalise steps towards the right to food, four specific recommendations emerge:

1 Follow a two-pronged strategy in programme design

- *prevention* for those not yet malnourished
- *management* of malnutrition for those affected

2 Customize inputs by socio-economic groups for efficiency in the use of resources

- knowledge for the better off to promote nutrition literacy
- subsidized inputs-cum-knowledge for the worse off

3 Simplify targeting to cover the worse off

- focus on state funded institutions (e.g., school and pre-school) and universalize
- make separate provisions for those out of schools
- cover disadvantaged locations through area-based targeting

4 Minimise leakages

- design publicly visible feeding
- use pressure from below to facilitate social monitoring and audits
- encourage community participation

In conclusion, we need to ask the fundamental question - should we really let people face hunger and malnutrition arguing for fiscal prudence when we have the technology and resources? If not, then these ideas and experiences can go a long way in contributing to the right to food.

Notes

1 **Hunger** is the body's way of signalling that it is running short of food and needs to eat something. Hunger can lead to malnutrition.
Malnutrition / Undernutrition is defined as a state in which the physical function of an individual is impaired to the point where s/he can no longer maintain natural bodily capacities such as growth, pregnancy, lactation, learning abilities, physical work and resisting and recovering from disease. The term covers a range of problems from being dangerously thin (*Underweight*) or too short (*Stunting*) for one's age to being deficient in vitamins and minerals or being too fat (obese).
Protein energy malnutrition is measured not by how much food is eaten but by physical outcomes, i.e., measurements of the body - weight or height - and age (see *Stunting*, *Wasting*, *Underweight*)
Source: World Food Programme
http://www.wfp.org/aboutwfp/introduction/hunger_what.asp?section=1&sub_section=1
Accessed 19 August 2008

2 **Obesity** and **overweight** are defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass index (BMI), a person's weight (in kilograms) divided by the square of his or her height (in metres). A BMI of 30 or more is in the 'obese' category; a BMI equal to or more than 25 is 'overweight'. These conditions are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. Obesity and overweight are dramatically on the rise in low- and middle-income countries.
Source: World Health Organization
http://www.who.int/topics/obesity/en/
Accessed 28 July 2008

3 *See* http://www.scottish.parliament.uk/business/bills/pdfs/mb-consultations/schoolMeals-consult.pdf

4 UNICEF 1998: State of the World's Children Report, Focus on Nutrition. UNICEF, New York.

5 The corresponding share of children underweight-for-age in some of the world's poorest countries are comparable or even better: Sierra Leone 27 percent, Guinea Bissau 25 percent, Burkina Faso 38 percent, Niger 40 percent (UNDP, 2007).

6 A specific MDG target seeks to "halve, between 1990 and 2015, the proportion of people who suffer from hunger." Food and nutrition security contribute to the poverty reduction, health, education and gender equality Goals.

7 Babies who weigh less than 2.5 kgs at birth are considered low birth weight.

8 Of the thirty states, 20 can be called 'large', i.e., with an area of over 35,000 sq km and population of over 5 million: *Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttarakhand, Uttar Pradesh, and West Bengal;* 10 small with area less than 35,000 sq km and population less than 5 million: *Arunachal Pradesh, Delhi, Goa, Manipur, Meghalaya, Mizoram, Nagaland, Puducherry, Sikkim, Tripura*. The 5 Union Territories are: *Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, and Lakshadweep*.

9 The increasing trend in gross domestic savings as a proportion of GDP observed since 2001-02 has continued with the savings ratio rising from 26.4 percent in 2002-03 through 29.7 percent in 2003-04, 31.1 percent in 2004-05 and to 32.4 percent in 2005-06 (GoI, 2007).

10 India's FDI inflows (net) continued to grow during 2005-06 to climb to US$ 4.7 billion. FDI, year-on-year, exhibited a growth of 27.4 percent in 2005-06 reflecting the improved investment climate. The rising trend in FDI observed in 2005-06 accelerated further in 2006-07. As per provisional data available, FDI (net) in April-September 2006 at US$4.2 billion was almost twice its level in April-September 2005. There has been a 98.4 percent jump in the equity investment into India in April-September 2006-07 over April-September 2005-06 levels (GoI, 2007.

11 The actual percentage would depend upon how malnutrition was measured (weight-for-age, height-for-age, weight-for-height, skin fold over triceps, head circumference, etc.) and the norms used.

12 Government of India, 1996. *Task force report on micronutrients*. Department of Women and Child Development.

13 Body mass index (BMI) is measured as weight in kilograms divided by the square of height in meters (kg.m2). It is a simple age-sex independent measure to classify underweight, overweight and obesity in adults. A BMI of 25 or more is considered overweight and 30 or more is obese. A BMI under 18.5 is considered underweight. There is a debate about interpreting BMI cut-offs for different ethnic groups.

14 *Source:* UNICEF
http://www.unicef.org/progressforchildren/2006n4/files/PFC4_statistical_table.xls
Accessed 5 September 2008

15 This is the period of early growth when mother's milk is likely to have provided protection.

16 As of 22 July 2008 there were 159 parties to the 1966 International Covenant on Economic, Social and Cultural Rights (CESCR) which came into force on 3 Jan 1976 through ratification, accession or succession. The CESCR states: The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living…including adequate food… and agree to take appropriate steps to realize this right.
Source: http://www.hrweb.org/legal/escr.html
Accessed 3 September 2008

17 An International Code of Conduct on the Human Right to Adequate Food was proposed in 1996 which, as expected, had wide support from NGOs. The 1996 Rome Declaration on World Food Security stated, "We, the Heads of State and Government…reaffirm the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right if everyone to be free from hunger." However, its implementation continues to elude countries.
See http://www.foodfirst.org/progs/humanrts/conduct.html
and http://www.wfp.org/aboutwfp/introduction/hunger_what.asp?section=1&sub_section=1
Both accessed 3 September 2008

18 International Code of Conduct on the Human Right to Adequate Food:
http://www.foodfirst.org/progs/humanrts/conduct.html
Accessed 5 September 2008

19 International CESCR General Comment 12
http://www.fao.org/righttofood/common/ecg/51635_en_General_Comment_No.12.pdf
Accessed 3 September 2008

20 People's Union for Civil Liberties (PUCL), a human rights organization in India, filed a Public Interest Litigation (PIL) for 'right to food' in April 2001. The case has generated much media interest - PUCL vs. Union of India and Others (Writ Petition [Civil] 196 of 2001. The Supreme Court passed interim orders of 28 Nov 2001. At the time of writing this piece the litigation was still on. A PIL is a court case fought on behalf of a whole section of the public by a petitioner who may or may not belong to that group.

21 The orders are 'interim' - but applicable right away until the final judgment.

22 For example, the National Program for Nutrition Support to Primary Education.

23 For example, the Tamil Nadu Integrated Nutrition Project (TINP) was initiated on a pilot basis in just one block in 1982. It expanded in phases.

24 Data updated since Rajivan, 2004 in "*Towards a Hunger Free India: From Vision to Action.*" East-West Books (Madras) Pvt. Ltd., 2004 in M.S.Swaminathan & Pedro Medrano (eds.) 2004. The paper has also benefited from discussions in Mussoorie at the Lal Bahadur Shastri National Academy of Administration, 29-30 November 2004.

25 Rajivan, 2004.

26 Government of Tamil Nadu - 2001 Census
http://www.tn.gov.in/misc/tnataglance.htm#AREA%20AND%20POPULATION%20(2001%20Census)
Accessed 3 September 2008

27 http://www.infoplease.com/ipa/A0004379.html
Accessed 3 September 2008

28 G.O Ms. No.55 Social Welfare and Nutritious Meal Programme Department, dated 8.4.2002.

29 Work on an official policy document for a malnutrition free state was undertaken with technical inputs from UNICEF, nutrition experts, statisticians, doctors, public health experts, NGOs, enriched by consultations with Government Departments and civil society. The official Policy document was adopted in November 2003. The author was a part of the technical team that developed the Policy.

30 Voluntary non-participants are likely to be better-off. In other cases involuntary non-participants may be much worse-off due to remote or inaccessible locations. Hence these categories are not comparable.

31 The levels in India and even in Tamil Nadu continue to need policy attention. Malnutrition is notoriously persistent and tends to be invisible when widely prevalent among the population in general - 'shrunken' children appear 'normal' to parents.

32 Dreze, Jean and Aparajita Goyal, 2003.

33 These are average figures that cover different scales for different age groups - pre-schoolers, school children in primary and secondary classes, pregnant and nursing women and pensioners.

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