

# **WIDER**

RESEARCH  
FOR  
ACTION

**HUNGER AND ENTITLEMENTS**

AMARTYA SEN

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ECONOMICS RESEARCH  
UNITED NATIONS UNIVERSITY

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# WORLD INSTITUTE FOR DEVELOPMENT ECONOMICS RESEARCH

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*I Hunger and poverty – the poorest billion*

*II Money, finance and trade – reform for world development*

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## **Preface**

The first fruits of WIDER's programme in the theme area of "Hunger and Poverty – The Poorest Billion" initiated in 1985 were presented in August 1986 at a research conference in Helsinki on "Food Strategies". The conference was widely acknowledged to have been remarkably successful in focussing on the policy-relevant issues in this area. The research was co-ordinated by WIDER's Research Adviser on this theme, Amartya Sen, Drummond Professor of Political Economy at Oxford University, and Fellow of All Souls College, Oxford and now appointed as Lamont University Professor at Harvard University. The conference brought more than 40 persons to Helsinki to discuss some 20 papers. The findings presented were *par excellence* an example of "research for action". The focus was on identifying "what feasible opportunities exist" for changing a situation where inordinately large numbers of people go hungry.

A common background to many of the papers presented at the conference was provided by the "entitlement approach" to the analysis of hunger pioneered by Professor Sen, which sees famine as arising not from a lack of availability of food but from a lack of command over food. It was entitlement failure in this sense which explained the persistence of famine in Sub-Saharan Africa, in situations where grain availability per person was about the same as in India, where famine had been successfully averted so far.

Another key focus of the conference was on the public intervention issue, namely, how does a country with a low per capita income reach high levels of physical quality of life in terms of literacy rates, life expectancy and infant mortality. Have these levels in the classic case of Sri Lanka resulted from public intervention in health delivery and subsidized food or is this apparent relationship merely a statistical artefact? There is certainly evidence that the post-1977 period where the food subsidy was all but phased out – with unindexed food stamps replacing a physical ration – also saw the emergence of significant malnutrition in the three poorest deciles. A WIDER Study Group is currently engaged in surveying the broad sweep of historical and econometric evidence with a view to determining whether there is a developmental case for the restoration of Sri Lanka's food subsidy.

Another important theme concerned the lessons China's experience in social transformation could offer for countries seeking high levels of physical quality of life on a low per capita income. Was China's success, in particular, the result of her "new economic pol-

icy” or of many decades of planning? The conference also discussed the paradox that while China has conquered endemic hunger without eliminating famine, India had so far conquered famine but not hunger.

This is an impressionistic list of a few of the issues surveyed by the research conference that particularly caught my attention. The Conference papers are being collated in a four volume work edited by Jean Drèze and Amartya Sen (they are themselves writing the first volume provisionally entitled “Combatting World Hunger”) to be published by Oxford University Press under their Clarendon Press imprint late in 1988. The present monograph by Professor Sen distils the main themes and findings into a manageable compass, and more generally, serves to introduce WIDER’s ongoing research programme in the area of Hunger and Poverty for the next several years. I am most grateful to Professor Sen for having put it together with his customary lucidity.

Lal Jayawardena  
November 1987

# ***HUNGER AND ENTITLEMENTS: RESEARCH FOR ACTION<sup>1</sup>***

## ***1. Hunger in the Modern World***

Hunger is not a recent phenomenon. Nor is famine. Life has been short and hard in much of the world, most of the time. Both chronic undernourishment and recurrent famines have been among the causal antecedents of the brutishness and brevity of human life in history.

Hunger in the modern world is more intolerable than past hunger not because it is typically more intense, but because it is now so unnecessary. The enormous expansion of productive power that has taken place over the last few centuries has made it possible, for the first time in history, to guarantee adequate food for all. It is in this context that the persistence of chronic hunger and the recurrence of virulent famines must be seen as being morally outrageous and politically unacceptable. If politics is “the art of the possible”, then conquering world hunger has become a political issue in a way it could not have been in the past.

This is the main background to the research on hunger and poverty that is being undertaken at WIDER. The research is policy-oriented in the sense that diagnostic analysis and critical assessment are ultimately geared to the choice of action. The action in question is not necessarily confined to the sort that can be undertaken by governments alone. The effective removal of hunger in the modern world calls for combative action not only from governments, but also from many other institutions and groups of individuals. For example, the news media may have a major role to play in acting as an early warning system against threatening famines, and also in forcing the hands of those in authority to act quickly and adequately. More generally, public understanding and participation in the battle to end hunger can alter institutions and behavioural modes, and can be a decisive influence on the success or failure of that objective.

The research undertaken at WIDER on the subject of hunger and poverty is, thus, geared not merely to advising governments and those in public office, but also to raising the general understanding of the different problems involved. Informed action coming from different sections of society, from different groups of per-

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<sup>1</sup> For helpful comments I am most grateful to Sudhir Anand, Max Bond, Sukhamoy Chakravarty, Jean Drèze, Eric Hobsbawm, Lal Jayawardena, Martha Nussbaum, Siddiq Osmani, Robert Pringle and V. K. Ramachandran.

sons, and from national and international institutions can be crucial for winning the battle against hunger and famine.

The various research projects in operation at WIDER in this field are described briefly in the Appendix.<sup>2</sup> This text is devoted to outlining some of the main issues that are being addressed in these research projects. The intention is to provide a general introduction to some of the major research themes pursued at WIDER connected with the elimination of famines and the removal of endemic hunger across the world.

One of the extraordinary aspects of the observed reaction to world hunger is the coexistence of continued inaction, on the one hand, and frequent invocation of alarming statistics, on the other. One important and widely-quoted study puts the number of people suffering from nutritional deprivation (in the form of having inadequate calories to prevent stunted growth and serious health risk) at 340 million, which represents about 16% of the population of the developing countries as a whole. For the low income countries the ratio of the deprived population rises to 23%. The same study suggests that 730 million people in the developing world suffer from undernourishment in terms of having “not enough calories for an active working life”. This amounts to 34% of the population of those countries as a whole, including 51% of the population of low-income countries.<sup>3</sup>

Many methodological doubts can be raised about estimating the number of the hungry and the undernourished by comparing calorie intake figures with “requirement” norms.<sup>4</sup> There are, it has been argued, considerable interpersonal as well as intrapersonal variations in the relationship between calorie intakes and nutritional states of persons. This question has some relevance to policy choice, on which more presently (section 4.2), but what is really remarkable is not so much the level of accuracy of the estimates, but the coexistence of such dramatic statistics – figures that would remain alarming even if they were cut by a half or two-thirds – with smugness about the inaction that characterises the world reaction to

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<sup>2</sup> Prepared by S.R. Osmani.

<sup>3</sup> World Bank, *Poverty and Hunger* (Washington, D.C.: The World Bank, 1986).

<sup>4</sup> See particularly P. Payne, “Undernutrition: Measurement and Implications”, and T.N. Srinivasan, “Undernutrition: Concepts, Measurement and Policy Implications”, both WIDER conference papers, 1987. A more defensive position can be found in C. Gopalan, “Undernutrition: Concepts, Measurement and Implications”, WIDER conference paper, 1987. These papers and also two others by Kakwani and Osmani on related subjects will be published in S. Osmani (ed), *Nutrition and Poverty*, forthcoming.



extensive hunger. The recognition of the disastrous nature of the nutritional situation in the world seems to co-survive with an un-rebellious acceptance of passivity in encountering these disasters. While public reaction can be raised to a temporary height by harrowing stories of suffering, or by unbearable television pictures, and a fair amount of public participation may be obtained for a short period in activities such as Band Aid, Live Aid, Sports Aid, etc., the general reaction is one of resilient apathy.

Part of the explanation lies undoubtedly in the fact that most people find it hard to believe that they can do anything substantial to change the situation in a significant way. The donations that they can make seem trivial in comparison with the enormous magnitude of the task. There is also much skepticism as to what the governments of the respective developing countries can and will do with the assistance that they may receive from elsewhere. All this contributes to a sense of comforting impotence – comforting because nothing need be done to deal with what is acknowledged to be a terrible problem since nothing “useful” can be done.

Research alone cannot, of course, change this situation, but there is much scope for a better understanding of what can be achieved by sensible economic policy, and by political and social activities. We have to know more about what feasible opportunities exist. That is the task of research for action. Even the courage and determination to confront the problem of hunger and famine in the modern world may be influenced by a better understanding of what can be achieved by public action.

## ***2. Entitlements and Vulnerability***

### ***2.1 Entitlement Failures***

When millions of people suddenly die in a famine, it is hard to avoid the thought that there must have been a major decline in the output and availability of food in the economy. But while that is sometimes the case, there have frequently been famines in which food output and availability have remained high and undiminished. Indeed some famines have occurred in periods of peak food availability for the economy as a whole (e.g., the Bangladesh famine of 1974).

The real issue is not primarily the over-all availability of food, but its acquirement by individuals and families. If a person lacks the means to acquire food, the presence of food in the market is not much consolation. To understand hunger, we have to look at people's entitlements, i.e., what commodity bundles (including food) they can make their own. The entitlement approach to hunger concentrates on the determination of command over com-

modities, including food. Famines are seen as the result of entitlement failures of large groups, often belonging to some specific occupations (e.g., landless rural labourers, pastoralists).<sup>5</sup>

The entitlement of a person stands for the set of different alternative commodity bundles that the person can acquire through the use of the various legal channels of acquirement open to someone in his position. In a private ownership market economy, the entitlement set of a person is determined by his original bundle of ownership (what is called his "endowment") and the various alternative bundles he can acquire starting from each initial endowment, through the use of trade and production (what is called his "exchange entitlement mapping"). A person has to starve if his entitlement set does not include any commodity bundle with adequate amounts of food. A person is reduced to starvation if some change either in his endowment (e.g., alienation of land, or loss of labour power due to ill health), or in his exchange entitlement mapping (e.g., fall in wages, rise in food prices, loss of employment, drop in the price of the good he produces and sells), makes it no longer possible for him to acquire any commodity bundle with enough food.

The approach of analyzing famines in terms of declines of entitlements of particular occupation groups has been used in recent years to study many famines, e.g., the Bengal famine of 1943, the Sahel famines in the 1970s, the Bangladesh famine of 1974, the Ethiopian famines of 1973-85, the Malawi (in fact, Nyasaland) famine of 1949-50, and also various historical famines.<sup>6</sup>

For the bulk of humanity, about the only substantial asset that a

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<sup>5</sup> On this general approach, see Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation*, (Oxford: Clarendon Press, 1981).

<sup>6</sup> Amartya Sen, *Poverty and Famines* (1981); L. Oughton, "The Maharashtra Droughts of 1970-73: An Analysis of Scarcity", *Oxford Bulletin of Economics and Statistics*, 44(1982); Q.M. Khan, "A Model of Endowment-Constrained Demand for Food in an Agricultural Economy with Empirical Applications to Bangladesh", *World Development* 13 (1985); P. Snowden, "The Political Economy of Ethiopian Famine", *National Westminster Bank Quarterly Review*, November 1985; L.A. Tilly, "Food Entitlement, Famine and Conflict", in R.I. Rotberg and T.K. Rabb, eds., *Hunger and History* (Cambridge: C.U.P., 1985); S. Devereux and R. Hay, *The Origins of Famine*, (Queen Elizabeth House, Oxford); M. Ravallion, *Markets and Famines* (Oxford: Clarendon Press, 1987); M. Vaughan, *The Story of an African Famine* (Cambridge: C.U.P., 1987). See also B.G. Kumar, "Ethiopian Famines 1973-85: A Case Study", WIDER conference paper, 1986, and S. Osmani, "The Food Problems of Bangladesh", WIDER conference paper, 1986, both to be published in *Hunger: Economics and Policy*, edited by Jean Drèze and Amartya Sen, to be published by Clarendon Press, Oxford.

person owns is his or her ability to work, i.e., labour power. If a person fails to secure employment, then that means of acquiring food (through getting a job, earning an income and buying food with that income) fails. If, in addition to that, the laws of the land do not provide any social security arrangements, e.g., unemployment insurance, the person will fail to secure the means of subsistence. And that can be the end of the tale – at least for that erstwhile person.

This elementary analysis points immediately to two aspects of the action needed to combat hunger and famine. There is, on the one hand, the need for a better functioning economic system, to provide people with regular means of income and survival. There is, on the other hand, need for security in providing economic support to vulnerable individuals (or families) when they fail to get that support from the regular economic system itself. Importance has to be attached to functioning economic mechanisms that provide means and entitlements to the population. And at the same time, attention also has to be paid to public security measures that can be used to guarantee entitlements to those who happen to remain vulnerable to fluctuation and instability in earning an income and acquiring economic power (e.g., landless labourers falling victim to employment decline or a fall in real wages).

## ***2.2. Output, Availability and Entitlements***

Seeing hunger as entitlement failure points to possible remedies immediately, since we are induced to understand and address the forces that generate deprivation and help sustain it. Food problems have often been discussed in terms of the output and availability of food without going into the question of entitlement – this is a tradition that received much encouragement from Malthus's famous "Essay on Population" (1798).<sup>7</sup> It is particularly important to understand the relevance of seeing famines and intensification of hunger as entitlement failures which can occur even when food availability is not reduced, and even when the ratio of food to population – on which Malthus concentrated – may have gone up sharply. The relentless persistence of famines and the enormous reach of world hunger, despite a steady and substantial increase in food availability, makes it imperative for us to reorient our approach away from food availability and towards the ability to command food. The dissonance between the causal analysis of famines in terms of availability and that in terms of entitlements does not lie in any belief that availability and entitlements are unrelated to each other. In fact, they are linked in many different ways and the connections are indeed worth emphasizing. First, for some people, the output grown by themselves is also their basic entitlement

to food (e.g., for peasants growing food crops). Second, one of the major influences on the ability of anyone to purchase food is clearly the price of food, and that price is, of course, influenced *inter alia* by the production and availability of food in the economy. Third, food production can also be a major source of employment, and a reduction in food production (due to, say, a drought or a flood) may reduce employment and wage income by the same process that may lead eventually to a decline in the output and availability of food. Fourth, if and when a famine develops, having a stock of food available in the public distribution system is clearly of great strategic relevance for combatting starvation. This can be done either by distributing food directly (in cooked or uncooked form), or by adding to the food supply in the market, thereby exerting downward pressure on possibly rocketing prices.

The conflict between the availability view and the entitlement view of food deprivation has to be seized only after these (and other) basic connections have been recognised. The dissonance arises from the fact that the links do not establish a tie-up between availability and entitlement in such a tight way that the food commands of different sections of the population move up and down in proportion with the total availability of food in the economy. If food were to be distributed over the population on some egalitarian principles operated by some central authority, that assumption might indeed be sensible. However, the actual command over food that different sections of the population can exercise depends on a set of legal and economic factors, including those governing ownership, transfer, production and exchange. It is, thus, quite possible for some groups e.g., a particular occupation group such as landless rural labourers, to have a sharply reduced food entitlement, even

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<sup>7</sup> However, in a paper published two years later (“An Investigation of the Cause of the Present High Price of Provisions”, 1800), Malthus makes implicit but extensive use of entitlement-centred reasoning to discuss the pattern of hunger in a class-divided society. Even though he evidently saw no ethical objection whatsoever to such inequalities (and viewed the prospect of everyone starving “together” as a “tragic” possibility), his analysis is deeply illuminating on the cause-effect relationships between inequalities of ownership and hunger. On Malthus’ modelling of famines, see Sen, *Poverty and Famines* (1981), Appendix B. The relevance of ownership, employment, wages and prices to the acquirement of food and in the causation of hunger was also discussed with clarity by Adam Smith, David Ricardo and Karl Marx, pointing *inter alia* to the possibility of famines without any decline in food availability (on these see Amartya Sen, “Food, Economics and Entitlements”, Elmhirst Lecture at the Triennial Meeting of the International Association of Agricultural Economists at Malaga, 1985; WIDER Working Paper No.1, 1986; published in *Lloyds Bank Review*, 160, 1986).

when the overall availability of food in the economy is unaffected or enhanced. Most famines hit some particular occupation groups, and there is no paradox in the fact that a famine can occur, e.g., in Bengal in 1943, in Ethiopia in 1973, or in Bangladesh in 1974, without any significant decline in food output and availability, with members of particular occupation groups losing the means of acquiring food and succumbing to starvation and death.<sup>8</sup>

### **2.3. Occupations and Economic Policy**

One basic difference between the availability approach and that of entitlement lies in the fact that the entitlement approach is necessarily disaggregative and thus contrasts sharply with the aggregative perspective presented by the concentration on total food availability in the economy. Indeed, the logic of entitlement relations entails that the focus of this analysis for a given region has to be primarily on occupation groups, supplemented by other parameters such as gender and age. This contrast applies even when we shift our attention from the disastrous phenomenon of famines to the more regular characteristics of endemic hunger and undernourishment. In each case we have to look at the ability of particular groups to command adequate amounts of food for unimpaired nutritional functioning. The concentration on food entitlements provides a different view of the role of policy making and the characteristics of the actions needed.

This is the case even when the continuation and intensification of hunger happens to be associated and correlated with a decline in food output and availability. This is, for example, the case in Africa, which is the only substantial area in the world in which food output per head has fallen significantly over the last decade or two. In fact, for all developing economies put together, between 1974-76 and 1984-86 there has been an increase of 13% in food output per head, which is a sharper rise than that for the developed economies on average (up 9%). But while per-capita food output has gone up in this period by about 12% in Latin America and by nearly 20% in Asia, it has fallen by about 12% in Africa (comparing the average of 1984-86 with that of 1974-76). But food production is not only a source of food supply, it is also the source of income and livelihood for vast sections of the African population. As a result, falls in food

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<sup>8</sup> In the case of the Bangladesh famine of 1974, food output per head was in fact at a peak, on which – and on several other important aspects of that famine, and famines in general – see M. Alamgir, *Famine in South Asia – Political Economy of Mass Starvation in Bangladesh* (Boston: Oelgeschlager, 1980). See also Ravallion's penetrating analysis in *Markets and Famines* (1987), cited earlier.

output per head also tend to be temporally associated with reduction in overall income of many occupation groups in Africa. However, even if food output per head had gone down in Africa by as much as it did, there need not have been a collapse of food entitlements if that food output decline had been compensated by an expansion of income from other sources and by other means of establishing command over food (including, if necessary, by importing from abroad).

This contrast can be illustrated by comparing the experiences of many of the sub-Saharan economies, which have experienced declines in food output per head and have also experienced food entitlement problems, with those of economies elsewhere which have experienced declines in food output per head without having either famines or hunger in the way Africa has experienced them. Compared with an African decline of food output of 12% between 1974-76 and 1984-86, the output of food per head over the same period has gone down by 12% in Israel, 14% in Venezuela, 15% in Portugal, 17% in Costa Rica, 19% in Singapore, 36% in Hong Kong, and 40% in Trinidad and Tobago. These latter economies have not experienced famines and widespread hunger both because food production is a less important source of income and entitlement in these economies, and also because there has tended to be a more than compensating expansion of other production and related to it, of incomes and entitlements. What may superficially appear to be a problem of African food supply has to be seen in the more general terms of entitlement problems in Africa.

In seeking policy remedies for problems of hunger in Africa, policy should concentrate on the enhancement of entitlements, and this may be brought about by an expansion of income from other sources, and not merely through an increase in the output of food. It is, of course, true that having to establish command over food through exchange adds a further source of vulnerability in that the market conditions may undergo fast – indeed, sometimes violent – shifts. But that is not an argument for concentrating exclusively on food production despite the fact that this may add to risks of other kinds, e.g., those arising from the variability of weather conditions. Of course, that variability itself can be eventually dealt with through irrigation, and also through planned changes in the environment by means of afforestation and other nature-oriented policies. However, these are long-run remedies, and the problem of

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<sup>9</sup> These policy issues are discussed, along with other issues, in the forthcoming 4-volume WIDER publication entitled *Hunger: Economics and Policy*. Other contrasts between the implications of the entitlement approach and that of concentrating on food availability only are also discussed in this document and in other recent publications of WIDER in this area.

vulnerability in the short run remains. The entitlement approach would suggest a move in the direction of diversification of production and of sources of income in African conditions, rather than concentrating exclusively on the expansion of food output (irrespective of costs and risks).<sup>9</sup>

## **2.4. Intra-household Disparities and Sex Bias**

The legal associations of the term entitlement also happen to have some directional and suggestive value. Inter-household divisions, ownership rights and the rights of transaction and bequeathing are, obviously, relevant to the determination of entitlements of families. The perceived legitimacy of these legal or semi-legal rights has a powerful influence on the nature of personal and public action related to the distributional problem. While the lines are not so sharply drawn in the case of intra-household divisions, there are important issues of perceived legitimacy in that context as well. This can become a particularly difficult problem, yielding unequal distributions of food within the family, when perceptions have a bias in the direction of acknowledging more desert, or identifying magnified needs, of some members of the family against others (e.g., biasing towards boys vis-a-vis girls in rural north India).<sup>10</sup>

There are important issues of "extended entitlements" influencing intra-household divisions, and these issues too have to be addressed in a policy context. Once again, the policy in question is not confined to what the government may be able to do. Actions can come also from political as well as educational and social movements. Issues of perceived legitimacy and entitlement can be deeply influenced by a re-examination of the social and political aspects of intra-family inequality and disparity. In the research undertaken at WIDER on hunger and poverty, these and other diverse aspects of entitlement relations are being extensively explored, with a view to providing a basis for informed and enlightened public action in the broadest sense.<sup>11</sup>

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<sup>10</sup> These issues are discussed by Barbara Harriss and Ann Whitehead in their papers for the forthcoming WIDER study *Hunger: Economics and Policy*, edited by Drèze and Sen. See also Jere Behrman, "Intra-household Allocation of Nutrients and Gender Effects", WIDER conference paper, to be published in S. Osmani, ed., *Nutrition and Poverty*, forthcoming; N. Kakwani, "Is Sex Bias Significant?" WIDER Working Paper, 1986; Amartya Sen, "Gender and Cooperative Conflicts", and "Africa and India: What Do We Have to Learn from Each Other?", both WIDER Working Papers, 1987.

<sup>11</sup> See Drèze and Sen, *Hunger: Economics and Policy*, Vols. 1 and 2.

### **3. Preventing Famines**

#### **3.1. Anticipation and Action**

Anti-famine policy calls for several distinct operations, including anticipation, relief and prevention. The history of anti-famine policy in the world provides a rich mixture of successes as well as failures in these different respects.

As far as anticipation is concerned, a recurrent source of failure has been the reliance – often implicit – on a theory of famine that concentrates on food output and availability only. Sometimes famines have not been anticipated precisely because the ratio of food to population has remained high, despite the failure on the part of substantial sections of the population (usually belonging to a few vulnerable occupation groups) to retain the means of commanding enough food. It is easy to cite examples from South Asia as well as sub-Saharan Africa to illustrate such failures of anticipation.

This is not the only source of problem in anticipating famine threats. Food output per head is frequently a fluctuating variable in any case, so that it is easy to be in a state of alert whenever the ratio of food output to population falls, since that occurs so often. There is need for discrimination between one situation and another, based on occupation-specific economic analysis, even though the situation may look rather similar in terms of food availability or output per head.

The problem of anticipation can be dealt with by making better use of economic analysis that focuses on entitlement failures of particular occupation groups rather than on output fluctuations in the economy as a whole.<sup>12</sup> But in addition, other sources of information can be used in order to provide an adequately sensitive system of early warning and prediction. Widespread starvation does not hit an economy simultaneously in all sectors and in all regions. By making discriminating use of available information, it is possible to see early signs of a growing famine threat. This is a field in which active journalism can fruitfully supplement the work of economic analysis, by reporting early signs of distress with predictive significance.<sup>13</sup>

Another complication concerning famine anticipation relates to the question of agency. Precisely who is to anticipate famines? In so far as the object of the exercise is counteracting action, the answer clearly must be: those who would provide relief and also take other steps for curing famine threats. This role, naturally enough, falls primarily on the government of the country in question.

But how soon, how urgently and how actively the government will act will also depend on the nature of the politics of the country, and the forces that operate on the government to act without delay. Depending on the nature of the political structure, it is often poss-



ible for an inactive or uncaring government to get away with implicit manslaughter, if not murder. Many governments have been extraordinarily sluggish and insensitive to information coming in about threatening famines. Here again the extent of public knowledge of and involvement in social issues can be crucial. Effective famine anticipation and counteracting policies are not merely matters of economic analysis, they are also significantly dependent on the nature of political agitprop and active journalism, which operate on the government, influencing its concerns and forcing its hand.<sup>14</sup>

Even though the primary onus of taking anti-famine action lies with the government, there are other organizations, institutions and groups which can play an effective part in providing relief to famine victims. The role of such organizations as OXFAM, War on Want, Save the Children, etc., is obvious enough and recently other voluntary organizations and movements have emerged. There is a certain amount of public skepticism as to what institutions of this kind can in fact do, and in view of the scales of starvation and mortality involved in many famines, perhaps this is not surprising. On the other hand, providing famine relief is not just an "all or nothing" matter. Any help that is provided in reducing starvation and suffering and in recreating the economic means of subsistence has obvious benefits even when the proportion of the victim population covered by these activities may not be very large.

In recent years, substantial amounts of famine relief and entitle-

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<sup>12</sup> On this see J. Drèze, "Famine Prevention in India", WIDER conference paper, and M.J. Desai, "Modelling an Early Warning System for Famines", WIDER conference paper, both included in Drèze and Sen, *Hunger: Economics and Policy*.

<sup>13</sup> On this see N. Ram, "An Independent Press and Anti-Hunger Strategies", WIDER conference paper, to be published in Drèze and Sen, *Hunger: Economics and Policy*.

<sup>14</sup> These and many other political aspects of anti-famine policies are a part of the WIDER research programme dealing with famines and hunger on a broad basis. See particularly Rehman Sobhan, "Politics of Hunger and Entitlements", WIDER conference paper, to be published in Drèze and Sen, *Hunger: Economics and Policy*. The issue receives attention also in volume 1 of the 4-volume book, viz., *Combatting World Hunger*, written by Drèze and Sen. See also the paper by Ram, "An Independent Press and Anti-hunger Strategies", cited earlier. On the relation between politics and policies in the rich, developed countries, on the one hand, and the fate of the hungry in the poor, developing economies, see Kirit Parikh, "Chronic Hunger in the World: Impact of International Policies," WIDER conference paper, to be published in Drèze and Sen, *Hunger: Economics and Policy*.

ment support have been provided, especially in Africa, by inter-governmental and international agencies, e.g., UNICEF, and various *ad hoc* institutions. The problem of early warning and famine anticipation is extremely important, and here again a discriminating economic analysis, concentrating on the economics of entitlements and the politics of public action, can have a significant informative and activist role.

### **3.2. Famine Relief: Forms and Strategies**

A second problem concerns the provision of relief to famine victims. Once again, it is possible to be misled by over-simple theorizing about the causation of famine. If famines are seen exclusively in terms of a decline in food availability, the challenge of effective and efficient provision of relief may suffer from various misdirections related to an unduly narrow concentration. Once again, the superficial plausibility of the food-availability view can act as a barrier.

If famines are caused by failures of entitlements of particular occupation groups, the remedy has to lie in recreating those entitlements. This can be done in a variety of ways, and it would be a mistake to concentrate only on a programme of directly feeding the population. A recent USAID report on the famines in Ethiopia captures a commonly shared belief about the nature of famine relief adequately when it pronounces: "The number one priority was supplying food and getting it to the people who needed it".<sup>15</sup> But taking the food to the people may not always be the easiest, quickest or the most effective way of providing relief.

The historical experience of famine relief in different parts of the world bears testimony to a rather impressive variety of approaches to the protection of food entitlements: direct feeding of cooked food; distribution of uncooked food; food for work programmes; cash wages for public works; cash doles; tax relief; price control and rationing; support of livestock prices; insurance of crops; and many others. Indeed, in many contexts, bureaucratic arrangements for the transportation and movement of food and its distribution to destitutes herded together in relief camps provide a method of relief that is neither fast, nor efficient, nor cost-effective, nor humane.

The possibility of providing cash relief to regenerate lost entitlements, perhaps in the form of cash wages paid for public works, remains an important one to consider in many contexts. This has been a crucial part of famine relief policy in India, even though it has been relatively little tried in Africa. Severe famine threats in India, e.g., in Bihar in 1967 or in Maharashtra in 1973, with declines in food output and availability considerably larger than in most sub-Saharan African famines, have been dealt with effectively by providing speedy relief through employment projects and wage pay-

ments, regenerating lost entitlements and giving the potential victims an ability to command food in the market. The process has, undoubtedly, been helped by the availability of some food in the public distribution system. But there have remained exceptionally large shortfalls in the affected regions even after taking note of the use of these public food stocks and the movement of foodgrains across the state boundaries within India. The areas threatened by famine have managed to get by despite much-reduced overall availability of food by making the distribution of the available food significantly more equal through the redistribution of purchasing power.<sup>16</sup>

The failure of a person to command food in a market economy can arise from one of two different dysfunctions. There can be a "pull failure" if the person loses his or her ability to demand food in the market, e.g., through loss of employment, loss of output, or reduction in real wages. On the other hand, if there is no such change but the person's ability to command food suffers because of supply not responding to the market demand, then there is a case of "response failure". This can occur as a result of market disequilibria, or monopolistic imperfections, e.g., the cornering of the market by some manipulative traders.

The rationale of cash relief rests on the assumption that "pull failure" is the main problem to deal with, and that the problem of

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<sup>15</sup> Office of Foreign Disasters Assistance, U.S., *Annual Report 1985*, p.27. It is important to emphasize that it is not the intention here to blame USAID in particular for mis-specifying a problem. This type of oversimplification can be found in the pronouncements of other action-oriented agencies and institutions dealing with famine relief in Africa and elsewhere. Also, to be fair it is right to note that summary statements are often difficult to make, without losing the nuances of policy that may be dealt with adequately when it comes to translating the aphorisms into action. But unfortunately there is considerable evidence in the nature of institutional interventions, especially in Africa, that indicate an overconcentration on food supply as such, neglecting other features of the failure of food entitlements.

<sup>16</sup> For a major study of food relief in India, and the lessons that there might be in this for anti-famine policy elsewhere, see Jean Drèze. "Famine Prevention in India", WIDER conference paper, to be published in Drèze and Sen, *Hunger: Economics and Policy*. See also Amartya Sen "Food, Economics and Entitlements", text of the Elmhirst Lecture at the triennial meeting of the International Association of Agricultural Economists in 1985 (WIDER Working Paper, 1985), to be published in Drèze and Sen. There have been some successful uses of cash payments to regenerate entitlements in Africa also, e.g., in Botswana and Cape Verde. This and other aspects of these experiences have also been studied. See Drèze and Sen, *Combating World Hunger*, volume 1 of *Hunger: Economics and Policy*.

“response failure” will not provide a barrier to curing the entitlement problem through regenerating purchasing power. This need not always work, and the possibility of using this type of relief must depend to a great extent on the nature of the markets as well as the limits of bureaucratic management. On the one hand, the more imperfect the markets, the less reliance can be placed on the ability of the market to “respond” to the newly provided “pull”. On the other hand, the less efficient the bureaucracy, the more difficult it is to arrange for food movements and distributions to be effectively performed by bureaucratic means without involving the market in any way. It is, of course, largely a matter of choosing pragmatically the appropriate balance of policy instruments, and it would be a mistake to advocate one general method of famine relief for all countries and all circumstances. The important point is not to rule out certain alternatives as a result of defective understanding of famines arising from overconcentration on the physical aspects of food supply, and from ignoring the economic processes involved in the establishment of food entitlement.

These policy issues, along with other matters of strategic choice and logistic planning, have received attention in a number of WIDER studies on anti-famine policy.<sup>17</sup>

### ***3.3. Famine Prevention and Removal of Vulnerability***

The third aspect of anti-famine policy is the important one of the long-run elimination of vulnerability to famine conditions. Here again, important clues are provided by the economic analysis of the fragility and fluctuation of entitlements of different occupation groups. One of the basic problems does, of course, arise from the fact that most people have no substantial assets other than their ability to work, i.e., their labour power. Thus, the problem of vulnerability can be ultimately resolved only if employment can be guaranteed to all at a living wage, or if social security provisions can provide compensatory entitlements when employment rewards are inadequate or absent.

This is a problem that applies even to the richer developed economies. Indeed, with the high levels of unemployment that have been experienced in Western Europe and North America in recent years, famines could well have occurred, but for the entitlement guarantees provided by unemployment benefits and other means of social insurance. The basic vulnerability of human beings as social animals, surviving on the basis of exchanging their labour or products for food, is a common problem that unites rather than divides different parts of the world. The basic contrasts come, instead, from the social provisioning against entitlement failures that are taken for granted in the richer economies but are very rare in the poorer ones. The need to think about social security provisions

even for the poorer countries is undoubtedly strong, and this is a subject with which WIDER's ongoing research is much concerned.<sup>18</sup>

Two different features of the long-run eradication of famine vulnerability have to be distinguished. The first concerns the normal operation of the economy, without social security backing. Variability of entitlements arising from employment fluctuations, output declines, collapse of exchange and prices of particular commodities, etc., can be substantially reduced by adequate diversification and by macroeconomic stabilization policies.<sup>19</sup> Economic stability is undoubtedly important in preventing disastrous losses of entitlements of particular occupation groups.

The other aspect of the elimination of famine vulnerability relates to the provision of public support in recreating entitlements lost due to unavoids – possibly unavoidable – failures in the functioning of the market mechanism. As mentioned earlier, even in

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<sup>17</sup> In addition to the works already cited, see also B.G. Kumar. "Ethiopian Famines 1973-85: A Case Study", WIDER conference paper; S. Osmani, "The Food Problems of Bangladesh", WIDER conference paper; M. Ravallion, "Market Responses to Anti-Hunger Policies: Effects on Wages, Prices and Unemployment", WIDER conference paper; all to be published in Drèze and Sen, *Hunger: Economics and Policy*. Related issues have also been examined by Peter Svedberg in a WIDER study on sub-Saharan Africa to be published as a separate monograph.

<sup>18</sup> This is one aspect of the general investigation of possible social security arrangements in developing countries currently being undertaken by Jean Drèze and Amartya Sen, which is expected to be completed by 1989. A conference is also being jointly organized by WIDER and STICERD at the London School of Economics, to be held in London in July 1988. Other organizers of that conference are John Hills and Ehtisham Ahmad, of the London School of Economics (see Appendix, page 35).

<sup>19</sup> One of the research studies undertaken by WIDER has taken the form of studying the impact of global recession on the standards of living of six developing countries, in particular Chile, Mexico, Nigeria, The Philippines, Sri Lanka, and Tanzania. The studies indicate *inter alia* that entitlement declines have often resulted not merely from the fact of the global recession itself, but also from the nature of the policy response that many of the countries have pursued. The latter has tended to include adjusting in the direction of greater reliance on market forces, often at the cost of providing public support for the more vulnerable sections of the population. Sometimes, these policy packages have been required by international organizations (e.g., the IMF and the World Bank) providing support for economic stabilization programmes of these countries. While these countries have not been particularly prone to famine, there have often been substantial enhancements of mild to acute hunger for vulnerable parts of the population.

the richer countries of Europe and America, slumps do occur and millions of people do lose their jobs, and their survival depends crucially on social insurance and public support. These two aspects of famine prevention have to be considered together, since one is essentially a supplement to the other. The direction of WIDER's research efforts in this important but difficult field has been largely guided by the recognition of this interdependence.<sup>20</sup>

## ***4. Removing Endemic Hunger***

### ***4.1. Economic Pressures and Public Action***

While famines are related to disastrous declines of entitlements, endemic hunger and regular undernourishment are associated with inadequate entitlements on a sustained basis. Some economies of the world have not experienced famines in any real sense in recent years, but have nevertheless suffered from chronic hunger on a regular but non-acute basis. Examples can be found in South Asia, including India, Pakistan and Bangladesh, as well as in Latin America, in addition to parts of Africa. In a sense, combatting endemic hunger is a harder problem than conquering famines, since the extreme deprivation involved in famine situations can be speedily remedied, in a way that a sustained eradication of entitlement inadequacies for all sections of the population cannot be easily achieved.

The two components of the long-run elimination of famines identified in the last section, viz, maintenance of economic stability and provision of social security, have corresponding counterparts in the battle against endemic hunger as well. The nature of the economy and its functioning are obviously important in making it possible to earn – without social security support – enough income and means of command over food and other necessities to avoid endemic deprivation. However, no matter how efficient the economic system might be, inadequacy of entitlements on a regular basis (with possibly a pattern of seasonality) is particularly hard to avoid in the poorer developing countries. This is where social security, in a different role, becomes relevant again. Supplementary public support as a means of providing regular nourishment (and command over other necessities), to counter endemic hunger and deprivation, is needed in most developing countries. This is no less crucial a challenge for social security planning than the task of entitlement guarantees to eliminate famines, discussed earlier.

The elimination of endemic hunger in some economies has been dependent largely on economic expansion in general. The experi-

ence of South Korea is a case in point. On the other hand, some economies that are very much poorer than South Korea, e.g., Sri Lanka and China, have been able to deal effectively with endemic hunger without having to wait for their general opulence to reach levels comparable with the more successful newly industrializing countries. This group of activist but poorer countries has tended to depend to a great extent on public provisioning of food and other necessities. Part of WIDER's research activities in this area has been concerned with learning from the experiences of public intervention in eliminating endemic hunger in these and other countries.<sup>21</sup>

The readings of the experiences of these countries have been the subject of considerable controversy in recent years. There is a need for discriminating analysis in assessing these lessons, and in investigating the possibility of their use in other countries and other regions. It is important also to examine cases of moderate success, without spectacular achievements, in providing entitlement support through a variety of means. There are lessons to be learnt also from the continued undernourishment of sections of the population even in rapidly growing, relatively affluent economies. For example, the persistence of hunger in Brazil despite spectacular economic growth, and the persistence of poverty and malnutrition in other parts of Latin America, deserve attention. The reach and effectiveness of economic growth in general seem to leave gaps that can be costly in human terms and which have to be studied with a view to reorienting economic policy and public action.<sup>22</sup>

Just as fast economic growth has not always achieved the results that might have been expected, interventionist activism has also sometimes been less than spectacularly successful. For example, one of the Indian states, West Bengal, has now had for over a decade a "Left Front" government, the dedication of which to economic and social reform has been widely admired. It has also brought about by far the greatest extent of land redistribution in India (judged both in absolute and in relative terms), and has used

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<sup>20</sup> On this see Drèze and Sen, *Combating World Hunger*, Part II.

<sup>21</sup> See particularly C. Riskin, "Feeding China: The Experience since 1949", WIDER conference paper; S. Anand and R. Kanbur, "Public Policy and Basic Needs Provision: Intervention and Achievement in Sri Lanka", WIDER conference paper; K. Basu, "Combating Chronic Poverty and Hunger in South Asia: Some Policy Options", WIDER conference paper, all to be published in Drèze and Sen, *Hunger: Economics and Policy*.

<sup>22</sup> On this see I. Sachs, "Growth and Poverty: Lessons from Brazil", WIDER conference paper, and R. Kanbur, "Malnutrition and Poverty in Latin America", WIDER conference paper; both to be published in Drèze and Sen, *Hunger: Economics and Policy*.

various programmes of entitlement support, including food-for-work projects, on a regular basis to deal with endemic hunger, especially in the lean seasons. The results of these activities have not been, at least so far, dazzlingly clear. While some commentators have seen in this reasons for doubting the wisdom of such policies, others have suggested that the impact of these policies tends to be much slower and that some early signs can already be seen in the field. This is a subject of very considerable confusion, and to sort out the lessons to be learnt – both positive and negative – WIDER has just initiated a probing research project, including collection of field-survey primary data, in West Bengal.<sup>23</sup>

Similarly, the various experiences of intervention and entitlement support in different parts of sub-Saharan Africa, both through production expansion and public provision of entitlement support, have been the subject of critical scrutiny in ongoing research at WIDER.<sup>24</sup> One important lesson is that these two strategies should be seen not as alternatives, but as complementary parts of an integrated programme of action that the African situation demands.<sup>25</sup>

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<sup>23</sup> The project is directed by Sunil Sengupta, and is located at Santiniketan, in West Bengal, India. The work will continue for two years, in the first instance, and possibly for another couple of years, depending on the early findings.

<sup>24</sup> Peter Svedberg in particular has been concerned with critically evaluating the plurality of experiences of sub-Saharan Africa, the results of which will be reported in the monograph referred to earlier. See also P. Svedberg, "Undernutrition in sub-Saharan Africa: A Survey of Evidence", WIDER conference paper; J-P. Platteau, "The African Food Crisis: A Comparative Structural Analysis", WIDER conference paper; F. Idachaba, "Policy Options for African Agriculture", WIDER conference paper; J. Heyer, "Hunger and Poverty in Kenya's Smallholder Agricultural Areas: Some Regional Comparisons", WIDER conference paper; S. Wangwe, "The Contribution of Industry to Solving the Food Problem in Africa", WIDER conference paper; A. Whitehead, "Women in Rural Food Production in sub-Saharan Africa: Some Implications for Food Strategies", WIDER conference paper; all to be published in Drèze and Sen, *Hunger: Economics and Policy*. The issues addressed include production problems (incorporating questions of incentives and rewards as well as distribution of benefits), intersectoral interdependence (including industry-agriculture relations), public distribution (including provisions for food security), and other related matters (e.g., intrahousehold divisions).



## 4.2. Undernourishment: Measurement and Policy

The various well-known estimates of the size of the population suffering from calorie deficiency and undernourishment, to which reference was made earlier, have tended to be based on the use of simple calorie norms. Questions have been raised in recent years about the reliability of these norms, given the observed fact of: (i) interpersonal variations of nutritional requirements; (ii) the possibility of intertemporal variations of intakes for a given person (without affecting the “homeostasis” of nutritional equilibrium); and (iii) the possibility of adjustment and perhaps even adaptation to a long-run decline of nutritional intake. The nutritional literature on this subject has been scrutinized and reassessed from a policy point of view in a part of the ongoing research at WIDER.<sup>26</sup>

It is clear that any mechanical and uncritical use of norms of “calorie requirements” and of other intake figures in identifying the undernourished can be misleading. If these norms are to be used, this has to be done by taking note of possible interpersonal variations, so that a probabilistic formulation of norms would almost certainly have to be chosen. Furthermore, nutritional information has to be supplemented by social and economic data, in order to integrate the nature of nutritional variations, e.g., whether caused by a lower “requirement” or by economic deprivation. This is one field among many in which the fruitfulness of collaborative work between nutritionists and medical experts, on the one hand, and social scientists, on the other, has strongly emerged from WIDER’s policy-oriented research efforts.<sup>27</sup>

The measurement problems, as such, should not, however, be made to look more important than they are since – as was discussed earlier – not a lot may depend on the precise estimate of the number of people who are poor or undernourished. But there is an

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<sup>26</sup> Partha Dasgupta and Debraj Ray present a critical analysis of the possibility of costless “adaptation” in their paper “Adapting to Undernourishment: The Biological Evidence and its Implications”, WIDER conference paper, to be published in Drèze and Sen, *Hunger: Economics and Policy*. This issue is taken up from different points of view in a series of papers presented at a conference on “Nutrition and Poverty” held at WIDER in July 1987, with papers presented on this subject by C. Gopalan, S. Osmani, P. Payne, and T.N. Srinivasan. Other papers in the conference discuss related themes (by Floud, Fogel, Anand, Harris, Kanbur, Behrman, Kakwani, Jorgenson and Slesnick). A selection of these papers will be published in a volume, referred to earlier, provisionally entitled *Nutrition and Poverty*, to be edited by S. Osmani, which will also include a paper on this subject by N. Kakwani, “On Measuring Undernutrition”, WIDER Working Paper, 1986. See also S. Osmani “Nutrition and the Economics of Food: Implications of Some Recent Controversies”, included in Drèze and Sen, *Hunger: Economics and Policy*.

implicit policy aspect of these measurement issues. Limitation of resources forces certain choices as to whether nutritional intervention should be targeted at a relatively small group of severely deprived population, or more broadly spread over a larger category of generally undernourished people. For these choices, the nutritional implications of deprivation have to be better understood, and this is the main rationale for the involvement of WIDER in this particular subject. The importance of these measurement problems lies ultimately in their implications for policy and action.

In directing attention to different aspects of policy requirements for removing endemic hunger, attention has to be paid to diagnostic issues (related to the nature and consequences of undernourishment), general economic questions (related to economic growth and development and the poverty of particular sections of the populations), public intervention issues (the role, results and incentive problems of entitlement support through social security provisions), and problems of politics, journalism and public participation (including the role of the media in providing information and forcing response). These different but interrelated problems have all been the subject of research activities at WIDER to provide an informed and enlightened basis of public action in combatting world hunger.

### **4.3. Famine Deaths and Regular Mortality: China and India**

It can be shown that enhanced mortality from regular deprivation tends to exceed by a very large margin the mortality resulting from famines and other disasters – more dramatic though the latter may

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<sup>27</sup> The connections between living standards, food expenditure, and nutritional levels are investigated in an innovative approach by Sudhir Anand and Christopher Harris, "Food and the Standard of Living: An Analysis Based on Sri Lankan Data", WIDER conference paper, to be published in Drèze and Sen, *Hunger: Economics and Policy*, and "Food, Nutrition and the Standard of Living in Sri Lanka", WIDER conference paper, to be published in Osmani, *Nutrition and Poverty*. Anand and Harris are also producing a more extensive study on this and related subjects for publication as a WIDER monograph.

<sup>28</sup> That this has been historically the case also is demonstrated in a paper by R. Fogel, "Second Thoughts on the European Escape from Hunger: Crop Yields, Price Elasticities, Entitlements, and Mortality Rates". WIDER conference paper, to be published in S. Osmani, ed. *Nutrition and Poverty*, forthcoming.

<sup>29</sup> B. Ashton, K. Hill, A. Piazza, and R. Zeitz, "Famine in China, 1958-61", *Population and Development Review*, 10 (1984).

be.<sup>28</sup> Perhaps it might be useful to compare the extent of extra mortality from famines with that from endemic deprivation (of health services and medical attention as well as of food) in China and India, respectively. In the Chinese famines of 1958-61, which have come to be discussed only in recent years, the magnitude of extra mortality was extraordinarily high, amounting to 29.5 million extra deaths according to one estimate.<sup>29</sup> This makes it almost certainly the largest famine in this century.

The famine was clearly connected with the economic problems generated by the Great Leap Forward. One of the interesting aspects of this famine concerns its persistence for at least three years, without official admission of its existence (excepting many years later), and without a radical revision of the policies that were responsible for its genesis and tenacity. It has been argued that such a sluggish response to a gigantic famine was possible precisely because of the absence of political pressure on the government to change its course and also because of the absence of an independent and forceful critical media. This issue relates to the question discussed earlier about the role of political activism and active journalism.<sup>30</sup> The contrast is particularly striking since the Chinese achievement in nutritional intervention and general reduction of endemic hunger has been very much more impressive than that of India.

While there was this extra mortality connected with famine in China during the years 1958-61, normal mortality in China has in fact come down much more sharply than in India, with a crude death rate around 7 per thousand in China and around 12 in India. Indeed, if India had the Chinese death rate now, the level of mortality in India would be very substantially lower. Using the 1981 census figures, and applying the difference in mortality rates between China and India, it would appear that there would have been about 3.3 million fewer deaths in India each year. This implies that the extra famine mortality in China of 29.5 million would have been more than compensated by extra normal mortality in India on a regular basis in less than 9 years. Thus, despite the monstrous scale of the Chinese famine (unprecedented in modern times), India still has a substantially worse record than China in allowing avoidable deaths.

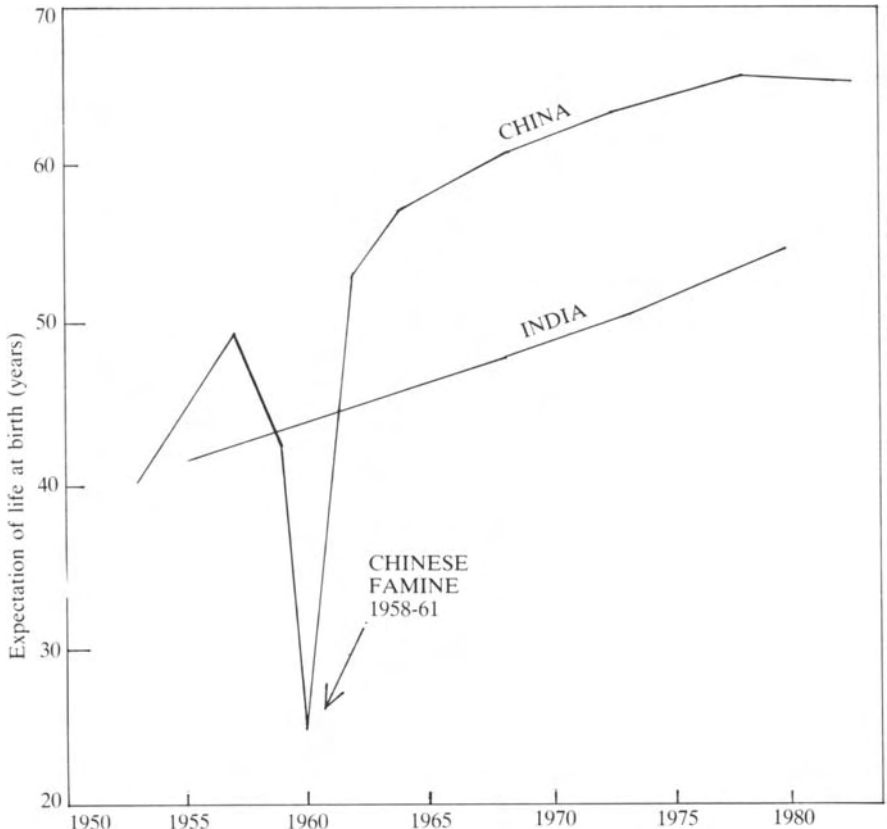
The comparative picture is brought out in Chart 1, in terms of life expectancy at birth. It can be seen that in the early 1950s the Chinese and the Indians had rather comparable life expectancy

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<sup>30</sup> On this, see Amartya Sen, "Development: Which Way Now?", *Economic Journal*, 93(1983), reprinted in his *Resources, Values and Development* (Oxford: Blackwell, and Cambridge, MA.: Harvard University Press, 1984). On related matters, see also the WIDER conference paper by N. Ram, "An Independent Press and Anti-hunger Strategies", cited earlier, and his forthcoming monograph.

figures, but by the 1980s the Chinese lead is very considerable indeed. The big dip in Chinese life expectancy during the famine of 1958-61 is, of course, clearly shown, but it is also interesting to note that the Chinese had established a very high life expectancy already by the late 1970s. This is interesting not merely because of the comparative picture vis-a-vis India, but also because of the fact that the sharp expansion of life expectancy took place in China well before its recent agricultural reforms, which have led, for the first time, to very substantial increases in food availability per head. In fact, much of the expansion of Chinese life expectancy has taken place with very moderate increases in per capita food output and availability, and much of the enhancement seems to have been brought about by skilful public intervention in the delivery of health care, medical attention and food. From the point of view of combatting endemic hunger and regular deprivation, there is a great deal to be learned from the Chinese experience.

### LIFE EXPECTANCY AT BIRTH IN CHINA AND INDIA



**Sources:** J. Banister, "An Analysis of Recent Data on the Population of China", *Population and Development Review*, 10 (1984); S. Preston and F.N. Mari Bhat, "New Evidence on Fertility and Mortality Trends in India", *Population and Development Review*, 10 (1984), for 1966-81 based on "the low variant" procedure; *Statistical Pocket Book of India 1984* (New Delhi, 1985), for 1955 (as the 1951-1961 decade average).

#### **4.4. Public Intervention and Social Achievement**

While WIDER's research has been based on examining experiences of success as well as failure in various developing countries, attention has been paid to the fact that most cases are, in many ways, rather mixed in terms of positive and negative scores. For example, the high achievement of life expectancy and quality of life in Sri Lanka is somewhat compromised by inequalities across boundaries of class and community. Similarly, the Chinese experience in subduing endemic hunger and expanding life expectancy is compromised, as we have just seen, by its failure to eradicate famines in the post-revolutionary period. On the other hand, India's success in eliminating famines has gone hand in hand with the survival of a good deal of endemic undernourishment and avoidable morbidity and mortality.

The importance of public intervention in reducing morbidity and mortality is brought out by studies of the performance of countries like China, Sri Lanka, Costa Rica and others, which have had an activist programme of targetted intervention in health delivery and food distribution. In contrast, South Africa, with a GNP per head in 1985 of US\$ 2,010, which is more than five times that of Sri Lanka and 6.5 times that of China, has a life expectancy at birth of 55 years compared with the Chinese figure of 69 years and the Sri Lankan life expectancy of 70 years. And the child mortality rate under five in 1985 amounted to 104 per thousand in South Africa compared with 48 in Sri Lanka and 50 in China. Similarly, Mexico and Brazil with five or six times the GNP per head of Sri Lanka or China have life expectancy figures of 66 and 64 years, respectively, compared with the Sri Lankan and Chinese figures of around 70 years.<sup>31</sup>

#### **4.5. Sri Lanka's Experience in Historical Perspective**

The causes of high life expectancy in Sri Lanka have been a matter of some dispute in recent years. The emphasis put on public distribution of food and health delivery in Sri Lanka had been traditionally thought to be an important causal influence in this achievement. That inference is partly based on general economic reasoning, but also on some cross-sectional comparisons of the achieve-

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<sup>31</sup> These comparative figures are derived from *World Development Report 1987* (Washington, DC: World Bank, 1987), Table 1, and from UNICEF, *The State of the World's Children 1987* (New York: United Nations), Tables 1 and 2.

ments of different countries.<sup>32</sup> This view has been vigorously disputed in recent years, notably by Bhalla and Glewwe.<sup>33</sup> By looking at Sri Lanka's achievements in enhancing living standards in the two decades following 1960, they have concluded that her performance has not been exceptional. There are, however, several technical shortcomings in Bhalla and Glewwe's analysis which vitiate their results, as has been discussed, among others, by Anand and Kanbur, Basu, Isenman, Pyatt and Ravallion.<sup>34</sup>

Aside from these technical problems, there is also the more elementary question as to the timing of change in Sri Lanka. The radical departures in the public distribution system of food and health in Sri Lanka took place a good deal earlier than 1960, which is the beginning point of Bhalla and Glewwe's comparative analysis. In fact, the educational system had been enhanced many decades ago, and the medical system was radically expanded during the 1940s, partly to tackle malaria but also for other objectives. A system of free or subsidized distribution of food to all was introduced also during the 1940s. The exceptional period of mortality reduction in Sri Lanka happens to be, correspondingly, the 1940s, with the crude death rate falling from 20.6 to 12.6 per thousand. In the following decade it fell further to 8.6 per thousand, reaching a figure comparable to that in many Western economies.

This is the point at which Bhalla and Glewwe's comparative analysis begins, at a time when the scope for further reduction of the death rate in Sri Lanka was certainly considerably lower than that in other countries with which Sri Lanka's achievement is compared. Furthermore, in the period examined by Bhalla and Glewwe, viz, the two decades from 1960, there were various ups

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<sup>32</sup> See Paul Isenman, "Basic Needs: The Case of Sri Lanka" *World Development*, 8 (1980), and Amartya Sen, "Public Action and the Quality of Life in Developing Countries", *Oxford Bulletin of Economics and Statistics*, 43 (1981), pp.303-5.

<sup>33</sup> See S. Bhalla and P. Glewwe, "Growth and Equity in Developing Countries: A Reinterpretation of the Sri Lankan Experience". *World Bank Economic Review*, 1 (September 1986).

<sup>34</sup> S. Anand and R. Kanbur, "Public Policy and Basic Needs Provision: Intervention and Achievement in Sri Lanka", WIDER conference paper, and K. Basu, "Combatting Chronic Poverty and Hunger in South Asia", WIDER conference paper, both forthcoming in Drèze and Sen, *Hunger: Economics and Policy*; G. Pyatt and P. Isenman, "Comments on 'Growth and Equity in Developing Countries: A Reinterpretation of The Sri Lankan Experience'," and P. Glewwe and S. Bhalla, "Response", both in *World Bank Economic Review*, 1 (May 1987); M. Ravallion, "Growth and Equity in Sri Lanka: A Comment", mimeographed, Australian National University, 1987.

and downs in health and food intervention. In fact during the decade between 1970 and 1980, the number of medical practitioners actually went down. There were also successive reductions in the food subsidy programme.<sup>35</sup> It is, therefore, hard to arrive at the conclusion, on the basis of observing the slow expansion of life expectancy and other indicators in Sri Lanka since 1960, that the interventionist programme has not been particularly successful in enhancing life expectancy in Sri Lanka. In fact, a discriminating intertemporal analysis of public intervention and the quality of life in Sri Lanka tends to give general support to the hypothesis of a strong positive association.

It is indeed extremely important to be careful about the exact time periods of intervention and achievement in any intertemporal analysis of the role of public intervention in enhancing the quality of life in general and life expectancy in particular. The point can be brought out by looking at the expansion of life expectancy at birth in England and Wales during the first six decades of this century. In

**Table 1**

**EXTENSION OF LIFE EXPECTANCY AT BIRTH:  
England and Wales, 1901-60  
(additional years in different decades)**

Decades	Men	Women
1901 - 1911	4. 1	4. 0
1911 - 1921	6. 6	6. 5
1921 - 1931	2. 3	2. 4
1931 - 1941	1. 2	1. 5
1941 - 1951	6. 5	7. 0
1951 - 1960	2. 4	3. 2

**Source:**

S. Preston, N. Keyfitz and R. Schoen, *Causes of Death: Life Tables for National Populations* (New York, 1972). See also J.M. Winter, *The Great War and the British People* (London: Macmillan, 1986).

Table 1 the extension of life expectancy at birth is shown separately for men and women for each decade between 1901 and 1960. It will be seen that in each decade there has been some expansion of life expectancy, varying between one year and four years. The two exceptions are the decades between 1911 and 1921 and between 1941 and 1951, in which the expansions of life expectancy were between 6 and 7 years. These decades were, of course, those of the two World Wars, and indeed the life expectancy expansions observed in these figures reflect the results of public intervention in food distribution and health delivery introduced in England and

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<sup>35</sup> There was, in fact, a decline in the percentage of GNP devoted to education, health and social welfare. This trend, incidentally, has continued; see Table 23 of *World Development Report 1987*.

Wales as part of the war effort. Even though food availability was made more precarious by the wars, the average level of nutrition went up sharply because of better delivery of food and related services, and the results are seen in the reduction in death rates and expansion of life expectancy.<sup>36</sup>

In analysing the process of expansion of life expectancy in Sri Lanka, we have to compare the timing of the public distributive efforts on the one hand, and the timing of the enhanced longevity, on the other. A comparative temporal analysis of Sri Lanka's experience is the right procedure for assessing the effectiveness of public intervention in health and food delivery in that country.<sup>37</sup> That procedure does not at all yield the negative picture presented in the so-called "reassessment" of Sri Lanka's experience of social intervention. The policy implications of the confirmation of the more positive picture are now being examined in WIDER, with the help of a Study Group chaired by Lal Jayawardena, the Director of WIDER. It is particularly addressing the possibility and economic implications of reinstating food subsidies that have been severely curtailed in recent years.

#### **4.6. Observation and Analysis**

The research efforts of WIDER for the selection of policy instruments and actions in tackling endemic hunger and regular deprivation have been geared to relating general economic, political and social analyses to the reading of particular experiences of successes, failures and mixed performances. In themselves, such comparisons

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<sup>36</sup> For an illuminating analysis of the process of change in interventionist policies brought about during the first World War, see J.M. Winter, *The Great War and The British People* (London: Macmillan, 1986). A similar analysis would apply to the British experience during the second World War. See also J.M. Winter, "Public Health and Extension of Life Expectancy in England and Wales, 1901-60", mimeographed, Pembroke College, Cambridge, 1985.

<sup>37</sup> On this general question, see A. Sen, "Freedom of Choice: Concept and Content", Alfred Marshall Lecture at the European Economic Association, 1987, WIDER Working Paper. See also the penetrating assessment provided in the major study by S. Anand and R. Kanbur, "Public Policy and Basic Needs Provision: Intervention and Achievement in Sri Lanka", WIDER conference paper, cited earlier, forthcoming in Drèze and Sen, *Hunger: Economics and Policy*. See also P. Alailima, "Evolution of Government Policies and Expenditure on Social Welfare in Sri Lanka during the 20th Century", mimeographed, Colombo, 1985, and W. Rasaputra, "Public Policy: An Assessment of the Sri Lanka Experience", WIDER study, 1986.



can, of course, be deeply misleading, both because causal connections are difficult to establish, and also because there are serious problems in translating the lessons learnt from the achievements of one country or region for use in another. The need for caution remains in any conclusions that are drawn, but the plausibility of the conclusions can be, to a considerable extent, enhanced by analysing extensively the underlying economic and social processes involved. Statistical investigations, in this area, have to be systematically supplemented by economic, social and political analyses. The relatively broad coverage of the field and scope of research on hunger and poverty in WIDER has been geared to this crucial recognition.<sup>38</sup>

## **5. A Concluding Remark**

The problem of world hunger is not a purely economic one, even though the economic issues are of major importance and call for adequately deep investigation. Even the notion of entitlement, which has obvious economic content, cannot escape having legal connotations, political implications and social relevance. This diversity need not however lead to a fragmented approach, since the connections can be explicitly explored and systematically integrated.

The actions to which WIDER's research activities are ultimately aimed may be undertaken by different agencies, institutions and groups, varying from the state, non-government organizations and political parties, to the news media and the general public. However, despite that diversity, the roles of the actions of the respective agents relate closely to each other, since they cannot be seen in isolation from other agents and their actions. It is precisely this feature of a unified focus over diverse fields of investigation that gives the research programme described here its particular character.

The programme is undoubtedly ambitious. But the stakes are high. Many millions of lives are involved.

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<sup>38</sup> There are, in fact, some still broader issues in the conceptualization of the quality of life, living standards and poverty. While nutritional matters are undoubtedly part of the picture, there are cultural and valuational issues which also require attention. A set of studies dealing with foundational questions on the quality of life are being undertaken at the moment under the initiative of WIDER, going also into their implications for such practical matters as health economics, medical ethics and gender inequalities. There will be a research conference on this subject in Helsinki in July 1988, involving economists, sociologists, philosophers, and members of other disciplines. This can be seen, to some extent, as a supplement to the conference on "Nutrition and Poverty" in July 1987, in which the focus was very specifically on nutritional issues, related to economic, social and political questions.

## ***Appendix, prepared by S.R. Osmani***

### ***WIDER's Research Programme on "Hunger and Poverty"***

The on-going research programme of WIDER in the field of Hunger and Poverty includes a variety of specific projects. They are discussed briefly below.

#### *1. Hunger: Economics and Policy*

This is a 4-volume study, to be published by Clarendon Press, Oxford. It is being jointly edited by Jean Drèze and Amartya Sen. Most of the papers reflect studies undertaken for the conference on Food Strategies that took place at WIDER, Helsinki, during July 21-25, 1986.

The first volume, *Combatting World Hunger*, is being written by Drèze and Sen themselves. The other three volumes contain 26 papers. The structure of the first volume, and the papers included in the remaining three volumes, are given in *List 1* at the end of this Appendix.

#### *2. Poverty, Undernutrition and Living Standards*

Nutritional well-being is an important constituent of the Quality of Life; and undernutrition is a common manifestation of poor living standards. Thus the study of undernutrition is quite central to any research programme on hunger and poverty. From this perspective, a number of studies have been undertaken in 1986 on the theme of "Poverty, Undernutrition and Living Standards", with Nanak Kakwani and Amartya Sen as the coordinators. The objective is to sort out some of the contentious issues in the measurement of undernutrition and to assess the significance of nutritional status as an index of living standards in both historical and contemporary contexts. The issue of gender bias in the nutritional deprivation of the poor in some parts of the world receives special attention. As an alternative approach to the assessment of living standards, a non-nutritional approach to the measurement of poverty has also been considered. Nutritionists as well as economists have been involved in these studies.

The studies have been discussed at a conference organized at WIDER in July 1987 and are now being processed for publication as a volume, entitled *Nutrition and Poverty*, with S.R. Osmani as the editor. The list of papers to be included in this volume is given in List 2.

#### *3. The Quality of Life and Living Standards*

This study aims at establishing a conceptual framework for a broad-based assessment of the quality of life. In scope it will go beyond the nutritional aspect of quality of life to ask about other aspects and their inter-relationships. It will also take up some fundamental social and ethical questions that these issues raise. It will also incorporate the relevant work in political philosophy and social evaluation. Positions on these issues are implicitly taken up by economists who address the question of the quality of life; but the debate can be sharpened by rigorous and explicit formulations. Sixteen papers are being written on various themes, including "capabilities, needs and the quality of life", "perception and objectivity in

social evaluation”, “ethical issues in the economics of health” and “women and the quality of life” (see List 3).

A conference will be held at WIDER in July 1988 reporting on this research. Subsequently, the papers will be published in a volume under the editorship of Martha Nussbaum and Amartya Sen.

#### *4. Impact of the Global Recession on Standards of Living*

This study investigates the effects of the global recession (and of related policy changes) on the living standards of people in developing countries. Six country studies, dealing respectively with Chile, Mexico, Nigeria, the Philippines, Sri Lanka, and Tanzania, have been conducted and an overview paper by Nanak Kakwani providing a broad picture of the impact of global recession on standards of living in developing countries (in particular the six countries mentioned) is being prepared. These studies, along with the overview, will be published as a volume, under the editorship of Kakwani.

#### *5. Study of Food Expenditure and Living Standards*

The stability of food expenditure in situations of fluctuating incomes has been noticed in empirical studies. An economic analysis of the factors involved and their implications has been provided by Sudhir Anand and Christopher Harris. Food expenditure is studied as a predictor of long-run total expenditure and of living standards. Given the better availability of food expenditure data, this methodological advance is full of promise for practical use in the assessment of standards of living. Anand and Harris are currently working in this important area of application of economic theory to improve the empirical evaluation of living standards. The method will be extensively illustrated with Sri Lankan data, and used to comment on policy controversies such as those surrounding the alternative programmes of food subsidies and food stamps.

This study will be published in the form of a book, provisionally entitled *Food and the Standard of Living: Methodology and Applications to Sri Lanka*.

#### *6. Food Insecurity in Sub-Saharan Africa*

A number of problems connected with famines, starvation and regular undernourishment in sub-Saharan Africa were discussed in the Food Strategies conference, and they have been addressed, *inter alia*, in the research work behind the conference papers. As a follow up to this work, a concentrated study of the problem of “food insecurity” in sub-Saharan Africa is being undertaken during 1986–1988. This work, which is being carried out primarily by Peter Svedberg, will represent a major investigation of the demands of food policy in Africa.

#### *7. Poverty, Social Change and Public Policy in Rural West Bengal*

It is often suggested that the elimination of endemic poverty in the Third World calls for interventionist public policies, especially in the form of redistribution of assets. The issue of land reform figures prominently in this context. An interesting test case of the efficacy of this policy is provided by the contemporary experience of the state of West Bengal in

India. Two special features of West Bengal are that it is one of the poorest states of India (with its relative position worsening over time) and that it has been governed for many years by an interventionist, left-wing state government led by the Communist Party of India (Marxist). One of the more notable acts of this government has been the implementation of land reform policies. However, the results of these and other interventionist policies have been a matter of considerable controversy. WIDER has undertaken a research project to assess the effectiveness of these measures in tackling the problem of endemic poverty in rural West Bengal. Amartya Sen and Sunil Sengupta conducted a survey of two villages in 1983 in the context of assessing the nutritional status of children, and resurveyed these villages in 1986. These two surveys will provide the starting point of this study, which is based in Santiniketan, India, under the direction of Sunil Sengupta.

### 8. *Development Strategies, Growth and Equity*

A comparative study of alternative strategies of economic development is currently in progress, focusing particularly on food entitlement and living standards, and assessing the pursuit of growth and equity in this context. The alternatives will be discussed not in abstract terms, but in the specific form of development strategies pursued in particular countries. The countries to be comparatively studied include those with widely different roles of government policy as well as different levels of achievement in terms of growth and equity.

The empirical focus of the study is on South Asia. The contrast in the achievement of growth and equity by different countries of this region (specifically, Bangladesh, India and Sri Lanka) will be analysed with a view to assessing the role of public policy. These experiences in turn will be contrasted with those of South Korea and Malaysia. The achievements and failures in improving the living standards of the people will be analysed with reference to the development strategies pursued by different countries, keeping in view the historical and social contexts in which these strategies were pursued. The objective is to draw possible policy lessons for the less successful countries from the experience of the more successful.

This study is provisionally called, *Alternative Development Strategies, Food Entitlement and Living Standards: A Comparative Study of Selected Asian Countries*, and it is being conducted by S.R. Osmani.

### 9. *Sex Bias and Gender Issues*

There are various plans for investigation of sex bias and gender based inequalities within the research programme of WIDER. As far as the theme of Hunger and Poverty is concerned, this topic has figured prominently already in the Food Strategies conference as well as in the conference on Poverty, Undernutrition and Living Standards. The issue will be discussed further in a broader context in the conference on the Quality of Life. The point was made forcefully at the Food Strategies conference that gender studies have to be seen in terms of the *pervasive* importance of these issues in many *different* areas of personal and social life. By examining this problem from different ends – food, nutrition, living standards and most generally the quality of life – a considerable impact can be made in

the understanding of gender issues. This is an important area of on-going research.

#### 10. *The Role of the Media*

The importance of the activities of newspapers and other parts of the media has been recognised in a number of studies in recent years. The role of Indian newspapers in the monitoring of problems of hunger and famine in India, and its impact on government policy, have been investigated by N. Ram in a study presented at the Food Strategies conference in 1986. This is being followed by a full length monograph by Ram broadening the field of investigation to cover other experiences.

#### 11. *Social Security in Developing Countries*

This new programme, being undertaken jointly by Jean Drèze and Amartya Sen, will involve an investigation of the feasibilities of social security in poor developing countries, both for providing protection from periodic famines and starvation, and also for combatting regular hunger and endemic undernourishment. The study will be completed by 1989. Meanwhile, there will be a wide-ranging conference at the London School of Economics in July 1988 on this subject, jointly organized by WIDER and Suntory Toyota International Centre for Economics and Related Disciplines of the LSE (STICERD).

Other ad hoc studies in the general area of hunger and poverty are reported in the Working Paper series (see List 4).

#### *List 1*

### **Provisional Contents of the 4-volume Study, *Hunger: Economics and Policy***

*Editors:* Jean Drèze and Amartya Sen

*Volume I: Combatting World Hunger* (by J. Drèze and A. Sen).

#### *Part I: Hunger in the Modern World*

- Chapter 1: Hunger and Entitlements
- 2: Economics and Society
- 3: Gender and Family

#### *Part II: Famines*

- Chapter 4: Coping with Vulnerability
- 5: Preparedness, Warning and Response
- 6: Famines, Markets and Intervention
- 7: Security, Targeting and Selection
- 8: Experiences and Lessons
- 9: Famine Prevention

#### *Part III: Chronic Deprivation*

- Chapter 10: Nutrition, Capability and Poverty
- 11: Food Production, Self-Sufficiency and Entitlements
- 12: The Economy and the State

*Part IV: Avenues of Action*

Chapter 13: Public Action for Social Security

14: Summary and Conclusions

*Volume II: Hunger, Nutrition and Entitlements*

Sudhir Anand and Cristopher Harris, "Food and the Standard of Living: An Analysis based on Sri Lankan Data: Implications for Food Strategies."

Partha Dasgupta and Debraj Ray, "Adapting to undernourishment: The Biological Evidence and Its Implications".

Barbara Harriss, "The Intrafamily Distribution of Hunger in South Asia".

Ravi Kanbur, "Global Balances and Individual Hunger: Three Themes in an Entitlement-based Approach".

S.R. Osmani, "Nutrition and the Economics of Food: Implications of Some Recent Controversies".

Kirit Parikh, "Chronic Hunger in the World: Impact of International Policies".

N. Ram, "An Independent Press and Anti-Hunger Strategies".

Amartya Sen, "Food, Economics and Entitlements".

Rehman Sobhan, "Politics of Hunger and Entitlements".

Ann Whitehead, "Women in Rural Food Production in sub-Saharan Africa: Some Implications for Food Strategies".

*Volume III: Famine Prevention*

Meghnad Desai, "Modelling an Early Warning System for famines".

Jean Drèze, "Famine Prevention in India".

Henock Kifle, "The Ethiopian Famine of 1983–85: A Reassessment".

Gopalakrishna Kumar, "Ethiopian Famines 1973–85: A Case Study".

S.R. Osmani, "The Food Problems of Bangladesh".

Martin Ravallion, "Market Responses to Anti-Hunger Policies: Effects on Wages, Prices and Employment".

*Volume IV: Endemic Hunger: Policy Response*

Sudhir Anand and Ravi Kanbur, "Public Policy and Basic Needs Provision: Intervention and Achievement in Sri Lanka".

Kaushik Basu, "Combatting Chronic Poverty and Hunger in South Asia: Some Policy Options".

Judith Heyer, "Hunger and Poverty in Kenya's Smallholder Agricultural Areas".

Francis Idachaba, "Policy Options for African Agriculture".

Ravi Kanbur, "Malnutrition and Poverty in Latin America".

Jean-Phillippe Platteau, "The Food Crisis in Africa: A Comparative Structural Analysis".

Carl Riskin, "Feeding China".

Ignacy Sachs, "Growth and Poverty: Lessons from Brazil".

Peter Svedberg, "Undernutrition in sub-Saharan Africa: A Survey of the Evidence".

Samuel Wangwe, "The Contribution of Industry to Solving the Food Problem in Africa".

*List 2*

**Papers to be included in the  
Volume on *Nutrition and Poverty***

*Editor:* S. R. Osmani

C. Gopalan, "Undernutrition: Concepts, Measurement and Implications".

T. N. Srinivasan, "Undernutrition: Concepts and Measurement".

P. R. Payne, "Undernutrition: Measurement and Implications".

S. R. Osmani, "On Some Controversies in the Measurement of Undernutrition".

N. C. Kakwani, "On Measuring Undernutrition".

R. Floud, "Anthropometric Measures of Nutritional Status in Industrializing Societies: Europe and North America Since 1750".

R. W. Fogel, "Second Thoughts on the European Escape from Hunger: Crop Yields, Price Elasticities, Entitlements and Mortality Rates".

S. Anand and C. Harris, "Food, Nutrition and the Standard of Living in Sri Lanka".

D. W. Jorgenson and D. T. Slesnick, "Redistributional Policy and the Measurement of Poverty".

J. Behrman, "Intra-household Allocation of Nutrients and Gender Effects".

A. Sen, "A postscript".

*List 3*

**Studies on the theme of *Quality of  
Life and Living Standards***

G. A. Cohen, "Welfare, Resources, and Capabilities".

John Roemer, "Needs and Capabilities".

Amartya Sen, "Quality of Life and Capabilities".

Hilary Putnam, "Objectivity and the Science/Value Distinction".

Michael Walzer, "Objectivity and Social Meanings".  
 Martha Nussbaum, "Objectivity and the Emotions".  
 Christopher Bliss, "The Standard of Living".  
 Paul Seabright, "Conceptions of the Living Standard".  
 B. M. S. Van Praag, "Concepts of Well-Being in Different Societies".  
 Bengt-Christer Ysander, "Welfare Economics and the Scandinavian Approach to the Measurement of Living Standard".  
 Dan W. Brook, "Medical Ethics and the Quality of Life".  
 Timothy Besley and Ravi Kanbur, "Medical Ethics and Health Economics".  
 Onora O'Neill, "Women and Hunger".  
 Julia Annas, "Women and the Quality of Life: Two Norms or One?".  
 Bernard Williams, "Value, Desire, and Choice".  
 T. M. Scanlon, "Value, Desire, and the Quality of Life".

*List 4*

**WIDER Working Papers in the area of Hunger and Poverty**

No

1. Amartya Sen, "Food, Economics and Entitlements", February 1986.
2. Nanak Kakwani, "Decomposition of Normalization Axiom in the Measurement of Poverty: A comment", March 1986.
4. Nanak Kakwani, "Income Inequality, Welfare and poverty in a Developing Economy with Applications to Sri Lanka", April 1986.
8. Nanak Kakwani, "On Measuring Undernutrition", December 1986.
9. Nanak Kakwani, "Is Sex Bias Significant?", December 1986.
10. Partha Dasgupta and Debraj Ray, "Adapting to Undernourishment: The Clinical Evidence and its Implications", April 1987.
14. Kaushik Basu, "Technological Stagnation, Tenurial Laws and Adverse Selection", June 1987.
15. Peter Svedberg, "Undernutrition in Sub-Saharan Africa: A Critical Assessment of the Evidence", June 1987.
16. S. R. Osmani, "Controversies in Nutrition and their Implications for the Economics of Food", July 1987.
18. Amartya Sen, "Gender and Cooperative Conflicts", August 1987.
19. Amartya Sen, "Africa and India: What Can We Learn from Each Other?", August 1987.
21. Kaushik Basu, "A Theory of Surplus Labour", August 1987.