

**The Second  
Vikram Sarabhai Memorial Lecture**

**on**

**POVERTY AND ECONOMIC DEVELOPMENT**

**delivered by**

**Professor Amartya Sen  
London School of Economics**

**on**

**December 5, 1975**

**Dr. Vikram A. Sarabhai AMA Memorial Trust  
Bank of India Bldg., Bhadra, Ahmedabad 380 001**

*Dr. Vikram A. Sarabhai demonstrated in his life his conviction that the end of all scientific endeavour was peace, prosperity, and creativity. His vision of human society complemented his concept of holistic science. He used the tools of physical sciences but spoke the language of social sciences. Every activity he chose to initiate and every institution he created was of profound significance for a developing society and into every one of his endeavours, he breathed the rigour of a dedicated scientist and the sensitivity of a humanist. That his laboratory enveloped the entire community was amply demonstrated in his pioneering the management movement and applied industrial research.*

*One of the many institutions which had the good fortune to be touched by Dr. Sarabhai's dedicated spirit was Ahmedabad Management Association. He provided inspired leadership to AMA for the first four years as the President. AMA in its gratitude elected him as the first Honorary Member of the Association.*

*Today, to bring into the lives of Indian men and women the light of his spirit, the message of his life and a fuller understanding of the nature of human existence, the Dr. Vikram A. Sarabhai Memorial Lecture is dedicated to his memory.*

## **Objectives**

- o To perpetuate the memory of the late Dr. Vikram A. Sarabhai.
- o To encourage Indian men and women to emulate in their lives Dr. Sarabhai's dedication and perseverance towards human betterment.
- o To honour men and women who, in making significant contribution to society, combine the far-reaching humanist vision with the scientific rigour and the skills of organization and implementation.
- o To promote the management movement in the country.

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## **POVERTY AND ECONOMIC DEVELOPMENT\***

Amartya Sen

Professor Ravi Matthai, Dr. Ramanathan, Mr. Shah, other members of the Trust, and friends:

I would first like to thank you, Ravi, for your kind words, Dr. Ramanathan for his warm welcome, and the Trust for inviting me to deliver this lecture. We have gathered tonight to honour the memory of a scientist of very great distinction. Vikram Sarabhai did not, however, put science on a pedestal to be worshipped for its own sake. He was immensely concerned with the consequences of science — in particular with its role in enriching the living conditions in our poverty-stricken country.

Vikram Sarabhai wore many hats — he was at the same time a scientist, an innovator, an educator, an institution builder, a planner, a contributor to management technology, and a patron of the arts, and all these distinct roles fitted in nicely together with his general concern for the quality of human life. I feel deeply honoured by the invitation to deliver the second Vikram Sarabhai Memorial Lecture. I did not have the good fortune of knowing Vikram Sarabhai personally, but I have admired his works for a long time.

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\* The Second Vikram Sarabhai Memorial Lecture, delivered on the 5th December, 1975. The present text is a revised version incorporating some remarks which were made in the follow-up discussions on the 5th and the 6th, and in my lecture at the University of Gujarat on the 6th of December.

My intention tonight is to examine the problem of poverty in the context of economic development, and the focus will be on India. Starting with some broad historical and geographical issues, I would like to go on to discuss the problem of evaluation of poverty, anticipation of famines, comparison of standards of living, and a few of the related policy issues.

### **1. Some Historical and Geographical Issues**

Poverty is not a recent phenomenon in India. Indeed, it is not a recent phenomenon anywhere in the world. Life has been brief and hard for most people most of the time. Foundations of mass prosperity have only rather recently been laid by the so-called "industrial revolution", and the fruits of it are yet to be fully reaped in most parts of the world. For the colonial economies, western imperialism almost certainly has acted as a barrier to the proper utilisation of the opportunities offered by modern technology for widespread increase in the standard of living, but it is also true that the living standard in the pre-colonial days was itself typically quite low. Stories of "golden ages" of prosperity in the past—valuable as they may be as a source of inspiration—have little value as history as far as the living standards of the masses are concerned. Even in literature, ancient and medieval Indian writings provide some of the most moving accounts of abject poverty. There are few literary accounts of poverty that can compare, for example, with Mukundaram Chakravarti's early seventeenth century verses on the economic distress of Phullara.

While living standards were typically poor everywhere in the pre-industrial revolution world, they were not of course uniformly so, and there are some systematic contrasts. There are good reasons to think that Western Europe enjoyed a higher standard of living even before the industrial revolution than most countries in Asia and Africa did at that time.<sup>1</sup> Indeed, there is

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1 See S. S. Kuznets, *Six Lectures on Economic Growth* (Glencoe, New York, 1959); S. J. Patel, "Economic Distance between Nations: Its Origin, Measurement and Outlook", *Economic Journal*, vol. 74 (1964).

much evidence to suggest that many underdeveloped countries like India are poorer even today than Western Europe was in the eighteenth century. This seems to be the case as far as the availability of basic commodities is concerned, including food, clothing and shelter. While such comparisons are bedevilled by many complexities, it seems possible to say that the average Indian today is not able to buy with his income what the average Englishman consumed in the eighteenth century, just before the industrial revolution.<sup>2</sup>

It is, of course, also true to say that the converse holds, viz. the Englishman in the eighteenth century could not possibly buy what the average Indian buys today, since there are goods consumed today, even to some extent by the Indian *poor*, that simply did not exist in the eighteenth century, e.g. modern transport, or new medicine, or electricity. But this nicely "symmetric" picture does not, in fact, reflect a truly symmetric relative position. The deficiency of nutrition is hardly compensated by little bits of rail transport, or aspirin, or electric lamps. In its development effort, India is, in a non-trivial sense, starting off from a level quite a bit below where England was in 1750.

What is the reason for this difference? It is natural to think that climatic differences may have a role in this. Somewhat paradoxically, climatic differences can be brought into the picture both positively and negatively. I will presently consider

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2 The data limitations in the eighteenth century prevent the construction of an exact picture of the average consumption in England, but we have considerable information on what the English poor were consuming in those days; see, for example, F. M. Eden *The State of the Poor* (1797), ed. by A. G. L. Rogers (Routledge, London, 1928), and J. C. Drummond and A. Wilbraham. *The Englishman's Food* (Jonathan Cape, London, 1939). And it appears that the costs of these consumption baskets at Indian prices today typically exceed the current Indian wages.

the negative influence of good climate on the standard of living, but before I do so, I would like to refer to the positive argument which exists, and which has been presented very clearly by Paul Streeten:

“Perhaps the most striking fact is that most underdeveloped countries lie in the tropical and semi-tropical zones, between the Tropic of Cancer and Tropic of Capricorn. Recent writers have too easily glossed over this fact and considered it largely fortuitous. This reveals the deep-seated optimistic bias with which we approach problems of development and the reluctance to admit the vast differences in initial conditions with which today’s poor countries are faced compared with the pre-industrial phase of more advanced countries. But a hot and humid climate reduces the efficiency of men, cattle and land. Work generates body heat and is clearly more difficult in a hot climate.”<sup>3</sup>

Streeten goes on to discuss other limitations of tropical areas, e. g. greater dangers of erosion, leaching, salination, etc., but none of them is perhaps as fundamental as that of efficiency of work. I shall refer to this argument as that of “over-all unfavourable climatic handicap”—OUCH, for short.

In contrast, one can also think of a climatic handicap as far as the average standard of consumption is concerned, arising from the more *tolerant* nature of the tropics, permitting survival at levels of consumption that tend to bring demise in harsher climates. An inability to survive at low levels of consumption is a sure way of guaranteeing a moderately high standard of living of those who manage to live. The easier survival conditions in the warmer tropical climate may, thus, be partly responsible for the low standard of living in the pre-industrial underdeveloped countries in the tropics. I shall call this argument the “mild and easy survival story”, or MESS, for short<sup>4</sup>.

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3 *The Frontiers of Development Studies* (Macmillan, London, 1972), p. 32.

In the *Mahabharata*, when Yudhishtira was asked by Dharma: "Who is happy?" (it was one of the several questions that were put to Yudhishtira), Yudhishtira managed to pass the test by answering that a person with no debts but enough means to eat a little rice and spinach at his home was happy. In a country with a colder climate, Yudhishtira might have well failed the test unless he was prepared to put a bit more into the list of inputs for happiness.

It is important to note that the nature of MESS is in no way contradictory to OUCH, and the paradox is only an apparent one. Colder climate may make work easier to perform, but it also makes it necessary to eat more, wear more and be sheltered more to survive. Hot climate does encourage inactivity and one is reminded of the old *New Yorker* cartoon of the lazy Mexican peasant sitting still in the sun complaining to another Mexican peasant that automatic watches were no good because they always stopped. While the level of inactivity needed to achieve this feat is rather extreme, there is indeed considerable evidence that hot climate does make work more difficult. But, also, one *survives* rather more easily in such a benign climate and in this sense MESS does not conflict with OUCH.

MESS builds on population survival and growth as determinants of differences in standard of living based on different "subsistence" levels in different areas of the world. As such it has a somewhat Malthusian flavour, even though in order to accept MESS, it is not necessary to swallow "Malthusianism" as such. In fact, the possibilities of economic progress opened up by the industrial revolution and subsequent social and economic transformations have discredited much of Malthusianism with its grim prediction of the inevitability of poverty and suffering.

Malthus built his theories on traditional wisdom, which have been current for a long time, and which found expression in the writings of others at about the same time, e.g.



Edmund Burke.<sup>4</sup> In fact, even in classical antiquity "Malthusian" worries about population growth were often expressed. Aristotle was emphatic that "if no restriction is imposed on the rate of reproduction (and this is the case in most of our existing states), poverty is the inevitable result".<sup>5</sup> Interestingly enough, Malthus seized on this piece of Aristotlian wisdom precisely when the basis of that wisdom was getting severely ruptured by the enormous technological possibilities unleashed by the industrial revolution.

## 2. Population, Food and Famines

While Malthus's analysis of poverty was not particularly far reaching, nor his predictions very successful, nevertheless Malthusianism in some form or other has become a part of the established tradition of the economics of poverty in general and of the analysis of starvation and famines in particular.<sup>6</sup> In some ways, this is quite understandable, since there is much cogency in the homely truth that population pressure must be among the forces keeping living standards down. But a single-minded concern with this variable over all others can lead to the neglect of other issues that demand attention

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4 "The labouring classes are only poor because they are numerous. Numbers in their nature imply poverty." E. Burke, *Thoughts and Details on Scarcity* (1795), quoted by P. Mathias, "Adam's Burden: Diagnoses of Poverty in Post-Medieval Europe and the Third World Now," Gildersleeve Lecture, Barnard College, Columbia University, mimeographed 1972, which also goes into the relation between modern theories of poverty and those in the seventeenth and eighteenth centuries.

5 Translated by E. Barker, *The Politics of Aristotle* (Clarendon Press, Oxford, 1948), p. 59.

6 See, for example, L. R. Brown with E. P. Eckholm, *By Bread Alone* (Pergamon, Oxford, 1974); United Nations World Food Conference, *Assessment of the World Food Situation: Present and Future* (E/Conf. 65/3, Rome, 1974); D. N. Ross, *Food and Population: The Next Crisis* (Conference Board Report No. 639, 1974).

if famines are to be avoided and starvation eliminated. This may well be particularly worth bearing in mind in our country today in view of the recent explosion of zeal in favour of extreme measures of population control, especially compulsory sterilization.

In fact, one can even argue that frequently enough the genesis of modern famines does not really have very much to do with the general availability of food per capita, and naturally not much with the pressure of population affecting this availability. Take the Bengal Famine of 1943, for which estimates of death have varied between  $1\frac{1}{2}$  million to 3 million—clearly the biggest famine of the century. Was food availability per head in Bengal particularly low in 1943? It continues to be asserted that this was what caused the famine,<sup>7</sup> and indeed the official Famine Inquiry Commission of 1944 had put as the prime cause of the famine “a serious shortage in the total supply of rice available for consumption in Bengal as compared with the total supply normally available”.<sup>8</sup> This view has a certain amount of superficial plausibility, since—as the Famine Inquiry Commission noted—the winter rice crop (*āman*) harvested in December 1942 was bad and the traditional imports from Burma had been disrupted due to the war. But even after all these factors have been taken into account, the current supply of rice for consumption in Bengal was 8,896 thousand tons in 1943 as opposed to 7,954 thousand tons in 1941.<sup>9</sup> Why then the famine in 1943 and not in 1941?

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7 See, for example, Brown with Eckholm (1974), p. 27; G. B. Masfield. *Famine: Its Prevention and Relief* (Oxford University Press, 1963), Chapter 2; S. Aziz (ed.), *Hunger, Politics and Markets: The Real Issues in the Food Crisis* (New York University Press, 1975), p. 27.

8 Famine Inquiry Commission, *Report on Bengal* (New Delhi, 1945), p. 77. The Commission, however, did suggest various other contributory factors.

9 The availability figure for each year (say, 1943) includes the yields of the winter crop of the previous December (1942) and the spring and autumn crops of that year (1943), plus imports into Bengal and exports out of it during the relevant year (1943).

The Famine Inquiry Commission went into a mysterious category called "carry over" from *previous* crops as a way of explaining the difference. But all estimates of carry over presented by Commission are purely imaginary. As a member of the Commission, Mr. M. Afzal Husain had noted in a different context: "Absolutely no data are available regarding the stock position of rice (or any other food grain) from month to month, or year to year, in Bengal, or any other part of India."<sup>10</sup>

The appropriate way of taking note of previous crops is to consider the average of food availability over a number of years ending in 1943 compared with the moving averages in previous years. Does this point towards an exceptional crisis in 1943? Quite the contrary. The 2-year moving averages ending respectively in 1940, 1941, 1942 and 1943 are: 9,739 thousand tons, 8,918 thousand tons, 9,364 thousand tons, and 9,835 thousand tons. Thus, 1943 was a *peak* year in this time series. Even with 3-year moving averages, which *compounds* the 1943 shortfall with the 1941 shortfall, the value of the average ending in 1943 is 9,208 thousand tons, as opposed to 9,144 thousand tons for the average ending in 1941. The time series analysis does not show up 1943 to be an exceptionally bad year for rice availability. A similar picture holds even after variations of wheat trade have been considered (in addition to the rice trade already reflected in the above figures) and even after population changes have been incorporated in considering availability in *per capita* terms.<sup>11</sup> On a close look, the food availability explanation of the Bengal famine comes to a grinding halt.

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10 *Report on Bengal*. Minute by Mr. M. Afzal Husain, p. 179.

11 For the detailed analysis on which these conclusions are based as well as for the sources and methods of estimation used, see my "Famines, Food Availability and Exchange Entitlements: The Case of the Bengal Famine," forthcoming in the *Cambridge Journal of Economics* vol. 1 (1977).

To understand the famine we have to see how the purchasing powers of the different classes and groups were shifting through 1942 and 1943. The inflationary pressures of the war economy had led to unprecedented increases in the general price level, but *relative* prices were also shifting rapidly. While several sections of the population ate a lot better on the basis of their earnings in the expanding war economy, other groups not benefitting from the expansion faced higher food prices with unchanged—and sometimes even lower—money incomes. For example, the rural unskilled wage in Birbhum in terms of command over rice purchasable at local prices fell by November 1942 to 38% of the level it was in the previous December. After a partial recovery in the following three months (with the increased activities related to the harvest of the *aman* crop), it sank to 24% of the December 1941 level by May 1943. Even in January 1944 (after the gigantic crop of December 1943), the wage in terms of rice command was still only 65% of what it was in December 1941.

The price of fish, while going up with general prices, did not keep up with it, and the fish-rice exchange rate had fallen to 45% of the December 1941 level by November 1942 and to 21% of that level by May 1943. The fishermen were among the hardest hit groups in the Bengal famine, along with rural unskilled labourers.<sup>12</sup> So were the rural trades and crafts, and *relative* price movements throw much light on what was happening. For example, the price of a haircut vis-a-vis the cost of rice had fallen by November 1942 to

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12. See P. C. Mahalanobis, R. Mukherjea, and A. Ghosh, "A Sample Survey of the After Effects of the Bengal Famine of 1943," *Sankhya*, vol. 7, part 4, 1946. See also Tarakchandra Das, *Bengal Famine (1943)* (University of Calcutta, 1949), and the classic contemporary writings of Kali Charan Ghosh, collected together in his *Famines in Bengal 1770-1943* (Indian Associated Publishing, Calcutta, 1944).

45% of the December 1941 level, and by May 1943 to merely 19% of that level.

This is not the occasion to go into a detailed economic analysis of the *nature* of these relative price movements, which I am presenting elsewhere,<sup>13</sup> but it should be clear that the absence of an exceptional decline in the average food availability per head is no guarantee that there will be no famine. In an exchange economy, the ability of any group to survive depends on the terms at which it can sell what it has to sell and the terms at which it can buy food and other necessities. The Malthusian focus on the relative growth rates of food supply and population—so widely adopted in modern discussions of hunger and famines—is indeed quite misleading and also potentially dangerous. While the failure of the Governments of Bengal, India, and Britain to take adequate action at that time had many political aspects,<sup>14</sup> there is little doubt that an important contributory factor was the official faith in the impossibility of a famine given the statistics of food availability per head in Bengal.<sup>15</sup> To avert similar crises, one must look beyond the time series of food and population, and recognize the complex nature of poverty and hunger in an exchange economy.

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13 In the article, referred to earlier, forthcoming in the *Cambridge Journal of Economics*.

14 See Kali Charan Ghosh (1944).

15 New Delhi and London seemed to have had some genuine difficulty in grasping the magnitude of the problem even when it was recognized that a problem did exist. In the ultimate waking up of the Government to the real facts of the severe famine, newspapers in Bengal—particularly *The Statesman*—played an important part, in their persistent disputation of ‘official assertions in London and New Delhi that there existed no food problem in India’ (*The Statesman*, 14 October, 1943). It is perhaps also worth noting that the advantage of a relatively free press was adequately demonstrated by the experience.

### 3. Poverty: The Need for a Discriminating Analysis

The reason why the food-availability approach is so misleading for understanding famines, is its crude, non-discriminating nature. The availability of food is no guarantee that all sections of the community will be able to enjoy it. In an economy of commodity exchange, one's command over food depends on the value of the commodity that one sells. For most people this is essentially labour. This may be either in the form of a wage contract (e.g., for an unskilled labourer), or a sharing agreement (e.g., in crop-sharing agriculture), or directly as a sale of service (e.g., as a barber, or a paddy husker, or a coolie). One's ability to survive depends on whether this labour or service can be sold and at what price, compared with the price of food and other necessities.

In recent years there has been a great explosion of interest in the conditions of "the poor." But the poor is not an economic class, nor a convenient category to use for analysing social and economic movements. Poverty is the common outcome of a variety of disparate economic circumstances, and a policy to tackle poverty must, of necessity, go beyond the concept of poverty. The need for discrimination is essential.

It may be convenient to distinguish between two different stages of the analysis of poverty, viz, (i) causation, and (ii) normative judgement. In the former, the category of "the poor" is essentially a dummy. We have to analyse why a labourer was unemployed, or got a wage that did not permit him to buy much food, why a peasant got such a poor crop, why a coolie looked in vain for luggage to carry, why a fisherman got so little selling his fish, or why a village potter found it so hard to sell his wares. In this analysis, we have no need of the category of "the poor". When we have sorted out who got how much, we can simply identify the poor by using some norm of income per head. This leads to the second stage. We can now try to decide how "bad" the

situation really is, and whether one situation is more outrageous than another. In this exercise, debating the choice of norms is legitimate and important, and the focus is on the category of "the poor." While for the former exercise, it is crucial to know who does precisely what, in the latter exercise we may be content to see whether a person is "poor" or not, no matter what he does. The class-occupation discrimination may not be central for the latter exercise; it is indeed so for the former.

But for the latter exercise too, discrimination is needed. It is not sufficient to know how many poor people there are, but how poor exactly they are. Recent attempts at measuring poverty have frequently focussed just on the size of the group identified as "the poor."<sup>16</sup> but this does not tell us how large the *average shortfall* of income of the poor is from the so-called poverty line, nor does it tell us how the shortfall is distributed *among* the poor. This measure, which I shall call the "head-count ratio" (H), simply counts the number of people whose incomes happen to be below a specified "minimum" level ("the poverty line"), and expresses this number as a percentage of the total population.

The head-count ratio, despite its widespread use, is peculiarly non-discriminatory. If the poverty line is chosen to be say, Rs. 300 per year, it is completely insensitive to whether a person is earning Rs. 299 or Rs. 100. One might, of course, take the view that if a person's income is much below Rs. 300, then he would be dead, and thus the concept of the poverty line might be linked up with "subsistence." But this, as a justification of the head-count ratio,

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16 The important contributions of Bagicha Minhas, Pranab Bardhan, V. V. Bhatt & P. D. Ojha, V. M. Dandekar and Nilkantha Rath, A. Vaidyanathan, and others, while applying various sophisticated "corrections" to the income distribution data, have tended to concentrate on this crude criterion; see T. N. Srinivasan and P. K. Bardhan, *Poverty and Income Distribution in India* (Statistical Publishing Society, Calcutta, 1974).

is just nonsense. If Rs. 300 is really a strict subsistence level such that anyone enjoying less than this must perish, then the measure of poverty would always tend to be zero; those who continue to live must earn Rs. 300 or more. If, on the other hand, Rs. 300 is not such a strict subsistence level, then people can survive earning less, and also one person's income can be more close to Rs. 300 than that of another; and their positions are not identical. Starvation can be of various degree, and some causes more acute agony than others.

We can instead examine the income shortfall of each person from the poverty line. A weighted norm of the income shortfalls of all the poors can be seen as a measure of poverty. Many systems of weighting are possible. One characteristic the weights may be required to satisfy is that a poorer person's income shortfall should receive a higher weight than the income shortfall of a person who is richer than the first despite being below the poverty line. One simple way of doing this is to take the rank values of the poors in the income ranking as the weights to be put on the income shortfalls of the different persons within the category of the poor. If there are  $m$  people with incomes below the poverty line, then the income shortfall of the richest among the poor gets a weight of 1, the second richest a weight of 2, and so on, ending up with a weight of  $m$  on the income shortfall of the poorest poor. This yields a measure  $P$  of poverty after appropriate choice of units, etc.; this has the characteristic of being sensitive to the exact pattern of the income shortfalls of the poor from the poverty line.<sup>17</sup>

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17 The measure is derived axiomatically in my "Poverty, Inequality and Unemployment", *Economic and Political Weekly*, vol. VIII, Special Number, 31-33, August 1973, reprinted in the Bardhan-Srinivasan collection cited earlier, and somewhat differently in my "Poverty: An Ordinal Approach to Measurement", *Econometrica* vol. 44 (February 1976).



To illustrate the difference that is brought about by using this poverty measure P rather than the crude head-count ratio H, consider the rankings of the following seven selected states in terms of rural poverty in 1968-69, according to estimates of Dr. Idrak Bhatta of the National Council of Applied Economic Research (see the collection by Bardhan and Srinivasan, cited earlier). The poverty line used for this table is Rs. 240 per year (i.e., Rs. 20 per month). The states are ranked in increasing order of poverty.

<i>Head-count ratio</i>	<i>Poverty measure</i>
H	P
Uttar Pradesh	Orissa
Kerala	Kerala
Orissa	Uttar Pradesh
Rajasthan	Rajasthan
Tamil Nadu	Madhya Pradesh
Madhya Pradesh	Tamil Nadu
Gujarat	Gujarat

As it happens the selected seven states are the worst in terms of poverty according to *both* measures H and P, though their relative positions vis-a-vis each other are different (and so are the relative positions of the states not included in this table). That these seven should appear to be the poorest states in India in terms of rural income is a bit surprising, both because some of these states (e.g., Rajasthan or Gujarat) are thought to be rather rich according to National Sample Survey data, and also because there are other obvious claimants to the distinction of being poor (e.g., Bihar). But note that this is not a difference brought about by using the poverty measure P rather than the usual head-count ratio H; both put these seven states at the "top" of the poverty league. This is probably worth emphasizing since Bhatta's estimates of P have caused a certain amount of understandable disquiet. For example, Professor Dantwala in his penetrating review article of the Bardhan-Srinivasan collection, remarks:

“Though earlier we have termed Sen’s measure (P) of poverty as more realistic, its application to NCAER data by I.Z. Bhatti gives apparently some strange results. The five poorest states in descending order of intensity of poverty as measured by Sen’s P coefficient of poverty, with poverty line at per capita income of Rs. 360 per annum turn out to be Gujarat, Tamil Nadu, Madhya Pradesh, Rajasthan and Orissa.”<sup>18</sup> But these are, in fact, also the five poorest states according to the traditional head-count ratio H for the poverty line Rs. 360 per annum,<sup>19</sup> even though the relative positioning differs. What is, in fact, really involved here is the acceptability of the data of the National Council of Applied Economic Research as opposed to that from other sources, e.g., the National Sample Survey. But the issue of sensitivity of the poverty measure to the exact pattern of distribution is relevant *no matter which set of data we use.*<sup>20</sup>

#### **4. The “Gross Category” Approach and Policy Failures**

The type of discriminating analysis that we have outlined in the context of the measurement of poverty is, in fact, of some importance in policy making as well. Much of public policy in India seems to take the form of identifying a “deprived” group and then giving facilities to some members of that group rather arbitrarily without taking note of the extent of deprivation suffered by different sections *within* that group. This I shall call the “gross category” approach.

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18 “Not by Statistics Alone”, *Economic and Political Weekly*, vol. X, No. 16, April 19, 1975, p. 662.

19 See Bhatti’s paper in the Bardhan-Srinivasan collection, cited earlier, Table 11.

20 In addition to Bhatti’s work, recently other interesting and important results have been derived by the use of the poverty measure P and related ones, by Mohiuddin Alamgir, Sudhir Anand, Ramesh Diwan and F. Seastrand, Nanak Kakwani, and others, for a variety of countries including Bangladesh, Malaysia, Australia and the U. S. A.

An example of the gross category approach is the preference given to members of the scheduled castes in jobs. While scheduled castes are clearly more deprived in terms of social and economic privileges than the average population, there are also great differences in the economic and social conditions faced by different members of this large category. There is clearly a good case for using a more discriminating approach taking note of the specific economic and social circumstances of people to be given special privileges.

However, the blanket granting of privileges to scheduled castes has, possibly, some rationale too. First, a detailed enquiry into the economic and social background of the particular persons may be exceptionally difficult and expensive, and cannot be easily undertaken whenever some jobs are to be allocated. More importantly, it may be thought that given a sense of identity among different members of the scheduled castes, having some of them in influential jobs is somewhat of a guarantee that the legitimate claims of other scheduled caste members will not go by default when policy decisions are made. By helping particular members of the scheduled caste category, a voice may be given to that entire community, and "indirect benefits" may ultimately reach the whole deprived community.

I am not sure the extent to which such "indirect benefits" have percolated down to the least privileged members of the scheduled castes; there is clearly much evidence to the contrary. But while such "indirect benefits" can at least be legitimately considered in principle in the case of scheduled caste privileges, no such argument holds in many other applications of the "gross category" approach used in public policy making.

Consider the focus on "small but potentially viable farmers" in the rural public scheme of "Small Farmers Development Agency" (SFDA, for short). The category of "small farmers" is, of course, a "gross" one, and within that category

of people with "2.5 to 5 acres" of irrigated or irrigable land, or with "up to 7.5 acres in the case of dry areas", there is a greater variety of economic circumstances depending on (i) the exact amount and quality of land owned (ii) the differences between "ownership" holdings and "operational" holdings, and (iii) other sources of income. There is much evidence that benefits from this scheme have often gone to people who are relatively richer though technically satisfying the broad conditions.

Undoubtedly, the scope for such abuse was magnified by the fact that "each agency has been left to work out the norm for selecting participants", which increases the possible role of influence and arbitrariness. But one can argue that the approach itself is wrong because of its "gross category" characteristic.

The preference given to "potentially viable" farmers puts the emphasis on helping the relatively better off among the so-called small farmers. Thus, a case is first made for helping small farmers because they are in general poor, and then preference is given to those who are relatively *less* poor within that gross category! It is, of course, true that the so-called potentially viable farmers may be the easiest to help, since they are already rather richer, but they are also the least needy. There is an analogy here with the kind of policy implications that emerge from the use of the traditional head-count measures of poverty  $H$ . If the government's intention is to reduce poverty as measured by  $H$ , then it is clearly best to help only those who are closest to the "poverty line", since helping them may reduce the number of the poor, but helping those who are far away from the poverty line will not show any difference in terms of the head-count ratio, unless the help is very large indeed. The insensitivity of the head-count ratio to the sufferings of the poor as long as they are far away from the poverty line is indeed perverse. The "gross category" approach tends to lead to absurd policy implications, ignoring the claims of the needier people in

favour of those who are less needy. The measurement questions are integrally related to the policy issues, and grossness in the former leads to perversity in the latter.

### **5. Living Standard Comparisons: The Need for a Different Approach**

I turn now to the important question of the weighting of different commodities in personal consumption in comparing standards of living. There is, of course, no homogeneous commodity called "income" and the income of a person is a weighted sum of all the goods and services he enjoys. The weights used are typically the market prices. In making inter-regional (or inter-country, or inter-temporal) comparisons, *constant* prices are used, so that two consumption baskets are compared at the same prices to see which one involves a higher total. There is a considerable literature in economic theory as to which prices should be used, e. g., in comparing regions A and B, whether prices of region A or of region B, should be used, and some have even suggested the mechanical compromise of using the average prices.

If each region can be treated as homogeneous, then the comparison of the standards of living of two regions A and B is rather like that of two persons A and B. We can then ask whether the typical person in region A at the prices ruling in region A could have bought the commodity basket enjoyed by the typical person in region B. If so, then it may be argued that in terms of region A's tastes, that region is better off than region B, since people in A could have bought the B-basket but preferred to buy their own basket. Thus, to establish the *superiority of A*, in terms of its own tastes, the A-basket has to be shown to be more valuable than the B-basket *at the prices ruling in region A*.<sup>21</sup>

There is, of course, no contradiction if region A is, thus, shown to have a higher standard of living than region B according to A's tastes, and similarly B is shown to have a

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21 See I. M. D. Little, *A Critique of Welfare Economics* (Clarendon Press, Oxford, 2nd ed., 1957).

higher living standard than A according to A's tastes, since these tastes may differ. One way of thinking of these comparisons is to ask: Would the typical person in A envy what the typical person in B enjoys, and would the typical person in B envy what the typical person in A enjoys?<sup>22</sup> And the answer to both questions can easily be "no", without causing any one to suspect that there is some contradiction here, since persons in A and B may have quite different tastes.

But this approach of non-envy in terms of actual commodities is somewhat misleading as a test of well-being. The typical person in region A may not envy the goods actually bought by the person in region B, but may envy some "characteristic" of these goods. To take an example, a Bengali or an Oriya may not envy the food basket of a typical Rajasthani, Gujarati, or Malayali since the Bengali or the Oriya may not see much merit—given his tastes—in eating a lot of bajra or tapioca, but at the same time he may want to have the *calories* enjoyed by the Rajasthani, Gujarati and Malayali, derived from the food that they do eat. This way of extending the comparisons brings welfare analysis in line with the recent developments in consumer theory, reducing commodities to the underlying characteristics,<sup>23</sup> and also brings in taste constraints based on history as part of the economic reality.

Insofar as "calories" are taken to be the basic characteristic of food grains, there is, thus, a case for converting the prices of rice, wheat, bajra, tapioca, etc., into prices of calories in these respective forms, and then compare the economic opulence or poverty of different states. One can

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22 Compare the criterion of "fairness" proposed by Duncan Foley in "Resource Allocation and the Public Sector," *Yale Economic Essays*, vol. 7 (Spring 1967).

23 See W. M. Gorman, "The Demand for Related Goods", *Journal Paper J 3129*, Iowa Agricultural Experimental Station, Ames, Iowa, 1956; and K. J. Lancaster, "A New Approach to Consumer Theory," *Journal of Political Economy*, vol. 74 (1966).

argue that this gives a more relevant basis for real income comparison than the usual method, especially in providing more cutting power.

An example may bring out the point more clearly. Take the analysis of rural consumption based on the 18th Round of the National Sample Survey for 1963-64 by N. Bhattacharya and G.S. Chatterjee (in the Bardhan-Srinivasan collection cited earlier). It is easily checked from this that the average Gujarati could have bought within his income at local prices the consumption bundle of the average Bengali, and similarly the average Bengali could have bought within his income at his local prices the consumption bundle of the average Gujarati. The picture thus looks symmetrical. But what happens if the different items of food are converted into calories? It appears then that the Gujarati can still buy the Bengali basket of calories and other goods using the traditional food habits in Gujarat, but the Bengali with his food habits cannot buy within his income the basket of calories and other goods enjoyed by the Gujarati.<sup>24</sup> Thus, in a very real sense the situation is not symmetrical, and the lower level of living of the Bengali is hidden by the traditional national income methods because of the higher price of rice despite its lower nutritional value vis-a-vis grains like bajra and wheat. Policy issues in influencing food traditions are also easy to spot.

## **6. Distributional Weighting of Commodities**

There remains the further problem that the *average* consumption basket in a region is rather deceptive as a guide to the living standard of that region since much depends on how that income is distributed. Just as the average food availability—as we saw earlier—is a bad guide to starvation and famines, so is the average national income per capita a bad guide to prosperity and poverty. One way of going into the

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24 The same holds for protein, which brings out the "inefficiency" of the rice-based food habits more sharply.

distribution problem is simply to look at the standard of living of the poor and use a criterion like the poverty measure  $P$ , as applied to a multi-commodity world through using constant price comparisons. While this is a good guide to poverty, it does not tell us much about the general standard of living including the non-poor. An alternative approach is to do the real income evaluation of the community as a whole taking *explicit* account of which good is going to whom. Commodity  $j$  going to person  $i$  may be thought to be a good  $ij$  in itself, not the same as the same commodity going to another person  $k$ , which is now taken to be a different good,  $ik$ . Using the national income approach, thus modified by introducing explicit distributional weighting, produces a more discriminating measure of living standard.<sup>25</sup> The approach can, of course, be married also to that of dealing with characteristics such as calories as opposed to specific commodities such as rice or bajra.

A similar weighting procedure to that used in deriving the poverty measure  $P$  can be used here also. The weight on commodity  $j$  going to person  $i$  can be taken to be the product of the market price  $p(j)$  of that commodity and the income rank  $r(i)$  of person  $i$  in the community:  $p(j) r(i)$ . By using constant price methods of comparisons, this discriminating approach can be employed to compare the standard of living of each state with that of every other state. This I have tried to do elsewhere,<sup>26</sup> using Nilkantha Rath's analysis of rural consumption and Vaidyanathan's study of income distribution in the National Sample Surveys pertaining to early sixties.<sup>27</sup> Since Rath aggregates the food grains together, it also goes

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25 See my "Real National Income," *Review of Economic Studies*, vol. 43 (February 1976).

26 In "Real National Income," cited earlier, see "Appendix".

27 N. Rath, "Regional Variation in Level and Cost of Living in Rural India," *Artha Vijnana*, vol. 15 (1973); A. Vaidyanathan, "Some Aspects of Inequalities of Living Standards in Rural India," in the Bardhan-Srinivasan collection, cited earlier.



part of the way towards using a calorie-based approach, amounting to treating a kilogram of rice as being no different from a kilogram of wheat or bajra, eliminating the differential in favour of the more expensive crops. But it does not, in fact, go all the way since many of the less expensive crops are, in fact, richer in terms of nutrition, e.g., wheat has a bit more calorie than rice, and bajra has quite a bit more than both rice and wheat.<sup>28</sup>

While the absence of similar informational analysis for later years makes it difficult to apply the same distribution-characteristic discriminating approach, the problem obviously is not insurmountable, and the case for surmounting it is indeed very strong. For later years too, N.S.S. data exist and have not yet been analysed in this way. I should think that from the point of view of regional policy making in a federal country like India, doing calculations of this kind for recent years is a very real necessity. The usual regional income figures analysed by traditional methods, taking account neither of the underlying calorific picture, nor of distribution, and sometimes not even of local price differences, continue to enjoy undue prominence and serve badly as a basis for many practical decisions.<sup>29</sup> While one must express one's opposition to suppressing information, even if deceptive, the remedy surely must lie in obtaining and using a lot more information of the relevant kind.

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28 The relevance of this consideration for comparison of living standards was pointed out first, as far as I am aware, by Mahbub-ul-Haq, *The Strategy of Economic Planning* (Oxford University Press, 1963).

29 Another important consideration is the "class bias" of inflation, so that using a uniform price index for constructing a real income series may be misleading. There is a great deal of evidence that the Indian inflation in the last decade or so has hit the poorest group hardest; see R. Radhakrishna and Atul Sharma, "Distributional Effects of the Current Inflation," *Social Scientist*, 30-31 (January-February 1975).

## **7. A Final Remark**

The search for economic truth is sometimes like that of the blind men exploring the elephant. In dealing with the problem of poverty, we have to examine it from different sides and have to do unusual things to fathom that giant creature. Standard statistics—official and non-official—leave a lot of gaps, and there is a need to go much beyond that.

For understanding the phenomenon of famines, for appreciating the nature of poverty, for examining regional disparities, and for proposing remedies to our economic ailments, the statistical pictures that are usually presented seem quite inadequate. I have tried to illustrate this with concrete examples and have argued in favour of a more discriminating analysis. Crudeness of facts very often reflects the crudeness of the underlying theory, and the first necessary step may be to bring out the underlying theory into the open and to confront it with more penetrating questions.

Ultimately, our ability to tackle our enormous problems of poverty will depend on our understanding of its nature, and here the role of information is central. Otherwise phoney achievements may look real, and real problems may remain invisible.