

Poverty Lines in India: Reflections after the Patna Conference

In assessing India's experience with the definition and use of poverty lines, one has to keep in mind their normative and monitoring roles. After reviewing the evolution of poverty lines in India from a historical perspective and critically discussing some issues relating to current official poverty lines, this paper assesses whether it makes sense to anchor these lines in average energy norms. It concludes with a new approach to the measurement of poverty, besides providing some suggestions for broadening its conception and commenting on some of the current poverty alleviation policies.

T N Srinivasan

I Introduction

Convened at the initiative of the chief minister of Bihar, Nitish Kumar, an international conference on poverty was held in Patna during July 20-22, 2007. In his inaugural speech, notable for its absence of populist rhetoric and pointing fingers, he raised serious issues in poverty measurement. In Bihar, the number of poor identified by its household census significantly exceeded the estimates of the Planning Commission based on National Sample Survey (NSS) data. While Bihar has to devote resources to alleviate the poverty of the poor it identified, resources transferred to it by the Planning Commission are based on its own estimates, thus putting pressure on the limited resources of Bihar. The chief minister also explained what his government is doing in education and health and its achievements in repairing the consequences of decades of neglect.

In assessing the experience with the definition and use of poverty lines in India, it is best to start with their potential roles. A poverty line serves two roles: a *normative* role and a *monitoring* role. Defined as a *social norm* in terms of per capita real income or consumption, it plays a *normative* role by dividing the population into poor, who do not meet the norm, and non-poor, with the associated social obligation to eradicate poverty through the design of appropriate policies and their effective implementation by devoting adequate resources. It also serves a second role in *monitoring* the trends in poverty and the assessment of poverty alleviation policies. However, almost any poverty line, including the official one, could serve the monitoring role, but not the normative one. With these two roles in mind, I first describe in Section II the evolution of poverty lines in India from a historical perspective. Section III is devoted to a discussion of some issues relating to current official poverty lines. In Section IV I discuss whether it makes sense to anchor poverty lines in average energy norms, as the official poverty lines do. Section V concludes with a new approach to poverty measurement and some suggestions for broadening the concept of poverty. It also briefly comments on some of the current poverty alleviation policies.

II A Historical Perspective

The overarching development problem in India has been and continues to be the eradication of mass poverty. More than a century and quarter ago, [Dadabhai Naoroji](#) read his classic paper on '[Poverty of India](#)' before the Bombay Branch of the East Indian Association of London in 1876.

The main point of Naoroji's paper was to show that "under the present system of administration, India is suffering seriously in several ways and is sinking in poverty" [Naoroji 1899, p 81]. He argued that the system of government was despotic to the Indians "who have not the slightest voice in the expenditure of the revenue, and therefore in the good government of the country. The power of the government being absolutely arbitrary and despotic, and the government being alien and bleeding the effect is very exhausting and destructive indeed" (ibid, p x). I do not wish to dwell on Naoroji's estimates of "the drain" on India's income by the British. But his attempt to show that India's gross output was hardly sufficient to provide subsistence to its population leads him to estimate subsistence needs carefully and thereby estimate a subsistence based poverty line at 1867-68 prices, though of course he did not use the phrase "poverty line".

Naoroji defines subsistence as "what is necessary for the bare wants of a human being, to keep him in ordinary good health and decency" (ibid, p 25). For ascertaining the necessary consumption for the year 1867-68, the year for which he had calculated the value of production, he starts with the scale of diet prescribed by the Government Medical Inspector of Emigrants on March 26, 1870 "to supply the necessary ingredients for the emigrant coolies during their voyage living in a state of quietude" (ibid, p 25). Thus, this diet does not include the energy requirements for work. He found it to be similar to "the scale of provisions for ships carrying Indian emigrants to British and foreign colonies west of the Cape of Good Hope" prescribed in the administration report for 1870-71. Both diets include rice or flour, dhal, mutton, vegetables, ghee, and vegetable oil and salt. The administration report also included tobacco, firewood, and spices, but Naoroji omitted them in calculating the cost of subsistence. Evaluating the medical inspector's diet at Ahmedabad prices he came up with a figure of Rs 5/2/10 per month or Rs 62/2 per year per adult. He goes through similar calculations for various regions of India drawing the diets from different sources.² He also assumes that out of children under 12, who constituted 34 per cent of the population, only half cost one-half of adult subsistence (primarily working children) and that the other half do not cost anything at all. Thus, cost of subsistence per capita of a family would be three-fourth of the cost per adult. This leads him to a subsistence costs based poverty line, varying from Rs 16 to Rs 35 per capita per year in various regions of India. Comparing the poverty lines with the value of output of each region, he concludes that "even for such food and clothing as a criminal obtains, there is hardly enough of production even in a good season, leaving alone all little luxuries, all social and religious wants, all expense on occasions of joy and sorrow, and any provision for bad season". It must, however, be borne in mind that every labourer does not get the full share of the average production. The high and middle classes get a much larger share, the poor much less, while the lowest cost of living is generally above the average share. Such appears to be in condition of the masses of India. They do not get enough to provide the bare necessities of life (ibid, p 31, emphasis added).

Naoroji's explicit calculation of subsistence cost is not only the earliest of Indian poverty lines, but it illustrates one of many approaches for defining a poverty line, namely, as the value of a specified bundle of goods at appropriate prices. Moreover, as he himself recognises, his subsistence diet based poverty line not only does not include energy requirements for work, but also "little luxuries, social or religious wants, expense on occasions of joy and sorrow" as he eloquently describes them. Clearly some of these expenses are unavoidable, regardless of a person's status and are socio-culturally determined. They can also change over time. As Adam Smith pointed out long ago, a linen shirt was a necessity and not a luxury for people of Britain in

the late 18th century. Naoroji recognises the importance of income risk faced by the poor, in particular due to vagaries of production. Of course, the poor face production and consumption risks arising from many factors, including morbidity and mortality, etc.

The official poverty lines in 2004-05 [Planning Commission 2007] were Rs 356.30 in rural areas and Rs 538.60 in urban areas or a weighted (by population of the poor) average of Rs 401.12. The prices of the commodities in Naoroji's subsistence diet in 1867-68 must have increased greatly between then and 2004-05. Let me take the mid point Rs 25.5 or Rs 2.13 per month, of the range Rs 16 to Rs 35 used by Naoroji, and compare it with the weighted average of all India poverty line of Rs 401.12 at 2004-05 prices. The implicit inflation to make the two equivalent in real terms would require a rise in prices by 188 times over a period of 137 years or about 3.85 per cent per year on an average. Compared to this rate, the average rate of inflation in consumer prices between 1950-51 and 2005-06 was higher at around 6.5 per cent per year (Based on Table 0.1, page S1 of MOF 2007). Since the period from 1867-68 to 2004-05 included two world wars, I suspect that the actual average rate of inflation during the period must have been even higher. This would suggest that the official poverty lines for 2004-05 are much more modest than Naoroji's.

The second poverty line that I could locate is in the note for the guidance of subcommittees of the National Planning Committee (NPC) of 1938. The committee had been appointed by the president of the Indian National Congress, Subhash Chandra Bose, with Pandit Jawaharlal Nehru as chairman. The note was prepared by the committee's secretary, K T Shah in further amplification of the chairman's memorandum for the guidance of the committee, dated June 4, 1939. The note clearly states that "the fundamental aim [of planning] is to ensure an adequate standard of living for the masses... . Estimates of economists in different parts of India have put down this irreducible minimum at figures varying from Rs 15 to Rs 20 per capita per month in the present value of the rupee" [IIAPR 1988, p 53]. The note further stated that "for the present, the minimum standard, which can and should be reached, an increase of national wealth of between two and three times within the next ten years [is required]" (ibid, p 54). The implied average annual rate of growth of national wealth is between 7 per cent and 11 per cent. The note also drew attention to the need for bringing about a more equitable distribution of growing wealth. Clearly, the committee's view was that rapid and inclusive growth was the primary instrument to ensure that every Indian had an adequate standard of living – in other words, to ensure that mass poverty was eradicated.

Interestingly, the note set certain objective tests from year to year for the progress of the plan. These tests included "(1) The improvement of nutrition from the standards of an irreducible minimum requirement of proteins, carbohydrates, and minerals (as well as necessary protective foods) having a calorific value of 2,400 to 2,800 units for an adult worker, (2) The improvement of clothing from the present consumption of about 15 yards on an average to 30 yards per capita per annum [the actual availability in 2003-04 was 31 metres or 36 yards, according to MOF 2007, Tables 1-19, p S-23]. (3) Housing standards to reach a least 100 sq ft per capita" (ibid, p 54). Other indices of progress included increases in agricultural and industrial production, elimination of unemployment and elimination of illiteracy.

The note unfortunately does not provide the references to the papers of economists who

estimated the cost of the irreducible minimum standard of living at Rs 15-Rs 20 per capita per month at 1938 prices. My guess is that the estimates were based on prewar village studies of Gilbert Slater (the first holder of the chair in Indian economics at the University of Madras in 1905) and the surveys of the Punjab Board of Socio-Economic Inquiry. I have not been able to track these down. Let me take the poverty line of the note of K T Shah at the mid point of the range Rs 15- Rs 20 or Rs 17.50. To make Shah's poverty line equivalent to Naoroji's, the rise in prices over the 71 years between 1967 and 1938 would have to be 822 times or 3 per cent a year. I suspect once again that the actual rate of inflation was probably higher than 3 per cent. However, in this case, because 1939 was after a great depression but before the second world war became intense, it is also possible that the actual rate of inflation may not have been higher, in which case, the two poverty lines would be equivalent. In any case, both Naoroji and K T Shah's note for the NPC approached the definition of a poverty line from a subsistence or irreducible minimum standard of living perspective, in which nutritional requirements are implicit.

My third poverty line, proposed by the authors of the so-called Bombay Plan [Thakurdas et al 1944], was a per capita income of Rs 75 at prices that prevailed prior to the outbreak of the second world war. Since these prices are likely to have been the same as the prices of 1938 implicit in the poverty line of NPC, the poverty line of the authors of the Bombay Plan was much more modest than that of the NPC.

The fourth poverty line was recommended by a **Working Group of eminent economists in 1962**. After considerable discussion on minimum standard of living, it recommended that (1) the national minimum for each household of five persons (four adult consumption units) should be not less than Rs 100 per month at 1960-61 prices or Rs 20 per capita. For urban areas, this figure will have to be raised to Rs 125 per household per capita to cover the higher prices of the physical volumes of commodities on which the national minimum is calculated. (2) **The national minimum excludes expenditure on health and education, both of which are expected to be provided by the state, according to the constitution, and in the light of its other commitments.** (3) An element of subsidy in urban housing will have to be provided after taking Rs 10 per month or 10 per cent as the rent element payable from the proposed national minimum of Rs 100 per month.

Unfortunately, I could not locate a copy of the report of the Working Group. It would have been very interesting to find out what their considerable discussion on minimum standard of living was all about. Though it is impossible to ascertain, it is very likely that the basket of commodities, and their physical volumes, which formed the basis of their minimum standard, was derived from nutritional requirements, such as energy requirements in kcals per day.⁴ In any case, the Working Group computed its poverty line by valuing a common basket of commodities at prices paid by consumers depending on where they lived. They excluded the subsidy to urban households for housing and also expenditure on health and education to be provided by the state (presumably at no cost to the consumer) from the poverty line. Since there was considerable inflation between 1938 and 1960-61, it is clear that the Working Group's poverty line of Rs 20 per capita per month at 1960-61 prices is much more modest than the Rs 15-Rs 20 per capita per month at 1938 prices of the note of K T Shah.

The Working Group's poverty line of Rs 20 per capita per month at 1960-61 prices was the "minimum level of living" that was at the heart of the classic paper prepared by the Perspective Planning Division (PPD) of the Planning Commission under the leadership of the late Pitambar Pant, entitled 'Perspectives of Development, 1961-1976: Implications of Planning for a Minimum Level of Living' (reproduced as Chapter 1 in Srinivasan and Bardhan 1974).

It is evident that the poverty lines of Naoroji, NPC, and the PPD have all been anchored in a social norm, defined as "the cost of subsistence basket of goods" by Naoroji, "an irreducible minimum standard of living" by the NPC, and "minimum level of living" by the PPD. The NPC and PPD, in defining their PL as real consumption expenditure per capita, had a basket of goods in mind as well. All implicitly or explicitly refer to minimum per capita (nutritional) energy requirements in kcals per day, but none linked the PLs rigidly to them. The PPD paper of 1962 also made two crucial distinctions. The first is between the basket of goods that households are expected to acquire out of their own incomes and that consisting mostly of services, which the state was to provide. The value of the former basket at 1960-61 prices was PPD's poverty line. The second is between households that are well-integrated with the economy's income generation processes and those that are not, for idiosyncratic (for example, no earner in the household) and other (for example, living in remote areas) reasons. Incomes of the first group will, and those of the second group will not necessarily, increase in tandem with the growth of the economy. With the PPD's poverty line, it follows that the reduction of poverty of the first group would be more or less automatic with rapid growth in income. The poverty of the second group, on the other hand, has to be addressed through income transfers for long durations of time.

More than 15 years after the Working Group of 1962, a **Task Force** was appointed by the PPD to examine projections of minimum needs and effective consumption demand. It came up with a report in **1979** after reviewing the large literature on estimation of demand systems, particularly the application Stone-Geary linear expenditure system to the grouped data of household consumption expenditure from several rounds of the NSS. **The methodology of the Task Force in arriving at its poverty line has ever since been used** (with some important modifications suggested by the **Expert Group on Estimation of Proportion and Number of Poor (EGEP)**, popularly known as the **Lakdawala Committee**, appointed by the Planning Commission in estimating poverty lines and poverty by the Planning Commission).

There is no reason to expect that the poverty baskets associated with the poverty lines of Naoroji, NPC and PPD would in fact be bought by households at going market prices, given incomes equaling their poverty lines. Nor were the three poverty lines rigidly linked to energy norms. The Lakdawala Committee of 1993 attempted both to anchor them rigidly to average energy norms and also to ensure that the poverty baskets would be bought by consumers. **It defined rural and urban poverty lines as levels of household per capita consumption expenditure at which average rural and urban energy norms respectively were met, in the distribution of per capita household consumption expenditure (and its energy content) in the 28th round (1973-74) of NSS. The consumption baskets bought by the households with per capita expenditures around the poverty lines were chosen as the poverty baskets. The average energy norms of 2,400 kcals and 2,100 kcals per capita per day respectively in rural and urban areas, were themselves derived by the 1979 Task Force** from energy requirements specified by nutritionists for individuals in difference

age/sex/activity group and the age-sex-occupational structure of the rural and urban populations.

Until the EGEP reported in 1993, poverty lines were updated for changes in prices, initially by using the wholesale price index and later private consumption deflation in National Accounts Statistics (NAS). Also, the average expenditure levels of each expenditure class in the NSS data of each round was adjusted by a factor representing the ratio of total private expenditure in the NAS to that from NSS. As is to be expected, “The adoption of uniform [across the states] calorie norms and fixed consumption basket, base year price differentials and uniformity of deflation across the states as also the practice of adjusting NSS distribution [to reflect the same total expenditure as NAS] have been widely contested” [EGEP 1993, p 14]. The EGEP addressed these issues.

The EGEP noted that the Task Force’s poverty lines were anchored in given calorie norms and associated all-India consumption baskets. The latter were the observed consumption baskets of households with per capita consumption expenditures around the poverty line for rural and urban areas. It discussed two alternative updating procedures. The first would revalue the *base-year (1973-74) consumption basket* with prices in any later year of the commodities in the basket. The second will compute a fresh poverty line (rural and urban) for each later year by looking for that expenditure per capita at which *base year average calorie norms* were met, given the distribution of consumption expenditure for that year. The EGEP (and the Task Force of 1979) opted for the former. For a price (or more precisely, a price index) to be used in resolving the base-year consumption basket, the EGEP recommended the use of commodity group price indices from Consumer Prices for Agricultural Labourers to construct a price index for revaluing the base-year rural consumption basket. A similar procedure using group indices from Consumer Prices for Industrial Workers was recommended for revealing the urban base-year consumption basket. The EGEP did not favour adjusting NSS consumption expenditure distribution to bring it to conformity with NAS estimates. The EGEP recommended procedures have been in place since its report in 1993.

III

Current Official Poverty Lines: Some Issues

It would seem that the main objective of the Lakdawala Committee was to anchor official poverty lines in nutritionally based *average* energy requirements. Thus, it defined the poor as those who cannot meet the *average* energy requirements, and hence are energy deficient relative to the *average* norms. I come back to the issue whether such use of *average* energy norms for defining poverty makes sense in the next section. For the rest of this section I will proceed as if it makes sense. The committee and the Planning Commission following it, take an *indirect* route for estimating the energy deficient, and hence poor. It consists of first estimating the per capita household expenditure at which the *average* energy norm is met, and then, with that expenditure as the poverty line, defining as poor as all persons who live in households with per capita expenditures below the estimated value. Implicit in this is the assumption that per capita household energy intake is a monotonic increasing function of the household per capita expenditure and there is no heterogeneity across households in this relationship. On the other hand, the direct route consists of using the observed distribution of per consumer unit energy intakes households and defines as poor, as the Lakdawala Committee did, those persons who live

in energy deficient households with per consumer unit energy intake below the average norm. The direct method altogether skips the determination of the poverty line.

Fortunately the NSS data allow us to use the direct route. From its 26th round, (1971-72), the NSS has been using 2,700 kcals per day per consumer unit (regardless of the individual's residence (rural or urban), age, sex, activity levels, etc) as the average energy intake norm. One *consumer unit* is a male between ages 20 and 39. A female in the same age group is viewed as 0.71 consumer units. Thus the number of consumer units of an individual relative to a male between 20 and 39 years of age depends on the age and sex of that individual.

Table 1 gives the proportion of persons living in households with per consumer unit energy intakes below the norm of 2,700 kcals per day in Bihar and all India in 1993-94, 1999-2000, and 2004-05, with the corresponding poverty headcount ratio by the conventional indirect method given in parenthesis. If we define the poor as those with energy intakes below the norm, as we should if we assume that anchoring of poverty lines in *average* nutritional norms makes sense, Table 1A shows that poverty in Bihar and India *increased significantly* between 1993-94 and 2004-05, except, surprisingly, in urban Bihar, where there was no change. On the other hand, the same table also shows that official poverty rates declined *significantly* between 1993-94 and 2004-05, except, once again in urban Bihar where there was no change. It is true the two methods of estimating poverty are not strictly comparable, since the average per capita energy intake norms of 2,400 kcals in rural areas and 2,100 kcals in urban areas that are used in the official method could be below the average norm of 2,700 *per consumer unit* used by the NSS. Unfortunately the report of the Task Force of 1979 does not give the age-sex distribution of rural and urban population so that one can convert its per capita norms into per consumer unit norms.

Interestingly, NSS also collects data on the response of households to a question on whether they get two square meals a day. It is left to the households how they interpret the concept "of two square meals" a day. However, NSS also reports on the assessment by its investigator whether a household's members appear to be getting two square meals a day. The estimated proportion of households getting two square meals as assessed by NSS investigation does not differ significantly from the proportion estimated from the responses of households themselves. NSS reports tabulate the data month-wise, state-wise as well as according to per capita household expenditure and various household types. Table 1B reports the aggregate data for rural and urban India for 1983, 1993-94, 1999-2000 and 2004-05. It is evident that not only an overwhelming majority of households in rural and urban India are getting two square meals a day throughout the year, but the proportion of such households is increasing over time. If the proportion of households not getting two square meals a day throughout the year is an indicator of extreme poverty, it is going down. However, the difference in poverty as measured by the three methods for each of the three years is not only large but also the trends between years are divergent.

The NSS data on the joint grouped distribution of persons by per capita expenditure level and per consumer unit energy intakes clearly indicates why the official poverty estimates could be misleading. I reproduce the joint distribution of rural and urban India for 2004-05 in Table 2 (see also Figures 3-6). The distribution for the other two years is similar. **Although as one moves from a lower to a higher per capita expenditure class, the proportion of persons having intakes below the average norm decreases, nonetheless even in the highest expenditure class there are a**

few who have energy intakes below norm. By the same token even in the lowest expenditure class, there are few persons living in households with energy intakes per consumer unit that are 20 per cent or more than the norm. NSS Report No 513 (p 37) on nutritional intakes in 2004-05 comments that the distribution is *bimodal* and “for both rural and urban areas, one mode is located in the bottom 70 per cent of the population and less than 100 per cent of the normative calorie intake, and another in the top 30 percentile of the population and more than 100 per cent of the normative calorie intake.” It then adds “Perhaps the first attainment of second mode by the percentile of population indicates the change in consumption pattern of the household.” The meaning of this sentence is opaque. In any case, the joint distribution clearly indicates that although as one moves from lower to higher per capita expenditure classes, the *average energy intake* of household in each class increases, there is considerable variance around this average.

The EGEP (1993, p 14) points out that its preferred method of updating the poverty line of the base-year 1973-74, allows only for changes in prices of the commodities in the consumption basket associated with the poverty line in the base year. The alternative method, which it rejected, allows for changes in the consumption basket provided the food items in it meet the average calorie norm. “Thus, while the calorie norm remains unchanged, the consumption basket associated with that calorie norm would change. Hence, if there is a change in the consumption behaviour due to shift in individual preference, the two methods of updating poverty lines would give different results. In particular, the [alternative] method would not give results comparable over time” (ibid, pp 14-15). It is unclear how the committee concluded that the results were not comparable over time since it does not define what it means by comparability of results. Although the poverty consumption baskets vary over time, their energy contents by construction equal base year average energy norms. As such the fact of their varying per se cannot be viewed as leading to non-comparability of results.

I am afraid the EGEP’s comparison of the two methods and their inter-temporal comparability is very misleading. First of all, the logic of anchoring the base-year poverty line in an *average calorie* (energy intake) norm implies that two requirements have to be met. First, consumer preferences, as reflected in their choice of a consumption basket, given their total expenditure and relative prices in the base year of commodities in the basket, is to be respected. Second, the food component of the consumer’s chosen basket has to meet the average energy norm and this (given the monotonicity and homogeneity assumption mentioned earlier) uniquely determines the poverty line. Clearly, the preferred method of the EGEP violates the second requirement in years other than the base year since the consumer will not necessarily choose the base-year consumption basket in a non-base year, even if he could have chosen it giving his total expenditures and prices he faced. Moreover, the food items in the consumer’s chosen basket of that year may or may not meet the average calorie norm. In the official estimates of poverty in a non-base year a person is poor (non-poor) if he could not afford the base-year basket at the prices he faces in that year. Since it does not require that the consumer choose the base year basket even if he could afford it, it ignores consumer’s preferences altogether. Thus affordability of the base year basket is the sole criterion for determining whether a person or household is poor.

The rejected second method of updating ensures that its consumption basket meets both requirements in each year. The fact that the basket would vary over time does not *by itself* make the results (i e, poverty estimates) non-comparable over time as asserted by the EGEP. As long

as assumptions of preference, homogeneity across households at each point of time and monotonicity of energy intakes with respect to consumer expenditure hold, those classified as poor, as intended, will not be able to meet the average energy norms. However this raises the question whether an *average energy norm* sensibly anchors poverty.

IV

Energy Norms and Poverty Measurement

Thus far I have taken the energy intake norm provides a meaningful nutrition-based approach to poverty measurement. This is a very questionable assumption. If not meeting the *average norm* is meant to have a serious nutritional implication for a household, the joint distribution of Table 2 raises serious doubts about such an implication. For example, a staggering 62 per cent of persons in rural areas and 63 per cent in urban areas live in households with energy intakes below 70 per cent of the norm or less than 1,890 kcals per consumer unit. It is likely that for many of them the observed energy intake is much less – and this is not consistent with their survival if the average energy norm is close to their own energy requirement, given their age, sex and physical activity. At the other end, in the top expenditure class, 27 per cent in rural areas and 17 per cent in urban areas live in households with an energy intake of 50 per cent more than the norm or 4050 kcals and some of them will have even larger intakes. Once again, this does not make sense. Also as Figures 1 and 2 show, **the per capita energy intake of all expenditure classes seem to be going down over time.** This is puzzling. There are many reasons why the energy intake data for the very poor and the very rich household in NSS could be biased downward and upward respectively. Since all of these are well known, I will skip them and turn to the even more serious question of whether the norms themselves make sense.

First, being *averages*, the norms need not equal the *actual* energy requirements of the subset of households who bought the poverty baskets. Second, for other years, not only the average norms of the base year are not themselves relevant since age/sex/occupation distribution of the population could have changed, but also with the prices prevailing in those years different from those of the base year, the households at the poverty lines will not buy the poverty baskets.

Moreover, the Lakdawala Committee more or less ignored points made in the supplementary note of P V Sukhatme to its report. In his note, he points out that devising a poverty line or minimum standard of living anchored in the nutritional norm “has no basis to support it. The level of calorie intake becomes meaningful if along with the norm we also dwell on the meaning of intra-individual variation” [EGEP 1993, p 46]. He denies the vicious cycle hypothesis that adaptation [to energy intake environment] “will lead to increasingly low productivity, low levels of income and low intake and hence still greater poverty”.

In his experiments, P V Sukhatme found that the mean square of energy intakes between individuals was significantly larger than the mean square within individuals. This suggests that differences in intakes between individuals cannot be deemed as random. In part they represent differences between individuals in their genetic potential for coping with intake variation. In part they represent differences between individuals in their experiences in utero and with the external environment. Indeed, the heterogeneity in intakes among individuals within the same household expenditure class seen in the joint distribution of Table 2 supports Sukhatme’s view.

In the final paragraph of his note, Sukhatme states “Our evidence is conclusive that higher the intake, higher is the energy expenditure on maintenance. Thus, a person who eats a lot less than his habitual intake will find that his BMR [Basal Metabolic Rate] is also reduced by about the same per cent reduction in [intake].⁵ Man’s capacity for work is therefore not determined by his intake but by the efficiency with which he converts food energy into metabolisable energy over his homeostatic range of intake” (ibid, p 49). In Srinivasan (1981 and 1992), I have tried to formulate Subhatme’s ideas into a dynamic model of energy balance. I am persuaded that Sukhatme’s work has once and for all demonstrated that our official poverty lines, anchored as they have been on the *average* of energy norms that vary according to age-sex-physical-activity of individuals, have in fact no foundation in nutrition science. Thus the current official poverty lines are incoherent, being neither social norms nor having a foundation on nutritional science.

The incoherence does not necessarily mean that the published trends in poverty-ratios and poverty gaps using the poverty lines have no value for monitoring purposes. The observed trends will be meaningful as long as the official basket is deemed sensible as a poverty basket, whether or not it has any relation to nutrition. In other words, if the official basket is sensible as a *social norm*, then using it to monitor poverty would make sense. But then, why treat the official basket, derived as it was by procedures that lacked coherence, as if it is a social norm? Why not try to anchor the basket in socio-cultural-economic normative criteria? Doing so will also address the concern raised long ago by Naoroji that his subsistence approach failed to allow for “all the luxuries, all social and religious wants, all expenses of occasions of joy and sorrow, and any promise for bad season”. Also vulnerability of the poor to shocks to output or health that he raised also has to be taken into account.

V

Broadening the Concept of Poverty

The incoherence of current poverty lines and the very limited role, if any, they can play in monitoring poverty call for a new approach to poverty measurement. Useful starting points for a new approach lie in anchoring poverty lines in social norms and in the distinction made by PPD between goods and services to be bought by households from their own resources and those to be supplied by the state, thus providing a meaningful way of distinguishing the responsibilities of households (i. e., the private sphere) and those of the state (i e, the public sphere). Since the poverty of those well-integrated with the income generation processes will go down in tandem with sustained rapid economic growth, apart from pursuing policies that promote rapid growth, the state would focus its attention on the poor not in the economic mainstream.⁶ In the public sphere the access to (and the quality of) publicly provided services and subsidies raises many issues, particularly those relating to the poorer sections of the population having no or costlier access than others. Indeed, the growing empirical literature on access issues has been very useful in highlighting the access problems that the poor face. However, the access problems need not necessarily be confined to the poor. Also whether some services being exclusively provided by the public sector could be more cost effectively, as well as more equitably, provided by other arrangements is an important issue. In my view, folding the impact of difficult efficiency and equity issues relating to services into one of defining the poverty line or poverty basket of goods and services is neither feasible nor desirable. Viewing them as another dimension besides

consumption in a multidimensional conceptualisation of poverty is more fruitful. But collapsing many relevant but not necessarily commensurate dimensions into a single index defined as an arbitrarily weighted sum of disparate indexes makes little sense. The Human Development Index pioneered by the United Nations Development Programme is an example of an arbitrarily weighted sum of non-commensurate indexes. It certainly is not a multidimensional conceptualisation in any meaningful sense but simply yet another arbitrary unidimensional index.

An even deeper question is **whether we can anchor the approach to poverty eradication in a “rights” framework**. In other words, can one define a set of rights to which each and every citizen is entitled qua being a citizen, and the set is broad enough to include those entitlements that would preclude the citizen from being poor? If one can do so meaningfully, and ensure that the rights are respected, then clearly the problem of poverty would not arise. Indeed, a consensus on many of our poverty alleviation policies such as the national employment guarantee scheme, public distribution system for essential commodities, education, and health policies, would come about if they can be rationalised from a rights perspective.

It might seem that we already have a basis for such a perspective in the Directive Principles of State Policy in Part IV of our Constitution that enunciates certain rights for Indian citizens.⁷ Article 38 enjoins the state to strive to promote the welfare of the people by securing and protecting a social order in which social, economic and political justice shall inform all the institutions of national life. The state is also to strive to minimise inequalities of income, status and opportunities. Article 39 on certain principles to be followed by the state requires that “the state shall, in particular, direct policy towards securing (a) that the citizens, men and women equally, have the right to adequate means of livelihood; (b) that the ownership and control of the material resources of the community are so distributed to subserve the common good; (c) that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment; (d) there is equal pay for equal work; (e) that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength; and (f) children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against moral and material abandonment.” Article 39A promises equal justice and free legal aid for securing justice. Article 41 promises that “the state shall, *within the limits of its economic capacity and development* make effective provision for securing the right to work, to education, and public assistance in cases of unemployment, old age, sickness and disablement, and in other cases of *undeserved want*” (emphasis added).⁸ Article 42 covers human conditions of work and maternity relief. Article 43 promises living wages, etc, for workers. Article 45 promised free and compulsory education for all children below 14 years of age within 10 years [i e, by 1960] of the commencement of the Constitution.

There can be no doubt that the rights covered by these articles, if ensured, will eliminate poverty. However, Article 37 almost nullifies the rights by saying that “the provisions contained in this part [Part IV on Directive Principles of State Policy] shall not be enforceable by any court, but the principles herein laid down are nevertheless fundamental in the governance of the country and it shall be the duty of the state to apply these principles in making laws”. It is impossible to check whether laws made after the adoption of the Constitution in 1950 conformed to these principles, since the provisions incorporating the principles are not enforceable by any court! Moreover, Article 41 by explicitly referring to the limits imposed by the economic capacity and

state of development of the country further restricts the scope of the rights. Thus, the rights are better viewed as aspirations to be attained at some indefinite future date, when the limits of economic capacity and development would no longer apply! For example, the free and compulsory education of children under 12 promised under Article 45 by the year 1960 is yet to be achieved.

The fact that the rights enumerated in Part IV of India's Constitution have remained as aspirations with no enforcement mechanism and guarantee as to their attainment illustrates a general problem with rights-based approaches. First of all, they encourage a tendency to proclaim a right for things that are either ill-defined or so comprehensive as to be meaningless. An example is the so-called "right to development". Sen (1999) identifies three broad critiques that have been made against the rights-based approach which are relevant for my discussion. The first relates to the legitimacy of a right, that is whether it confounds the consequences of legal systems with pre-legal principles. Sen dismisses the legitimacy critique against human rights by arguing that they are best seen as a set of ethical claims that must not be identified with legislated rights, and their plausibility should be judged on the basis of ethical reasoning and as the basis of political demands. The plausibility of only a few of the rights enunciated in Part IV could be judged on the basis of ethical reasoning alone. In any case, the Constitution itself is a piece of legislation enacted by the Constituent Assembly of India and as such, the rights in its Part IV have to be identified with legislated rights.

Sen's second critique is one of coherence of the rights approach. It will be incoherent as long as there is no agency that has the duty to provide and enforce the rights. Prima facie this critique would seem inapplicable to the rights of Part IV – after all, the Indian state is enjoined to strive to enforce these rights. Yet by making the right not enforceable in a court of law, the Constitution had in fact made them incoherent.

The third and last of Sen's critiques is whether the values underpinning the rights are universal, that is, they are shared by all. Since many of the rights in Part IV relate to economic matters on which there could be and there are differences among Indians, clearly the claim of universality for all of them is not tenable. In sum, appealing to Part IV of the Indian Constitution as exemplifying a rights-based approach to poverty is a non-starter in my view. Instead, it would be desirable to think de novo about a subset of core rights that not only are clearly based on moral considerations, but also have meaningful operational proxies and make them unconditional and enforceable. Clearly rights of participation in the political progress, to justice, education and health would be core rights. In particular, guaranteeing access to the judicial system and unfettered participation in political processes are vital. After all, a just system and a fully participatory political process is the ultimate guarantee of all rights. Indeed B R Ambedkar's belief that the political democracy of India's Constitution would lead eventually to economic and social democracy can be explained only if the political process in practice qualifies as fully participatory.

An unconditional guarantee of education and health does not mean that the state should also produce and distribute these and related services. Jean Dréze's (2004) detailed discussion of the right to food illustrates the many problems in operationalising notions such as the right to food or more generally rights based on Sen's concepts of capabilities, functionings and their relation to entitlements, into a concrete set of claims of individuals on the society of which they are members. As he rightly points out, merely rephrasing the right to food as an entitlement to be

free from hunger or as a right to nutrition (i.e., to be well-nourished) does not solve the problem of translating the right to food into a specific set of entitlements and assigning responsibilities for their provision among constituents of the society (individuals, households, state and non-state entities). Although he does not touch on it, it is essential to recognise that a right to food, nutrition or health only means that an individual is enabled to exercise that right. It does not mean, for example, that the society provides the individual specified kilograms of foodgrains, but only that the entitlements the society endows him with would enable him to acquire the foodgrains. Any means of enforcing rights other than through entitling an individual to exercise his or her right in the way he or she sees fit through socially cost-effective means, would almost surely intrude into the exercise of individual freedom. Dréze points out that making the right to food justiciable is not an unmixed blessing. He cites an example of an undernourished female child because of discrimination within the family and rightly doubts that the best response would be to take her parents to court, presumably because the society had assigned the responsibility for enforcing the child's right to nutrition to its parents.

The problem is far more general. Even the Supreme Court's decision in November 2001, approvingly cited by Dréze, directing all states to introduce cooked midday meals in primary schools within six months, could be faulted on the ground that the learned court's decision enforces a *particular* means of improving child nutrition, and not simply enforcing a right to such nutrition while leaving it to the states to decide on the best means of improving nutrition. The decision of the court was in response to public interest litigation (PIL). Since the admission of a PIL by Supreme Court justices P N Bhagwati and V R Krishna Iyer in the 1980s many PIL suits have been brought before various levels of the judiciary, some of them frivolous.

Regardless of their role in legally enforcing the public interest, by leaving it to judges to decide as to what constitutes the public interest and worse still, also the means of enforcement of the public interest so conceived, PILs have opened the door to judicial activism by judges who may not fully understand the economic costs and benefits of enforcing their decisions in the aggregate, as well as their distribution across social groups. The Supreme Court decision setting a deadline on the enforcement of the use of compressed natural gas (CNG) in buses and other public vehicles (taxis and auto-rickshaws) in Delhi is an example of such activism. Presumably the environment has improved (at least from the perspective of visibility) with the use of CNG but since the deadline came before an adequate capacity to supply and distribute CNG had been put in place, the cost of the premature deadline was borne in part by poor drivers of auto-rickshaws who had to spend each night after a long working day in long lines at the few outlets that distributed CNG. I do not mean to suggest that the setting of deadlines by the Court is necessarily and always inappropriate – after all, its decision came after the authorities had failed to develop sufficient supply and distribution outlets and the decisions forced them to do so. But unfortunately, the cost of forcing the authorities to take action that they should have taken earlier was not apparently borne by the society at large in an equitable fashion. Of course, the judges cannot and are not experts in social cost-benefit analysis and the use of distributional weights. However, there is no reason for them not to solicit such an analysis by inviting amicus briefs.

The faults and failures in the functioning of administrative, legislative and political processes led to a rising trend in the use of the judicial process in an understandable attempt to remedy the consequences of the faults and failures. Under the circumstances, the temptation of the judiciary to overreach is equally understandable. Yet from a long-run perspective, this is not healthy. It will delay, if not undermine, urgently needed reforms of the three branches of government, the

executive, judiciary and the legislatures.

Most of our policy interventions intended to alleviate poverty that are aimed at providing particular goods (e.g., food) or services (e.g., education) or sources of income (e.g., employment) need reconsideration since they lack a clear rationale as the only effective means of some underlying and well-defined rights. For example, the public distribution system (PDS), through the Food Corporation of India (FCI), procures, stores, transports and distributes commodities at subsidised prices. Given the politicisation of the determination of procurement prices, the inefficiency of FCI, and the out-of-pocket costs of accessing the PDS for poor households, the PDS is not the most cost-effective means of enforcing a right to food and other PDS commodities. The National Rural Employment Guarantee Scheme provides a limited employment guarantee and, in addition, there are several other employment generation programmes. But even if it is efficient and effective, it is by no means the equivalent of a right to livelihood. The policy interventions in education (e.g., guaranteeing a primary school in every habitation with a population of 500) have been instituted without thinking through their efficacy in achieving their intended purposes.¹⁰ If the income poverty of the poor is the main reason for the poor not eating enough or sending their children to work instead of to school, making appropriate income transfers to them would be far more cost-effective than the current system. That the non-poor might claim to be poor to get such transfers is not a convincing argument against a transfer scheme since the exclusion of the poor and inclusion of the non-poor in the current schemes.

A policy of making income transfers to the poor is enabling in that it will enable the poor to use the transferred resources in ways they think are in their best interest. Since the poor certainly would not desire to remain poor forever if they can help it, it is reasonable to presume they would spend part of the transferred resources on education and health and in investments that would enable them to climb out of poverty once and for all. There is some evidence that some beneficiaries of the National Employment Guarantee Scheme in Villupuram, a district of Tamil Nadu, in fact did so with their additional wage income [Drèze and Kidambi 2007]. However, instituting an income transfer policy does not completely absolve the state of its responsibility in education and health. After all, even if the poor wish to spend the transferred income on education or health, unless there are enough accessible schools and clinics of appropriate quality, the unconditional guarantee of education and health will remain unfulfilled. Although private provision of primary education and health should not be ruled out, ultimately it is the state's responsibility to ensure that private providers satisfy appropriate quality and cost norms through appropriate regulations and to step in to fill any gaps.

An important implication of any rights-based approach is that the guarantee of rights is *absolute* and hence its fulfilment should not be contingent on which level of government (centre, state or local) is assigned the responsibility of the enforcement of rights in its jurisdiction. The problem that the chief minister highlighted in his inaugural speech arose from the fact that while his state was responsible for alleviating the poverty of those it identified using criteria mandated by the centre, the transfer of resources from the centre to the states was based on different criteria for identifying the poor. On the other hand, in a rights-based income transfer scheme such as the one advocated in this paper, while the norms for education or health, etc., that are guaranteed would be common to all citizens of India regardless of where they live, the state or local jurisdiction with the responsibility to fulfil the guarantees would determine how they are to be fulfilled as well as the resources needed to do so in their jurisdiction. However, the sharing of the resource

costs of fulfilling the guarantees between the local jurisdictions responsible for fulfilment and others (the state and centre) has to be arrived at through a consultative process in which all three, local, state and centre, have a voice.

Our Constitution adopted in 1950 assigned tax bases and expenditure responsibilities across centre and states, the resulting vertical and horizontal imbalances were to be addressed through sharing of tax revenues between centre and states as recommended by quinquennial Finance Commissions mandated by the Constitution. The 73rd and 74th constitutional amendments have since devolved responsibilities to local governments. After the 73rd and 74th amendments, states have appointed their own finance commissioners to recommend transfers to local bodies. It remains to be seen whether the state finance commissions will ensure that local bodies have adequate fiscal resources from their own tax revenues and transfers from the state and centre to enable them to discharge their responsibilities and also to build the needed administrative capabilities.

An extra-constitutional body, the Planning Commission, was also established in 1950. It also began making transfers to states in support of five-year plans. In addition, different central ministries also made transfers from their budgets in support of centrally sponsored schemes in the states. Over time, relative to the transfers recommended by the constitutionally mandated Finance Commissions, the other two transfers became quantitatively more significant. Moreover, in 1950 public enterprises other than railways that produced goods and services were very few. Over time, the creation and expansion of public enterprises by central and state governments have had serious impacts on the budgets of the centre and the states. Whatever rationale might have been there in 1950 for the constitutional assignment of tax bases and for the creation of public enterprises, under the vastly changed political and economic environment of the 21st century, a serious rethinking of the fiscal federalism of our Constitution, including the incorporation of local bodies in an organic fashion, the role of the Planning Commission and planning boards, as well as public enterprises, is needed. For example, mindless and meaningless repetition of the argument that public enterprises making profits at possibly distorted market prices should not be privatised does not validate it – if there is a social rationale for an enterprise to be in the public sector, its losses, if any, have to be met from and its profits, if any, have to be absorbed, in the budget.

Rethinking and debate on needed reforms, since they could involve amending the Constitution, will naturally take time. In the meantime, I have suggested [Srinivasan 2007] the creation of a Fiscal Policy Review Council (FRC) and reconstituting the Planning Commission as a Fund for Public Investment (FPI).

The membership of FRC would consist of the prime minister and finance minister of India, chief ministers and finance ministers of the states and union territories and a few experts appointed by the prime minister in consultation with the chief ministers. It would be analogous to the Trade Policy Review Mechanism of the World Trade Organisation (WTO) that enables the members of the WTO to discuss, review and comment on each member's trade policies periodically. The FRC could also learn from the mechanism introduced by the European Union under which each member country submits each year a national reform action plan for review by the European Commission.

The FRC would meet at an appropriate frequency to review the medium and long-term fiscal policies and performance of the states and centre as well as make recommendations. Its public

report ranking of the plans of states and the centre on their effectiveness and efficiency in achieving the agreed targets would be very useful.¹¹ To avoid political grandstanding and to encourage serious discussion, the meetings could be closed to the media. Whether the recommendations should be binding on all parties or only advisory is an issue that the FRC could decide. Each state chief minister and finance minister would get an opportunity to comment on and learn from the other states' and the centre's policies. The prime minister and the finance minister have to respond to the comments of state leaders on its fiscal policies. The FRC's rankings and recommendations would not only have greater political weight but also provide a commitment mechanism for the centre and states to undertake reforms which each may not be able to do unilaterally.

The FPI will operate much like a development bank for providing long-term development finance. It will borrow its loanable funds from domestic and foreign capital markets with guarantees from its shareholders. It will appraise investment projects of the centre and states for which they wish to borrow from the FPC, for their feasibility, economic and social returns and also for the soundness of their means of financing the rest of project investment, if it is not to be fully funded by the FPI.

The FPI is not meant to be the financial intermediary between state governments and capital markets at home and abroad as well as external aid agencies. The states will have the freedom to borrow directly from the capital markets and to negotiate with foreign-aid agencies. Such freedom could lead to some states being able to borrow on attractive terms and attract aid donors to fund their projects and others not being able to do so. If their failure arises from the pursuit of poor policies, the FPI by declining to lend could provide an incentive for the failing states to reform policies to make them more attractive to lenders and donors. On the other hand, if the FPI finds that the failure has occurred not because of policy inadequacies and for reasons beyond the control of the state, it could recommend capital transfers from the centre to such states if it finds the projects proposed by such states to be worthwhile from an economic and social perspective. However, such FPI-recommended capital transfers should not carry any subsidy (relative to the cost of borrowing to the Fund) on interest rates. Thus, FPI should not open a soft lending window since there is no economic rationale for it. Transfers to a state compensate for the inability to borrow on attractive terms for reasons other than policy failures should be distinguished from transfers to correct the states' horizontal imbalance. Such transfers would be addressed by the Finance Commission transfers and not by the FPI.

Email: t.srinivasan@yale.edu

Notes

[I thank Mahvish Shaukat for her research assistance. This is a revised and expanded version of the paper I presented at the International Seminar on 'Revisiting the Poverty Issue: Measurement, Identification and Eradication', Patna, July 20-22, 2007. I thank my discussants T C A Anant and Errol D'Souza and the chair of my session, Pronab Sen for their comments. I thank Angus Deaton for his comments. None of them are responsible for the contents of this version.]

1 In fact, he had placed the contents of his paper (reproduced in Naoroji (1899)) before the Select Committee on Indian Finance of the British House of Commons in 1872. But they were "taken but were not published with the Report [of the committee], as they did not suit the views of the Chairman" [Naoroji 1899, footnote 1, p 1]. The paper is also notable for its meticulous calculation of India's output and income (through direct and indirect methods). Interestingly, Naoroji comments on the paucity and unreliability of available data and goes on to chide the official statisticians of his day for their inappropriate use of simple, rather than appropriately weighted, average of prices. It is worth quoting him, "Not only is the quantity of information insufficient, but the quality even of such as is given is defective. For instance, in the tables of prices of produce in the different districts of the Central Provinces, in order to get an average, the prices are added up together, and

the total is divided by the number of the districts. This principle is generally adopted by the returns made by all governments with respect to average of produce or prices. The principle however is altogether fallacious. In taking the average of prices the quantities of produce sold at the different prices are altogether lost sight of. In the same way, in taking the average produce per acre, the extent of land yielding different quantities is overlooked" [Naoroji 1899, p 3].

- 2 Besides the diets of the medical inspector and the administration report, the others included the absolute necessities of a common agricultural labourer in Bombay Presidency and the cost of living of inmates in jails in various provinces.
- 3 In principle it should be possible to revalue Naoroji's subsistence basket at 2004-05 prices. I have not done so.
- 4 The pioneering study of Dandekar and Rath (1971) used an *average* nutritional norm of 2250 kcals per capita per day. From the data on household consumer expenditures in 1960-61, the study found that the norm was met at a monthly per capita consumption expenditure of Rs 14.2 in rural areas and Rs 22.6 in urban areas at 1960-61 prices. Thus, the nutritional norm based poverty line of the study was considerably below that of the working group for rural areas and slightly higher for urban areas.
- 5 In his remarks at the Patna conference, Ashwani Saith interpreted this as adaptation to low intakes and such adaptation has costs in terms of possible increases in morbidity and reduction in life expectancy. I am not persuaded that Sukhatme had such costly adaptation in mind. I interpret him as viewing the *efficiency* of conversion of food energy to metabolisable energy as variable and endogenous depending on intake of food energy as long as the variation in intakes is within the homeostatic range.
- 6 This is not to say that the poor among those well-connected with the economic mainstream will need no assistance from the state, but only that such assistance will be limited in extent and also in time, since with sufficiently rapid growth in income there will be no such poor.
- 7 The quotes in this paragraph and this that follow are taken from <http://www.commonlii.org/in/legis/const/2004/6.html>
- 8 It does not define "undeserved want". I wonder what "deserved want" might mean!
- 9 In his stimulating and wide-ranging article, Jean Drèze quotes B R Ambedkar, the prime architect of India's Constitution, as saying that "The Directive Principles have a great value, for they lay down that our ideal is economic democracy" and his belief that the form of political democracy laid down in the Constitution, rather than justiciability of the Directive Principles, will be the means for achieving the economic democracy that the principles describe. As Drèze rightly argues, the evolution of political democracy in India after independence has not conformed to Ambedkar's vision. As a consequence, the Directive Principles have remained largely as ideals and aspirations to be attained at some distant future.
- 10 See Kochar (2007) on this.
- 11 Although the proposal of the former Dutch prime minister, Wim Kok, to use the mechanism for review of action plans to "name and shame" countries which talked a good game but failed to deliver and "fame" those whose performance was exemplary, did not go far, there is something useful in the proposal for the FRC to consider.

References

- Dandekar, V M and Nilakant Rath (1971): *Poverty in India*, Indian School of Political Economy, Pune, India.
- Drèze, Jean (2004): 'Democracy and the Right to Food', *Economic and Political Weekly*, 39, 1723-31.
- Drèze, Jean and S Kidambi (2007): 'Long Road to Employment Guarantee', *The Hindu*, August 2, <http://www.hinduonnet.com/thehindu/thscrip/print.pl?file=2007080254241300.htm&date=2007/08/02/&prd=th&>
- EGEP (1993): *Report of the Expert Group on Estimation of Proportion and Number of Poor*, Perspective Planning Division, Planning Commission, Government of India, New Delhi.
- IIAPR (1988): *Report of the National Planning Committee, 1938*, Indian Institute of Applied Political Research, New Delhi.
- Kochar, Anjini (2007): 'Can Schooling Policies Affect Schooling Inequality? An Empirical Evaluation of School Location Policies in India', paper presented at the India Policy Forum, National Council for Applied Economic Research, New Delhi, July 17-18.
- Naoroji, Dadabhai (1899): *Poverty and Un-British Rule in India*, Swan Sonnenschein, London.
- NSS (1997a): *Nutritional Intake in India, 1993-94*, Report 405, National Sample Survey Organisation, New Delhi, India.
- (1997b): *Reported Adequacy of Food Intake in India*, Report 415, National Sample Survey Organisation, New Delhi, India.
- (2001a): *Nutritional Intake in India, 1999-2000*, Report 471, National Sample Survey Organisation, New Delhi, India.
- (2001b): *Reported Adequacy of Food Intake in India*, Report 466, National Sample Survey Organisation, New Delhi, India.
- (2007a): *Nutritional Intake in India, 1993-94*, National Sample Survey Organisation, New Delhi, India.
- (2007b): *Perceived Adequacy of Food Consumption in Indian Households*, Report 512, National Sample Survey Organisation, New Delhi, India.
- Planning Commission (2007): 'Poverty Estimates for 2004-05', Press Information Bureau, Press Release, Government of India, New Delhi, March 21.
- Srinivasan, T N (1982): 'Malnutrition: Some Measurement and Policy Issues', *Journal of Development Economics*, 8, pp 3-19.
- (1992): 'Under-nutrition: Concepts, Measurement and Policy Implications' in Sadiq Osmami (ed), *Nutrition and Poverty*, Clarendon Press, Oxford, pp 103-09.
- (2007): 'Challenges Facing the Indian Economy', *Business Line*, January 17-19.
- Task Force (1979): *Report of the Task Force on Projections of Minimum Needs and Effective Consumption Demand*, New Delhi.
- Thakurdas, P, J R D Tata, G D Birla, A Dalal, S Ram, A D Shroff and J Mathai (1944): *The Bombay Plan for India's Economic Development: A Brief Memorandum Outlining a Plan for Economic Development of India*, Penguin Books, London.

Figure 1: Per Capita and Per Consumer Intake of Calories in Rural India

Note: Arrows indicate poverty line.

Source: NSS (1997a, 2001a, 2007a).

Table 1A: Proportion of Persons below Norm (2,700 Kcals Per Day) of Household Calorie Intake Per Consumer Unit*

	1993-94	1999-2000	2004-05
Bihar (rural)	0.589 (.580)	0.607 (.440)	0.619 (.421)
Bihar (urban)	0.594 (.348)	0.593 (.335)	0.598 (.346)
India (rural)	0.575 (.372)	0.607 (.373)	0.662 (.283)
India (urban)	0.649 (.326)	0.645 (.324)	0.701 (.257)

Note: * Figures in parenthesis are poverty proportions based on relevant poverty lines.

Sources:..NSS (1997a, 2001a, 2007a); Planning Commission (2007).

Table 1B: Proportion of Households Getting 'Two Square Meals' a Day throughout the Year

	1983	1993-94	1999-2000	2000-05
Bihar (rural)	—	.928	.939	.967
Bihar (urban)	—	.970	.969	.975
India (rural)	.811	.945	.962	.974
India (urban)		.933	.981	.986

Source: NSS (1997b, 2001b, 2007b).

Figure 2: Per Capita and Per Consumer Intake of Calories in Urban India

Note: Arrows indicate poverty line.

Source: NSS (1997a, 2001a, 2007a).

Table 2: Per 1000 Break-up of Persons by Level of Household Calorie Intake as Expressed Percentage of Norm Level Calorie Intake (2,700 Kcal) (Per Consumer Unit) for Each MPCE Class in Rural and Urban India

MPCE Class (1)	Per 1000 <70 (2)	No of Persons 70-80 (3)	80-90 (4)	90-100 (5)	100-110 (6)	110-120 (7)	120-150 (8)	No of =150 (9)	Classes (10)	Sample hhs (11)
State: all rural										
1	619	215	120	33	7	2	3	1	1000	2282
2	395	292	177	91	32	8	5	2	1000	2271
3	293	269	219	135	52	21	10	1	1000	4940
4	202	245	240	174	82	38	16	3	1000	5718
5	138	198	259	194	113	57	37	4	1000	6189
6	101	176	233	218	137	75	55	5	1000	6209
7	78	150	210	216	158	94	82	13	1000	7282
8	48	112	197	220	179	106	120	18	1000	8484
9	46	89	150	199	188	130	162	37	1000	10035
10	33	63	118	177	180	149	215	65	1000	11142
11	18	46	83	136	156	158	280	122	1000	6870
12	16	35	71	95	133	116	261	272	1000	7876
All class Persons	146	160	185	171	125	81	97	34	1000	79298
	8725	10392	13537	13560	10555	7466	10178	4885	79298	
State: all urban										
1	626	195	119	43	10	3	3	1	1000	2451
2	375	277	208	89	28	18	5	0	1000	2401
3	324	257	225	103	60	15	12	3	1000	4669

4	236	245	220	158	74	33	26	8	1000	4640
5	188	226	254	162	90	46	28	6	1000	3988
6	134	189	254	195	109	62	47	10	1000	3932
7	98	171	237	214	140	80	50	11	1000	3791
8	81	138	215	219	155	90	83	19	1000	3773