POVERTY AND NEO-LIBERALISM IN INDIA

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1 *Introduction*

I have chosen the topic of poverty and neo-liberalism for this lecture for two reasons: first, the beginning of poverty studies in India is associated with the names of Prof. V M Dandekar and Prof. Nilakantha Rath, both long associated with this Institute, who carried out a pioneering conceptualization of poverty and laid the basis for subsequent estimates of the numbers of the poor. Second, today we cannot escape from the pervasiveness of neo-liberal policies in our lives, and when discussing poverty trends we have to consider the differential impact these policies have had on the living standards of the well-to-do on the one hand, and on the other, their impact on the livelihoods and food security of the vast masses of the poor who still comprise the majority of this country's population even six decades after Independence. Since the majority of the poor are in rural areas the focus of the discussion will be on rural poverty.

There are two sets of questions which arise when we talk of poverty and its estimation. The first set of questions relates to the conceptualization of poverty, and how to make its measurement operational in terms of some readily computable index or indices. The idea of poverty has many dimensions, and can be thought of as not merely material deprivation and a low material standard of life including poor health indicators, but also deprivation in relation to education and culture. One particular dimension of material deprivation however has been picked out as the most crucial dimension, which must be addressed before any other dimension can be introduced: namely, the ability to access a minimum nutrition level expressed in terms of a norm of daily energy intake in calories, required for working health. This index although it captured poverty only partially, was simple, and obtained widespread acceptance. It was suggested in Dandekar and Rath's pioneering 1971 paper and was taken up by the Planning Commission in India, which set up in 1979 a Task Force on Projection of Minimum Needs and Effective Consumption Demand. Its recommendation which was accepted, was based in turn on the Indian Council of Medical Research table of dietary intakes (see Gopalan 1992, 1997) which was applied to the population structure by age and gender. On average 2400 and 2100 calories per day per capita worked out as the required daily allowance (RDA) for energy intake, for rural and urban areas respectively, and all persons unable to access this through their actually observed expenditure were to be considered as poor.

This measure using a nutrition norm, is an *absolute* measure of poverty as distinct from the *relative* measures used in many other, more advanced countries - such as considering all those to be poor, who have less than half the average per head income in the economy (Anand, 1983, 1997, Subramanian 1997). With a relative measure of poverty, rise in inequality will imply rise in poverty. The poverty measure adopted in India, based on the idea of absolute poverty, however requires stronger conditions for poverty to show a rise. Increase in the inequality of income and of expenditure could be quite consistent with poverty so defined, showing a decline. Only an *absolute decline* in expenditure for substantial sections of the population (not offset by decline for other sections), would lead to average poverty rising on the absolute measure used in India.

The second set of questions relate to whether as a trend, poverty defined in the absolute sense as explained above, has been declining in India. The academic consensus was that, starting from high levels of poverty, there were sharp fluctuations but no trend decline before the 1980s,

but a decline did take place in the 1980s. The question of poverty trends has become a particularly contentious one however during the last fifteen years, owing to the repeated claims by the government, by a number of academics associated with the government and by economists associated with the World Bank, that a substantial decline in poverty – rural poverty in particular - has taken place in the 1990s, during the period of implementation neo-liberal economic policies and trade liberalization. More precisely, rural poverty is said by the Planning Commission to have declined from 37.3 to 27.4 percent of the population comparing the 50th Round (1993-4) and the 55th Round (1999-00) data from the NSS on consumer expenditure. The World Bank's latest World Development Report 2006 also reproduces these figures, the 1999-00 figure being slightly adjusted upwards to 30.2 percent to take account of recall- period change. This alleged decline is put forward as an argument for continuing with the same policies.

On the other hand the available official data show, that over exactly the same period a number of crucial and inter-related indicators of rural well-being have worsened: crop growth rates have halved in the 1990s compared to the 1980s, rural development expenditures have gone down as a share of National Product and in real per head terms. Rural employment growth has dropped sharply and open unemployment has been growing fast. Bank credit to farmers has declined and there is higher dependence on private usurious credit. Price declines have been severe for many crops, and food grains absorption per head has declined sharply to reach levels prevalent fifty years ago. Mounting un-repayable farm debts have led to loss of land reflected in a sharp rise in landlessness, and to the historically unprecedented situation of many thousands of farmer suicides in widely separated areas in different states (Andhra Pradesh, Karnataka, Vidarbha in Maharashtra, Punjab, and Kerala) and these suicides are continuing. All these indicators of acute agrarian distress are quite inconsistent with the claims of decline or constancy of poverty. These indicators suggest that as a ground level reality rural poverty is high and rising in many areas.

This raises a broader question – since overwhelming evidence exists for the adverse trends in the rural economy, is it the case that the official method of poverty estimation is itself faulty and is failing to capture the actual trends in poverty? Further, while up to the mid-1990s, poverty estimates were mainly of academic interest, from 1997 the food subsidy has been targeted and the population divided into 'above poverty line ' and 'below poverty line', with differential pricing of food grains. Lower-cost food grains from the public distribution system are made available only to those identified as spending below the poverty line. How the poverty line expenditure is arrived at and how the poor are actually counted, has therefore acquired an important policy dimension affecting the lives and welfare of millions of people in the country. If the counting is incorrect, it will lead to the implementation of wrong policy measures lowering mass welfare.

How are economic reforms related to the issue of poverty? Neo-liberal economic policies guided by the Bretton Woods Institutions (BWI), comprise a set of macroeconomic policies which are more than merely conservative in financial terms. When examined carefully the policy package is seen to comprise a systematically expenditure deflating, contractionary set of policies which reduces the level of activity in the material productive sectors of the concerned economy, even as the tertiary including the financial sectors may show rapid growth. A well known set of studies sponsored by UNICEF of structural adjustment policies followed under BWI guidance in

a number of developing countries in the 1980s, found that the majority of countries experienced reduced investment and growth rates, while many saw higher infant mortality rates, reduced rates of improvement in literacy, fall in real wages and rise in poverty (Cornia, Jolly and Stewart, 1987). Table 1 details the policies followed in 78 countries in the 1980s under IMF guidance, which clearly add up to a policy package which is strongly expenditure-deflating. Since neo-liberal policies in India have also been expenditure deflating as regards the material productive sectors, and strongly so with respect to agriculture, it is not surprising that we see an agrarian crisis unfolding, while every indication is that absolute poverty is rising.

The purpose of this paper is to explore why the poverty estimates by the Indian Planning Commission and many individual academics following the same method, show low levels as well as decline in poverty over the 1990s, whereas all other economic and social indicators suggest that absolute poverty is high and there has been an adverse impact of neo-liberal policies on poverty. On examining the actual estimation method officially followed, we find that the Planning Commission applied its own definition of poverty using the nutrition norm, only in one year, 1973-4, to the NSS consumption expenditure data to obtain the poverty line expenditure. For all subsequent years the nutrition norm has been treated as irrelevant for estimation and the method actually used has been to take 1973-4 as a base year and bring forward the poverty line for that year to more recent years by using a price index. The fact has been ignored that the use of price indices is always problematic: when the quantity weights of the price index relate to a distant base year, and additionally the index itself is being applied to a fixed consumption basket relating to an increasingly distant base year for quantities consumed, then the method cannot capture many important structural changes leading to the actual increasingly higher cost of accessing nutrition.

The result has been extremely low and grossly unrealistic official poverty lines – for example for rural areas, All-India for 1999-00, the poverty line was Rs.328 per month or less than Rs.11 per day (just under US 25 cents at the exchange rate then prevailing) which was supposed to meet *all daily expenses on goods and services for one person*. This paltry sum in fact would not have bought even a single one-litre bottle of mineral water, which cost Rs.12 at that time. International agencies like the World Bank too have been complicit in promoting equally unrealistic poverty lines: the *ad hoc* norm of one-dollar-a-day is deflated to just above a quarter dollar a day for India for that year, to adjust for purchasing power, and the national poverty percentage of 35.3 is thereby derived.[1] The question is, what is the logic of further deflating a dollar–a-day measure: would one dollar be a reasonable daily poverty line for the USA – clearly not, for it would have bought at most one bottle of water there, just as the PPP adjusted one dollar in India, could barely buy a single bottle of water. At this very low daily expenditure level, the nutrition norm of 2400 kcal energy intake per person obviously could not be accessed in India's villages and the actual All-India intake at the poverty line is found to be 1890 calories. The state-specific official poverty lines in many individual states in India were even lower, Rs.8 to Rs.9 per day at which less than 1600 calories daily could be accessed as Table 7 shows.

The direct method of examining the current nutritional intake related to expenditure, on the other hand, shows that in order to access the required energy intake norm of 2400 calories,

[1] See *World Development Report, 2006,* Table A1 on p.278, cols. 9 and 10.

nearly double the official expenditure was required, and 75 percent of the rural population of India was below this required spending level, while 45 percent of urban population spent less than the sum required to access the urban nutrition norm of 2100 calories.

The proposition of this paper is that the available NSS consumption expenditure data on which poverty estimates are based, are completely consistent with the adverse trends in the rural economy which suggest high levels of poverty and increase in poverty depth in the 1990s. The correct estimates, rounded to the nearest whole number, of head-count rural poverty for the 55th Round, 1999-00 are 75 percent in rural India and 45 percent in urban India, without any adjustment for recall period change in the 55th Round compared to earlier ones. The estimates would be higher still by up to 3 percent if adjustments are made for the change in recall period, giving us rural and urban poverty percentages approaching nearly four-fifths and nearly one-half, respectively. Not only is poverty very high on applying the official definition of poverty based on the nutrition norm; it represents a rise over the 1993-4 level in all except five of the fifteen major states in India (as Table 8 shows), even without adjustment for recall period change. At least three of these five states would also show rise in poverty if adjustment for recall period change is made.

The reason that official estimates do not capture the true picture, is that after the initial estimate relating to 1973-4, the nutrition norm has not been applied to obtain the correct poverty line at each point of time as should have been done. The method of price index adjustment to the base year poverty line to obtain the current poverty line continues to be officially followed at present (with some modifications suggested by an Expert Committee in 1993) even though the base year is now 33 years in the past. Although information on current calorie intakes and their cost are available in published form, from as many as four of the six large-scale NSS sample surveys on consumer expenditure to date, none of this information has been used to obtain realistic current poverty lines, as had been done for the first and only time for the year 1973-4.

The official method which may be termed an indirect method, of simply updating with price indices, an increasingly distant base year poverty line, has led to increasing underestimation over time, of the actual current cost of accessing the nutrition norm (the Required Daily Allowance or RDA, of energy). Thus, the official poverty line expenditure for rural India as a whole permitted less than 2200 calorie daily intake in 1983 (>200calories below RDA), less than 2000 calorie daily intake in 1993-4 (> 400 calories below RDA) and less than 1900 calories daily intake by 1999-00, or >500 calories below the RDA. By 2005 the poverty line will permit less than 1800 calories or >600 calories deficit from RDA. The public is not informed of this however when poverty estimates are quoted and decline is claimed.

Further, while for all states the official poverty line has been too low and the corresponding nutritional intake well below the RDA, for a number of states the use of state-specific price indices has meant that their official poverty lines have been pushed down so far below the average all-India level, that at these poverty lines, by the 55th Round, 1999-00 the rural consumer could access only 1440 calories to 1600 calories, or a deficit of between 800 calories to nearly 1000 calories per diem from the nutrition norm. These official ‘poverty lines’ have become a travesty of the very idea of poverty line and the corresponding poverty estimates - the percentage of persons below these lines – have lost all meaning.

The conclusion that 'poverty has declined in the 1990s' is solely the result of this clandestine lowering of the consumption standard over time, a lowering which is inherent in the official price-index adjusted estimation method. I point out in the paper that the official method is not logically correct and involves the 'fallacy of equivocation' - a particular type of verbal fallacy arising from the incorrect use of terms. The term 'poverty line ' has a definition based on nutrition to start with but the nutrition norm later has been quietly given up, because in the actual method followed for later years, the definition of poverty line is altered and completely de-linked from nutrition. The claim of decline in poverty is fallacious because the inference of decline in poverty is not true when the meaning of a term, here the 'poverty line', is changed in the course of the argument. In fact no inference at all- whether constancy, rise or decline - can be validly drawn when the meaning of 'poverty line ' is changed such that the consumption standard is being altered over time.

The logically correct method of comparison over time is to count the poor below a temporally unchanged consumption norm, since this is means that the same definition of poverty line is applied for obtaining successive estimates. A simple and transparent measure of changing poverty depth can be obtained as well by taking lower-than-RDA consumption cut-offs (say, 2100 and 1800 calories) and counting the percentage below these levels, again of course keeping these levels unchanged over time. Applying this method which we may term the direct method, we find that poverty is very high, it has not declined but on the contrary has risen and the depth of poverty has increased during the 1990s in a majority of states. This paper presents from the large scale NSS surveys from 1973-4 to 1999-00, the All-India direct estimates of rural poverty, namely the actual cost of accessing the nutrition norm and the percentage of persons below these spending levels. It also presents both the official and the direct estimate for the different states of India for the years 1993-4 and 1999-00, to show that a very large divergence has emerged. The conclusion is that a logically correct method of estimating poverty shows a trend which is completely consistent with the other macroeconomic trends in the rural economy pointing to agrarian distress.

The main policy implications drawn from the analysis of the macroeconomic trends and from accepting the realistic direct poverty estimates, are that targeting the food subsidy makes little sense and that there should be a reversal to the system of universal access; that the steep fall in per capita food grains absorption, a major indicator of deepening poverty, requires to be reversed; and that the current Employment Guarantee Act needs to be seriously and urgently implemented for that purpose. The following sections amplify the arguments summarized above.

2. *The Meaning of Neo-liberalism as an Economic Policy Package*

This section draws upon and updates my previously published discussions. As already pointed out, neo-liberalism entails a strongly expenditure deflating policy package at the macroeconomic level, and India has been no exception. This proposition may seem strange at first sight since India has seen 6 to 7 percent annual GDP growth rates. The overall growth rate can be misleading however, for it tells us nothing about the sectoral composition of growth. It is perfectly possible for the material productive sectors to stagnate or decline while services are booming, and this has been the case with India's growth in the 1990s. More rapid structural

shifts in the sectoral contribution to GDP, have taken place than in any previous period, and these shifts are by no means entirely of a desirable nature. The manufacturing sector's share in GDP has stagnated in the last 15 years while its contribution to employment has declined. While the share of agricultural and allied activities in GDP has fallen sharply the population dependent on this sector has declined little and faces falling per head real income.

Agriculture is always a 'soft' target for the misguided deflationary policies which continue to be urged by the Bretton Woods Institutions, no matter how high unemployment and hunger might be. The impact of deflationary policies has been especially severe in India's agricultural sector which saw sharp reduction in public planned development expenditures in rural areas. In 'rural development expenditures' for the purpose of this paper, I include the five Plan heads of a) agriculture b) rural development, c) irrigation and flood control d) special areas programmes and e) village and small scale industry. All these expenditures are vital for maintaining rural productivity and employment.

Table 1 Policies Followed by 78 countries under Fund-guided Reforms

	Percentage of Total Number of Countries Implementing Policy
1. Restraint on Central Government Expenditure	91
Limits on Credit Expansion	99
2. Reduction in Ratio of Budget Deficit to GDP	83
3. Wage Restraint	65
4. Exchange Rate Policy	54

Source: Quoted by Cornia (1987, 11), in Cornia, Jolly and Stewart (eds) Adjustment with a Human Face Vol.1.

Table 2
Reduction in Rural Development Expenditures under Economic Reforms, Selected Years 1985–90 to 2000–01

	1985-90 average	1993-94	1995-96	1997-98	2000-01	2004-05 RE
1.Rural Development Expenditures as Percent of NNP	3.8	2.8	2.6	2.3	1.9	2.3
2.Above plus Infrastructure	11.1	8.4	6.9	6.4	5.8	6.2

Source: Government of India, Ministry of Finance, annual *Economic Survey*, for years 2001–02 to 2003–04, Appendix Table S-44. 'Rural development expenditures' here are the plan outlays of Centre and states under the five heads of agriculture, rural development, irrigation and flood control, special areas

programmes, and village and small scale industry. Infrastructure includes all energy and transport including urban. Calculated from current values of expenditure and of NNP at factor cost .

Out of these the employment- generating programmes, had assumed a special importance from the drought year 1987 onwards. During the 7th Plan period marking the pre-reforms phase, from 1985 to 1990, on average 3.8 percent of Net National Product was spent annually as rural development expenditures (RDE) as defined above, with well-documented positive effects in raising non-farm employment and raising rural wages. From 1991 as contractionary Fund-guided policies started, as Table 2 shows, the share of RDE was cut sharply to below 2.6 percent of NNP by 1995-6 and fell further to 1.9 percent by year 2000-01.

Even though it was the agrarian crisis which had led to the fall of the NDA coalition at the May 2004 general elections, the assumption of power by the UPA government saw the deflationary hammer being applied once more by the new Finance Minister on agriculture with budget estimates of RDE for fiscal 2004-05 being much lower than the already low levels of the preceding years, and with cut by one-third in funding for the employment generation schemes. The revised estimates for 2004-05 show a slight rise in RDE to 2.3 percent of NNP, far short of the required doubling necessary to make an impact on rural depression. The simultaneous passing of the Fiscal Responsibility and Budgetary Management Act, 2004 underscored the strongly deflationist stance of government even in the face of rising unemployment. The gross fiscal deficit as percent of GDP has been brought down from 6.1 in 2000-01 to 4.1 by 2005-6 and is slated to be further lowered to 3.8 percent in 2006-07.

This harsh contractionary fiscal policy has had nothing to do with any objective resource constraint - indeed with strong income shifts towards the already well-to-do, tax receipts have been buoyant and the tax-GDP ratio has been rising - but has simply reflected the government's acceptance of the deflationary dogmas of financial interests and in particular of the Bretton Woods Institutions, which advise expenditure reduction no matter how high unemployment might be, and thereby greatly worsen the problems of unemployment and income loss, since the expenditure cuts have multiplier effects in reducing incomes and employment further. Indeed the expenditure–reduction prescriptions of the BWI are based precisely on the untenable assumption of full employment, for without this assumption they could not maintain as they do, the pre-Keynesian proposition that there is a fixed savings pool in the economy such that increase in public expenditure will necessarily 'crowd out ' private investment.[2] I have elsewhere argued that this revanchist pre-Keynesian theory represents the logical fallacy known as the 'converse fallacy of accident', in which from a specific assumption (full employment) a general inference (expenditure deflation) is improperly drawn.

Total capital formation in agriculture continues to stagnate in India in real terms, with sharply reducing public investment not being compensated adequately by rising private investment. There is no economic rationale for believing that "public investment crowds out private investment" which is the common deflationist argument put forward for reducing the

[2] For a critique of the 'reduce the fiscal deficit' doctrine of the BWI and the theoretical premise of full employment on which it is based, see the discussion on balanced budgets and the Keynes –Kahn multiplier in P. Patnaik 1999. For a brief discussion of the identity of the impact of balanced-budget doctrines of the Great Depression years and the present deflationary stance of international financial institutions see U Patnaik 2003.

state's role in rural development. Precisely the contrary has been shown to hold for certain types of investment essential for an irrigation-dependent agriculture like India's such as irrigation projects of all types. Private tube-well investment is profitable only where the water table remains high owing to seepage from state-built canal irrigation systems, and where community integrated watershed management (planting trees and using check-dams) is encouraged with state help. Private over-exploitation of ground water has now reached a crisis point in many states in India, with the water table falling rapidly and with even the richest farmers unable to reach water after investing heavily in deep bore-wells and submersible pumps. Other infrastructure investment such as rural power projects, roads, bridges, school buildings, clinics and so on, are never undertaken by private investors but are vital for stimulating development and providing livelihoods both directly to those employed in building them and through the important multiplier effects of the increased incomes being spent on simple consumer goods and services in villages.

The net results of the unwise cut-back of public investment and in RDE have been two-fold - a halving of the rate of crop output growth in the 1990s, and a collapse of employment growth. Both foodgrains and non-foodgrains growth rates nearly halved in the nineties compared to the pre-reform eighties, and both fell below the population growth rate even though this too has been slowing down . This has led to declining per capita output during the nineties, for the first time since the mid-sixties agricultural crisis which however had been short- lived, whereas per head agricultural output continues to fall even after a decade.

The position has worsened further in this century- foodgrains output has become stagnant over the last five years at an abysmal 0.14 percent growth rate, which becomes zero if recently revised estimates for 2005-6 are adopted (Table 3). Per capita output has started falling faster. The Agricultural Universities had earlier played a major role in developing and helping to disseminate new crop varieties, and the cut in funding for research in these Universities by affecting the search for better rain-fed crop varieties, has also contributed to the deceleration in the growth of yields. (With increasing use of land for commercial and residential purposes, the gross sown area has remained static since 1991, so it is only through yield rise that output growth can be maintained and it is here that the failure is evident).

Decline in state investment and RDE, and the resulting collapse of agricultural growth has produced a major crisis of fast growing open unemployment combined with fall in number of days employed of the work force during the economic reforms period. Even with constant labour coefficients (labour days used per unit of crop output) a near halving of employment growth was to be expected given the decline in crop output growth, but the decline in jobs has been even more as mechanization and use of chemical weedicides among other reasons, has led to falling labour coefficients over time.

The ratio of labour force to population, or the participation rate, has declined (reflecting difficulty of finding work), the ratio of work force to labour force has declined because open unemployment has been growing at over 5% annually (Table 4). The elasticity of employment with respect to output was 0.5 during 1983 to 1993-4 but has fallen to zero taking the reforms period 1993-4 to 1999-00. Let no-one imagine that unemployed rural workers are migrating and finding employment in industry: there have also been substantial job losses in manufacturing

during the reform period and the share of the secondary sector inclusive of public utilities, in total employment has fallen. The agricultural depression has reduced the share of agriculture in GDP from about a third at the beginning of the nineties to just over a fifth a decade later, but the labour force and population dependent on agriculture has hardly fallen implying decline in real per head output. Thus both the material productive sectors have stagnated or declined, and the only sector which has ballooned in an abnormal manner[3] is the tertiary or services sector which now accounts for over half of GDP.

Table 3 Decelerating Growth rates of Agricultural Output

Period	Foodgrains	Non-Foodgrains	All Crops	Population
1980-81 to 1989-90	2.85	3.77	3.19	2.1
1990-91 to 2000-01	1.66	1.86	1.73	1.9
2000-01 to 2005-06	0.14 (0.00)	n.a	n,a	1.8

Source : Govt of India, Ministry of Finance, *Economic Survey, 2001-02*, p.189 for first two lines. Last line calculated taking initial 2000-01 and terminal (advance estimate) 2005-06 food grains output figures from *Economic Survey 2005-06* (both were near-normal rainfall years). 2005-06 food grain output estimate has been since revised downwards and food imports undertaken: the growth rate drops to zero taking the revised estimate. Note that slowing down of output growth is much steeper than slowing down of population growth implying falling per head output.

Table 4 Employment Decline in Rural India

	Year 1983	Year 1993-1994	Year 1999-2000	Growth per Annum 1983 to 1993-4 %	1993-4 to 1999-00 %
RURAL					
1.Population, mn.	546.6	658.8	727.5	1.79	1.67
2.Labour force, mn.	204.2	255.4	270.4	2.15	0.96
3.Work force mn.	187.9	241.0	250.9	2.40	0.67
4.Unemployed mn. (2 –3)	16.3	14.4	19.5	- 1.19	5.26

[3] A rising contribution of services to GDP from an initial situation of a high share of industry to GDP has been typical for advanced economies. India however is seeing a fast shift to services from a relatively low initial share of manufacturing and mining output, less than 30 percent of GDP, which is now down to about one-quarter. This shift to services reflects de-industrialization and worsening income distribution.

Source: Govt. of India, Ministry of Finance, Economic Survey 2002-03, p.218.

I have earlier written extensively on the fact that per capita foodgrains availability, which measures domestic absorption, has fallen steeply from 177 kg. annual level per head of total population at the beginning of the 1990s, to only 153 kg. annual average per head by the three year period ending in 2003-04, with over four-fifths of the fall occurring after 1998. This is the same very low level as prevailed fifty years ago, during the First Five Year Plan period in the early 1950s. The present food grains absorption level is actually a little lower than the 157 kg. level seen as far back as 1937-41. Forty years of effort to raise foodgrains availability slowly from 152 kg. average during the First five-year Plan to 178 kg average by the three years ending in 1991, has been wiped out in a mere dozen years of economic reforms. The average Indian family (size 4.8) today is absorbing 115 kg, less per year of food grains than in 1991, average calorie intake has fallen from already low levels, and since data show that urban calorie intake has risen, it is rural absorption which has fallen much more than the all- India average.

Gopalan (1999,191) has pointed out that "…. If the habitual cereal-legume dietaries of poor Asian population groups were consumed at levels adequate to meet the full caloric needs (and here we are taking of caloric needs as conforming to present international recommended mean levels of intake, and not of M- 2SD levels), [4] then protein needs would be automatically met". The National Nutrition Monitoring Bureau had informed us that "the NNMB has consistently confirmed in successive surveys that the main bottleneck in the dietaries of even the poorest Indians is energy and not protein as was hitherto believed… *the data also indicate that the measurement of consumption of cereals can be used as a proxy for total energy intake. This observation is of considerable significance as it helps to determine rapid, though approximate, estimates of energy intake at the household level.*"[5] (emphasis added) The 'food grains' being discussed in this paper include not only cereals but also pulses. It is this strong link between the staple food grains intake and poverty based on a nutritional norm, which enables us to say that foodgrains intake decline means serious nutritional decline and rise in poverty, which controverts the official view.

This steep fall in foodgrains availability per head (see Table 5), is a highly abnormal trend which we do not expect to see in an economy where average per capita income is rising, nor has it been observed for any length of time in the past in this country after Independence: it is consistent only with worsening income distribution of a particular type, involving an *absolute decline* in incomes and purchasing power for a major part of the population (Patnaik 2003). The foodgrains absorption figures are calculated following the official definition, from physical net output in tonnes, adjusted for change in stocks and trade, and have to meet all final uses in the economy – direct consumption as food, use as feed for producing animal products (a part of this is exported), and industrial use. The present level is one of the lowest in the world and only the Sub-Saharan African countries and the least developed countries have a lower level than India.

[4] Gopalan is referring to P. V. Sukhatme's argument that mean energy requirement level minus two standard deviations should be considered for poor populations, an argument which he had earlier effectively refuted (Gopalan 1983).

[5] National Nutrition Monitoring Bureau, *25 Years of NNMB* (Delhi 1997). Emphasis added.

The major part of the decline of food grains availability /absorption (the two terms are identical) has come after 1998. The interested reader is referred to my earlier papers for a more detailed analysis which locates the reasons for the decline, in the severe loss of purchasing power inherent in the unemployment –raising and demand-deflating policies detailed briefly above combined with exposure of our farmers to global price declines after 1996 as trade restrictions were removed (U. Patnaik 2003, 2003a, 2004, 2005). These were also added to by the attempt to cut the food subsidy by raising issue prices to final buyers, more than procurement prices to farmers, which simply resulted in pricing out the poor from the PDS, and the final blow was the misguided 'targeting' of the PDS from 1997 under which access to cheap food was no longer universal and demand-driven but restricted to those arbitrarily defined as 'poor' by the government. The result was a massive fall in foodgrains sales from the ration shops, from 20 million tonnes in 1991 to only 13 million tones by 2001 while normally sales should have been rising as the population rose (Swaminathan, 2002).

Table 5 Summary of Annual *per capita* Foodgrains Output and Availability in India, 1990-1 to 2002-03 (Three Year Average)

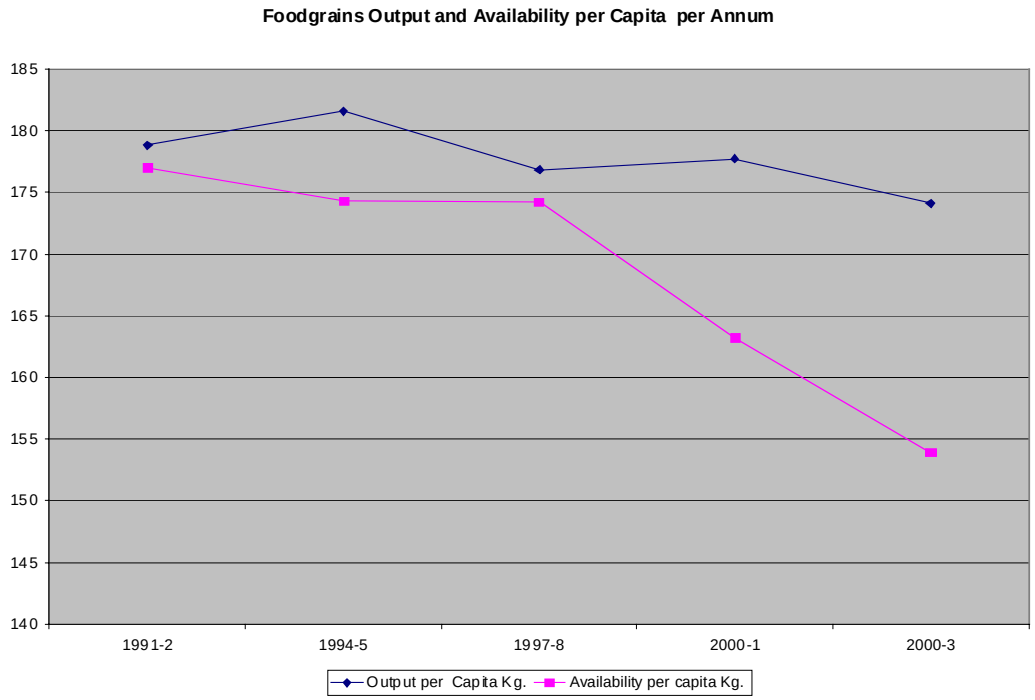
Three-yr. Period Ending in	Average Population million	Net Output per Head *Cereals* Kg.	*Food-grains*	Net Availability per Head *Cereals* Kg.	*Pulses* Kg.	*Foodgrain* Kg./ Year	Gms / day
1991-92	850.70	163.43	178.77	162.8	14.2	**177.0**	**485**
1994-95	901.02	166.74	181.59	160.8	13.5	**174.3**	**478**
1997-98	953.07	162.98	176.81	161.6	12.6	**174.2**	**477**
2000-01	1008.14	164.84	177.71	151.7	11.5	**163.2**	**447**
2002-03#	1050.67	153.85	164.1	142.91	10.12	**153.0**	**419**
Individual Year							
*2003-04**	*1087.6*	*158.33*	*170.83*	*n.a*	*n.a.*	*n.a*	*n.a.*
*2004-05**	*1107.0*	*151.21*	*162.35*	*n.a.*	*n.a.*	*n.a.*	*n.a*
*2005-06**	*1126*	*159.76 (155.41)*	*n.a*	*n.a.*	*n,a*	*n.a*	*n.a.*

Change in Per Capita Availability of Foodgrains, %	
Triennium ending 1991-92 to Triennium ending 1997-98	*- 1.6*
Triennium ending 1997-98 to Triennium ending 2002-03	*-12.2*
Total Change, 1991-92 to 2002-03.	*-13.6*

Source: For output, trade and stocks, Reserve Bank of India, Report on Currency and Finance, various years; and Govt.of India, Ministry of Finance, Economic Survey, various years. For population, the annual compound growth rate of 1.89 % has been derived from the Census population totals for 1991 and 2001 and used to interpolate for inter-censal years. Before 1991 and from 2001 onwards, the population figures given in the Economic Survey 2004-05 have been used. #Note that only the last triennium overlaps with previous one- as availability data for 2003-04 is not yet available, last triennium has been taken as 2000-01 to 2002-03.

* indicates provisional. 2005-06 per capita output uses the advance estimates quoted Economic Survey 2005-06, and figure in brackets is based on scaled-down estimates of the Ministry released in July 2006.

Chart 1a Foodgrains Output and Availability per Capita in Kilograms per Annum, Triennial average, 1990- 1992 to 2001-2003

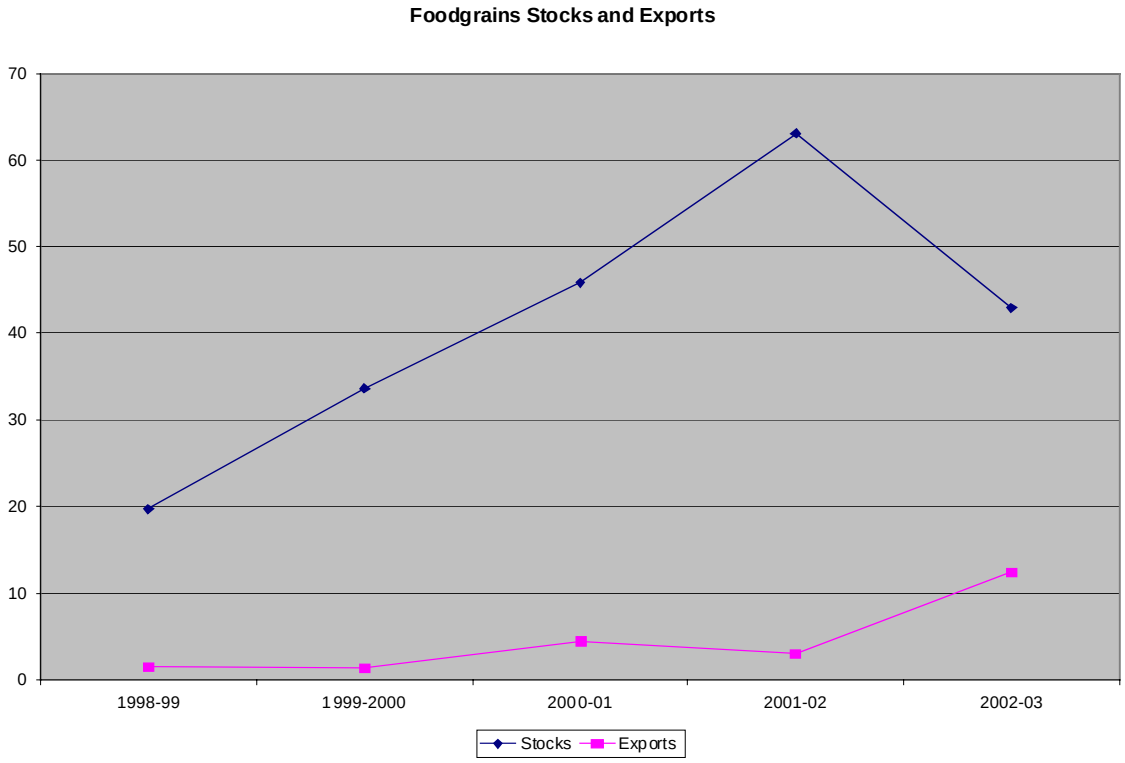


Note : Availability is identical with Absorption and is calculated as follows:
Net Output = 0.87.5 Gross Output,
Availability = Net Output + Net Imports – Net Addition to (Public) Stocks

To sum up, macroeconomic policies of *expenditure deflation* is the key to understanding the agrarian crisis, and the resulting loss of purchasing power or, in Keynesian terms, a severe squeeze on aggregate effective demand of the majority of the population, the key to understanding why such abnormal levels of public foodgrains stocks of 64 million tonnes, 40 million tonnes in excess of buffer norms, had built up by July 2002. These stocks were coming out of more and more empty stomachs. Subsequent analysis of expenditure trends from the thin-sample rounds of NSS data confirm this analysis: (see Sen and Himanshu 2004) for they show that the lowest 40 percent of persons ranked by expenditure levels had absolutely lower per capita total real expenditure by 2001-2 compared to 1995-6 while the next 40 percent had stagnant real expenditure. In fact the situation is worse because asset adjustments have been taking place to maintain the consumption flow - for the lowest deciles even reduced real expenditure and reduced food intake, is seen after they have incurred un-repayable debts and liquidated part of their assets including land. The latest 60th Round (2004) data show an even bleaker picture – without any adjustment for prices, the per capita expenditure on food in current prices at official poverty lines, shows an absolute decline between 2000 and 2004.

The government and the majority of economists have put forward a totally incorrect analysis of the rising stocks and falling availability. They closed their eyes to the falling purchasing power deliberately brought about by public deflationary policies and instead they put

Chart 1b Foodgrains Stocks and Exports



Note: Foodgrains Stocks are public stocks, Exports are total exports of foodgrains including out of Stocks. Both Output and Stocks are in Million tonnes.

the blame on allegedly 'too high ' minimum support price (MSP) which they claimed gave the 'wrong signals' to the farmers who therefore produced more than the market required, and they advocated reduction of MSP. This fallacious argument ignored the fact that food grains growth rates had virtually halved, so that output per capita has been declining (owing to the investment and development expenditure cuts), and this should have led to the need for imports had demand been maintained at normal levels. The freeze on procurement price which followed this wrong analysis, when input prices have been rising, has generalized deflation further to include more farmers and added to the problem of deficient demand. Rather than restoring lost purchasing power and boosting aggregate demand by using food stocks for food-for-work programmes, the government exported 22 million tonnes of grains out of public stocks at a subsidized price during 2002 and 2003, which apparently was mainly used as animal feed abroad.

With its obtuse and obdurate attack on the viability of farmers, the government has succeeded in taking India back to stagnant food grains output – the growth rate during 2001 to 2005 has collapsed to a mere 0.14 percent, comparable to the 0.11 percent during the half – century before Independence (and it is zero if the latest official downward revision of 2005-06

grain output is adopted). Perhaps they wish to see nothing less than a full-scale colonial style famine in their desire to turn India once more into a mere supply source for advanced county supermarkets and local elites at the expense of increasing hunger for millions of its own citizens.

2. Large and Growing Divergence between Direct and official Indirect Poverty estimates.

As discussed in the Introduction, poverty studies in India since the 1970s, have been based on the use of a 'poverty line' expenditure level, defined as that particular observed level of expenditure per capita per month on all goods and services, whose food expenditure component provided an energy intake of 2400 kcal per capita in rural areas and 2100 kcal per capita in urban areas. Rural energy norms were set higher owing to the hard physical labour that more rural workers perform compared to a higher proportion doing lighter work in urban areas. Actual observed average calorie intake in rural India was also higher than average intake in urban India from the 1950s until the 1990s, after which with rural intake decline and urban intake rise, the position has been reversed by 1999-00.

All persons spending below the poverty line expenditure are considered to be poor. While Dandekar and Rath (1971) had adopted a uniform nutrition norm of 2250 calories per head, the Task Force on Projections of Minimum Needs and Effective Consumption Demand, constituted by the Planning Commission in 1979, did not find a uniform calorie norm to be suitable and suggested different norms for rural and urban areas. Using the Census data projected to 1982, the population was divided into sixteen groups defined by age, sex and activity, with calorie intakes recommended varying from 300 calories for children below 1 year to 3600 for a young man doing heavy work. The average norm was derived as a weighted average, and was 2435 and 2095 calories per person, rural and urban, rounded down to 2400 and up to 2100. These nutrition norms have been the accepted basis for poverty studies in India. It is disingenuous to argue as some economists today are doing, that since calorie intake requirements vary with type of work, sex and age, we cannot use a calorie norm. The fact that calorie needs vary is well known to everyone for decades and the variation is taken into account already in the construction of the average calorie requirement. Unless there is a drastic change in the age-sex composition of the population, there would not be any need to change the accepted norm. This is a minimalist definition of poverty, since no norms are set for essential non-food items of spending such as on fuel for cooking and lighting, clothing, shelter, transport, medical care or education. A household which is observed to be above the poverty level expenditure so defined, satisfies only the nutrition norm and may not be able to access adequate amounts of other goods and services from its observed non-food expenditure.

The data base for estimating poverty has been the National Sample Survey Rounds on Consumer Expenditure which take the household as the sampling unit and carry out large sample surveys every five years with smaller samples being canvassed in intervening years. The NSS Reports present the distribution of persons and average expenditure by monthly per capita expenditure groups, and they also present the calorie intake per capita per diem by expenditure groups, though the latter tabulations have been released after a considerable time lag in the past. In the NSS Rounds the quantities of food items actually purchased by sample households are noted (as are farm- produced food items retained for consumption by farmers). These are valued at

prevailing prices, and added to expenditure on non-food items to give the total monthly per capita expenditure.

Table 6 Distribution of Persons by Monthly Per Capita Expenditure (MPCE) Groups and average Calorie Intake per diem, 1999-2000, All-India

RURAL

1 Monthly per capita Expenditure Rupees	**2** Average MPCE Rupees	**3** Calorie Intake per diem per Capita	**4** Per cent of Persons %	**5** Cumulative per cent of Persons %	**6** Cumulative Percent of total Calorie Intake %
Below 225	191	1383	5.1	5.1	3.3
225- 255	242	1609	5.0	10.1	7.0
255- 300	279	1733	10.1	20.2	15.2
300- 340	321	1868	10.0	30.2	23.9
340- 380	361	1957	10.3	40.5	33.2
380- 420	400	2054	9.7	50.2	42.5
420- 470	445	2173	10.2	60.4	52.8
470- 525	497	2289	9.3	69.7	62.7
525- 615	**567**	**2403**	**10.3**	**80.0**	**74.3**
615- 775	686	2581	9.9	89.9	86.2
775- 950	851	2735	5.0	94.9	92.5
950 & more	1344	3178	5.0	99.9	99.99
ALL	486	2149	99.9		

SUMMARY

470- 525 & less	***2289 & less***	***69.7***
525- 615	***2403***	***10.3***
615-775 & more	***2581& more***	***19.9***

URBAN

Monthly per capita Expenditure Rupees	Average MPCE Rupees	Calorie Intake per diem per Capita	Per cent of Persons %	Cumulative Percent of Persons %	Cumulative Percent of Total Calorie Intake
Below 300	255.8	1398	5.0	5.0	3.2
300- 350	327.1	1654	5.1	10.1	7.1
350- 425	389.1	1729	9.6	19.7	14.8
425- 500	463.9	1912	10.1	29.8	23.8
500- 575	537.2	1968	9.9	39.7	32.8
575- 665	**618.6**	**2091**	**10.0**	**49.7**	**42.5**
665- 775	718.7	2187	10.1	59.8	52.7
775-915	840.5	2297	10.0	69.8	63.4
915-1120	1009.7	2467	10.0	79.8	74.9
1120-1500	1286.2	2536	10.1	89.9	86.8
1500- 1925	1692.2	2736	5.0	94.9	93.1

1925 & more	3074.3	2938	5.0	99.9	99.9
-ALL	854.9	2156	99.9		

SUMMARY

500- 575 & less	***1968 & less***	***39.7***
575- 665	***2091***	***10.0***
665- 775	**2187**	
& more	**& more**	**50.2**

Source: National Sample Survey Organization (55th Round, 1999-2000) Report No. 471, *Nutritional Intake in India* for calorie intake data by expenditure groups and Report No. 454, *Household Consumer Expenditure in India – Key Results* for the distribution of persons by expenditure groups. The calorie intake data. refers to the 30 day recall so the distribution of persons by the same recall period is taken above.

The different food items have specified calorie equivalents per gram, from which the calorie intake per day per capita is derived. Thus the very derivation of per capita expenditure on food is from exactly the same data set on physical quantities, which gives the per capita calorie intake. There is a tight direct association between per capita expenditure and per capita calorie intake (see Table 6 and Chart 3). The relation is non-linear as we might expect, with greater than unity elasticity of calorie intake with respect to expenditure at low spending levels.

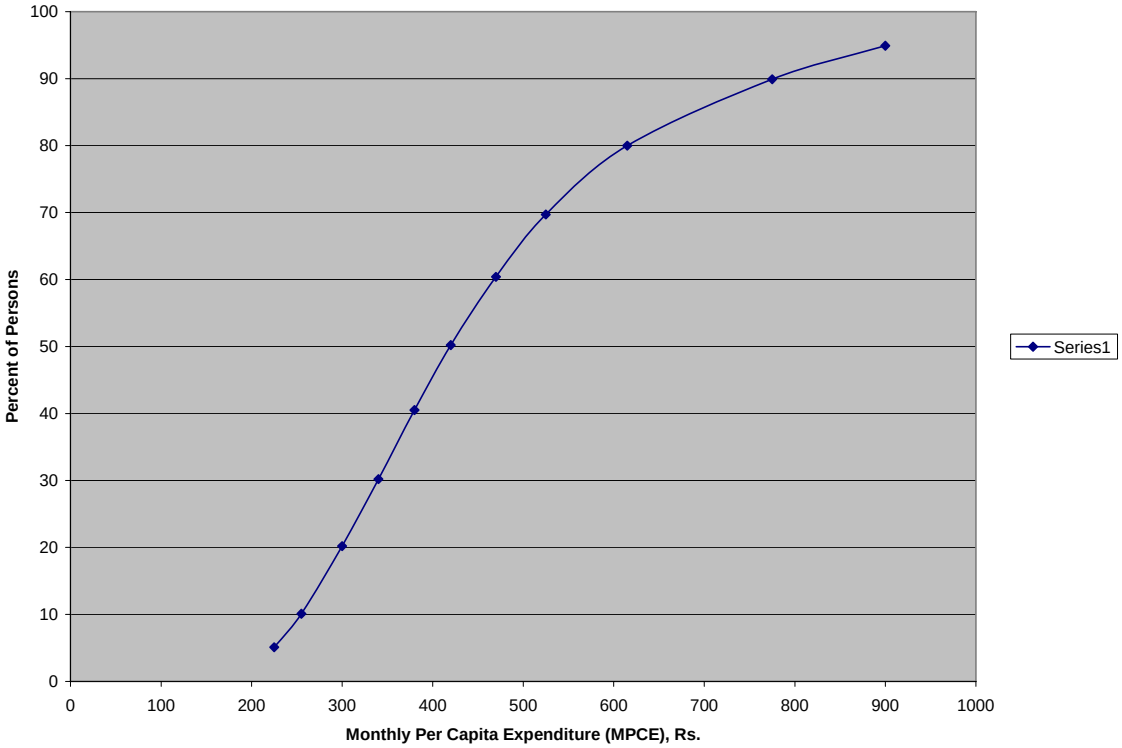
That particular total monthly per capita expenditure group whose food expenditure part met the calorie norms, was identified by inspecting the 28th Round NSS data relating to 1973-74, and the relevant expenditure was defined as the poverty line expenditure. (However there is some doubt whether even the 1973-74 estimates are consistent with the declared norms, a matter discussed later). Often this expenditure is labeled poverty line *income*, and economists talk of 'income poverty,' but this is imprecise, for we have no information on income, only on expenditure. It is quite possible that observed expenditure at or below the poverty line, is higher than income and is met through borrowing or asset-depletion by some households. For those spending well above the poverty line level, income can be expected to exceed spending and there would be increasing savings. The latest complete published data from the five-yearly large sample survey is the 55th Round relating to 1999-2000, from which the relevant information for All-India has been reproduced in Table 6 of this paper using two published Reports of the NSS. (Some of the 61st Round data have been recently released, but not the energy intake levels).

A good idea of the magnitude of head–count poverty can be obtained easily by the non-specialist without making any calculations at all, simply by inspecting Table 6. Looking at the first, second and the fourth columns, 69.7 percent or say seven-tenths of the rural population of India, spending less than Rs.525 per month per person, was below the average calorie level of 2403 (almost the same as the 2400 norm), which was obtained only by the next higher spending group of Rs. 525 - 615. Since the lower part of this latter group, roughly half the 10.3 percent of persons in this group or about 5 percent, also obtained below 2400 calories, the actual total percentage of persons in poverty is about three-quarters. On plotting the data on graphs we obtain 74.5 percent as the exact figure. Yet, the official Planning Commission figure of rural poverty from the same data is only 27.4 percent! The difference between percentage of population in poverty obtained by

direct inspection of the latest data, 74.5 percent and the figure as given by the Planning Commission, 27.4 percent is enormous. Nearly half of the rural population - 47.1 percent or 370 million people - who are actually poor, are being excluded from the set of the officially poor. (The direct estimate is without any adjustment for recall period change in the 55th Round, 1999-00; with adjustment the poverty percentage would be about 77.5).

Again, from direct inspection of Table 6 we see that nearly 40 percent of the urban population spending below Rs.575 per capita per month obtained less than 2091 calories (very close to the 2100 urban norm) which was the average for the next higher spending group. Since the lower half of this latter group also obtained less than 2100 calories, on plotting the graphs, the exact percentage in poverty is 45 percent Yet the Planning Commission figure for urban poverty for the same year using the same data is only about half of this at 23.5 percent.

Chart 2a Percent of Persons below specified MPCE levels (ogive), All-India Rural



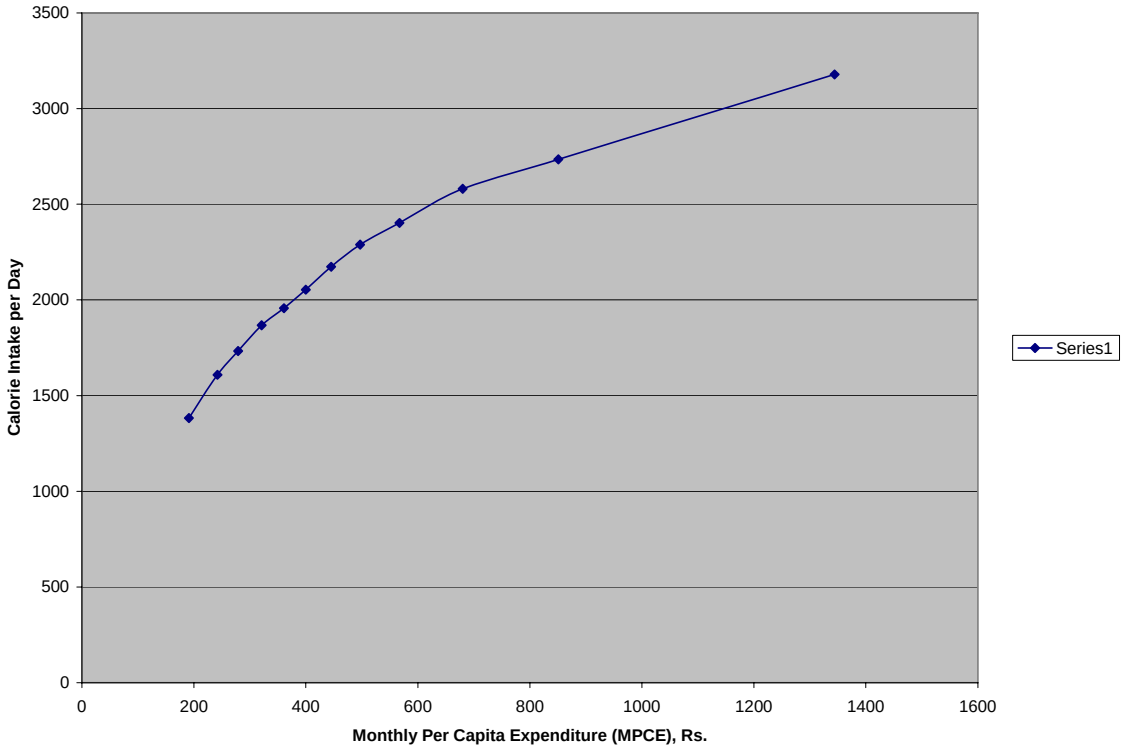
Source: Table 6, 1999-00 55th Round. Upper end values of class intervals, col.1 plotted against col.5. The last class is open ended so the relevant point has not been plotted. Assuming that the Rs.1344 stated as the class average, is the class mid-point, the upper end value is 950+ 2 (1344 - 950) = Rs.1738. The reader can visualize the ogive line approaching 100, with x-axis extending to Rs.1738.

As regards the graphs referred to above for obtaining the exact poverty estimates, we only need to plot two simple graphs for each region – rural and urban - from the Table 6 data to see what is going on. First, *a)* the ogive, which is the cumulative distribution of persons plotted against the

upper-end value of each expenditure class – this tells us what percentage of persons is below any given expenditure level (column5 against column 1) shown as Chart 2a relating to rural India. Second, *b)* the per capita calorie intake plotted against the per capita expenditure (column 3 against column 2) shown as Chart 2b relating to rural India – this enables us to read off the calorie intake at any given expenditure level.

Consider the three variables: (1) the poverty line expenditure, or any other expenditure level (2) the estimated percentage of the population below the poverty line, or below any other expenditure level (3) the calorie norm, or any specified calorie intake. If we know the value of any *one* of the three variables, the corresponding values of the other two can be read off from the graphs. The relation shown in Chart 3 can be plotted in Chart 2 itself by taking the calorie intake values along the right hand axis, since the X- axis showing expenditure levels is common to both.

Chart 2b Per capita calorie intake by average MPCE, All-India Rural



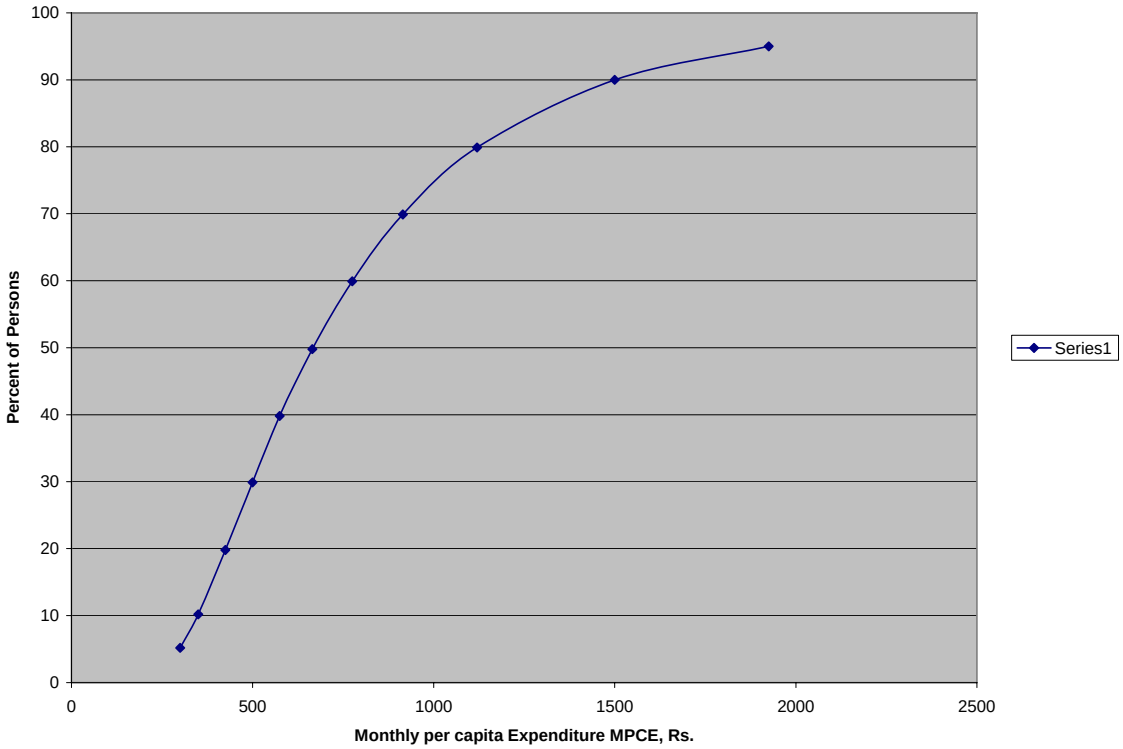
Source: Table 6. Col.3, average calorie intake by expenditure groups, plotted against Col.2, average MPCE by expenditure groups.

The official All-India rural poverty line of Rs.327.6 for 1999-00 corresponded to the poverty percentage of 27.4 in 1999-00 using the ogive depicted in Chart 2a from the Table 6 data. Using the relation depicted in Chart 2b, we find that only 1890 calories could be obtained at this poverty line, over 500 calories per day less than the norm. The true poverty line at which 2400 calories

could be accessed however is found to be Rs 565, and as high as 74.5 percent of persons spent less than this amount - the correct estimate of poverty for 1999-00.

Similarly from Chart 3b we find that the All-India official urban poverty line of Rs.454 allowed only 1875 calories to be accessed. In order to access the RDA the urban consumer needed to spend Rs.625, but 45 percent of persons were below this level

Chart 3a Percentage of Persons below specified Expenditure levels (ogive) All-India Urban, 55th Round 1999-00

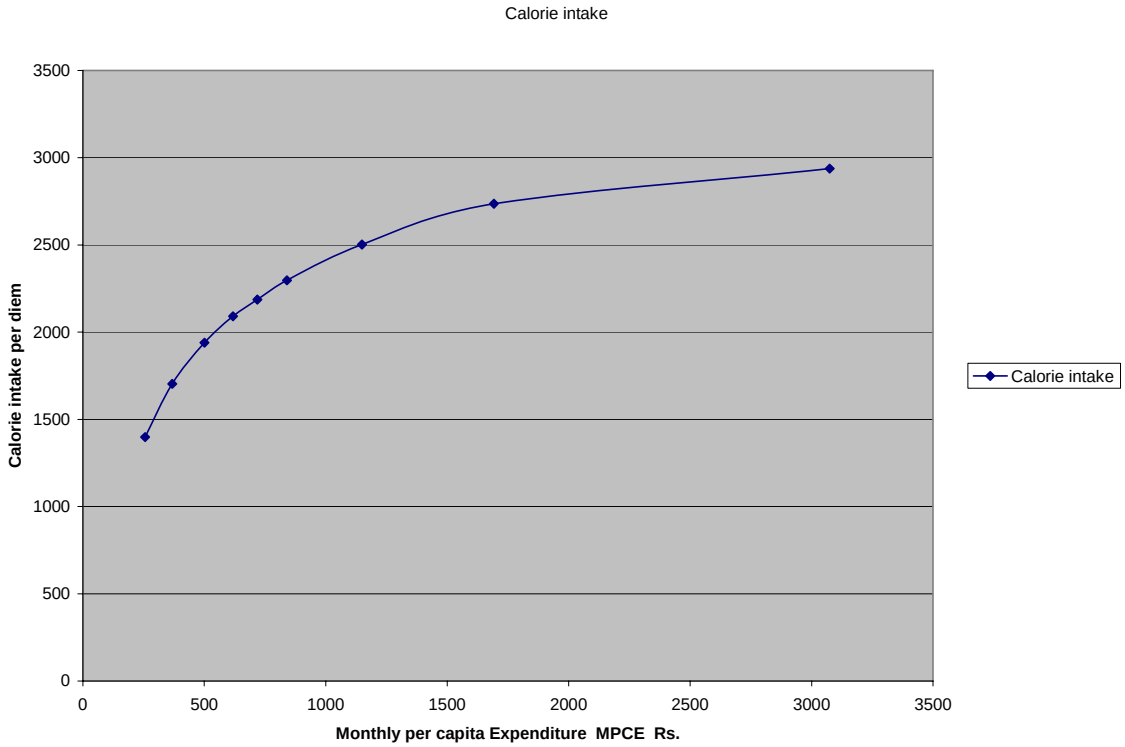


Source : Table 6. As the last expenditure class is open-ended (Rs. 1925 and above) the point corresponding to 100 has not been plotted. If we assume that the class mid-point is close to the class average Rs. 3074.2 the upper end value would be approximated by 1925 + 2(3074.2 - 1925) or Rs.4223.4.

Why does the official poverty line come to less than three-fifths of the actual cost of accessing the nutrition norm and in what sense therefore is it any longer a 'poverty line' at all? It is this unrealistically low official 'poverty line' which is giving rise to the low poverty estimate which leaves out 47 percent of the rural population who are actually poor. The basic reason as earlier mentioned, for this very large official underestimation of actual poverty is that the Planning Commission has not been applying its own original nutrition norm directly to the current data but has been simply bringing forward the poverty line calculated for 1973-74, by using a price index. It is only in this base year, 1973-74, that what may be termed the *direct* method of applying the

nutrition norm to the consumption data to obtain the poverty line at which the nutrition norm could be accessed, was actually followed. (Even here there is some doubt about the actual norm applied, a matter we discuss later). Ever since then the method has been what we can term an *indirect* one of applying a price index to this base year poverty line to bring it forward, without any reference to the actual current cost of obtaining the nutrition norm, although information on this was available. The consumption basket in the base year has been held constant over time and its cost updated by using the Consumer Price Index for Agricultural Labourers. At this indirect, price adjusted poverty line however, the current consumption basket is such that the nutrition norm can no longer be accessed. The crucial fact which is not mentioned to the public is that at this price-adjusted poverty line of Rs.328 for All-India, food giving only 1890 calories daily could be purchased, over 500 calories below the RDA.

Chart 3b Per capita calorie intake by average MPCE, All-India Urban



Source: As Table 3a Number of expenditure groups reduced from twelve to nine by pooling some groups with close means.

Rohini Nayyar (1991), discussing poverty estimates for the 1960s and 1970s, and Jaya Mehta and Shanta Venkatraman (2000) discussing the 50th Round, 1993-4, had already drawn attention to the inability of the price-adjusted poverty lines to capture the actual current cost of reaching the nutrition norm. The fact is also well known to the Planning Commission and to the individual estimators following the price-index method in more recent times. What these latter economists still do not seem to understand, is that the methodological basis of their estimates is thereby rendered incorrect and the inference they draw regarding change in poverty over time or regarding relative poverty across states, has no logical validity. As we will show in this paper,

the All-India and state wise estimates of poverty obtained by the Planning Commission and by individual academics who follow the same method, cannot be validly compared over time and statements about rise or decline in poverty cannot be made. Nor at a given point of time, can the states be compared with respect to their extent of poverty.

The divergence between the official poverty lines and the actual cost of accessing the nutrition norm, was small to begin with but has been steadily widening as the base year for the consumption basket, gets further back in time. The rural poverty lines derived by bringing forward the base year, 1973-74 poverty line of Rs.49 using the Consumer Price Index for Agricultural Labourers, came to Rs.56 in 1977-8, Rs 86 in 1983, Rs.206 in 1993-4 and Rs. 328 in 1993-4. These official poverty lines are summarized in line 4a of Table 7. When we apply the CPIAL to the last figure to bring it to 2004 we get Rs.354 as the poverty line. The NSS consumption expenditure surveys have thus been rendered irrelevant for deriving the official poverty lines. All that is used is the base year direct poverty line and the price index.

These *independently calculated* poverty lines, have been applied to the cumulative distribution of persons or the *ogive,* to arrive at the percentage of persons below these poverty lines. The rural poverty percentages so derived, shown in line 4 of Table 7, are 53.1 in 1977-8, 45.7 in 1983, 37.3 in 1993-4, 27.4 in 1999-00 and 29.5 in 2004-05. At these official poverty lines which give these percentages, we find by using the second graph we have plotted for each year, namely the relation between per capita expenditure and the per capita calorie intake, that the maximum calorie intake accessible per diem was 2170 calories in 1977-8 (230 calories below RDA), 2060 calories in 1983 (340 calories below RDA), 1990 calories in 1993-4 (410 calories below RDA) and 1890 calories in 1999-00 (510 calories below RDA). The calorie level accessible at the 61st Round, 2004-5 poverty line is likely to be 1800 or less, entailing a deficit of 600 calories or more per diem from RDA – we will know the exact situation if and when the nutrition data of this Round become available. Line 7 of Table 7 shows the steadily increasing deficit from RDA of the energy intake at the official poverty lines for successive large-sample years.

With the nutritional intake associated with the price-adjusted official poverty line steadily falling over the successive estimates, the poor are being counted not as all those below an invariant nutrition standard but all those below a standard which is being steadily lowered over time. This very important fact, although it is well known to the estimators, is never mentioned by them in their papers. The price index adjustment to a base year basket obviously has not only failed to capture the actual current cost of accessing minimum nutrition at each point of time, additionally the extent of failure has been increasing over time. It is not just the case that the particular price index being used is the problem and there exists some 'ideal price index' which can capture the changing actual cost of accessing the required energy intake. Angus Deaton's exercise with alternative price indices produce even lower poverty estimates than the official one (Deaton 2003b). The structural changes in the economy are such that no price index applied to an invariant consumption basket relating to 1973-74, can possibly capture the altered set of choices that consumers face over time. The real question is, why use at all, an indirect method of price index adjustment to the cost of accessing an increasingly distant base year consumption basket, with all its attendant problems, when current data are available which permit the direct estimate of the poverty line every five years. (At most, the price-index

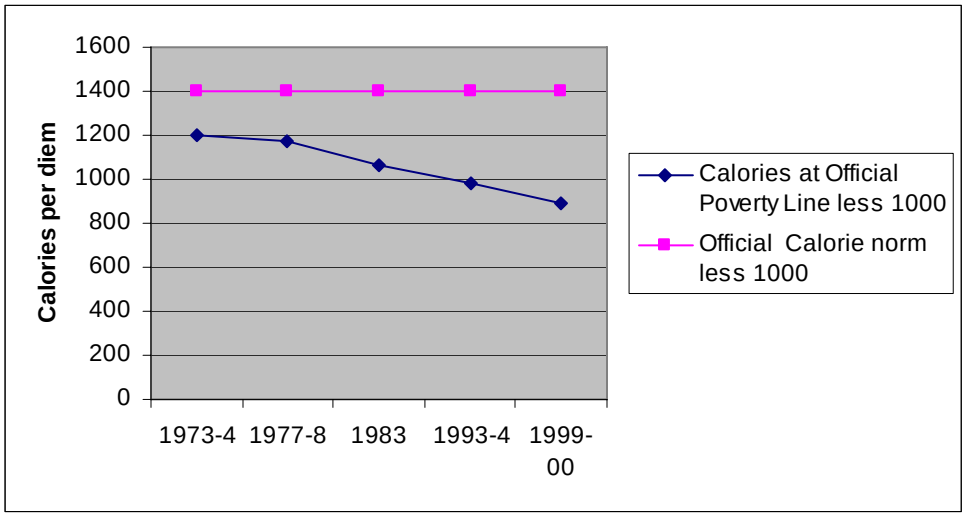
adjustment should be confined to the intra-quinquennial period and thus the base year for the consumption basket should not be more than four to five years back at a maximum, before the next large sample data set become available).

Table 7 The Rural Poor as Percent of Rural Population in India

ROUND NO:	28 1973 -74	32 1977 -78	38 1983	50 1993 -94	55 1999 -2000	61 2004 -05
Direct Method						
1.MPCE giving 2400 Kcal,Rs (Poverty line)	56*	67	120	325	565	n.a. (>626 ikely)
2.Percent below Poverty Line	**72***	**65.5**	**70**	**74.5**	**74.5 (77.5)**	**n.a.** (> 80 likely)
Indirect Method						
4.Price adjusted Poverty line, Rs. Official	49*	56	86	206	328	363
5. Percent of Officially 'Poor'	**56.4**	**53.1**	**45.7**	**37.3**	**27.4**	**29.5**
6.Calorie intake at Poverty line	2200*	2170	2060	1980	1890	n.a.
7.Deviation from RDA of 2400 Kcal	-200	-230	- 340	- 420	- 510	(- 600 likely)
9. Modified Price-adjusted Poverty line, by taking b) Base year MPCE, giving 2400 Kcal	56	64	98	235	374	414
10. Percent which should be officially 'Poor'	**72**	**63**	**54**	**49.2**	**39**	**41.5**

Source: For Indirect estimates line 3 onwards, Planning Commission. For direct estimates, by constructing Chart 2 and Chart 3 for each large sample Round for which calorie data were available, from NSS Reports
*See text discussion on the inference that the initial unstated calorie norm applied to get the official poverty line of Rs.49 is likely to have been 2200, the expenditure required for the 2400 calorie norm or initial poverty line is Rs.56 and the percentage of persons below this about 72 percent.

Chart 4a Declining Calorie Intake at Official All-India Rural Poverty Lines , 1973-4 to 1999-00

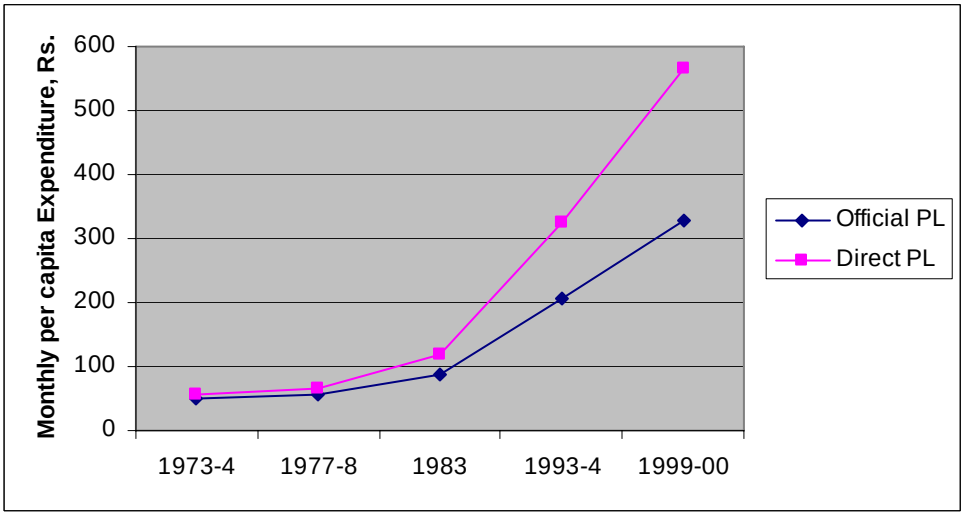


Source: Table 7 line 6. A constant 1000 calories have been deducted from both sets in lieu of starting the Y-axis values from 1000, which may be taken roughly as the base nutrition line for adult survival.

This lowering of the nutrition standard over time inherent in the official method, is the reason for the observed 'decline' both in official poverty estimates, as well as in the individual estimates published in the *EPW 2003* issue - which quite clearly is a spurious decline, for no valid comparison over time is possible when the standard is being lowered (or altered in any way). To give an analogy, suppose we are watching an Olympic high jump event not directly but mediated through television, where the camera focuses only on the successive jumps. At the first try the jumper just barely clears the bar, at the second try she clears the bar by three inches and at the third try she clears the bar by six inches. It is claimed that the performance has improved greatly over the successive tries and obviously everyone believes the claim. However without anyone's knowledge, the bar has been lowered by six inches for the second try compared to the first and again by six inches for the third try compared to the second. The actual situation is that the performance has worsened and the jumper is jumping three inches lower at the second attempt and six inches lower at the third attempt compared to the first attempt. Obviously the claim of 'improvement' is spurious and moreover it involves suppression of information since the fact of the lowering of the bar is kept carefully hidden from the public.

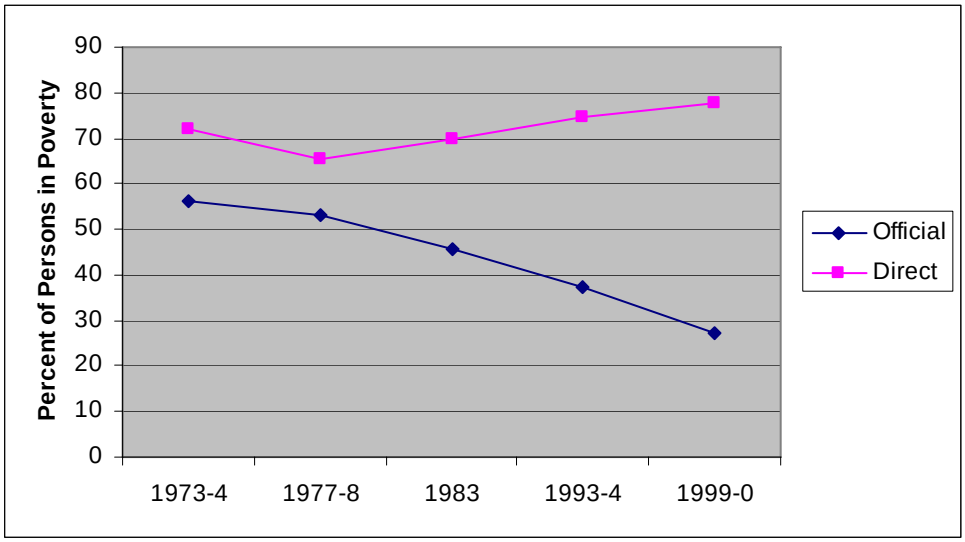
The 'bar' has been lowered by about 100 calories per diem for All-India, for every successive five-yearly estimate since 1977-8 and by year 2000 it was about 500 calories per diem lower than RDA on average. For some states however it had been lowered by 250 calories only and for others by as much as 900 calories per diem. Official and individual claims of poverty reduction in the 1990s are spurious and arise from this clandestine lowering of the consumption standard, a lowering which is inherent in the official estimation method itself which has de-linked estimation from the nutrition norm after 1973-74.

Chart 4a Official and Directly Observed Poverty Line, All-India Rural



Source: Table 7

Chart 4b Official and Directly estimated poverty percentages, All-India Rural



Source: Table 7

The strong word 'clandestine' is used advisedly because neither the Planning Commission economists nor a single one of the other academics presenting their poverty estimate using the official price adjustment method, have bothered to mention the crucial fact of the lowered calorie

intake corresponding to their poverty estimates for different points of time, when publishing their papers, although they are well aware of it since *exactly the same data set they are using for expenditure, also give the calorie intakes.* As we have seen, the data on physical quantities of foods, gives the calorie intakes on applying the standard table of calories per kilogram for different foods; and exactly these same physical quantities are valued and aggregated to give the food expenditure, which is added to other spending to give the total expenditure. It is not proper academic procedure to use data selectively – to use the expenditure data while ignoring and never mentioning the necessarily associated energy intake, as is being done by those estimating by the indirect method. Their estimates would certainly have been questioned much earlier if this information was known to the educated public.

The Planning Commission has never officially given up the nutrition norms on the basis of which rural and urban poverty was defined. The majority of economists in India believe that these norms are still being followed. The reality is however that the actual procedure of estimation has meant giving up not just these particular nutrition norms after 1973-74, but *has meant giving up any nutrition norm whatsoever*. *The question of nutrition has been rendered irrelevant in the official method.* There is not even any lower bound which is set to the fall in the energy intake corresponding to official and other academics' poverty lines – for some states it has already fallen to 1500 calories or less by 1999-00 (see Table 8), hence single-digit poverty levels are being claimed although in reality poverty is very high. By the 61st Round for some states calorie intake accessible at official poverty lines will be below 1400 calories, over 1000 calories per diem below RDA. Thus a completely different measure entailing a different definition of 'poverty' is being used, compared to that which is adhered to theoretically. This definition will logically lead to further absurd claims of great 'success' in poverty reduction when the official poverty estimates for all-India reach single digit levels as they will soon do. The real reason would be that the poverty line is far too low for anyone except a few unfortunate destitutes and beggars to survive below it.

If the official procedure has always led to spurious poverty reduction, why has the *extent* of such spurious reduction been much greater in more recent years during the 1990s, compared to earlier decades? Checking the official rural poverty percentages from Table 7, over the decade from 1973 to 1983 there was a decline by about 10 points from 56 to 46, over the next decade to 1993-4 there was a decline by 9 points to 37, but over a mere six years from 1993-4 to 1999-00, the decline was by 10 points to 27. It is the huge decline by 10 points over only six years in the 1990s, which made people sit up and take notice of poverty estimates. Urban official poverty percentages too are lower by a massive 15 points during the dozen years 1987-8 to 1999-00 compared to much smaller official declines in the 15 years preceding 1987-8.

If we remember that distribution of persons by expenditure levels is skewed with two-thirds spending less than the mean expenditure in both rural and urban India (which is reflected in the slope of the ogives) and that the relation of calorie intake to expenditure is also non-linear, we get the answer. Both curves rise fairly steeply as we go from very low to medium levels of MPCE, then rise less steeply and thereafter level off. The initial official poverty lines were not too distant from the correct poverty lines required to access the nutrition norm, and looking at the slope of the 1999-00 rural ogive in Chart 2a at the correct poverty line of Rs. 565, obtained from Chart 2b, at which 2400 calories can be accessed, we see that every Rs.50 underestimation of the poverty line

from this point would reduce the percentage in poverty by about 6 points. At an official poverty line expenditure which is already substantially lower than the true one by say Rs.115 giving Rs.450 as the PL however, every Rs 50 further underestimation of the poverty line leads to about 10-11 points decline in persons below this line. At the severely underestimated level of Rs.380, an additional Rs.50 of underestimation to Rs.330 (which is about the actual official PL level), leads to a massive 15 points decline, simply because we are getting to the extreme left hand end of the distribution and there is a sharp drop in the percentage of people still surviving at such very low expenditure and calorie intake levels. This of course assumes that the ogives when drawn in terms of real expenditure are not shifting over time, but even if conditions are actually getting worse and the real ogives are shifting leftwards, provided the shifts are still small, we would get an overall net decline in official poverty percentages every five years owing to the cumulatively larger underestimation bias in the latter's poverty lines, and this is what we do observe up to the 55th Round, 1999-2000. The 61st Round however has bucked the trend of decline in official poverty, and the reason is that there has been a much larger leftward real shift in the rural ogive itself during the last five years compared to the 1990s, as agrarian depression has intensified and real income decline has become more pervasive engulfing larger groups of people – a shift so large that it has outweighed the built-in large underestimation bias in the official procedure. A few results from the 61st Round are discussed next.

Some initial findings from the 61st Round

The 61st Round data on distribution of persons, and average expenditure, by expenditure groups has been just released in December 2006, but the calorie intake data have not so we cannot make the direct poverty estimate yet. Using the indirect method to update the 1999-00 poverty line of Rs.328 by the CPIAL, we get Rs 363 as the official poverty line for 2004-5 and the corresponding poverty percentage from the Chart 5 ogive is 29.5 percent, which is a slight increase over 1999-00. The official poverty percentage has not ceased to be spurious; that it has does not show a further decline as in previous years arises from the fact that *there is more intense and pervasive agrarian crisis so that there is a larger substantial leftward real shift of the ogive over the last five years especially its lower half*, a shift in the sense at any given real expenditure level a much higher fraction of the population falls below that level at the latter date, and 'real expenditure' in the sense that, if there was a way to capture adequately in advance (before the energy intake data became available) the actual total rise in spending required for accessing the nutrition norm – which current indices do not - and we deflated the observed expenditures by such an index, the values would fall well below those of 1999-00. The adverse inter-quinquennial shift is so large, that even the substantial extent of poverty underestimation involved in the official method, cannot outweigh its effect this time. This also means that once the calorie intake data are available they would show a much higher direct poverty estimate likely to exceed 80 percent at the RDA, as well as much greater poverty depth.

The proposition that a) there has been a substantial worsening of income distribution, and b) that the worsening has been of a particular type, namely absolute real decline in the incomes of the majority and increase in that of the minority, is supported by the 61st Round expenditure data compared to the 55th Round in Table 8. We are obliged to use the Consumer Price Index for Agricultural Labourers by default, even though it does not capture the real expenditure decline fully or properly. Four-fifths of the population had absolutely lower expenditure in 2004-05 when

we deflate the later figures by the CPIAL (see col. 3) compared to 1999-00 (col.5) while only the top one-fifth of the population showed higher real expenditure. The exercise of inflating the 1999-00 expenditure by the CPIAL shows that actual expenditure (col.2) was lower than what it should have been (col.7) for 80 percent of the population. Only for the top 5 percent of households was the spending rise substantial in real terms.

Table 8
Monthly per capita expenditure in Rupees in 61st Round, 2004-05 compared to 55th Round, 1999-00 by Groups of Persons, All-India Rural

1 Percent of Persons 2004-05	2 Average MPCE Actual 2004-05 (U-30)	3 (2) Deflated by CPIAL to 1999-00	4 Percent of Persons 1999-00	5 Average MPCE Actual 1999-00 (M)	6 Average MPCE 1999-00 scaled down	7 (5) inflated to 2004-05
Lowest 30.3	289.9	261.70	Lowest 30.2	269.5	260.1.	298.6
Next 19.6	408.98	369.18	Next 20	379.8	366.5	420.7
Next 30.5	552.94	499.13	Next 29.8	503.4	484.7	557.7
Next 14.7	853.04	770.00	Next 14.9	741.6	715.6	821.5
Top 4.9	1956.57	1766.18	Top 5	1354.3	1306.9	1500.3
100	558.78	504.4	100	486.16	469.1	538.6

Source: Calculated from data in NSS Report No. 457, *Level and Pattern of Consumer Expenditure in India, 1999-2000* (A-16, A-233) and Report No. 508, *Level and Pattern of Consumer Expenditure in India, 2004-05* (A-12, A-240). U-30 is uniform 30 day recall for all goods and M is mixed recall with 365 days recall for infrequently purchased items.

The 'adjusted' expenditure figures also presented at the end of the 61st Round Report 508, in addition to the standard tabulations throughout using uniform 30 day recall for all items (adjusted expenditure uses data from an alternative 365 day recall for spending on 5 infrequently purchased items thus yielding a mixed reference period). Adjustment for mixed recall pushes up the overall average expenditure by 3.6 percent The fractile-wise adjusted figures seem most dubious and counter-intuitive.[6] We have used the uniform 30-day recall for 2004-05 above. To take account of the comparability problems with the 55th Round gratuitously introduced by using

[6] For the top two expenditure classes the expenditure on the group of infrequently purchased goods on the one-year recall, is considerably *lower* than the unadjusted spending on these goods while for all other, poorer classes it is substantially *higher*. There is no explanation why the really well-to-do should report spending much *less* on clothing, footwear and durables with a one-year recall while poorer people report spending much *more*

only a mixed reference period in the latter, if we now scale down the 1999-00 spending figure in col.5 by 3.6 percent then there is stagnation but no observed decline in 'real spending' for the lowest half of all households (compare col.3 and col.6). But we must remember that the CPIAL in any case is not satisfactory and does not capturing real change adequately.

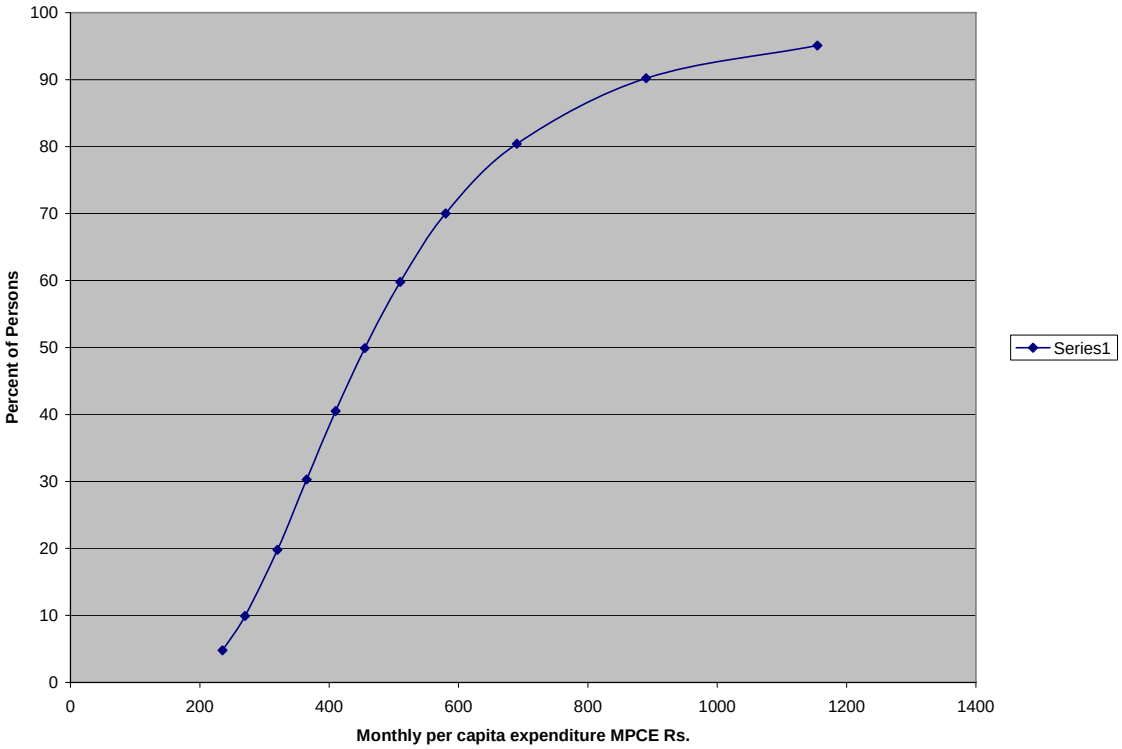
As Table 9 shows the share of the poorer 60 percent of persons in total expenditure declined from 41.8 in 1999-00 to 38.6 in 2004-05, while the share of the top 5 percent rose from 13.9 to 17.3. We have independent data on agrarian distress from *Income, Expenditure and Productive Assets of Farmer Households, 2003* (NSS Report no.497). The actual decline of *incomes* has been greater than that of expenditure, since for 88 percent of households the total income from all sources did not cover consumption and led to deficit. In many states deficits were financed through asset depletion by the majority who reported negative investment ((Tables A-178 to A-192) and for All-India, net investment per household on productive assets was a paltry Rs.124 over the entire year. Further the Land and Livestock Surveys (NSS Report no.408 for 1992 and Report no. 493 for 2003) show a larger loss of land than at any previous time since Independence: the proportion of totally landless households (zero operational land, neither owned nor leased in) has gone up sharply from 22 to 32 percent between 1992 and 2003 at the All-India level and a number of states show much higher than average rise in landlessness.

Table 9 Share of Groups of Persons in Total Expenditure comparing 55th and 61st Rounds, Rural India

	55th Round 1999-00		61st Round 2004-05	
	Percent of Total		*Percent of Total*	
	Persons	Expenditure	Persons	Expenditure
Lowest	10.2	4.5	9.9	4.0
Next	20	12.3	20.4	11.7
Sub-total	***30.2***	***16.8***	***30.3***	***15.7***
Next	30.2	25.0	29.5	22.9
Sub-total	***60.4***	***41.8***	***59.8***	***38.6***
Next	19.6	21.5	20.6	20.6
Next	15	22.8	14.7	22.5
Sub-total	***34.6***	***44.3***	***35.3***	***43.1***
Top	***5***	***13.9***	***4.9***	***17.3***
All	**100**	**100**	**100**	**100**

Source: As Table 8.

Chart 5 61st Round, 2004-05 ogive for Rural India



Source: As Table 8. The average spending in the top open-ended expenditure class (Rs. 1155 +) was Rs.1956.6, implying an upper end value near Rs.2758 for taking the above ogive to 100.

These states include Andhra Pradesh where between 1992 and 2003, the landless households rose from 37 to 53 percent of all rural households, Tamilnad shows a rise from 36 to 67 percent, and Kerala where the rise is very striking, from 6 to 38.6 percent. The landless percentage has doubled in Haryana, Bihar and W.Bengal, all from around 14-15 percent to 28-30 percent. Effectively the gains of past land reforms have been reversed by the impact of market-oriented reforms in unleashing rural depression.

Initial Official 1973-4 estimate is likely to have applied a lower-than RDA norm

Let us return to the question of falling calorie intake at official poverty lines. Even if the concerned economists making the indirect estimates might have believed initially that price indices could capture the rise in the cost of accessing the nutrition norm, they no longer had any reason to believe it by the 1990s. By then it was clear that much lower calorie intake than the RDA, could be accessed at official poverty lines. Rohini Nayyar in her careful doctoral study, *Rural Poverty in India* (1991) had clearly pointed out the sharply widening difference over time, between poverty percentages obtained by direct application of calorie norm to the data and the poverty percentages obtained by taking a base year poverty line brought forward using a price index, and had

specifically concluded that the direct method of applying the calorie norm, was preferable to using the indirect price adjustment method. M.S. Suryanarayana (1996) in a detailed discussion of the concepts and methods used for estimating expenditure by the NSS, had pointed out that the economic environment for labourers and poorer farmers was changing over time in such a manner that the same real expenditure embodied lower quantities of food and fuel than a quarter century earlier in the 1960s, rendering the use of official poverty lines of dubious value, and he had advocated using direct quantitative indices for measuring poverty. Mehta and Venkatraman (2000) had drawn pointed attention to the 'tragedy of the commons' - without using the phrase - and had established that the unavoidable and rising non-food monetized expenditure on utilities (fuels, transport, health etc.) meant that food expenditure in real terms was forced down to a lower level by 1993-4 compared to earlier. The situation today is even worse: without adjusting for price rise, the current expenditure on food itself is absolutely lower by 2004 (60th Round data) compared to 1999-00.

The 1993 *"Report of the Expert Group on Estimation of Proportion and Number of Poor*' had made two recommendations - that the earlier practice should be discontinued, of blowing up the NSS fractile- specific consumption figures by using the proportion of aggregate CSO consumption to NSS consumption, and it had also recommended that state-specific price indices should be used to estimate the state poverty lines. The official estimates for all years after 1973-74, have been reworked according to these recommendations. But, unfortunately, the Expert Group did not consider departing from the indirect method of price-adjustment in favour of the direct method for all previous estimates, nor did it bring the base year for the consumption basket, forward to 1993-94 as it could have done (this would have meant, taking RDA of 2400 calories, a rural poverty line for 1993-4 of Rs.325 and not Rs.206, and would have given a price adjusted poverty line by 1999-00 of Rs. 517).[7] It is still not clear why so many academics in Universities should have uncritically followed the Expert Group recommendations and treated a mere Report as the *Vedas* and the *Upanishads,* ignoring all critical voices.

The poverty lines as calculated according to the recommendations of the Expert Committee, were thus de-linked from the necessity of satisfying any nutrition norm at all. This *de facto* deviation from the original definition of poverty has far-reaching methodological implications which have not been fully appreciated by the academic community. It renders logically invalid every attempt to compare the extent of poverty, both across states at a given point of time as well as over time both for individual states and at the All-India level. The precise type of the logical fallacy involved is the *fallacy of equivocation,* discussed briefly in the last section.

The only logically correct method is to apply the same consumption standard over time to obtain the actual changing current cost of accessing it. If we apply the official 2400 rural calorie norm in Table 7, we find that the true poverty lines at which this norm could be actually accessed, was Rs.120 in 1983, Rs.325 in 1993-4 and Rs.565 in 1999-00. The true poverty lines were higher than the official poverty lines by 40 percent, 58 percent, and 72 percent at these dates. The percentage of persons below the true poverty lines were 70 percent in 1983, 74.5

[7] If the base year for the consumption basket had been brought forward to 1993-4, the new rural poverty line of Rs. 325 adjusted by the CPIAL up to 1999-00 would be Rs.517, no doubt below the directly observed, correct poverty line of Rs.565 for that year, but not such a gross underestimate as the Rs.328 official poverty line. Rural poverty at a poverty line of Rs.517 for 1999-00, is 68 percent.

percent in 1993-4 and without adjustment for recall period change, 74.5 percent also in 1999-00 while with adjustment the last figure would be at least 77.5 percent. Thus poverty is extremely high affecting at least three quarters of the population and far from declining, it has been increasing.

Considering the persons below a lower nutrition level of 2100 calories, which gives an idea of poverty depth, the conclusion of increase in rural poverty in the 1990s does not change. They made up 52 percent in 1977-8, 48.5 percent in 1983, 49.2 percent in 1993-4 and 49.5 percent in 1999-00 without adjustment for change in recall period, and at least 52.5 percent after adjustment (Table 10).

Some authors have been misled by the repeated claims that the observed fall in the share of food expenditure in total expenditure over the successive Rounds, shows the operation of positive 'Engel effects' indicating people are getting better off. But they forget that while a fall in the food share of total expenditure is a necessary condition for people to be better off, it is not a sufficient condition. The food share of total expenditure will fall also when people are getting worse off and their income and expenditure is stagnant or falling. This is because under such conditions of stagnant or falling income, the minimum unavoidable non-food spending on fuel for cooking and lighting, debt service, health-care, transport to work and so on, which are becoming more expensive, will force reduction in the food expenditure and raise hunger. For over three-quarters of India's rural population it is such absolute decline in spending on food and rise in hunger which is associated with the falling food share. This proposition receives strong support from the fact that at the official poverty lines the share of spending on fuels and on 'miscellaneous goods and services' has risen further between the 55^{th} and 61^{st} Rounds while there is decline in real spending on food.

Many authors have pointed out that the estimation basis for the initial official poverty lines was itself opaque, since the calorie data for that year, 1973-74, were never published and the estimate was based on a limited nine-month NSS sample (Mehta and Venkatraman 2000, Rath 2003). As a check we find, plotting the NSS data for the earlier year 1970-71, which did give the calorie data and which have been reproduced in Rohini Nayyar (1991), that 72 percent of the rural population was below 2400 calories, and 54 percent was below 2200 calories in 1970-71. **This suggests that the official estimate of 56.4 percent in poverty for 1973-74, was not of the right order of magnitude to correspond to the official norm of 2400 calories RDA. The period 1970-1 to 1973-4 was of rapid food price inflation which gave rise to widespread unrest and to the Price Rise Resistance Movement led by Jaiprakash Narain. Inflation did not moderate until the draconian laws of the Emergency period 1975-78. It is impossible that using the same norm of 2400 the poverty percentage could have declined to such a large extent over a mere three years from 72 percent in 1970-1 to 56 percent by 1973-4.**

The official 56 percent figure for 1973-4 while not at all consistent with a 2400 calorie norm, is entirely consistent with a 2200 calorie norm. Our hypothesis is that the initial official estimate itself was fudged, perhaps because the actual estimate of 72 percent or more of the population in poverty corresponding to the recommended 2400 calories RDA, appeared far too 'alarming'. This would explain the non-transparency – probably quite deliberate – of the basis of the estimate, that earlier writers have noted. This also implies that the initial 'poverty lines' themselves are underestimates for the 2400 norm since they actually corresponded to a lower norm. This is borne out by a quick check – in 1970-1, the expenditure enabling a rural person to access 2400 calories was Rs.40, and since the CPIAL rose by 40 percent it should have been Rs.56

at least by 1973-74 and not Rs.49, the official figure. The same argument applies to the urban poverty line which should have been higher than stated.

Any fudging of this kind always results in the estimators being hoist by their own petard. Initial poverty levels appear less alarming, but the subsequent rise in poverty applying the official nutrition norm, appears more alarming than it actually is – from 56 percent in the base year to nearly 75 percent by 1999-00 while the actual increase is likely to have been from around 72 percent to nearly 75 percent (and to at least 77.5 percent with adjustment for recall period change). In Table 7, line 8b, we give the price-index adjusted poverty lines appropriate for a 2400 calorie norm in the base year which cost Rs.56 and not Rs 49, and in line 8, the corresponding poverty percentages. The difference by 2004-05 is quite large - the poverty line should have been Rs.414 and the corresponding poverty percentage 41.5 and not 29.5, even using the faulty price adjustment method, if the 2400 norm had been actually applied in the base year.

The official procedure of simply bringing forward the base-year poverty line, amounts to computing a Laspeyres index with the base-year quantities assumed unchanged and adjustment being made only for price change. A good survey of the price-index adjustment method and the methodology advised by the 1993 Expert Group is available in S. Rath (2003). Most of the individual estimates, which arrive at similar or even lower poverty estimates than the Planning Commission, were presented at a World Bank sponsored conference in 2002 (the authors include A.Deaton, K. Sundaram and S.D.Tendulkar, S.Bhalla, G.Dutt, V Kozler and M. Ravallion), and these papers were conveniently collected in a special issue of the *Economic and Political Weekly*, January 2003 which carried the tendentious legend on the cover, 'Poverty Reduction in the 1990s'.

Large Reduction in Nutrition standard at official Poverty Lines in many States

The public is never informed, when poverty estimates are quoted, of the drastic dilution of the energy intake norm. Large though this dilution is, it does not prepare us for the truly heroic reduction of the consumption standard for many states, owing to the extremely low state – specific poverty lines being applied, which are much lower than the already unrealistically low All-India poverty line. The calorie intake accessible to the rural consumer in Tamilnad at the official 'poverty line' of Rs. 308 per month (or Rs.10 per day) for 1999-2000, was only 1510, a full 900 calories below RDA while in Kerala it was 1440 calories, nearly 1000 calories below RDA (See Table 10).

How do we obtain the calorie intakes at the official state poverty line? The basic data are available in the same format for each individual state as the All-India data in Table 6. By plotting for each state the same two curves - the ogive and the relation between average per capita expenditure and average per capita calorie intake depicted in Charts 2 and 3, we can obtain the calorie intake accessible at the official poverty line in each state. In all I have plotted 135 relations myself – one graph containing the two relations for each of the 15 large states for the four large-sample years after 1973-4, for which calorie data were available, and the ogives for the 60^{th} Round, 2004.

At some level simple common sense appears to have been abandoned by the estimators. Since we are not talking of historical data, the current cost of living is known to the estimators from their own daily experience. It is strange that any economist can seriously propose that

Rs.10 per day even in an Indian village can meet one person's expenditure on all food and non-food requirements (and this is inclusive of the value of farm-produced output which is consumed). In reality it would buy just over one kilogram of the cheapest rice on the open market, or one litre of bottled drinking water. For Andhra Pradesh the 1999-2000 official poverty line was even lower at Rs.263 per month or Rs.8.7 per day. Only about one-tenth of the population was found to live below this spending level, at which they could access at most 1590 calories per day. No doubt they belong to the poorest among the tribal and Dalit groups. We can well imagine how much more adverse their morbidity and mortality rates would be in relation to already adverse average rural levels. These unfortunate persons would be on their way to early death.

The official and individual poverty estimates would certainly be much more widely and sharply questioned than they are at present, if it was generally known that the nutrition norm has been abandoned, and hence the consumption standard corresponding to official poverty lines is not only being quietly lowered over time, it is being lowered over time to widely different degrees in the different states. Assertions about alleged decline in poverty, based on such undesirable and un-academic practices, once these practices are understood, are bound to be discredited. For it is only owing to the de facto but unstated drastic dilution of the energy intake norm over time, that the poverty percentage for some of the S. Indian states, with the highest levels of actual poverty of over 70 percent, are stated to be below 15 percent.

There is a debate among the academics following the official, indirect method, that owing to change in the recall period during the 55th Round, 1999-2000 compared to earlier Rounds, actual expenditure is overstated in every expenditure class, and hence the distribution of persons by expenditure classes has been affected. Making the required adjustment for comparability alters the distribution slightly and raises the 27 percent below the Rs.328 official price –adjusted poverty line, by another 1 percent according to Sundaram and Tendulkar (2003), and by 3 percent according to Deaton (2003a). If these adjustments are correct, quite obviously, the percentage of persons below the directly observed poverty line of Rs.565 would also rise, to roughly an equal extent if we assume a rightward shift of the relevant ogive. The already large difference between the indirect official estimate and the direct estimate would increase further. Thus all those with less than 2400 calories intake per diem, in 1999-2000 would be at least 74.5 + 3 = 77.5 percent of rural population, which is a rise compared to 74.5 percent in the 50th Round, 1993-94. Similarly those below 2100 calories would rise from 49.5 percent to at least 52.5 percent.

The lack of comparability arising from alteration in the recall period however, is of trivial importance, lowering the official estimate at most by 1 to 3 percent of population, compared to the fundamental problem of lack of comparability arising from the unstated alteration in the consumption standard inherent in the indirect method all these estimators uncritically use, which as we have seen, lowers the official estimate by 47 percent of the population to only 27.4 percent compared to the true estimate of 74.5 percent.

In Table 7 we have given the direct estimate for 1999-2000 unadjusted for recall period as well as the roughly adjusted direct estimate in brackets below. The main analytical point being made in this section, focuses on the mistake involved in the indirect method itself which is leaving out nearly half the actually poor, *and this basic problem with all indirect estimates not*

only remains but gets further aggravated, whenever adjustments are made by the estimators on account of altered recall period. It may be noted that with the adjustment for recall period, they are leaving out more than 50 percent of the actually poor rural population from their set of 'the poor' while without the adjustment, they were leaving out 47 percent of the population.

4. The Fallacy of Equivocation in the Official method

The fallacy of equivocation' is a logical fallacy, arising from a specific type of verbal fallacy, in which the same term is improperly used with two different meanings in the course of the argument to draw the inference, which therefore is not deductively true. Modern books on logic follow Aristotle's classification of fallacies supplemented by recent analysis (Aristotle's *De Sophisticis Elenchis* or 'The Sophistical Refutations'). They usually give the students examples of the fallacy of equivocation, which are quite transparent, in that it is obvious from the context of the word or phrase used, where the fallacy lies. We can construct an example of the fallacy of equivocation as follows:

"The Professor has been delivering her address for one hour to the gathering of students. Therefore every student knows exactly where she lives."

In this sentence it is clear that the term "address" is being used in two quite different senses in the premise and in the conclusion - 'address ' in the sense of speech, and 'address' in the sense of place of habitation. There is *equivocal* use of the term, so the inference 'every student knows exactly where she lives' is not true.

Fallacies of equivocation in economics are more difficult to spot than in the above simple example. Intelligent people who are not specialists, do not scrutinize arguments by economists carefully (and nor do fellow economists not directly working in that particular area) because they trust the specialists at the intellectual level and so tend to take it for granted that terms which express concepts, must be correctly used by these trained professional scholars. This is a reasonable expectation but unfortunately it is by no means always satisfied, as the official method of poverty estimation and the uncritical following of the same method by individual economists following the 1993 Expert Group Report, shows.

The official poverty estimation method discussed in the previous sections provides an excellent example of the *fallacy of equivocation.* The issue turns on declaring a particular concept and definition of the term 'poverty line expenditure' and applying it in a particular year, but then using a completely different definition of 'poverty line expenditure', and improperly drawing the inference that 'poverty' has declined. The fallacy of equivocation thus arises because the term 'poverty line' is used in two different senses in the course of the same argument, so the inference about change in poverty, is not true. The fallacy has been committed by the Planning Commission in India since 1973-4, by the 1993 Expert Group which recommended continuing with the same fallacious method, and by a number of individual economists uncritically following the procedure advised by the 1993 Expert Group.

Some academics try to rescue their erring peers in an empiricist manner, by saying that the *de facto* nutrition norm has been lowered a bit from the *de jure* one, and it is not such an

important matter to make a fuss about. They point out that bodies like the Food and Agriculture Organization, have been suggesting of late, lower than 2400 calories RDA – the figures being 2110 calories for south Asia and an even lower level of 1810 for India as a minimum. It is indeed a fact that, having signally failed to reduce poverty itself, all international bodies which talk of poverty reduction are lowering the nutrition norms instead or deflating already low dollar poverty lines, and thereby sanitizing their global poverty estimates to lower and less embarrassing ones. But such empiricist rescue efforts simply carry no conviction when we see what the abandoning of the nutrition norm has done to official poverty lines in India: they have been reduced to conceptual garbage as Table 8 demonstrates.

No international body has said, or can ever dare to say that 1400 to 1600 calories are acceptable nutrition norms for developing countries (the average actual intake in advanced countries is over 3,000 calories per day). Within India, not even the late P.V.Sukhatme who was a vigorous campaigner for a less than 2400 calories norm, would have agreed that a 1700 calories or less daily intake per capita for any population, was reasonable – he himself had used a 2200 calories norm in one of his own estimates (Sukhatme 1971). Sub-human energy intake levels of 1440 to 1700 calories however, by 1999-00 are associated with the official poverty lines for many states (Andhra Pradesh, Gujrat, Kerala, Tamilnadu) while Punjab and Haryana are very close with 1720 calories or less being accessible at their official poverty lines. By 2005 these states will have 1300 to 1600 calories only accessible at their official poverty lines and officially poverty will have nearly disappeared.

Drastic lowering of the calorie intake from norm, owing to extremely low poverty lines are necessarily also implied in the same procedure followed by the individual academics writing in *EPW 2003*. Thus Angus Deaton calculated, using his own price indices, All-India rural poverty line of Rs 303 per month for 1999-00, even lower than the official Rs.328, and thereby arrived at a rural poverty percentage of 21.6, lower than the official 27.4 percent (Deaton 2003b, p.367, Table 5). He did not mention however that at his daily poverty line of Rs.10, equal to 22 US cents per day, the calorie intake accessible was only 1800, even lower than the 1890 accessible at the official poverty line.

At Deaton's recalculated poverty line for Punjab of Rs.316.5 (p.367, Table 5), we find from our plotted charts relating to Punjab, that only 1480 calories were accessible. It is no wonder that only 2.7 per cent of rural population in his estimate were 'poor' since 1480 calories is a semi-starvation level, which cost nearly Rs.50 less than the already too low official poverty line at which 1710 calories were accessible.[8] Yet some economists are celebrating the alleged 'disappearance' of poverty in rural Punjab on the basis of such selective use of the NSS data which ignores the dimension of nutrition completely. (Landlessness has gone up in Punjab by nearly 10 percent points between 1992 and 2003 as NSS Report no. 493 shows, and by 1999-00 over 36% were consuming below 2100 calories daily compared to 30% five years earlier – see Table 10. Recent pervasive farmer suicides suggest that the situation in 2004-05 is worse). The deafening silence of all the economists using the indirect method, on the nutritional intake *necessarily* associated with their estimated poverty lines, bodes ill for the basic

[8] For many other states like Andhra Pradesh, Deaton's recalculated poverty lines give higher estimates than the Planning Commission ones but are of course still far below the correct estimates applying the nutrition norm.

requirement of academic work, that it must follow the principles of logic and of intellectual transparency. Academic work cannot be treated in such a cavalier manner, where data are used selectively and elementary logical principles of comparability that the world has known for two thousand years, are openly flouted.

Once the nutrition norm is abandoned owing to following the faulty indirect estimation procedure, since there is no lower bound set to the extent of decline in the energy intake accessible at the poverty line, in many states this variable will drop by 2010 below the level of 1100 calories per day, which nutritionists say is required by a 3-year old child for normal growth, or by a man doing no work at all and lying on a *charpoy* all day. 'Poverty' so estimated will officially disappear even when it is actually high and rising, simply because hardly anyone can both work to earn a living, and survive at the sub-human poverty lines of the Planning Commission and the equally low poverty lines of other economists or of the World Bank.

Further, the argument that for international comparison, the already very low ad hoc measure of a dollar a day poverty line should be further adjusted downwards to only one-quarter to one-fifth, according to the varying purchasing power of developing country currencies, makes no economic sense. Even the reverse adjustment to the one-dollar poverty line, namely taking a multiple according to purchasing power, would not give us anything but a travesty of a poverty line for the U.S. Thus, today, one U.S. dollar when spent within India buys exactly as much as Rs.44.5 does (which is nearly four times the official poverty line), given the exchange rate of Rs. 44.5 = US $ 1. While the purchasing power of the U.S. dollar is about a quarter in the U.S. compared to its purchasing power in India, surely it is not the case that $ 4 per day, or less than $1500 per year, would be a reasonable per capita poverty line for the USA. How can it be maintained one-sixteenth of this level or 25 cents is an adequate poverty line for India. Economists need to think through the lack of logic behind deflating the one-dollar measure.

It is the state-wise estimates in India which really bring out most starkly, how the price-index adjustment procedure has led to a most bizarre and arbitrary variation of the calorie intake levels corresponding to the official 'poverty' estimates for states. As earlier mentioned for each state the data are available in published form and can be plotted as in Charts 2 and 3 This enables us to obtain the calorie intake accessible in each state at the Planning Commission's state-specific poverty line. I have plotted the data for all Rounds for which the calorie data are available, but Table 8 gives the data only for the two latest Rounds. We can see the amazing range of state-wise variation of the calorie intakes accessible at official poverty lines in the 50th Round, 1993-4, from 1625 calories in Kerala to 2230 calories in Orissa, with the All-India figure standing at 1980.

By the 55th Round, there is further decline in the calorie intake which can be accessed at the official price-adjusted poverty lines, in every state except Gujarat: the range now being from 1440 calories in Kerala to 2120 in Orissa with the All-India figure dropping further to 1890. The other Southern states also have extremely low official poverty lines, at which the calorie intakes are, 1600 in Karnataka, 1590 in Andhra Pradesh and 1510 in Tamilnad and the corresponding poverty estimates are accordingly pushed down to very low levels.

The official estimate of poverty for Orissa was 48 percent, over four times higher than that for neighbouring Andhra Pradesh at only 11 percent. But how can we possibly compare and infer that Orissa was poorer than Andhra Pradesh once we know from Table 10, that the officially poor in Andhra Pradesh are all those persons consuming below 1590 calories while the officially poor in Orissa are all those consuming below 2120 calories? In fact the actual poverty in Orissa (persons accessing less than the RDA of 2400 calories) was lower than in Andhra Pradesh and poverty depth was also substantially less, those accessing below 2100 calories being 46 percent compared to 62 percent in Andhra Pradesh. Similarly the 13 percent official poverty figure for Gujarat cannot be validly compared with the 44 percent official poverty figure for Bihar and the former state said to be less poor, when we see that the calorie intake standard has been pushed down to 1680 in Gujarat compared to 2010 in Bihar. In fact actual poverty incidence in Bihar was less than in Gujarat and poverty depth was also less as the last two columns show. The official poverty estimates are not comparable across states at any given point of time, and they are not comparable across time in any state.

The conceptual confusion surrounding the poverty debate has been compounded by some authors who talk of 'calorie deprivation' and 'income poverty' as though they are two separate concepts. As argued throughout this paper, there do not exist two different concepts of poverty but only one concept, using a nutrition norm, though there exist two different statistical methods. The official definition is based precisely on the *concept* of 'calorie deprivation' ascertained by direct inspection of the data on the distribution of persons by expenditure levels and the corresponding energy intakes, and the poverty line is simply the expenditure at which the stated nutrition norm could be accessed. The problem has arisen owing to the unwarranted switch to an estimation *method* which has abandoned the nutrition norm completely by implicitly adopting a different definition of poverty line, by following the method of price index adjustment to the 1973-74 poverty line. This switch to a different method has entailed a steady decline in the actual average energy intakes accessible at official poverty lines. This de-linking of the official and individual academics' estimation method from the nutrition norm, combined with the use of state-specific price indices, has led by 1999-2000 to the most bizarre outcome in terms of widely differing extents of lowering of the official poverty lines and hence of the consumption standard below which the poor are counted, ranging from 1440 calories per diem in Kerala, nearly 1000 calories below RDA to 2120 calories per diem in Orissa, 280 calories below RDA. The resulting official poverty estimates no longer make any conceptual sense, and cannot be compared either across states or across time as Table 10 demonstrates. The mountains have laboured hard, but they have produced only mice.

Table 10 Planning Commission Poverty Estimates by States and Calorie Intake at Official Poverty Lines compared to Direct Poverty Estimates

	Indirect Official Estimate				*Direct Estimate*			
	1993-94		**1999-2000**		**1993-4**	**1999-00**	**1993-4**	**1999-00**
	Official Poverty At PL	*Calorie Intake at PL*	*Official Poverty at PL*	*Calorie Intake at PL*	*<,2400 Calories Poverty*	*< 2400 Calories Poverty*	*< 2100 Calories Poverty*	*< 2100 Calories Poverty*
	%		*%*		*%*	*%*	*%*	*%*
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
ALL-INDIA	***37***	***1980***	***27.4***	***1890***	***75***	***74.5 (77.5)***	***49.2***	***49.5 (52.5)***
EAST								
Assam	45.0	1935	40.0	1790	93	91	62	71.0
Bihar	58.2	2150	44.3	2010	73	78	51	53.5
Orissa	49.7	2230	48.0	2120	70	79	42.5	45.5
West Bengal	40.8	2080	31.9	1900	72	81	42.5	55.0
SOUTH								
Andhra Pradesh	15.9	1650	11.1	1590	84	84	56	62
Karnataka	29.9	1815	17.3	1600	75.5	82.5	57	50
Kerala	25.8	1625	9.4	1440	84	82.5	64	60
Tamilnadu	32.5	1650	20.6	1510	87	95	77.5	76
WEST -CENTRAL								
Gujarat	22.2	1660	13.2	1680	83.5	85.0	64	68.5
Madhya Pradesh	40.6	2010	37.1	1850	72.5	78	47.5	57.5
Maha-Rashtra	37.9	1820	23.7	1760	89.5	92	75	55.0
Rajasthan	26.5	2100	13.7	1925	46	52.5	26.5	27.5
NORTH								
Punjab	12.0	1825	6.4	1710	52.5	58.5	30	36.5
Haryana	28.0	1990	8.3	1720	55	47.5	34	30.5
Uttar Pradesh	48.3	2230	31.2	2040	65.5	61.5	38.5	37.5

Source: As Table 6. For each state, on the same graph I have plotted a) the ogive or cumulative frequency distribution of persons below specified per capita expenditure levels as in Chart 2, and b)the relation of per capita expenditure and per capita calorie intake as I Chart 3. Calorie intake corresponding to the official estimates was obtained from these graphs. Figures in brackets for All-India, indicate rough adjustment for recall-period change – no adjustment is shown for the states. All-India includes all smaller states and Union Territories.

Sharply Declining Rank Correlation between Direct and Official estimates of State-wise Poverty

As Charts 6 to 9 show, the four Southern states are the ones for which poverty is officially underestimated to the greatest extent in India since there is a heroic 800 to 1000 calories per diem deficit from RDA at the official poverty lines. Although Andhra Pradesh, for example had 84 percent of rural population with below- RDA intake during both 1993-4 and 1999-00, officially poverty is shown as only 16.5 percent at the earlier date and to have declined to a mere 11 percent by the later date. The reason is that only 1650 calories could be accessed at the official poverty line and this has further declined to 1590 calories. Similar is the case in Tamilnad and Karnataka The fact that Kerala has always historically shown low average calorie intake but good performance on vital rates (low death rate, low IMR, low maternal mortality) has led to a great deal of complacence in official circles. It is forgotten that equality of access to food is an important factor, and that "while the level of dietary inadequacy is undoubtedly the dominant determinant of undernutrition, the level of primary health care in the community can significantly modify the severity of its clinical manifestations" (Gopalan 1992).

In West- Central India poverty is official under- estimated to the largest degree in Gujarat and Maharashtra, since the calorie deficit from RDA at the official poverty lines are 600 per day or more, while in Madhya Pradesh too there is a big deficit of over 500 calories at the poverty line. In North India poverty is underestimated to a substantial extent in both Punjab and Haryana with calorie deficit from RDA being nearly 700 per diem at their poverty lines. In East India poverty is underestimated to the largest extent in Assam while W.Bengal too has a substantial deficit of 500 calories at its poverty line.

By the 61st Round 2004-05 the calorie intake corresponding to the new official poverty lines in the Southern states are likely to be further lowered to between 1300 and 1450. Punjab and Haryana, hitherto the most prosperous states in rural India, have been experiencing serious problems with the loss of an internal market to the tune of 26 million tonnes of foodgrains owing to the sharp fall in per capita foodgrains absorption in the country following income-deflation, shown in Table 5. Poverty has been officially made to nearly disappear in Punjab and Haryana however, because their state-specific official poverty lines are so low that only those able to access less than 1720 calories are being counted as the officially poor. The actual situation is disturbing. In both Punjab and Haryana over half the rural population was in poverty in 1993-4, and while in Haryana poverty had declined slightly, in Punjab both the below-RDA poverty as well as the depth of poverty has risen, with 36.5 percent of persons consuming below 2100 calories in the 55th Round compared to 30 percent in the 50th Round.

The picture with respect to actual poverty is fully consistent with the adverse macroeconomic trends in the rural economy in terms of rising unemployment and falling foodgrains absorption discussed in the first section and is borne out by the recent NSS surveys on farmer assets and indebtedness, and their incomes in relation to consumption. In only 4 states out of the 15 major states of India (Assam, Kerala , Haryana and Uttar Pradesh) has directly estimated rural poverty fallen slightly between 1993-4 and 1999-00 as Table 10 shows, while in 11 of the remaining 12 states poverty has risen over the period. It must be remembered that we

are making no adjustment for the change in recall period and the rise in poverty in these 11 states would be greater if this was done. In the remaining state, Andhra Pradesh poverty is high and constant at 84 percent over the period, but poverty depth has increased, since the percentage of population below 2100 calories has risen. Karnataka registers moderately lowered poverty depth despite rise in poverty.

The only state in the country which has reduced poverty depth very substantially during the economic reforms period despite overall poverty rising a bit, interestingly, is Maharashtra where the percentage below 2100 calories has fallen drastically from 75 to 55 while the below 1800 calories percentage (not shown), has also fallen from 38 to 26. This reduction in poverty depth is undoubtedly the positive result of Maharashtra's long-standing employment guarantee scheme and is a good augury for the current National Rural Employment Guarantee Act, 2005 provided it is properly implemented. Of course, the 1999-00 data predate the problems of cotton farmers and pervasive suicides in Vidarbha.

The rise in poverty in West Bengal during the nineties might surprise some given the positive effects of land reforms and revived functioning of panchayats in that state since 1978. In fact between the 32nd Round, 1977-8 and 50th Round, 1993-4 there was a large drop in poverty in West Bengal, the percentage of persons with intake below 2400 calories declining from 84 to 72, and also a big drop in poverty depth, the percentage of persons below 2100 calories declining from 67 to 43 while, most importantly, the below 1800 calories percentage also declined drastically from 40 to 17. (The 1977-8 and 1983 data for states have not been presented here since it would lengthen the paper inordinately and will be presented later along with urban estimates). Thus the nutrition data are entirely consistent with all previous analyses pointing to the very positive results of the first 15 years of Left Front rule in the State. With neo-liberal reforms there was perforce a cut-back in development expenditures in W.Bengal too as in other states, as the Central govt. taking a strongly deflationist stance, reduced tax devolution and gave loans only at exorbitant interest. Some of the earlier gains have been reversed by 1999-00 compared to 1993-4: thus the percentage below 2100 calories has risen to 55 from 43, and the below 1800 calories percentage to 22 from 17, which is certainly a disturbing development.

Rohini Nayyar (1991) in her careful doctoral study, had estimated poverty using both methods and had noted the widening divergence in the results between 1961-2 and 1977-8. She had taken some solace from the fact that though poverty levels estimated by the two different methods were drawing apart quite fast, at least they did seem to *move in the same direction* over time. The ranking of the states of India according to their poverty levels estimated using the two methods, was highly correlated : Nayyar found that Spearman's rank correlation coefficient worked out to 0.89 and 0.84 (using the official estimate on the one hand, and two different direct estimate norms of 2200 and 2000 calories) and was significant at the 1% level . But by the 1990s this conclusion no longer holds. The poverty levels calculated by the two methods are moving fast in opposite directions and the rank correlation may soon become negative. Spearman's rank correlation taking the poverty ranks of the states by the official indirect method, and by the direct method for 1999-2000, 55th Round data, works out to only 0.236 and 0.075 (using the same two direct estimate norms) and neither is statistically significant at the 1% level. [9] Inspection of

[9] "Poverty Estimates in India: A Critical Appraisal" Ramanand Ram, M.Phil Dissertation submitted in JNU, 2004.

Table 10 along with Charts will tell the reader why this is the case: some of the states with the lowest official poverty, such as Andhra Pradesh, a by-word for agrarian distress, have some of the highest actual poverty.

Chart 6a Official and Direct Rural Poverty Estimates, Southern Region

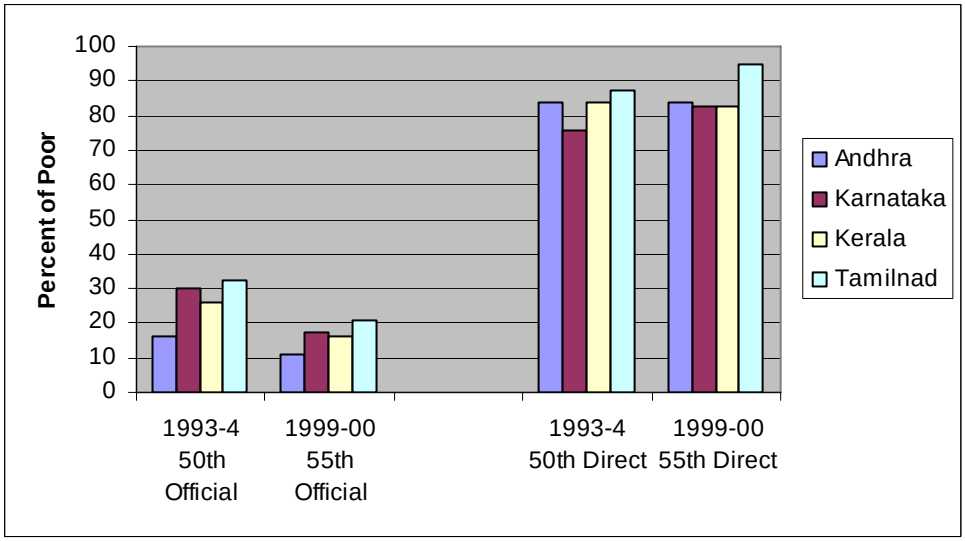
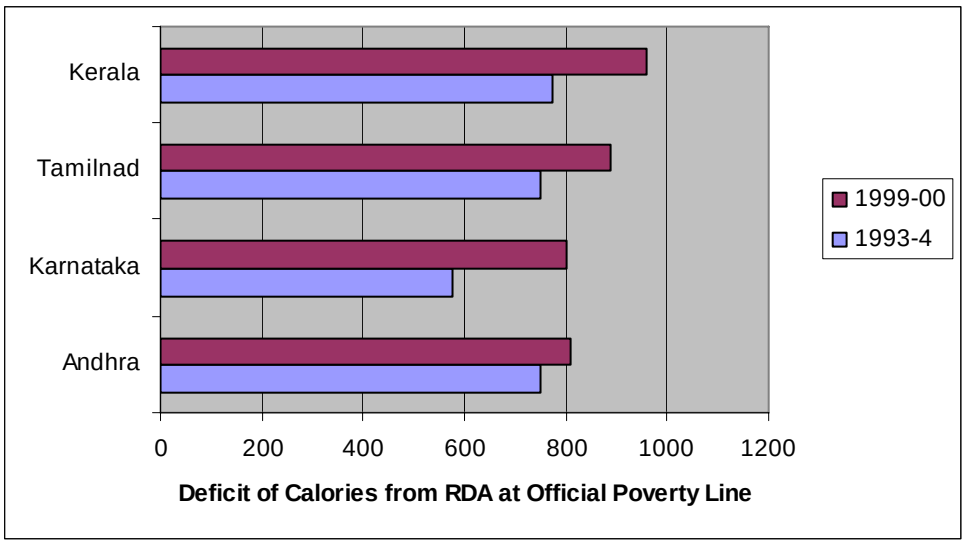


Chart 6b Shortfall of Calorie Intake from RDA at Official Poverty Lines



Source : Table 10

Chart 7a Official and Direct Rural Poverty estimates, West-central Region

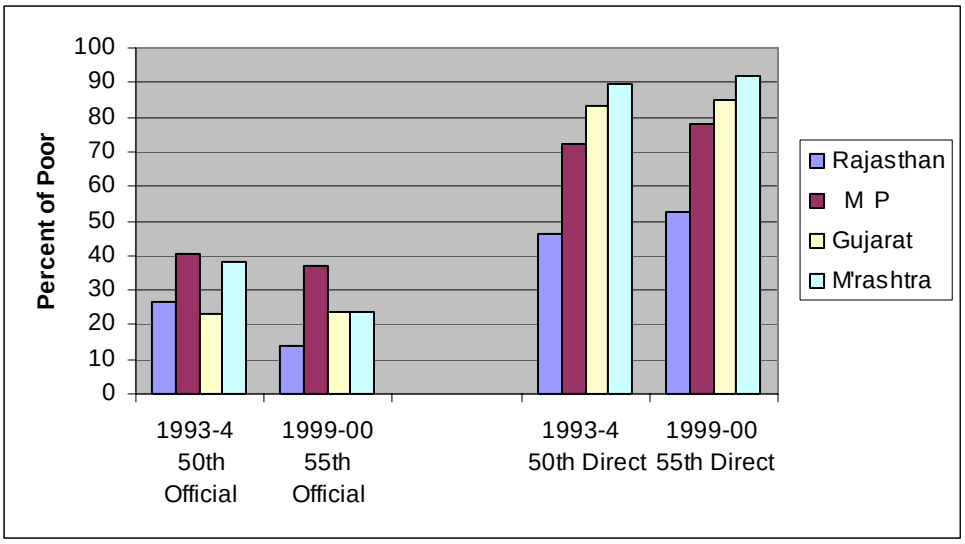
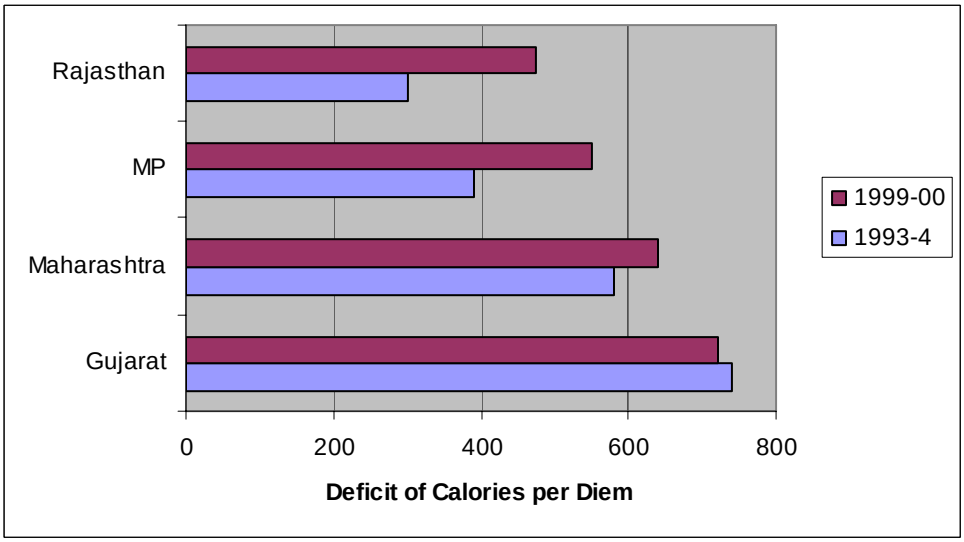


Chart 7b Shortfall of Calorie intake from RDA at official Poverty lines



Source: Table 10

Chart 8a Official and Direct Rural Poverty estimates, Eastern Region

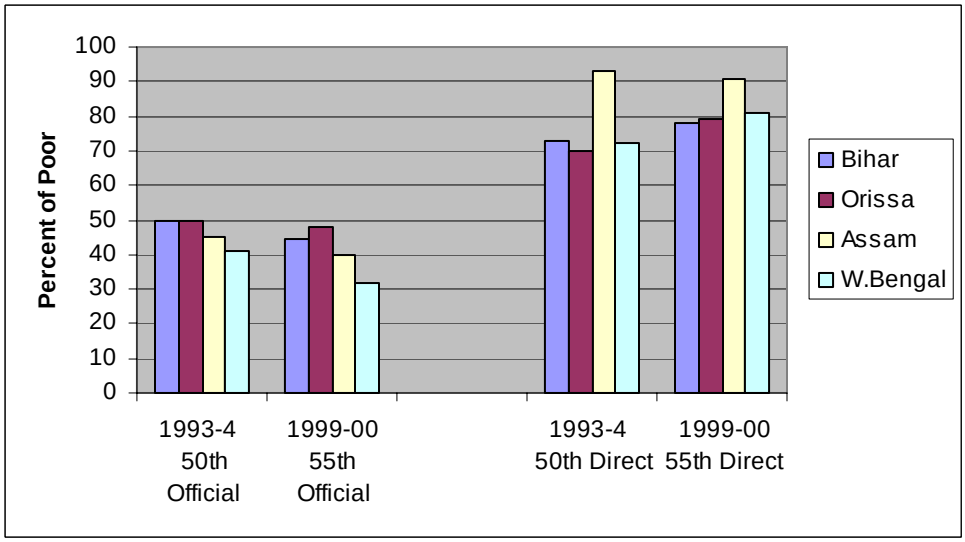
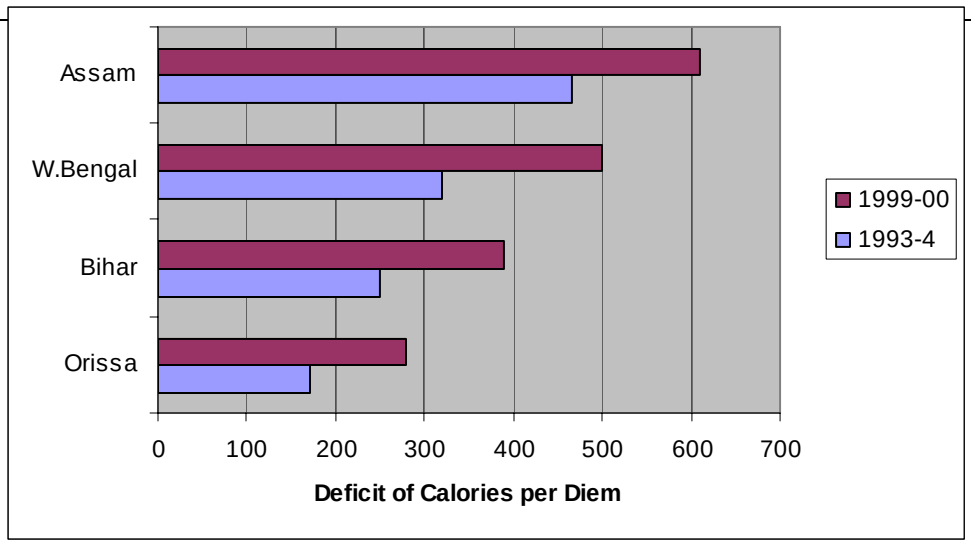


Chart 8b Shortfall of calorie intake from RDA at Official Poverty Lines



Source: Table 10

Chart 9a Official and Direct Rural Poverty Estimates, Northern Region

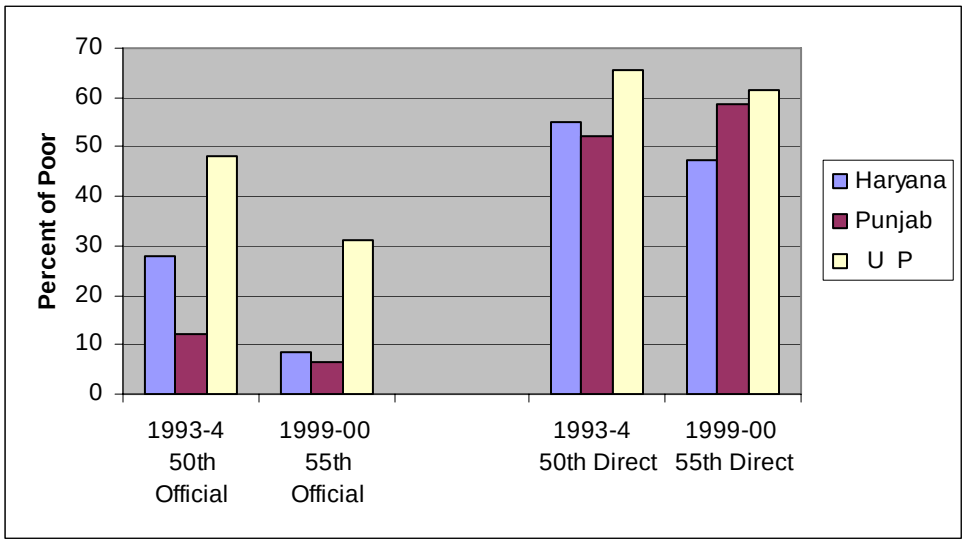
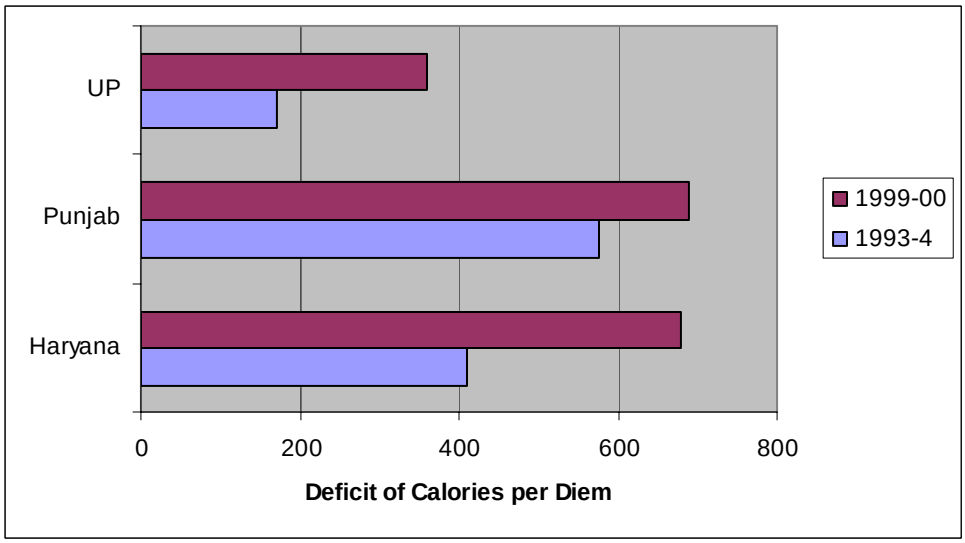


Chart 9b Shortfall of Calorie Intake from RDA at Official Poverty Lines



Source: Table 10

It must not be thought that all economists have been following the fallacious official method recommended by the 1993 Expert Committee which has resulted in the contretemps of drastic underestimation of poverty, and arbitrary variations in poverty across states, in the official estimates. There are a number of academics who are not only critical of the official method but who have rightly put nutrition back at the centre of their analysis of poverty. Rohini Nayyar's

doctoral research which also contains a thorough discussion of the question of nutritional norms has been mentioned already. Many economists writing more recently have followed a direct poverty estimation route, though a different one from inspecting and calculating from current NSS data – the method I have followed in this paper. They have estimated the minimum cost of accessing the calorie RDA on the basis of current nutrient prices by solving for the classic 'diet problem' and thus have obtained a normative food expenditure. By comparing with the actual expenditure on food in the NSS, they arrive at the percentage of persons failing to reach this required food expenditure, and this comes to 66 percent at the All-India level for the 55th Round (See Coondoo, Majumdar, Lancaster and Ray 2004, Ray and Lancaster 2005). However since they assume a rather high and constant value for the food expenditure share of 0.7 (thereby not taking account of the over-time rising share perforce spent even by the poor on irreducible non-food essentials), they derive a total expenditure estimate or poverty line, which is too low. Such an assumption of constant shares of food and non-food spending over time, will not lead us too far astray when everyone's income is rising, but it becomes problematic when incomes for large consuming segments are stagnating or declining as is actually the case. For then there can be enforced absolute decline in food spending, hence decline in the share, associated with worsening welfare.

S. Subramanian (2005) has analysed the impact of relative food price rise, and the loss of common property resources on the demand for food, using the theory of consumer demand to show, in his own words, that "…(a) at an income level which the official methodology equates with the poverty line, it would not be compatible with optimizing behaviour to consume food at its calorifically normative level; and b) the level of income required to induce optimal consumption of the calorific norm will be greater than the officially stipulated poverty line" (61). He has also criticized the official procedure of taking an invariant base-year consumption basket, as assigning arbitrarily a normative value to the consumption pattern of a particular year.

J.V.Meenakshi and B.Viswanathan (2003) have used the statistical technique of kernel density functions to estimate the distribution of persons by calorie intake and have presented the resulting ogives. It might at first sight appear that they are following the direct method of estimating poverty but this is not the case. While other authors using the official method, have de-linked poverty level expenditure from any nutrition norm, Meenakshi and Viswanathan's procedure is the mirror opposite. They have conceptually de-linked nutritional levels from consumer expenditure and given a different name, 'calorie deprivation' to their estimates as though 'calorie deprivation' is unrelated to what they call 'income poverty'. The point bears repetition however, that the *same* set of NSS data on the physical quantities of foods on which the sample households spend, are generating on the one hand the food expenditure part of the expenditure data, as well as on the other hand, the calorie intake data. It is as much selective use of the NSS data, to talk of energy intake alone without relating it to the associated expenditure as the concerned authors do, as it is to talk of expenditure alone without relating it to the associated energy intake as the official estimators have been doing. The poverty measure involves a necessary connection between expenditure levels and average energy intake permitted by the expenditure levels, on which periodically updated information is being provided by the NSSO. Why then de-link the two variables when discussing nutrition? The only result is to muddy the conceptual waters further and to permit the spurious claims of declining poverty to go unchallenged even when nutrition is discussed, because any mention of what is happening to

average nutritional intake *at the official poverty line expenditure* is avoided. (The fact that even in high income groups a substantial proportion of persons have low calorie intake is to be expected, for while poverty will necessarily lead to low intake, from low intake alone poverty cannot be inferred since the well-to-do include fashion models, racing jockeys, anorexic youth and old or sick persons unable to absorb food . In short low calorie intake is a necessary but not sufficient indicator of poverty, and for obtaining a sufficient index, expenditure levels have to be factored in. An estimated distribution of persons by calorie intake with no reference to expenditure levels, will not give a correct measure of poverty).

As might be expected, some of those involved in the 1993 Expert Group Report are trying to defend their positions either directly or by proxy. But the arguments being put forward are a total academic embarrassment and would not be worthy of even being mentioned here were it not for the fact that they continue to be repeated *ad nauseam* in public fora. One argument is that in any poverty ranking the state of Bihar 'can be expected to come at the bottom' and since applying the nutrition norm directly does not put Bihar at the bottom, the nutrition norm should not be applied. Those putting forward or defending this gem of illogicality exposing their prejudices regarding Bihar, happen to be themselves from the Southern states which have the highest recorded levels of rural nutritional deficit and landlessness in India. Another argument defending the official estimates is that there has been mechanization in agriculture and the energy intake that rural labourers need has therefore come down. One can scarcely find a clearer example of apologetics than this *non sequitur*, which is worthy of being placed along with Nassau Senior's infamous argument in the 1830s about 'the last hour' (that the working day in English factories should not be reduced from 11 to 10 hours because capitalists made all their profits 'in the last hour'). The totally sedentary but nevertheless very well fed academics making or propagating this argument that mechanization both implies and justifies lower energy intake of workers, are doubly involved in the fallacy of *non sequitur*. First, the argument assumes that labourers were adequately fed before mechanization and there is scope for reducing intake, which is not the case; second, it assumes that with mechanization human energy intake necessarily goes down, while the converse is observed to be the case everywhere. Even if we consider Asia alone, the highest levels of energy intake of rural workers are in the most agriculturally mechanized countries like Japan, Korea and China which have seen rising nutritional standards of rural workers as their incomes rise, which is as it should be since the aim of raising labour productivity through mechanization is precisely to improve the lot of people.

Reasons for Inability of Official Poverty Lines to Capture actual Poverty Incidence

Why has the official method increasingly understated the actual incidence of poverty until it has reached such an absurd extent of nearly half the poor being left out? As we have seen, price index adjustment to a base year poverty line, cannot capture the actual changing cost of accessing the energy RDA over time. This is not entirely because the particular price index which is used has a problem, and there exists some other, ideal price index which would do the job. It is certainly true that in constructing the consumer price index for agricultural labourers, a zero or negligible weight is given to many items of spending which are in practice unavoidably important for even poorer workers such as transport to site of work, coping with ill-health, and basic utilities. Altering the weighting diagram of the CPIAL to take realistic account of these items would certainly help a bit, but not all that much. The more important problem is the

arbitrary procedure of applying the given price-index to a fixed consumption basket which goes back as far as 33 years. However well constructed the price index itself might be, this procedure of taking a fixed basket cannot but ignore important and mainly non-reversible structural changes taking place in the economy over time, which are responsible for altering the choices faced by consumers such that the consumption basket is altered and there is necessarily a much higher cost today of accessing the minimum energy intake. If when making its initial estimate in 1973-4 the Planning Commission had said that it would take the basket consumed in 1940-41 for estimating current poverty, no-one would have taken its estimates seriously. Yet to this day an army of economists continue to labour away fruitlessly and absurdly, using a 33 year old consumption basket to talk about current poverty: it is hardly surprising that the results of their labours no longer reflect any reality.

The official position in adopting a fixed basket of commodities actually consumed over three decades ago, amounts to saying that, if people consumed the same goods in the same amounts in 2004 as they did in 1973-74 they would be able to satisfy the original calorie norm at Rs 363 per month. They actually 'choose' today to consume a different basket at which they are not satisfying the nutrition norm, but that is their problem. The implicit assumption in this position is that all actually observed consumption baskets are *voluntarily chosen* so the lower calorie intake associated with the official poverty line is also an outcome of voluntary choice. However this is not a reasonable position. To give an analogy, it is like telling a 33 year old person that he has the choice to be conventionally clothed by buying the mere 1 metre of cloth that was needed in 1973-4, to clothe the 6 month old baby he was then. Suppose 1 metre of cloth cost Rs.10 then, and the Planning Commission hands him a perfect price adjusted Rs.74 for buying one metre of cloth today. Obviously the irreversible changes in the person over time means that the choice of being properly clothed with 1 metre no longer exists. At this unchanged real expenditure on cloth, the consumer will be semi-naked and it would be most unreasonable to say that it is 'voluntary'.

Of course, this is only an analogy, the point of which is to stress the mainly *irreversible structural changes* which force an alteration of choices. The implicit assumption of voluntary choice ignores the mainly irreversible changes which are taking place in the economy over time which have altered the set of choices available, especially to poorer consumers. Many of these changes by their very nature, are not capable of being captured by any price index however well-constructed, because after all the quantity weighting diagram of the price index cannot be changed ever year whereas many long-term and shorter term factors are constantly changing the economic environment. The long-term changes include a steadily higher degree of monetization of wages and of inputs and reduced common property resources. The more recent changes after economic reforms started 15 years ago, include rapidly rising cost of public utilities and of health care, as governments withdraw from their responsibilities and privatize essential services.

Over the last three decades there has been substantial monetization of the economy. Wages which used to be paid in kind as grain or meals, valued at low farm-gate prices in earlier NSS Rounds, are now paid in cash which the labourer has to exchange for food at higher retail prices, and so can buy less food for a given real income (Suryanarayana, 1996). Common property resources and gleaning rights for the poor have disappeared over the last three decades (Mehta and Venkataraman 2000); that part of crop-straw, fuel- wood and fodder which was earlier gleaned, gathered or accessed as common property (only partly valued in the NSS data,

and valued at low farm gate prices), now have to be purchased at retail rates, restricting the ability of the poorer population, to satisfy basic food needs out of a given real income and leading to the observed energy intake decline. The staple food grains and fuel-wood or other fuels are obviously, jointly demanded since no one can eat raw grain, and with a real income which is constant or declining, a part of expenditure on grain has to be enforcedly reduced to purchase fuel. To this we have to add, owing to the neo-liberal economic reforms, the higher costs of utilities like power and water as state funding is reduced and some services are privatized, as well as higher transport, health and education costs as 'market pricing' replaces state funding and subsidies.

These arguments receive support from the fact that while in 1993-4, at the official poverty line, as pointed out by Mehta and Venkatraman (2000), 6 percent of spending was on 'fuel and light' and 13.1 percent was on miscellaneous goods and services (which include medical services, transport, education and rent), when we check the 61st Round, 2004-5 data we find that for the expenditure group Rs.320 to 365 which contains the price-index adjusted official poverty line for that year, the share spent on fuel and light was substantially higher at 10.2 and the share spent on miscellaneous goods and services was also higher at 23.4 percent. Adding up the two heads, from 19.1 percent, in 1993-4, within a decade as high as 33.6 percent of spending was being allocated to these heads at the poverty line. A mere Rs.222 per month could be spent on food at the later date which comes to Rs.126 at 1993-4 prices (using CPIAL as deflator), considerably less than the Rs.143 actually spent on food at the official poverty line of 1993-4.

Further, since 1991 the Indian agricultural economy has undergone the impact of the deflationary macroeconomic policies discussed in the first section of this paper, which are reversible. These have entailed large cuts in development expenditures, reducing the level of activity and raising unemployment. Many years of mass demand deflation led to a drastic lowering of the inflation rate by the end -1990s, and even in the severe drought year 2002-03, agricultural prices hardly rose since distress sales ensured easy market supplies, and with lower output demand was further compressed. As may be checked from the line 4 of Table 7, the rise in the official poverty line which reflects the rise in the Consumer Price Index for Agricultural Labourers, was 60 percent between 1993-4 and 1999-00 but the rise has been below 11 percent between 1999-00 and 2004-05. Neo-liberal income and employment deflation has eventually resulted in price deflation in agriculture. The very recent moderate revival of inflation during 2006 is cost-push owing to rising imported oil prices, but unfortunately is sought to be misguidedly targeted with further expenditure- deflating measures.

The official price index adjustment method becomes even more inappropriate for assessing change in poverty in such a deflationary situation. The implicit assumption behind price-index adjustment is that price rise is bad and price fall is good for the poor. But in recent years the drastic lowering of inflation itself has been the result, of the output growth rate falling yet still staying ahead of demand, because aggregate demand itself emanating from the rural masses has fallen even faster than has output (as Chart 1 reflects). Any benefit for the net food purchasers, is more than swamped out by fast rising unemployment. The numbers of the actually poor (below any given calorie norm) rises in such a deflationary situation.

In fact the current situation is worse than the calorie intake data alone indicate, because with such a large fraction of the population already at initially very low energy intake levels,

further fall in intake and starvation is only being avoided through rising indebtedness and asset loss including loss of land by the poorer farmers and by labourers who are trying to stay alive by these means as their incomes fall. Without such adverse asset changes the flow variables like consumption expenditure and energy intake would have been even worse. The 59th and 60th Rounds of the NSS, covering 2002-03 and Jan.-June 2004, were designed to provide a quick 'situation assessment' of the condition of farming families, given the widespread and continuing problem of many thousands of farmer suicides arising from indebtedness since 1998. These surveys shows a substantial rise in high-cost debt from private sources, and a steep rise in landlessness in many states. The official method of price-index adjustment however not only fails to capture rising poverty but shows the opposite of the real trends. The majority of our economists are still caught in the conceptual framework appropriate to the expanding real economy of the 1980s, whereas economic reforms are above all deflationary and unemployment –creating in the material productive sectors. They should study the economics of the Great Depression to see how deflation actually operates.

The solution as regards poverty measurement lies in using simple, direct and transparent indices of poverty and the minimum use of complex, indirect and opaque measures, however enamoured professional economists might be of the latter. The calorie intake by different expenditure groups hopefully will become available soon for 2004-5 from the NSS 61st Round and will permit direct estimation of actual poverty and of poverty depth. Possession of tangible assets, food grains absorption per head, whether the family resides in hard-roofed structures, floor area occupied per family, yardage of textiles consumed, use of electric power – all considered by differing economic levels rather than in terms of overall averages alone - these are some of the simple and crucial indices which will give a clear idea of poverty and its trends over time.

5. *Concluding Remarks*

When actual rural poverty is as high as nearly four-fifths of the population, and poverty depth is increasing with a higher proportion of people being pushed down into lower nutritional status, there is no economic rationale for continuing with a targeted public distribution system. Indeed as I have long argued, apart from the deflationary policies and exposure to the falling global prices, another reason for the denial of affordable food grains to the poor has been targeting using the arbitrary official poverty estimates. The reversal to a demand-driven universal PDS is essential for rectifying the initial mistake made in 1997.

But a demand-driven universal PDS will work well only if mass purchasing power which has been greatly eroded over the last fifteen years, is restored through the implementation of a properly funded National Rural Employment Guarantee Act. The Act has been passed and implementation has started from Feb1, 2006. Within a month, 4 million persons have already registered to offer themselves for work. But the scheme cannot be said to be properly funded at all. A number of economists had pointed out that between Rs. 25,000 crores to Rs.30,000 crores was the order of additional annual expenditure required to give a genuine boost to employment and incomes after taking all multiplier effects into account. This could have been easily

undertaken since tax receipts have been buoyant, owing mainly to the rich getting very considerably richer in recent years. But those controlling the government's finances have already demonstrated their lack of serious concern for dealing actively with the agrarian crisis. All pre-existing employment creating programmes such as SGRY, JRY [10]and all food–for–work programmes which together had accounted for Rs 11.7 thousand crores of the central government's expenditure in 2005-06, have been subsumed under and merged with the National Rural Employment Guarantee programme in the February 2006 budget proposals for fiscal 2006-07, and the total allocation to this is a mere Rs12.9 thousand crores, exactly one-tenth higher than in the previous year. This is in accordance with the prevailing deflationist agenda of those controlling the government's finances and seeking to implement the BWI directives to reduce the fiscal deficit. But this continuing deflationist stance is detrimental to the effective implementation of the Act. Further, deflationist sentiment and the wrong idea that poverty is declining has percolated down to the administrators at all levels, contributing to lethargy. The prognosis therefore remains far from encouraging: the agrarian crisis is not being addressed actively and the trend of increasing poverty depth is unlikely to be reversed unless public pressure is mounted to increase the funding of the NREG substantially to implement the Act, and implementation is accorded the importance it deserves.

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[10] SGRY is Sampoorna Grameen Rozgar Yojana, JRY is Jawahar Rozgar Yojana.

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