



WORKING PAPER

Working Paper No.43

National Sample Surveys data on House
Consumer Expenditure - A Critique

by

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ABSTRACT

The main objective of this paper is to critically examine the methodology adopted by the National Sample Surveys (NSS) for the collection of data on 'Household Consumer Expenditure' (H.H.C.E.) in the country. One of the major defects of the NSS methodology which had been identified here related to the faulty accounting of the food consumed as 'perquisites' by the employee households in the employer households' consumer expenditure accounts rather than in the formers' accounts. This kind of procedure adopted by the NSS led to the overestimation of the per capita consumption of food especially that of cereals in the upper C.E. classes with the consequent under-estimation of the same in the lower C.E. classes in rural areas. However, it must be noted that this erroneous procedure adopted by the NSS had affected only the quality of data of the rural households but not for urban households in the country. Further, we also found a noticeable decline even in the overestimation and under-estimation of the consumption of cereals in the rural areas in the later rounds of enquiry. Nevertheless, it requires on the part of NSS organisers either to replace or modify this particular procedure in a suitable way so that they can produce more authentic and reliable data on H.H.C.E., at least, in the subsequent rounds of enquiry.

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The main objective of this paper is to critically examine the National Sample Surveys' (NSS) data on "Household consumer expenditure" (H.H.C.E.) in India. T.N.Srinivasan and others (1974) in their paper^{1/} have revealed that the NSS estimates of aggregate consumption of cereals in the economy were much higher-by about 38 per cent in comparison to the figures derived from official production and trade data for the year 1961-62. Again the NSS figures on cereal consumption were found to be consistently higher than the official availability figures (in their period of review upto the year 1968-69) but the difference between the two sources has narrowed down rather sharply from the year 1964-65 onwards. Further, a recent study conducted by D.S.Tyagi^{2/} (1982) which compared the NSS data on foodgrains consumption with that of the official sources of data on foodgrains availability has also revealed the large initial differences found between these two-sources of data declining from about 30 per cent in early 1960s to around 12 per cent in early 1970s. However, T.N.Srinivasan and others have already cautioned about the time lag involved between production and consumption of different foodgrains. And even if we extend the 6-month time lag assumed by Mukherjee and Chatterjee^{3/} (1972) in their paper to 1 year, still the large differences observed between these two sources of data, consistently year after year for more than a decade cannot be easily explained. Further, they (T.N.Srinivasan and others) have also pointed out that the NSS data which refer to the private domestic consumption of food in the economy should be less than the official availability figures which refer to the total consumption in the economy. But what they have observed with respect to the NSS data on cereal consumption are instead, much higher than the figures provided by the later source. In addition to their analysis, Pranab Bardhan (1974) who has also taken a look at the NSS data on cereal consumption

observed that these are generally over-estimates. However, even the scrutiny of the filled-in-schedules of the earlier rounds by G.S.Chatterjee and N.Bhattacharya^{5/} (1975) has led them to suspect the figures reported by it (NSS) on cereal intakes as "unduly high". But all these studies have not probed further to examine whether the methodology adopted by the NSS is responsible for the general over-estimation of consumption of cereals in the economy. Instead, they have only suggested a further closer re-examination of the methodologies adopted by both the NSS and the official sources. Since some of the serious inadequacies of the official sources of data have already been examined by many^{6/} we, in this paper, would like to concentrate on the re-examination of the methodology adopted by the NSS which might have resulted in such a large over-estimation of consumption of cereals. However, from their comparisons of the NSS data on this aspect there also arise two questions which need to be tackled. They are: firstly, how the NSS data on cereal consumption, especially for early 1960s turned out to be so much higher than even what is available in the economy and how the moderation in it has been achieved over the years? and secondly, whether the closeness of the NSS data with that of the official sources of data, especially in the later years can be taken as representing the "true consumption levels" in the economy? Hence the remaining part of this paper, apart from the closer re-examination of the NSS methodology is also aimed at precisely answering these two questions

NSS methodology and its implications for the Quality of Data

2. According to NSS main definition on 'household consumer expenditure' one of its main objectives is to collect data only on non-productive domestic consumer expenditures incurred by the households and to exclude all those expenditures incurred by them on productive enterprises. For collection of data on some of the important items of consumption such as food, fuel, light and intoxicants only the actual amounts consumed (irrespective of the purchases in cash or kind) rather than their

monetary values during the reference period were taken into account. And for all other items of consumption only the monetary values of the expenditures incurred by the households were taken into account. However, this can be taken as a better procedure compared to the previous one because it excludes all those expenditures incurred by the households on the inventories of food, fuel, light and intoxicants.^{7/} Thus the NSS data, especially, from the 17th round onwards (1961-62) refer partly to consumption and partly to consumer expenditure.^{8/} Again, since the NSS is concerned only with the actual consumption of food by the households during the reference period of 'one month' we need to examine how it had actually gone about collecting the data on this aspect. According to its definition on 'household consumer expenditure' it is clear that it takes into account the household consumption of food from sources such as a) cash purchases which also include credit and barter purchases b) home-grown produce and c) free collections, perquisites, gifts, charities etc.^{9/} Thus, the NSS data include almost all sources of food consumption by the households. But what is more intriguing about its methodology is the instructions given to its investigators with regard to the accounting of consumption of meals received as one of the 'perquisites' by the employee-households from their employer-households. The instruction given in this regard reads as follows: "8.6.34 Item 125, cooked meals should consist of cooked meals purchased from market (hotels, restaurants, canteens etc). No entries are required for meals prepared at home and consumed by members or visitors of the household. Meals received by an employee's household as perquisites from an employer's household should be left out of account at the employee's household because these meals are already accounted for in the employer's household, not in the form of meals but in terms of their constituent items like cereals, pulses, vegetables, edible oil, salt etc" (NSS 19th round; report No.192, p.121). This instruction which is given to NSS investigators in almost all the rounds of enquiries^{10/}

mainly refer to the accounting procedure that need to be adopted in case of consumption of cooked meals by the employee-households obtained as 'perquisites' from their employer-households. If the same cooked meals were consumed by the households out of cash or credit purchases from the hotels or restaurants then they need to be accounted as usual in those households who purchased and consumed such meals. However, this particular instruction makes it clear that the provision of meals by the employer-households to their employee-households should not be accounted in the latter category of household's consumption of food because the same has already been accounted in the former category of household's consumption of food. Hence, this accounting procedure adopted by the NSS would lead to the over-estimation of consumption of foodgrains especially, that of cereals^{11/} in the relatively richer sections of the households with its consequent under-estimation of the same in the relatively poorer sections of the households in the rural sector of the economy. But this accounting procedure may not affect the quality of data provided by it (NSS) for urban households in the economy. This is mainly because of the fact that many agricultural labourers who work on others farms are normally supplied with one or two meals a day depending on the situation by the cultivator-households.^{12/} Further, this erroneous accounting procedure adopted by the NSS can also lead to contradiction of its own main objective of collecting the data only on non-productive domestic consumer expenditures incurred by the households because it also includes in the H.H.C.E accounts of the employer-households even a part of the total productive expenditures incurred by them on the provision of meals to their employees.^{13/} And in the process of such accounting it also excludes from H.H.C.E accounts of the employees even a part of their total non-productive domestic consumption expenditures incurred by them, especially, on food.^{14/} Thus, the accounting procedure adopted by the NSS may explain the possible over-estimation of consumption of cereals at the

aggregate levels, besides reporting very high figures on cereal intakes in rural upper deciles. However, all these serious implications of the methodology adopted by the NSS needs to be verified empirically.

An empirical examination of facts:

3. The data for the purpose of examining some of the methodological implications of NSS came mainly from the reports of its 15th, 16th, 17th, 19th and 28th rounds which covered the period between 1959-60 and 1973-74.^{15/} The reports of these rounds provide us the data on the per capita quantities of consumption of cereals by different Consumption Expenditure Classes (C.E. classes) in the rural and urban sectors. And with the help of these data we have constructed two basic Tables on the distribution of per capita quantities of consumption of cereals separately for rural and urban households. We have also made use of the data provided by the NSS 26th round (1971-72) specifically on the calorific consumption of different food items by different C.E. classes both in rural and urban sectors.^{16/} However, this information which is reported through Table 3 is only used as a supplement to the already mentioned basic Tables.

4. But before analysing the basic two Tables that we have constructed with the help of the data provided by the NSS we need to know the maximum actual quantity of cereals that a person can consume either per day or per month. And this figure was sought to be obtained only through the independent field enquiries conducted on this aspect. And such independent evidence becomes necessary to cross check the data provided by the NSS. In fact, such cross checking of the NSS data, especially, on cereal consumption by the independent data sources has already been suggested by those who had already suspected its figures.^{17/} However, for the purpose of cross checking the NSS data on cereal consumption,

we have made use of the data collected by both Cambridge surveys and John Harriss in Random Village-Tamil Nadu.^{18/} According to the Cambridge surveys the actual quantities of consumption of cereals recorded in the sample households varied from a minimum of 233 grams to a maximum of 560 grams per consumer unit (C.U) per day. If we convert these figures into per capita terms^{19/} the minimum and maximum would work out to 185 and 446 grams per day. And the maximum recorded in the sample households of John Harriss's survey was only 465 grams per C.U. per day. In per capita terms his maximum figure would work out to 370 grams per day. However, even allowing for any marginal regional variations the maximum quantity of cereals that a person consumes per day can be liberally taken to be not more than 500 grams or 15 kilograms per month. And we will use this figure as a criterion for judging the authenticity of the NSS data on cereal consumption in different categories of households in the economy.

5. Now coming to Tables 1 and 2 as such, we can observe from Table 2 that the figures reported on the per capita quantities of consumption of cereals for urban households had hardly exceeded the maximum level of 15 kgs per capita consumption, per month, with the exception of top 2 C.E. classes in the year 1959-1960 and one preceding the topmost C.E. class in the year 1960-61. However, even the cereal intakes reported by these 3 C.E. classes are only marginally higher than the figure of 15 kgs per capita, per month. And this also confirms the fact that the methodology adopted by the NSS has not affected the quality of data provided by it for urban households. But this is not the case with the data provided by it on the levels of consumption of cereals for the rural households in Table 1. The rural upper C.E. classes had reported just the impossible levels of consumption of cereals in their households which had far exceeded even the level of maximum quantity (15 kgs per month) of cereals that a person can consume in the economy.^{20/} And these C.E. classes which had very much overstated their per capita levels of consumption of cereals accounted

for about 81, 84, 77, 72 and 58 percentages of the total estimated number of households respectively in the years 1959-60, 1960-61, 1961-62, 1964-65 and 1973-74. Thus, there had been a gradual decline in the proportions of the total estimated number of households who had over-stated their per capita levels consumption of cereals over the years. Further, if we look at the distribution of per capita quantities of consumption of cereals among different C.E. classes in the rural sector, we are struck by the fact that in the initial years even a considerable proportion of the relatively poorer households had also over-stated their per capita levels of consumption. However, doubts had already been expressed about the possibility of some agricultural labour households not excluding their consumption of meals received as 'perquisites' while reporting their total consumption of food in their respective households.^{21/} At the same time, the investigators as per the instructions given to them had also accounted the same item of consumption (perquisites) in the M.H.C.E. accounts of the employers. And this fact is very much evident in the very high cereal intakes reported by the upper C.E. classes in the rural areas. Hence, the accounting of consumption of meals as 'perquisites' in both employee and employer households, especially, in the earlier rounds of the NSS enquiries had very much resulted in the double counting of consumption of cereals in the rural households.^{22/} And such double counting of consumption of cereals in the earlier rounds of the NSS enquiries is primarily responsible for very large estimates of consumption of foodgrains and especially that of cereals in early 1960's which even exceeded gross production plus imports by more than 30 per cent. However, the sharp declines observed in the proportions of those households who used to over-state their levels of consumption of cereals over the years must have also resulted in the avoidance of the double counting of the same item (perquisites) of consumption over the years. This could have been made possible mainly due to the employment of

the same staff of trained investigators who over their years of experience in data collection must have strictly carried out the instructions given to them with regard to the accounting of consumption of meals as 'perquisites' and hence carefully avoided the double counting of this item of consumption. And this also helped in bringing down the NSS aggregate consumption data on cereals closer to the data provided by the official sources in the later years. Thus, the closeness of the NSS data with that of the data provided by the official sources on cereal consumption in the later years has been achieved mainly by avoiding the double counting of consumption of meals received as 'perquisites' but not by reporting the 'true consumption levels' in the economy. And as long as one section of the households report even a part of the total quantities of cereals consumed by the other section of the households it is very much possible for the NSS estimates come closer to the official estimates even without providing the authentic data on household consumption. Hence the closeness of the data between the two sources cannot be taken as an indication of the NSS data reflecting the 'true consumption levels' in the economy. Further, while the credit for the closing up of the gap between the two-sources of data goes to the experiences gained by the investigators in data collection the credit for providing very high figures on cereal intakes in the rural upper deciles goes solely to the defective methodology adopted by the NSS.

6. In this connection it is also appropriate to resolve some of the issues involved in the comparisons of the rural data with that of the urban data on cereal consumption. It is generally believed that the urban households consume less of cereals because they consume more of 'all other foods' (other than the cereals-group). But this may not hold good if we have to compare the consumption levels of different food items of only the richer households whether they live in rural or urban areas. This is because their income levels would permit

them to consume more of any food that they want. However, let us check the point whether the consumption of more of all 'other foods' leads to the less consumption of cereals in the urban households only. For this we have depended on the data provided on the calorific consumption of different food items provided by the 26th round and reworked into per capita terms by V.K.R.V.Rao.^{23/} And this is the only source of data available on the consumption of different food items at least in one measurable (calories) and comparable form. And these data do indicate the levels of consumption of 'all other foods' by different categories of households. Now let us examine Table 3 and compare it with Tables 1 and 2. Table 3, makes it clear that it is in fact the rural upper C.E. classes who had reported deriving more calories from the consumption of 'all other foods' in comparison to their counterparts in urban areas.^{24/} However, the differences in the derivation of calories from the consumption of 'all other foods' between the two groups (Rural and Urban) of households are only marginal. Further, it is interesting to note that the urban upper C.E. classes, particularly the top most 2 or 3 C.E. Classes, who had reported deriving more calories from their consumption of 'all other foods' had also reported very low intakes of cereals in comparison to their immediately preceding middle C.E. classes. This shows that the increase in the levels of consumption of 'all other foods' leads to the declines in the levels of consumption of cereals by the households. And it is not possible to consume more of all groups of food items. But this is not the case with regard to the consumption of food in the rural richer households because they have reported consumption of more of 'all other foods' as well as cereals. Another interesting aspect that also emerges from the comparisons of these three Tables is that while for the 50 to 60 per cent of the urban households, who are in the top C.E. classes, the per capita cereal intakes in their households varied within a very small range of 1 to 2 kgs per month; for approximately the same percentage of households in the same C.E. classes in the rural areas, the same

varied within a very wide range of 10 to 15 kgs per month in any year. This shows that while the consumption of cereals in the top 50 per cent of the urban households has reached a saturation level around 12 kgs per capita, per month, irrespective of their consumption of 'all other foods', the same has been seen to be continuously increasing in case of rural top 50 per cent of the households as they move up their consumption brackets. Further, while the per capita quantities of cereal intakes reported in the top most 3 C.E. classes in urban areas are less than the levels reported by their preceding C.E. classes; the maximum reported in the rural areas were only by the top most C.E. classes in any year under consideration. Thus, two things are clear about the consumption of different food items in the rural households belonging to upper C.E. classes. They are: a) even if they are consuming more of 'all other foods' their per capita quantities of consumption of cereals have not fallen and b) there is no saturation level reached in the per capita quantities of consumption of any food item including cereals in their households. How can these happen? After all a person cannot go on consuming more of all types of food even if his or her income level permits to do so. The answer to this question and the explanation for the above phenomenon observed in case of rural households belonging to upper C.E. classes lies mainly in the methodology adopted by the NSS for the accounting of data on the consumption of food by way of 'perquisites'. And the rural richer households had to report the steadily increasing levels of consumption of cereals because they have to provide increased quantities of food to their increasing numbers of employees as they themselves move up their income or consumption brackets. Thus, the per capita quantities of consumption of cereals in their case were steadily increasing because of the increased allocation of cereals to their employees got divided by their respective fixed family sizes. Hence one cannot expect any reduction in the per capita quantities of consumption of cereals in the top C.E. classes in rural areas.

Further we can also observe from Tables 1 and 2 that while the general decline over the years in the cereal intakes reported is only smaller in case of urban richer households the same is rather sharper in case of rural richer households. Whereas the smaller declines observed with respect to urban households can be mainly explained to the gradual increases in their consumption of 'all other foods' the sharp declines observed in case of rural richer households can be explained mainly in terms of the decline in the practice of providing food to the labourers, possibly due to mechanisation of agriculture in the rural areas. Thus, it is clear that the methodology adopted by the NSS is mainly responsible for the very high cereal intakes reported by the upper C.E. classes in the rural areas. And to this extent the levels of consumption of cereals reported by the households who are in the lower C.E. classes got understated.

Conclusions

From the above analysis of the NSS methodology and its data the following conclusions emerge: they are: 1) the procedure adopted by the NSS with regard to the accounting of data on the consumption of meals as 'perquisites' has mainly led to the over-estimation and under-estimation of the consumption of cereals respectively in the upper and lower consumption expenditure classes in the rural sector of the economy. 2) Besides, this procedure has also led to the serious violation of its (NSS) own main objective of collecting the data only on non-productive domestic consumer expenditures incurred by the households because the data reported by it on cereal consumption do include even a part of the production expenditures incurred by the households in the rural sector of the economy. Further, 3) the closeness of the NSS aggregate data with that of the data provided by the official sources cannot be taken as an indicative of its data reflecting the 'true consumption levels' in the economy. 4) The large differences observed between the NSS and other sources of data on

cereal consumption in the initial years and moderation achieved in it over the years can be attributed mainly to the double counting of consumption of cereals by the NSS in the rural households in the initial years and to the avoidance of it in the later years. Finally, 5) since the whole procedure adopted for the accounting of data on the consumption of meals as 'perquisites' is wrong there is need for the suitable modification of it by the NSS, at least, from its subsequent rounds of enquiries.

Table 1: Consumption of cereals (including pulses and cereal substitutes) per capita per month among the different consumption expenditure classes in rural areas (Quantities in Kgs)

MSS Round No.	Year	Expenditure Classes														Average for all classes
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
15	1959-60*	10.26 (6.44)	13.68 (12.41)	15.55 (10.71)	16.04 (9.93)	18.16 (14.10)	19.81 (11.09)	19.36 (7.89)	21.30 (7.21)	23.72 (8.64)	24.46 (5.44)	25.77 (2.99)	32.40 (3.15)	-	-	12.23 (00)
16	1960-61*	10.17 (5.46)	13.70 (10.23)	15.88 (9.19)	17.43 (9.85)	17.55 (13.97)	18.88 (12.13)	19.42 (9.44)	19.09 (8.27)	21.40 (8.14)	23.33 (6.19)	24.40 (3.66)	29.65 (3.47)	-	-	12.12 (00)
17	1961-62*	11.14 (4.09)	13.36 (10.00)	14.82 (8.75)	15.81 (10.02)	16.33 (13.48)	18.60 (12.25)	19.92 (9.29)	20.04 (8.62)	21.76 (7.82)	23.00 (7.0)	27.91 (4.11)	26.58 (2.53)	40.31 (2.04)	-	12.04 (00)
19	1964-65	7.02 (1.37)	10.17 (4.35)	11.71 (5.01)	12.79 (6.47)	14.60 (11.12)	15.61 (12.26)	17.75 (11.04)	18.12 (11.71)	19.40 (12.85)	20.66 (10.61)	23.11 (6.59)	24.22 (3.88)	30.95 (2.73)	-	12.07 (00)
28	1973-74	5.60 (0.39)	6.32 (0.35)	8.43 (1.06)	9.98 (1.92)	10.92 (2.96)	11.97 (5.28)	13.28 (11.10)	14.62 (18.53)	16.72 (20.19)	17.69 (19.48)	20.04 (10.26)	21.31 (6.07)	22.55 (1.46)	27.76 (0.95)	12.77 (00)

Source: Reports of NSS, 15th, 16th, 17th, 19th and 28th rounds

Note: Figures in brackets indicate the percentage distribution of estimated number of households in each consumption expenditure class

* For the years 1959-60, 1960-61 and 1961-62, the figures are converted from seers into kilograms at the rate of 0.933 kg per seer given in the 17th round report.

Table 2 : Consumption of cereals (including grams and cereal substitutes) per capita per month among the different consumptionExpenditure Classes in urban areas(quantities in Kgs)

NSS Round No	Year	Expenditure Classes														Average or all Classes
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
15	1959-60*	7.99 (2.22)	9.94 (6.21)	11.11 (5.75)	11.16 (6.65)	11.83 (11.37)	12.64 (10.98)	12.16 (7.55)	12.63 (7.82)	12.39 (10.04)	14.67 (10.09)	15.20 (17.99)	15.21 (13.38)	-	-	12.45 (100)
16	1960-61*	9.54 (1.46)	10.65 (4.01)	10.82 (5.00)	11.62 (5.35)	11.60 (8.62)	12.31 (9.50)	13.41 (8.48)	13.87 (9.90)	13.31 (10.27)	13.98 (11.29)	15.20 (9.75)	13.56 (16.37)	-	-	12.77 (100)
17	1961-62*	5.91 (1.70)	9.82 (3.75)	11.07 (4.03)	11.40 (5.58)	11.75 (8.15)	12.61 (9.67)	12.98 (9.43)	12.77 (8.76)	13.82 (11.50)	13.96 (10.70)	13.90 (9.92)	13.88 (7.81)	13.19 (8.94)	-	12.59 (100)
19	1964-65	5.53 (0.52)	7.52 (1.69)	8.93 (2.24)	9.48 (3.66)	10.79 (7.13)	11.34 (7.63)	11.97 (7.96)	12.23 (9.94)	12.79 (12.73)	12.89 (11.99)	12.96 (11.06)	12.81 (10.84)	12.46 (12.61)	-	11.88 (100)
28	1973-74	2.56 (0.13)	5.24 (0.15)	6.89 (0.28)	7.75 (0.36)	7.95 (0.85)	9.41 (2.26)	10.02 (5.27)	11.01 (12.05)	11.61 (16.27)	12.43 (20.85)	12.66 (15.96)	11.79 (14.70)	11.48 (5.85)	11.55 (5.0)	11.55 (100)

Source : Reports of NSS 15th, 16th, 17th, 19th and 20th rounds.

Note : Figures in brackets indicate the percentage distribution of estimated number of households in each consumption expenditure class.

* For the years 1959-60, 1960-61 and 1961-62, the figures are converted from seers into kilograms at the rate of 0.933 kg per seer given in the 17th round of NSS.

Table 3 : Per capita Distribution of calorie Intakes by Five Food Groups* in Rural and Urban Areas**

Monthly percapita expenditure classes (in Rs.)	Percentage of Population		Total calories per person		Calories derived from the consumption of first food group		Calories derived from the consumption of all other food groups	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
0-15	4.64	1.21	1180	970	1055	845	125	125
15-21	11.89	5.23	1554	1250	1370	1068	194	182
21-24	8.09	4.81	1813	1439	1587	1209	226	230
24-28	11.04	7.80	1923	1556	1646	1287	277	269
28-34	16.07	12.96	2179	1683	1848	1349	331	334
34-43	17.60	17.57	2497	1851	2062	1438	435	413
43-55	13.93	16.54	2810	2071	2251	1525	559	546
55-75	9.93	15.36	3259	2269	2489	1550	770	719
75-100	4.02	8.58	3720	2520	2744	1553	976	967
100 and above	2.83	9.94	4987	2962	3293	1518	1694	1444
	100.00	100.00						

Source : The National Sample Survey, 26th round: July 1971 - June 1972, calorie and protein content of food items consumed per diem per consumer unit, All India Rural No.258/10 and All India - Urban No.258/11 (NSSO 1976)

* Food groups: I. Cereals, Potatoes, Sugar, Jaggery and Cereal substitutes; II : Pulses, nuts, and seeds; III: Milk and milk products, meat, eggs and fish; IV : Edible oils; V : Fruits, Vegetables, Spices and prepared food.

** This Table is reproduced from V.K.R.V. Rao's work on "Food, Nutrition and Poverty" (1982)

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5. G.S.Chatterjee and N.Bhattacharya (1975) Some observations on NSS Household Budget Data in V.M.Dandekar and P.Venkataramaiah (Ed) "Data Base of Indian Economy". These authors have scrutinised the budget data collected by NSS through its rounds 4th, 5th, 7th, 8th, 9th, 12th, 13th, 15th and 16th.
6. See, for example, T.N.Srinivasan, P.N. Radhakrishnan and A.Vaidyanathan (1974) op.cit. 1. And P.K.Bardhan (1974) op.cit. 4 as well as Report of the Committee on Distribution of Income and Levels of Living, Part II. Ch.5.
7. This change in the procedure of data collection on these items of consumption has been introduced by NSS only from its 17th round onwards. See its report No. 184. Tables with Notes on Consumer Expenditure.
(Appendix)
8. P.R.Brahmananda (1973): NSS and Some Poverty of Economic Methodology Therein: in C.T.Kurien (Ed) "A Guide to Research in Economics".
9. See, for instance, op.cit. 6.
10. See, for instance, National Sample Surveys, Volume 1, Designs, Concepts Definitions and Procedures, 22nd round p.196; 26th round p.12; and 28th round p.55.
11. This is because of the fact that the food served to the agricultural labourers on the farms by the cultivator-households very often include only the rice and ragi gruel. For details, see Goran Djurfeldt and Staffan Lindberg (1975): Behind Poverty - The Social Formation in a Tamil Village.

12. See for instance J.S.Garg and T.N.Singh (1976): An Enquiry into the Pattern of Employment and Level of Earnings of Landless Agricultural Labour in Western U.P. in S.M. Pandey (Ed) "Rural Labour in India - Problems and Policy Perspectives" and also Goran Djurfeldt and Staffan Lindberg: Ibid.
13. This is because the cost incurred on the provision of meals by cultivator households forms part of their total wage-bill paid to their labourers who engage in the production of agricultural commodities. See, Ibid and op.cit. 11.
14. This is because the cultivator-households provide meals to their labourers as part of the wage rates paid to them. Thus the agricultural labourers consume these meals out of their own wage earnings. See, op.cit. 11 and 12.
15. NSS 15th round: No.104; 16th round: No.138; 17th round: No.184; 19th round: No.192 and 28th round: No.240.
16. NSS 26th round: July 1971-June 1972; Calorie and Protein Content of Food items consumed per Diem per Consumer unit. All-India Rural No.258/10 and All-India urban No.258/11.
17. A Ganguly and others (1960): Studies on Consumer Behaviour: Asia Publishing House - Bombay and also N.S.Iyengar (1967): Some Estimates of Engel Elasticities Based on National Sample Survey Data in "Journ Roy Stat. Society A, 130, 84-101: as well as G.S.Chatterjee and N.Bhattacharya. op.cit.5.
18. John Harriss (1982) Capitalism and Peasant Farming: Agrarian Structure and Ideology in Northern Tamil Nadu. Oxford University Press, p.304.
19. The equivalent as given by NSS 26th round is taken as 4.29 consumer units for 5.39 persons (average) per household in rural areas. This conversion ratio had also been used by V.K.R.V. Rao (1982): Food, Nutrition and Poverty.
20. Similar view has also been expressed by Fred.H. Sanderson and Shymal Roy (1979) who had analysed the NSS 19th and 26th round data on the calorie intakes of different food items by the rural households. See their work: Food Trends and Prospects in India.
21. A.Ganguly and others (1960): and N.S.Iyengar (1967): op.cit. 17.
22. The possible double counting of consumption of cereals in the rural households by the NSS has already been expressed by A.Ganguly and others (1960) and N.S.Iyengar (1967) op.cit. 17.
23. V.K.R.V. Rao (1982): op.cit. 19.
24. V.K.R.V. Rao (1982): op.cit. 19.