Determinants of Undernutrition in Rural India*

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Abstract

Using a new data set constructed by converting NSS household consumption figures (rural sector) for the 43rd round (1987-88), 50th round (1993-94) and 55th round (1999-2000) into their nutritional equivalents, this paper presents new evidence of the extent of undernourishment in terms of calories and proteins. Results are presented for evidence of undernourishment in terms of calories for sedentary, moderate and heavy work, in terms of protein and jointly in terms of protein and calories. The results are presented at the national, state and NSS regional levels. Undernourishment declined between 1987-88 and 1993-94 almost everywhere and more spectacularly between 1993-94 and 1999-2000; however the 55th round data is not strictly comparable with the earlier rounds. We also analyse logit models of determinants of undernutrition.

JEL Classification: H55, I12, I32

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I. Introduction

Much of the recent poverty literature on India has focused on the extent, severity and determinants of income-poverty in the rural sector (e.g. Datt and Ravallion, 1998, b, Jha, 2000). Although there are also a few important studies of the relationship between income and calorie intake (Subramaniam and Deaton, 1996, Behrman and Deolalikar, 1987), the relationship between poverty and undernutrition has not received much attention.[1] It is important to underscore the fact that the relationship between the two is a complex and important matter in India.[2] First, as is well-known, undernutrition is endemic in India – particularly among children (World Bank, 1998, Sharif, 2000). But many of these children may not be below the poverty line. Second, as Dasgupta (1995) mentions, undernutrition is critical to understanding poverty traps in India. This literature then reverses the causation between poverty and undernutrition, arguing that undernutrition causes poverty but not necessarily the other way around. This point of view is also endorsed by Lipton (2001) who argues that undernutrition might make the poor unable to take advantage of welfare programmes, such as food for work, since they are too weak to work hard. The present paper focuses on the prevalence, and severity of undernutrition, and their determinants. In a sequel to this study, we propose to examine critically the divergence between income poverty and different measures of

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[1] An exception is an admirable study by Svedberg (2000). Unfortunately, the empirical analysis of the link between poverty and undernutrition is confined to Africa.

[2] Two recent contributions, Cassen (2002), and Deaton and Dreze (2002), point to uneven progress in poverty reduction during the 1990s, taking into account its multidimensionality.

undernutrition in greater detail, as well as the relationship between different measures of deprivation and work participation rates.

II. Methodology

(a) Computation of Nutritional deficiency

The nutritional status is defined taking into account calorie and protein intakes as well as minimum cut-off points for either on the assumption of sedentary, moderate and heavy work (Gopalan, 1992, Gopalan et. al., 1971). An advantage of the latter is that we get lower and upper bounds on calorie and protein intakes. An extension would be to further disaggregate the analysis by taking into account the composition of households in terms of adults and children**.**

The official poverty line takes into account the cost of a nutritionally adequate diet in terms of per capita consumption expenditure. The poverty line is taken as per capita consumption worth Rs. 49 (Rs. 57) at 1973-74 prices for the rural (urban) sector. Expenditure is used as a proxy for income, since the NSS does not collect income data. Estimates using these poverty lines have been made by a number of authors. Our point of departure in this paper is to estimate nutritional deficiency calculated using nutritional equivalents of actual consumption baskets for households compared against recommended daily allowance as elaborated in Gopalan et. al. (1971). This is reproduced in Table 1 below.

Table 1
Daily Allowances of Nutrients for Indians
(Recommended by the Nutrition Expert Group in 1968)

Group	Parti-culars	Calo ries	Prote ins (gm.)	Cal-cium (gm.)	Iron (mg.)	Vitamin A	Thia mine (mg.)	Ribof Lavin (mg.)	Nict-onic acid (mg.)	Asco Rbic acid (mg.)	Folic Acid (μ_g)	Vita min B12 (μ_g)	Vita min D

						Retinol (μ_g)	β-carotene (μ_g)							200
Man	Sedentary work	2400	55	0.4 to 0.5	20	750	3000	1.2	1.3	16	50	100	1	200
	Moderate work	2800	55	0.4 to 0.5	20	750	3000	1.4	1.5	19	50	100	1	200
	Heavy work	3900	55	0.4 to 0.5	20	750	3000	2.0	2.2	26	50	100	1	200
Woman	Sedentary work	1900	45	0.4 to 0.5	30	750	3000	1.0	1.0	13	50	100	1	200
	Moderate work	2200	45	0.4 to 0.5	30	750	3000	1.1	1.2	15	50	100	1	200
	Heavy work	3000	45	0.4 to 0.5	30	750	3000	1.5	1.7	20	50	100	1	200
	Second Half of pregnancy	+300	+10	1.0	40	750	3000	+0.2	+0.2	+2	50	150-300	1.5	200
	Lactation Up to one year	+700	+20	1.0	30	1150	4600	+0.4	+0.4	+5	80	150	1.5	200
Infants	0-6 months	120/kg	2.3-1.8/kg		1 mg/kg	400				30				200
	7-12 months	100/kg	1.8-1.5/kg	0.5-0.6		300	1200			30	25	0.2		200
Children	1 year	1200	17	0.4-0.5	15-20	250	1000	0.6	0.7	8	30-50	50--100	0.5-1	200
	2 years	1200	18	0.4-0.5	15-20	250	1000	0.6	0.7	8	30-50	50—100	0.5-1	200
	3 years	1200	20	0.4-0.5	15-20	250	1000	0.6	0.7	8	30-50	50—100	0.5-1	200
	4-6 years	1500	22	04-0.5		300	1200	0.8	0.8	10	30-50	50—100	0.5-1	200
	7-9 years	1800	33	04-0.5		400	1600	0.9	1.0	12	30-50	50—100	0.5-1	200
	10-12 years	2100	41	04-0.5		600	2400	1.0	1.2	14	30-50	50—100	0.5-1	200
Adolescents	13-15 years boys	2500	55	0.6-0.7	25	750	3000	1.3	1.4	17	30-50	50--100	0.5-1	200
	13-15 years girls	2200	50	0.6-0.7	35	750	3000	1.1	1.2	14	30-50	50—100	0.5-1	200
	16-18 years boys	3000	60	0.5-0.6	25	750	3000	1.5	1.7	21	30-50	50--100	0.5-1	200
	16-18 years girls	2200	50	0.5-0.6	35	750	3000	1.1	1.2	14	30-50	50--100	0.5-1	200

Source Gopalan et. al. (1971), pp. 27

The nutritional deprivation estimates are calculated as follows:

We use energy per capita and protein per capita (tepc and tpropc) from the NSS data files converted into nutritional equivalents. These data are computed as total consumption (of

calories, protein and other nutrients) of the households divided by variable "members" where the number of members in a household is calculated by giving unit weights to the adults and 0.5 weight to the children. Age specific weights for children are not possible since ages of children are not recorded. In the case of the 55th. round this data is based on 30 day recall.

The actual total consumption of the household per day (in nutrition equivalents) is calculated as:

(tepc*members)/30 (since a 30 day recall period is used).

The threshold level of total consumption of a household for calories and protein per day as given in table 1 are computed as:

Energy (ethres)

Calorie requirements for a household are calculated as:

#male*2400+ #female*1900+#chmale*1300+#chfemale*1300 (for sedentary work)

#male*2800+#female*2200+#chmale*1300+#chfemale*1300 (for moderate work)

#male*3900+#female*3000+#chmale*1300+#chfemale*1300 (for heavy work)

Protein (pthres)

#male*55+#female*45+#chmale*30+#chfemale*30

where # stands for number. Three separate measures for calorific intake are taken corresponding to sedentary, moderate and heavy work for all adults.

The difference between actual and threshold intake is computed as: egap=actual-ethres The Household is deprived if egap <0. This gap is calculated for each of sedentary, moderate and heavy work by adults in the case of calories. The depth of poverty is calculated by: poves = [(threshold-actual)/threshold]*100. This calculation is done for all households having egap<0. It should be noted that poves is independent of household size.

Subsequently poves is further divided in subcategories based on its values: for example a new variable poves10 is generated which takes value 1 if poves lies between 0 and 10% below threshold value and so on. The number of households corresponding to poves10 =1 are counted. These households consume 10% less than their threshold consumption. These computations are done for alternative values of these gaps[3]. Thus alternative nutritional deficiency levels are computed for both calories as well as protein.

(b) Logit Model

An important aspect of our analysis is an inquiry into the determinants of nutritional status. This is developed as a logit model. A brief description now follows.

[3] The poverty computation is hence household specific. NSS consumption data is available on a household basis and not on an individual basis. Hence, given the nature of the data, the comparison of the actual consumption to the threshold consumption can be done only at the household level.

Using a dichotomous classification of a household's poverty status, let $Y_i = 1$ for a nutritionally deprived household and 0 otherwise. Next, we postulate that the probability of the ith household's being poor, $P_i = P(Y_i = 1)$, depends on a set of explanatory variables, $X_{i1} \ldots\ldots\ldots X_{ik}$. So

$$P_i = P(Y_i = 1) = F(\beta_0 + \beta_1 X_{i1} + \ldots\ldots\ldots + \beta_k X_{ik}) \qquad (1)$$

where F is a cumulative probability distribution. A special form of F is the cumulative logistic probability function.[4] The logit model is based on this probability function and is specified as :

$$P_i = P(Y_i = 1) = F(\beta_0 + \beta_1 X_{i1} + \ldots\ldots\ldots + \beta_k X_{ik})$$

$$= \frac{1}{1 + e^{(\beta_0 + \beta_1 X_{i1} + \ldots\ldots\ldots + \beta_k X_{ik})}} \qquad (2)$$

It is easy to show that this specification leads to the following form:

$$\log(P_i / 1 - P_i) = \beta_0 + \beta_1 X_{i1} + \ldots\ldots\ldots + \beta_k X_{ik} \qquad (3)$$

A suitable technique for estimating equation (3) with household data is maximum likelihood. An analogue of the regression t-test can be applied to the estimated coefficients. In this case, the ratio of the estimated coefficient to its standard error follows a normal distribution. For testing the significance of all or a subset of the coefficients in the logit model when maximum likelihood is used, a generalized likelihood ratio test can be used. The likelihood ratio is given by

[4] An alternative to the logit is the probit in which a normal distribution is posited. The logistic distribution is similar to the normal except in the tails, which are considerably heavier. There are practical reasons for choosing one or the other, but it is difficult to justify the choice of one distribution over the other on theoretical grounds. In most applications, however, the choice of the distribution does not make much of a difference (Greene, 1993).

$$\lambda = \max L(\omega) / \max L(\Omega) \qquad (4)$$

where λ is the likelihood ratio, max L (ω) is the maximum of the likelihood function where M elements of the parameter space have been constrained by the null hypothesis (e.g. if testing for the significance of a set of β_s in the logit model, the maximum of L with these β_s set equal to 0), and max L (Ω) is the unconstrained maximum of the likelihood function. The appropriate test follows directly from the fact that $-2\log \lambda$ is approximately distributed like chi-square with M degrees of freedom.[5] Application of this model when different poverty lines are chosen is straightforward, as also when measures of nutrition status take a dichotomous form.

Equation (3) is used to assess the determinants of income poverty and nutritional status. The specification of determinants of poverty and nutritional status is similar in so far as deprivation in different dimensions is hypothesized as the outcome of prices, household endowments and village characteristics. As we are still experimenting with different price indices, the results presented focus on household endowments, socio-economic group affiliations and a few village characteristics. Household size is used to capture economies of scale in production and consumption; age of household head serves as a proxy for life-cycle effects; land owned is not just an important physical asset and means of production but also enables easier access to credit market; ownership of dwelling is another important physical asset; education is used as an aspect of human capital; whether household head is male or female is supposed to capture differential access to market opportunities as well as differences in allocation of resources within a household; and

[5] For further details, see Amemiya (1981).

mode of transportation for education serves as an index of remoteness of a household. In addition, socio-economic groups are specified in terms of occupation, religion and SC/ST affiliation. Controlling for endowments, these characteristics are hypothesized to reflect differential returns from assets as well as tastes influencing patterns of food consumption.

An issue is whether a similar specification would yield clues into divergence between poverty and nutrition status. There are at least two ways in which some light may be thrown on this divergence. One is that some of the explanatory variables may influence one dimension of deprivation and not another. Another is that even if the same variable(s) has a significant effect the magnitude may vary.

How these relationships have changed and what their implications for the divergence between income poverty and nutrition status are can be examined through a comparison of logit coefficients over the period 1987-2000. A further extension would be to capture the effects of unobservable differences (at the state/agro-climatic regional level) by pooling the 1987 and 1993 NSS data. Besides, a supplementary analysis of joint distributions of income poverty and nutrition status and their correlates that we intend carrying out may yield rich insights.

A particularly important aspect of the present computations is that since nutritional deficiency is measure directly we can avoid the difficulties associated with an expenditure-denominated poverty line. Deaton and Tarozzi (2000), for example,

underline the difficulties in making such comparison in the face of changing relative prices and structure of food demand over time[6].

III. Results: Estimates of Calorie and Protein Undernutrition

We present below estimates of calorie and protein undernutrition at both all-India (rural) and state levels (rural) for households. It should be borne in mind that because of large variations in sampling methods, the results for 1999-2000 are not strictly comparable with those for 1987-88 and 1993-94.

When calculating calorie deficiency for each case we assume that the adult population is alternately engaged in sedentary (S), moderate (M) or heavy (H) work with different minimum calorific requirments. This assumption was necessitated by the fact that NSS data does not specify which the work-load status of households. Hence the *H* estimates provide an upper limit to this undernourishment and the *S* estimates a lower limit. *M* estimates provide a useful intermediate value. Note that protein requirements do not vary with work requirement.

(a) All-India Estimates

Table 2

Calorie and Protein Undernutrition in Rural India, 1987-2000[a]

	1987-88			1993-94			1999-2000		
Share of population suffering from calorie deficiency	Sedentary (S)	Moderate (M)	Heavy (H)	Sedentary (S)	Moderarate (M)	Heavy (H)	Sedentary (S)	Moderate (M)	Heavy (H)
	40.77	54.79	80.32	20.66	28.40	50.27	2.78	4.33	11.63

[6] For a review of the poverty debate in India see Datt and Ravallion (2002).

Share of population suffering from protein deficiency		32.26			20.55		2.36	2.36	2.36
Share of population suffering from both calorie deficiency	(S) 25.96	(M) 29.82	(H) 32.16	(S) 16.03	(M) 18.53	(H) 20.35	(S) 1.79	(M) 2.02	(H) 2.25

a. The calorie and protein norms are based on Gopalan (1992) and Gopalan et. a.l. (1971).

As can be seen from Table 2, the range for calorie and protein undernutrition is large. The share of the population suffering from calorie deficiency varies from about 41 per cent to over 80 per cent in 1987. Not surprisingly, calorie undernutrition is more prevalent than protein undernutrition.[7] Over the period 1987-93, there is a sharp reduction in the prevalence of both calorie and protein undernutrition. It is significant that reduction in calorie undernutrition is higher for lower calorie requirements (i.e. for sedentary and moderate work), suggesting that large segments of the rural population with low calorie intakes in 1987-88 had higher intakes in 1993-94. As noted above, in view of the now well-known difference in sampling methodology in 1999-2000 the results for this year are not strictly comparable to the other rounds. The results for 1999-2000 show a very large drop in undernutrition in terms of calories as well as protein.

(b) State-level Estimates

In Table 3, state level estimates of undernutrition are presented. In a large number of states (e.g. Andhra Pradesh, Assam, Haryana, Madhya Pradesh, Punjab, West Bengal), all

[7] Gopalan (1992), among others, emphasises that the protein-calorie malnutrition is essentially a problem of calorie deficiency, as protein deficiency is a by-product of calorie deficiency.

indicators of undernutrition record marked reductions. What is noteworthy is that some of the poorest states (e.g. Bihar, Uttar Pradesh) also exhibit this pattern of reduction. But there are a few exceptions too. In Gujarat, for example, the prevalence of protein and calorie- protein deficiencies rises more than moderately over the period 1987-93. Karnataka is also atypical as all indicators of undernutrition (with one exception) record a sharp rise over this period. Kerala is less of an exception in so far as protein and one indicator of calorie – protein deficiency rise moderately. Yet another exception is Maharashtra where one indicator of calorie deficiency and one of calorie-protein deficiency rise while the remaining show a reduction in the prevalence of undernutrition. Thus the picture at the state-level is a mixed one, with several states recording significant reductions and others exhibiting little improvement or more than moderate deterioration in specific indicators.

Table 3

State Level Estimates of Undernutrition, 1987-88 to 1999-2000

Andhra Pradesh

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	30.50	42.48	70.44	16.0	24.28	46.70	5.32	8.36	19.92
Share of population suffering from protein deficiency		31.57			16.25			4.06	
Share of population suffering from both calorie and	24.22	28.65	31.50	12.10	14.33	16.08	3.77	3.97	4.00

protein deficiency									

Assam

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	40.36	58.51	84.53	5.79	12.01	33.25	1.57	2.89	10.38
Share of population suffering from protein deficiency		39.26			14.54			0.99	
Share of population suffering from both calorie and protein deficiency	28.07	36.00	39.14	5.72	10.42	14.04	0.82	0.96	0.99

Bihar

	1987-88			1993 -94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	39.14	54.37	81.37	16.22	24.28	47.40	2.84	5.50	19.61
Share of population suffering from protein deficiency		29.54			13.83			1.64	
Share of population suffering from both calorie and protein deficiency	25.55	28.51	29.51	11.65	13.23	13.79	1.42	1.55	1.64

Gujarat

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	56.99	72.07	92.33	35.89	45.64	67.18	1.45	1.82	4.64
Share of population suffering from protein deficiency		32.89			30.29			1.21	
Share of population suffering from both calorie and protein deficiency	32.60	32.86	32.90	26.95	28.44	30.20	1.17	1.21	1.21

Karnataka

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	57.08	66.54	84.00	45.55	52.65	67.48	1.93	2.37	5.00
Share of population suffering from protein deficiency		46.41			51.00			2.01	
Share of population suffering from both calorie and	43.66	45.36	46.41	41.49	46.20	50.08	1.68	1.79	1.97

protein deficiency									

Kerala

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	55.38	65.12	80.67	27.25	33.88	49.74	1.11	1.50	4.65
Share of population suffering from protein deficiency		54.42			28.27			4.81	
Share of population suffering from both calorie and protein deficiency	47.19	51.85	54.08	23.16	25.80	28.11	1.11	1.38	3.11

Madhya Pradesh

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	37.73	52.22	80.10	21.50	29.93	56.80	3.05	4.62	12.84
Share of population suffering from protein deficiency		29.74			18.01			2.03	
Share of population suffering from both calorie and protein deficiency	121.25	26.06	29.71	14.84	16.88	17.93	1.68	1.90	2.02

Maharashtra

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	45.57	60.23	84.14	47.46	54.57	71.43	2.59	4.05	10.74
Share of population suffering from protein deficiency		29.74			18.01			2.29	
Share of population suffering from both calorie and protein deficiency	24.44	25.40	25.84	38.54	41.50	44.47	2.00	2.20	2.25

Orissa

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	42.09	58.4	84.5	10.41	18.94	46.85	4.89	8.24	22.93
Share of population suffering from protein deficiency		61.96			21.39			3.29	
Share of population suffering from both calorie and protein deficiency	40.51	54.15	61.70	10.26	17.01	21.12	2.76	3.17	3.29

Punjab

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	46.86	61.33	85.76	10.90	19.56	44.84	0.37	0.37	1.12
Share of population suffering from protein deficiency		17.51			5.23			0.47	
Share of population suffering from both calorie and protein deficiency	17.44	17.47	17.51	4.55	4.79	5.18	1.12	0.28	0.28

Rajasthan

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	30.92	44.88	74.16	36.13	42.47	61.89	0.50	0.68	1.55
Share of population suffering from protein deficiency		36.27			26.50			0.53	
Share of population suffering from both calorie and protein deficiency	7.83	7.85	7.88	25.79	26.12	26.41	1.55	0.50	0.53

(Raghbendra: Pl. check the estimate with a question mark)

Tamil Nadu

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	54.05	65.74	85.17	21.56	30.47	53.63	8.12	12.12	24.68
Share of population suffering from protein deficiency		54.93			23.67			9.62	
Share of population suffering from both calorie and protein deficiency	47.00	52.49	54.91	18.09	21.51	23.39	5.99	7.59	9.14

Uttar Pradesh

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	37.94	52.91	80.14	12.86	20.52	43.90	1.78	2.83	8.71
Share of population suffering from protein deficiency		13.45			7.81			1.23	
Share of population suffering from both calorie and protein deficiency	13.08	13.37	13.44	6.99	7.37	7.76	1.18	1.20	1.23

West Bengal

	1987-88			1993-94			1999-2000		
Measure of undernutrition	S	M	H	S	M	H	S	M	H
Share of population suffering from calorie deficiency	39.79	53.32	80.17	5.68	11.89	35.96	1.78	2.83	8.71
Share of population suffering from protein deficiency		39.13			14.59			1.23	
Share of population suffering from both calorie and protein deficiency	29.79	35.70	39.13	18.09	21.51	23.39	1.18	1.20	1.23

S-denotes sedentary, M moderate and H heavy work, respectively.

In Appendix Tables 1-3 we present evidence on the incidence of nutritional deprivation across the NSS regions for the three rounds. This gives a more disaggregated picture than those for states alone.

Severity of Undernutrition

In Table 4a, we focus on severity of calorie deficiency for rural India over the period 1987-93.

Table 4a

Severity of Undernutrition in Rural India, 1987-88to 1993-94 (% of Population)

	1987-88			1993-94		
% calorie gap	S	M	H	S	M	H
0-10	13.10	14.34	10.63	5.75	7.72	10.41
10-20	11.05	14.40	14.33	4.31	6.38	10.41
20-30	8.10	12.19	17.39	3.34	4.81	9.92
30-40	4.96	8.18	17.79	2.73	3.66	8.06
40-50	2.82	4.70	13.81	2.05	2.81	5.87
50-70	1.51	1.79	2.88	1.16	1.54	2.98

S-denotes sedentary, M moderate and H heavy work, respectively.

As may be seen, the calorie gaps vary with the cut-off point assumed. At lower cut-off points, the majority of the undernourished display low or moderate shortfalls (0-20 per cent) while at the highest cut-off point the majority display moderate or high shortfalls in calorie intake in 1987. There is a marked reduction in the severity of undernutrition over the period 1987-93. Specifically, the distribution of the undernourished by calorie gap is more even- especially at lower cut-off points- in 1993. Even at the highest cut-off point, the first four calorie gap intervals account for roughly equal shares of the population. This suggests that those with larger calorie gaps recorded much greater increases in calorie intake.

Table 4b

Severity of Undernutrition in Rural India, 1999-2000 (% of population)

% calorie gap	S	M	H
0-10	0.99	1.62	4.11
10-20	0.65	1.10	3.33
20-30	0.41	0.64	2.13
30-40	0.24	0.40	1.33
40-50	0.14	0.23	0.67
50-70	0.36	0.39	0.46

In 1999-2000 not only did the overall extent of undernutrition fall, there was a sharp decline in the severity of undernutrition as well.

We now present estimates of the logit function for each of the rounds. In table 5 we present a list of variables used in the estimation for each round. Most independent variables are common to the three rounds. Dummies for some states are labelled differently in the 43rd. round as compared to the 50th and 55th rounds. A summary of the results is reported in Table 6. In Tables 7-9 logit estimation results for the three rounds are presented. All estimated equations correct for heteroskedasticity. Results using the same variables for other rounds are available from the corresponding author. SAS program drops variables with high multicollinearity – hence all the independent variables in Table 5 do not necessarily appear in Tables 7-9.

Table 5: Base Table for logit estimation

Variable	Description
Ycs	Truncated dependent variable for calories; 1 for less than threshold; 0 otherwise (sedentary work).
Ycm	Truncated dependent variable for calories; 1 for less than threshold; 0 otherwise (moderate work).

Ych	Truncated dependent variable for calories; 1 for less than threshold; 0 otherwise (heavy work).
Yp	Truncated dependent variable for protein; 1 for less than threshold; 0 otherwise.
Ycps	Truncated dependent variable for protein and calories (sedentary work); 1 for less than threshold; 0 otherwise.
Ycpm	Truncated dependent variable for protein and calories (heavy work); 1 for less than threshold; 0 otherwise.
Ycph	Truncated dependent variable for protein and calories (sedentary work); 1 for less than threshold; 0 otherwise.
Hhsize	Household size
FII	Fischer Ideal Price Index for Price relative to India taken from Deaton and Tarozzi (2000) (available only for 43rd and 50th rounds).
Land_own	Total amount of land owned by household (hectares)
Age_head	Age of household head.
Share_irri	Share of irrigated land for a household.

State Dummies [Base Case Punjab] Round indicated in parenthesis (.).	
-sstate2 (43, 50, 55)	Andhra Pradesh
-sstate25(43); -sstate3 (50 and 55)	Arunachal Pradesh
-sstate3 (43); -sstate4 (50 and 55)	Assam
-sstate4 (43); -sstate5 (50 and 55)	Bihar
-sstate29 (43) ; -sstate6 (50 and 55)	Goa
-sstate5 (43); -sstate7 (50 and 55)	Gujarat
-sstate6 (43); -sstate8 (50 and 55)	Haryana
-sstate7 (43); -sstate9 (50 and 55)	Himachal Pradesh
-sstate8 (43); -sstate10 (50 and 55)	Jammu and Kashmir
-sstate9 (43); -sstate11 (50 and 55)	Karnataka
-sstate10 (43); -sstate12 (50 and 55)	Kerala
-sstate11 (43); -sstate13 (50 and 55)	Madhya Pradesh
-sstate12 (43); -sstate14 (50 and 55)	Maharashtra
-sstat13 (43); -sstate15 (50 and 55)	Manipur
-sstate14 (43); -sstate16 (50 and 55)	Meghalaya
-sstate17 (50 and 55)	Mizoram
-sstate15 (43); -sstate18 (50 and 55)	Nagaland
-sstate16 (43); -sstate19 (50 and 55)	Orissa
-sstate18 (43) –sstate21 (50 and 55)	Rajasthan
-sstate19 (43) –sstate22 (50 and 55)	Sikkim
-sstate20 (43) –sstate23 (50 and 55)	Tamilnadu
-sstate21 (43) –sstate24 (50 and 55)	Tripura
-sstate22 (43) –sstate25 (50 and 55)	Uttar Pradesh
-sstate23 (43) –sstate26 (50 and 55)	West Bengal
-sstate24 (43) –sstate27 (50 and 55)	Andaman and Nicobar Islands
-sstate26 (43) –sstate28 (50 and 55)	Chandigarh
-sstate27 (43) –sstate29 (50 and 55)	Dadar and Nagar Haveli
-sstate30 (50 and 55)	Daman and Diu

-sstate28 (43) –sstate31 (50 and 55)	Delhi
-sstate30 (43) –sstate32 (50 and 55)	Lakshwadeep
-sstate31 (43) –sstate33 (50 and 55)	Mizoram
Occupational type dummies; base case "all other"	
-Occhhtype_1	Self employed in non-agriculture
- Occhhtype_2	Agricultural labourer
Occhhtype_3	Other labour
Occhhtype_4	Self Employed in agriculture
Occhhtype_5	Other
Religion dummies; base case "no stated religion"	
-rreligion1	Hinduism
-rreligion2	Islam
-rreligion3	Christianity
-rreligion4	Sikhism
-rreligion5	Jainism
-rreligion6	Buddhism
-rreligion7	Zoroastrianism
Social Group Dummies; base case "other"	
-Grhhgrp_1	Scheduled Tribes
-Grhhgrp_2	Scheduled castes
-Grhhgrp_3	Other backward castes
Dummy variables for travel by bus for education; base case "other"	
-Busedubu~1	Yes
-Busedubu~2	No
Dummy variables for travel by train for education; base case "other"	
-tredu_tra~1	Yes
-tredu_tra~2	No
Dummy variables for ownership of dwelling; base case "all other"	
-dwedwell~1	No dwelling
-dwedwell~2	Owned
-dwedwell~3	Official quarters
-dwedwell~4	Other hired accommodation
-hhesex_hea~2	Dummy for female-headed household; base case male- headed household.
Cons	Constant

Table 6: Summary Results from Logit Regression

Variable	Ycs	Ycm	Ych	Yp	Ycps	Ycpm	Ycph
43rd. Round (1987-88)							
hhsize	I	I	I	I	I	I	I
headage	I	I	I	I	I	I	I
FII	+S	+S	+S	+S	I	I	+S
Sstate2	+S	+S	+S	+S	+S	+S	+S
Sstate4	I	I	+S	I	I	I	I
Sstate5	I	-S	I	I	I	I	I
Sstate8	+S	+S	+S	+S	+S	+S	+S

Sstate11	I	I	I	-S	-S	-S	-S
Sstate12	-S	-S	-S	-S	-S	-S	-S
Sstate13	+S	+S	+S	-S	I	-S	-S
Sstate14	I	I	I	I	I	I	I
Sstate19	I	+S	+S	+S	I	+S	+S
Sstate21	-S	-S	-S	-S	-S	-S	-S
Sstate23	I	I	I	I	I	I	I
Sstate25	I	+S	+S	-S	-S	-S	-S
Sstate26	I	+S	+S	+S	I	+S	+S
-occhhtype1	I	I	I	I	I	I	I
-occhhtype2	I	I	I	I	I	I	I
-occhhtype3	I	I	I	I	I	I	I
-occhhtype4	I	I	I	I	I	I	I
rReligion1	I	I	I	I	I	I	I
RReligion2	I	I	I	I	I	I	I
Rreligion3	I	I	I	I	I	I	I
Rreligion4	+S	+S	I	I	I	I	I
RReligion5	I	I	I	I	I	I	I
RReligion6	I	I	+S	I	I	I	I
RReligion7	I	I	-S	I	I	I	I
-dwdellin_1	I	I	I	I	I	I	I
-dwdellin_2	I	I	I	I	I	I	I
-dwdellin_4	I	I	I	I	I	I	I
-grhhgrp_1	I	I	+S	I	I	I	I
-grhhgrp_2	I	I	I	-S	I	-S	-S
-grhhgrp_3	I	I	-S	I	I	I	I
-sexheadse2	I	I	I	I	I	I	I
-cons	-S	-S	-S	-S	-S	-S	-
50th. Round (1993-94)							
	Ycs	Ycm	Ych	Yp	Ycps	Ycpm	Ycph
hhsize	+S	+S	+S	+S	+S	+S	I
headage	I	+S	+S	I	I	+S	I
Share_irri	-S	-S	-S	-S	-S	-S	I
FII	+S	+S	+S	-S	I	-S	+S
Sstate2	+S	I	I	+S	+S	+S	+S
Sstate4	-S	-S	-S	I	-S	I	I
Sstate5	+S	+S	I	I	+S	I	I
Sstate7	I	I	I	+S	+S	+S	I
Sstate8	I	I	-S	-S	I	I	+S
Sstate11	+S	+S	+S	+S	+S	+S	-S
Sstate12	I	I	-S	+S	+S	+S	-S
Sstate13	+S	+S	+S	I	+S	I	-S
Sstate14	+S	+S	+S	+S	+S	+S	I
Sstate21	+S	+S	+S	+S	+S	+S	-S
Sstate23	I	I	I	+S	+S	+S	I
Sstate25	+S	+S	+S	-S	+S	-S	-S
Sstate26	-S	-S	-S	-S	-S	-S	+S
-occhhtype1	+S	+S	+S	+S	+S	+S	I
-occhhtype2	+S	+S	+S	+S	+S	+S	I
-occhhtype3	+S	+S	+S	+S	+S	+S	I
-occhhtype4	+S	+S	+S	+S	+S	+S	I
-occhhtype5	+S	+S	+S	+S	+S	+S	I
rReligion1	I	I	I	I	+S	I	I
RReligion2	I	I	I	I	I	I	I
Rreligion3	I	I	I	I	I	I	I
Rreligion4	I	I	I	I	I	I	I
RReligion5	I	I	-S	I	I	I	I
RReligion6	I	I	I	I	I	I	I
-grhhgrp_1	+S	+S	+S	+S	+S	+S	I
-grhhgrp_2	+S	+S	+S	+S	+S	+S	-S
-grhhgrp_5	I	I	I	I	I	I	I
-dwdellin_1	I	I	-S	I	I	I	I
-dwdellin_2	I	+S	I	I	I	I	I
-dwdellin_3	I	I	I	I	I	I	I
-dwdellin_4	I	+S	I	I	I	-S	I
-sexheadse2	-S	-S	-S	I	I	I	I

-ebedu_bus2	+S	+S	+S	+S	+S	I	I
- ebedu_tra2	I	I	I	I	I	I	I
-cons	-S	-S	-S	I	-S	-S	-S
55th. Round (1999-2000)							
	Ycs	Ycm	Ych	Yp	Ycps	Ycpm	Ycph
hhsize	-S	-S	-S	-S	-S	-S	-S
headage	-S	-S	+S	-S	-S	-S	-S
Sstate2	+S	+S	+S	+S	+S	+S	+S
Sstate3	+S	+S	+S	+S	+S	+S	+S
Sstate4	+S	+S	+S	+S	+S	+S	+S
Sstate5	+S	+S	+S	+S	+S	+S	+S
Sstate6		+S	I	+S	I	+S	I
Sstate7	+S	+S	+S	+S	+S	+S	+S
Sstate8	I	I	I	I	I	I	I
Sstate9	+S	+S	+S	+S	+S	+S	+S
Sstate11	+S	+S	+S	+S	+S	+S	+S
Sstate12	+S	+S	+S	+S	+S	+S	+S
Sstate13	+S	+S	+S	+S	+S	+S	+S
Sstate14	+S	+S	+S	+S	+S	+S	+S
Sstate15	I	+S	+S	I	I	I	I
Sstate16	I	I	I	I	I	I	I
Sstate17	I	I	I	I	I	I	I
Sstate18	I	I	I	I	I	+S	I
Sstate19	+S	+S	+S	+S	+S	+S	+S
Sstate21	I	I	I	I	I	I	I
Sstate22	+S	+S	+S	+S	+S	+S	+S
Sstate23	+S	+S	+S	+S	+S	+S	+S
Sstate24	+S	+S	+S	I	I	I	I
Sstate25	+S	+S	+S	+S	+S	+S	+S
Sstate26	+S	+S	+S	+S	+S	+S	+S
Sstate27	+S	+S	+S	+S	+S	+S	+S
Sstate28	I	+S	+S	I	I	+S	I
Sstate29	+S	+S	+S	+S	+S	+S	+S
Sstate30	+S	+S	+S	+S	+S	+S	+S
Sstate31	I	+S	+S	I	I	+S	I
Sstate32	I	I	I	I	I	I	I
Sstate33	+S	-S	+S	+S	+S	-S	+S
-occhhtype1	-S	-S	-S	-S	-S	-S	-S
-occhhtype2	-S	-S	+S	-S	-S	-S	-S
-occhhtype3	-S	-S	I	-S	-S	-S	-S
-occhhtype4	-S	-S	-S	-S	-S	-S	-S
rReligion1	+S	+S	+S	I	I	I	I
RReligion2	+S	+S	+S	+S	+S	I	I
Rreligion3	I	I	+S	I	I	I	I
Rreligion4	I	I	I	I	I	I	I
RReligion6	+S	+S	+S	+S	I	+S	+S
-grhhgrp_1	+S	+S	+S	+S	+S	+S	+S
-grhhgrp_2	+S	+S	+S	+S	+S	+S	+S
-grhhgrp_3	+S	+S	+S	+S	I	I	I
-sexheadse2	I	I	-S	I	I	I	I
-cons	-S	-S	-S	-S	-S	-S	-S

Table 7a (43rd Round) Calories (sedentary work)

		Wald chi2(34)	=	373.21		
		Prob > chi2	=	0		
Log likelihood = -46489.953		Pseudo R2	=	0.004		
		Robust				
ycs	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
hhsize	-0.0023678	0.0030463	-0.78	0.437	-0.00834	0.003603
headage	-0.0002971	0.000581	-0.51	0.609	-0.00144	0.000842
FII	0.0107065	0.0047892	2.24	0.025	0.00132	0.020093
_ststate_2	0.417699	0.0708967	5.89	0	0.278744	0.556654
_ststate_4	-0.0568991	0.0493809	-1.15	0.249	-0.15368	0.039886
_ststate_5	-0.0638732	0.0419183	-1.52	0.128	-0.14603	0.018285
_ststate_8	0.318885	0.0735561	4.34	0	0.174718	0.463052
_ststate_11	0.0657202	0.0584291	1.12	0.261	-0.0488	0.180239
_ststate_12	-0.1840106	0.0511562	-3.6	0	-0.28428	-0.08375
_ststate_13	0.1745527	0.0702438	2.48	0.013	0.036877	0.312228
_ststate_14	0.0386074	0.0452064	0.85	0.393	-0.05	0.12721
_ststate_19	0.0110009	0.0672171	0.16	0.87	-0.12074	0.142744
_ststate_21	-0.3804534	0.0491055	-7.75	0	-0.4767	-0.28421
_ststate_23	-0.0280268	0.0453809	-0.62	0.537	-0.11697	0.060918
_ststate_25	0.043592	0.0822504	0.53	0.596	-0.11762	0.2048
_ststate_26	0.0520027	0.05645	0.92	0.357	-0.05864	0.162643
_occhhtype_1	-0.0021438	0.0341797	-0.06	0.95	-0.06913	0.064847
_occhhtype_2	0.0256821	0.030129	0.85	0.394	-0.03337	0.084734
_occhhtype_3	0.004741	0.0381534	0.12	0.901	-0.07004	0.07952
_occhhtype_4	0.0010751	0.0288557	0.04	0.97	-0.05548	0.057631
_rereligio~1	0.0770571	0.1234884	0.62	0.533	-0.16498	0.31909
_rereligio~2	0.0919751	0.1262795	0.73	0.466	-0.15553	0.339478
_rereligio~3	0.144607	0.1346725	1.07	0.283	-0.11935	0.40856
_rereligio~4	0.2984038	0.1424875	2.09	0.036	0.019133	0.577674
_rereligio~5	0.0114472	0.2239543	0.05	0.959	-0.4275	0.45039
_rereligio~6	-0.0608557	0.2335093	-0.26	0.794	-0.51853	0.396814
_rereligio~7	-0.9921448	1.119323	-0.89	0.375	-3.18598	1.201687
_dwdwellin~1	0.0005509	0.0328783	0.02	0.987	-0.06389	0.064991
_dwdwellin~2	-0.1749718	0.4665603	-0.38	0.708	-1.08941	0.73947
_dwdwellin~4	-0.4071852	1.1484	-0.35	0.723	-2.65801	1.843638
_grhhgrp_1	0.0209797	0.0275853	0.76	0.447	-0.03309	0.075046
_grhhgrp_2	-0.0070699	0.0220955	-0.32	0.749	-0.05038	0.036237
_grhhgrp_3	0.0547371	0.2106556	0.26	0.795	-0.35814	0.467615
_sexheadse~2	0.0219459	0.0275418	0.8	0.426	-0.03203	0.075927
_cons	-1.513817	0.5244643	-2.89	0.004	-2.54175	-0.48589

Table 7b (43rd Round) Calories (moderate work)

		Wald chi2(34) =	294.63			
		Prob > chi2 =	0			
Log likelihood = -47086.588		Pseudo R2 =	0.0031			
ycm	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.00362	0.003002	-1.21	0.228	-0.00951	0.002262
headage	-0.00036	0.000574	-0.63	0.529	-0.00149	0.000764
FII	0.016146	0.004735	3.41	0.001	0.006866	0.025426
_ststate_2	0.414481	0.070159	5.91	0	0.276973	0.551989
_ststate_4	0.00232	0.049082	0.05	0.962	-0.09388	0.098519
_ststate_5	-0.08238	0.041524	-1.98	0.047	-0.16377	-0.001
_ststate_8	0.277988	0.074171	3.75	0	0.132616	0.423361
_ststate_11	0.080491	0.057757	1.39	0.163	-0.03271	0.193693
_ststate_12	-0.17065	0.050368	-3.39	0.001	-0.26937	-0.07193
_ststate_13	0.203756	0.069262	2.94	0.003	0.068006	0.339506
_ststate_14	0.00509	0.044912	0.11	0.91	-0.08294	0.093117
_ststate_19	0.139296	0.066175	2.1	0.035	0.009595	0.268997
_ststate_21	-0.35247	0.047554	-7.41	0	-0.44567	-0.25927
_ststate_23	0.015842	0.045204	0.35	0.726	-0.07276	0.10444
_ststate_25	0.170714	0.080886	2.11	0.035	0.012181	0.329248
_ststate_26	0.157739	0.055751	2.83	0.005	0.04847	0.267008
_occhhtype_1	-0.007	0.033865	-0.21	0.836	-0.07337	0.059376
_occhhtype_2	-0.00585	0.029877	-0.2	0.845	-0.06441	0.052707
_occhhtype_3	-0.02143	0.037685	-0.57	0.57	-0.09529	0.052435
_occhhtype_4	-0.01612	0.028597	-0.56	0.573	-0.07217	0.039925
_rereligio~1	0.160883	0.121148	1.33	0.184	-0.07656	0.398329
_rereligio~2	0.150866	0.123933	1.22	0.223	-0.09204	0.39377
_rereligio~3	0.226241	0.13248	1.71	0.088	-0.03342	0.485898
_rereligio~4	0.364256	0.140058	2.6	0.009	0.089747	0.638765
_rereligio~5	0.122351	0.219236	0.56	0.577	-0.30734	0.552045
_rereligio~6	0.117795	0.228271	0.52	0.606	-0.32961	0.565196
_rereligio~7	-1.44772	1.10696	-1.31	0.191	-3.61732	0.721887
_dwdwellin~1	0.038484	0.032705	1.18	0.239	-0.02562	0.102584
_dwdwellin~2	-0.05433	0.464112	-0.12	0.907	-0.96398	0.855311
_dwdwellin~4	-0.94496	1.182554	-0.8	0.424	-3.26272	1.372804
_grhhgrp_1	0.047899	0.027415	1.75	0.081	-0.00583	0.101631
_grhhgrp_2	-0.03453	0.021867	-1.58	0.114	-0.07739	0.00833
_grhhgrp_3	-0.08378	0.206319	-0.41	0.685	-0.48816	0.320598
_sexheadse~2	-0.00144	0.027299	-0.05	0.958	-0.05494	0.052069
_cons	-1.61453	0.517537	-3.12	0.002	-2.62888	-0.60017

Table 7c (43rd Round) Calories (heavy work)

	Wald chi2(35)	=	177.69
	Prob > chi2	=	0
Log likelihood = -33705.991	Pseudo R2	=	0.0026

ych	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-9E-05	0.003768	-0.02	0.981	-0.00748	0.007297
headage	-0.00038	0.000715	-0.52	0.6	-0.00178	0.001026
FII	0.024597	0.005723	4.3	0	0.01338	0.035814
_ststate_2	0.412568	0.083566	4.94	0	0.248783	0.576353
_ststate_4	0.142327	0.063458	2.24	0.025	0.017952	0.266703
_ststate_5	-0.05033	0.051476	-0.98	0.328	-0.15122	0.050562
_ststate_8	0.186111	0.090371	2.06	0.039	0.008987	0.363236
_ststate_11	0.111897	0.069789	1.6	0.109	-0.02489	0.248681
_ststate_12	-0.2038	0.061723	-3.3	0.001	-0.32477	-0.08282
_ststate_13	0.272829	0.082285	3.32	0.001	0.111553	0.434105
_ststate_14	-0.04777	0.055272	-0.86	0.387	-0.1561	0.060558
_ststate_19	0.219905	0.07932	2.77	0.006	0.064441	0.375368
_ststate_21	-0.20506	0.057878	-3.54	0	-0.3185	-0.09162
_ststate_23	0.016775	0.057329	0.29	0.77	-0.09559	0.129137
_ststate_25	0.379382	0.095469	3.97	0	0.192266	0.566498
_ststate_26	0.318784	0.068078	4.68	0	0.185353	0.452214
_occhhtype_1	0.054337	0.042626	1.27	0.202	-0.02921	0.137882
_occhhtype_2	0.025438	0.037486	0.68	0.497	-0.04803	0.098909
_occhhtype_3	0.00557	0.047048	0.12	0.906	-0.08664	0.097784
_occhhtype_4	-0.01499	0.035698	-0.42	0.674	-0.08496	0.054973
_rereligio~1	0.070483	0.152007	0.46	0.643	-0.22745	0.368412
_rereligio~2	0.050345	0.155456	0.32	0.746	-0.25434	0.355033
_rereligio~3	0.206489	0.166803	1.24	0.216	-0.12044	0.533416
_rereligio~4	0.198284	0.173003	1.15	0.252	-0.1408	0.537364
_rereligio~5	0.275278	0.280743	0.98	0.327	-0.27497	0.825525
_rereligio~6	0.58439	0.291616	2	0.045	0.012834	1.155946
_rereligio~7	-1.92169	0.899293	-2.14	0.033	-3.68427	-0.15911
_dwdwellin~1	0.005023	0.041397	0.12	0.903	-0.07611	0.086159
_dwdwellin~2	0.741796	0.749411	0.99	0.322	-0.72702	2.210614
_dwdwellin~4	-0.78343	1.201356	-0.65	0.514	-3.13804	1.571184
_dwdwellin~7	-0.44346	1.067822	-0.42	0.678	-2.53636	1.649432
_grhhgrp_1	0.072419	0.034952	2.07	0.038	0.003914	0.140924
_grhhgrp_2	-0.03801	0.027428	-1.39	0.166	-0.09177	0.015746
_grhhgrp_3	-0.6939	0.250743	-2.77	0.006	-1.18534	-0.20245
_sexheadse~2	-0.03053	0.033903	-0.9	0.368	-0.09698	0.035921
_cons	-1.22716	0.623585	-1.97	0.049	-2.44937	-0.00496

Table 7d (43rd Round) Protein

	Wald chi2(35)	=	2116.35
	Prob > chi2	=	0
Log likelihood = -43004.888	Pseudo R2	=	0.0265

yp	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.00407	0.003236	-1.26	0.208	-0.01041	0.002269
headage	-0.00034	0.000614	-0.56	0.579	-0.00154	0.000863
FII	0.014904	0.00489	3.05	0.002	0.00532	0.024488
_ststate_2	0.294979	0.072566	4.06	0	0.152751	0.437206
_ststate_4	0.038135	0.049754	0.77	0.443	-0.05938	0.13565
_ststate_5	-0.07753	0.04257	-1.82	0.069	-0.16096	0.005909
_ststate_8	0.17088	0.074921	2.28	0.023	0.024038	0.317722
_ststate_11	-0.22441	0.06056	-3.71	0	-0.3431	-0.10571
_ststate_12	-0.2392	0.052225	-4.58	0	-0.34156	-0.13684
_ststate_13	-0.2436	0.072563	-3.36	0.001	-0.38582	-0.10138
_ststate_14	-0.05947	0.046097	-1.29	0.197	-0.14982	0.030882
_ststate_19	0.226242	0.068351	3.31	0.001	0.092277	0.360207
_ststate_21	-0.97644	0.054472	-17.93	0	-1.0832	-0.86968
_ststate_23	-0.01292	0.045896	-0.28	0.778	-0.10287	0.077036
_ststate_25	-0.80436	0.085366	-9.42	0	-0.97167	-0.63705
_ststate_26	0.263625	0.057399	4.59	0	0.151126	0.376124
_occhhtype_1	-0.01176	0.035737	-0.33	0.742	-0.08181	0.058281
_occhhtype_2	-0.00374	0.031381	-0.12	0.905	-0.06525	0.057764
_occhhtype_3	-0.04194	0.039974	-1.05	0.294	-0.12028	0.036409
_occhhtype_4	-0.02328	0.03025	-0.77	0.442	-0.08257	0.036012
_rereligio~1	0.043341	0.12814	0.34	0.735	-0.20781	0.29449
_rereligio~2	0.031453	0.131067	0.24	0.81	-0.22543	0.288339
_rereligio~3	0.086652	0.139208	0.62	0.534	-0.18619	0.359493
_rereligio~4	0.145628	0.147797	0.99	0.324	-0.14405	0.435304
_rereligio~5	-0.07309	0.241552	-0.3	0.762	-0.54652	0.400344
_rereligio~6	0.134169	0.236736	0.57	0.571	-0.32983	0.598164
_rereligio~7	-1.19504	1.262478	-0.95	0.344	-3.66945	1.279374
_dwdwellin~1	-0.00329	0.034045	-0.1	0.923	-0.07001	0.063439
_dwdwellin~2	-0.49541	0.518237	-0.96	0.339	-1.51114	0.520313
_dwdwellin~4	-0.06409	1.19967	-0.05	0.957	-2.4154	2.287224
_dwdwellin~7	1.753626	1.164419	1.51	0.132	-0.52859	4.035846
_grhhgrp_1	-0.0012	0.02871	-0.04	0.967	-0.05747	0.055066
_grhhgrp_2	-0.06246	0.023446	-2.66	0.008	-0.10841	-0.01651
_grhhgrp_3	-0.06176	0.212201	-0.29	0.771	-0.47766	0.354148
_sexheadse~2	0.025903	0.028922	0.9	0.37	-0.03078	0.082588
_cons	-1.98226	0.536839	-3.69	0	-3.03444	-0.93007

Table 7e (43rd Round) Protein and Calories (sedentary work)

	Wald chi2(34)	=	1316.62
	Prob > chi2	=	0
Log likelihood = -39834.662	Pseudo R2	=	0.0179

Ycps	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.005	0.003426	-1.46	0.145	-0.01171	0.001716
headage	-0.00023	0.000647	-0.36	0.718	-0.0015	0.001034
FII	0.00255	0.005123	0.5	0.619	-0.00749	0.012591
_ststate_2	0.291606	0.075483	3.86	0	0.143662	0.439549
_ststate_4	0.027966	0.052784	0.53	0.596	-0.07549	0.13142
_ststate_5	-0.0204	0.044919	-0.45	0.65	-0.10843	0.067644
_ststate_8	0.262654	0.077277	3.4	0.001	0.111194	0.414114
_ststate_11	-0.15733	0.063497	-2.48	0.013	-0.28179	-0.03288
_ststate_12	-0.17794	0.055414	-3.21	0.001	-0.28655	-0.06933
_ststate_13	-0.13154	0.075555	-1.74	0.082	-0.27962	0.01655
_ststate_14	0.020073	0.048468	0.41	0.679	-0.07492	0.115068
_ststate_19	-0.03791	0.072021	-0.53	0.599	-0.17907	0.103245
_ststate_21	-0.89763	0.059216	-15.16	0	-1.01369	-0.78157
_ststate_23	0.046586	0.048498	0.96	0.337	-0.04847	0.141639
_ststate_25	-0.73483	0.088987	-8.26	0	-0.90924	-0.56042
_ststate_26	0.096151	0.060161	1.6	0.11	-0.02176	0.214064
_occhhtype_1	-0.01859	0.037754	-0.49	0.622	-0.09259	0.055405
_occhhtype_2	0.011865	0.033078	0.36	0.72	-0.05297	0.076697
_occhhtype_3	-0.00212	0.042152	-0.05	0.96	-0.08473	0.080499
_occhhtype_4	-0.0112	0.031926	-0.35	0.726	-0.07378	0.051371
_rereligio~1	0.138703	0.138902	1	0.318	-0.13354	0.410946
_rereligio~2	0.165943	0.141872	1.17	0.242	-0.11212	0.444008
_rereligio~3	0.175436	0.150343	1.17	0.243	-0.11923	0.470102
_rereligio~4	0.284501	0.158659	1.79	0.073	-0.02646	0.595467
_rereligio~5	-0.05974	0.263757	-0.23	0.821	-0.57669	0.457219
_rereligio~6	0.140639	0.252972	0.56	0.578	-0.35518	0.636456
_rereligio~7	-0.39482	1.122164	-0.35	0.725	-2.59422	1.804583
_dwdwellin~1	0.000799	0.035816	0.02	0.982	-0.0694	0.070997
_dwdwellin~2	-0.44889	0.550579	-0.82	0.415	-1.528	0.630225
_dwdwellin~4	0.265474	1.129403	0.24	0.814	-1.94812	2.479063
_grhhgrp_1	-0.00578	0.030305	-0.19	0.849	-0.06518	0.053616
_grhhgrp_2	-0.03414	0.024683	-1.38	0.167	-0.08252	0.014238
_grhhgrp_3	0.026712	0.224188	0.12	0.905	-0.41269	0.466112
_sexheadse~2	0.017454	0.030456	0.57	0.567	-0.04224	0.077147
_cons	-1.19631	0.563285	-2.12	0.034	-2.30033	-0.09229

Table 7f (43rd Round) Protein and Calories (moderate work)

	Wald chi2(34)	=	1752.1
	Prob > chi2	=	0
Log likelihood = -41991.158	Pseudo R2	=	0.0226

Ycpm	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
Hhsize	-0.00499	0.003293	-1.52	0.13	-0.01145	0.001464
Headage	-0.00035	0.000624	-0.55	0.579	-0.00157	0.000878
FII	0.00658	0.004975	1.32	0.186	-0.00317	0.01633
_ststate_2	0.303125	0.073551	4.12	0	0.158968	0.447281
_ststate_4	0.086195	0.050769	1.7	0.09	-0.01331	0.185701
_ststate_5	-0.00195	0.043401	-0.04	0.964	-0.08702	0.083113
_ststate_8	0.211007	0.07582	2.78	0.005	0.062403	0.359611
_ststate_11	-0.16439	0.061533	-2.67	0.008	-0.28499	-0.04379
_ststate_12	-0.15928	0.053302	-2.99	0.003	-0.26375	-0.05481
_ststate_13	-0.19624	0.073595	-2.67	0.008	-0.34048	-0.052
_ststate_14	0.010278	0.046943	0.22	0.827	-0.08173	0.102284
_ststate_19	0.160626	0.06945	2.31	0.021	0.024506	0.296746
_ststate_21	-0.90509	0.056148	-16.12	0	-1.01514	-0.79504
_ststate_23	0.081694	0.046763	1.75	0.081	-0.00996	0.173348
_ststate_25	-0.77909	0.086614	-8.99	0	-0.94885	-0.60933
_ststate_26	0.223653	0.058281	3.84	0	0.109426	0.337881
_occhhtype_1	-0.02499	0.036371	-0.69	0.492	-0.09628	0.046294
_occhhtype_2	-0.00242	0.031881	-0.08	0.94	-0.0649	0.060068
_occhhtype_3	-0.02697	0.040629	-0.66	0.507	-0.1066	0.052665
_occhhtype_4	-0.01921	0.03076	-0.62	0.532	-0.0795	0.041075
_rereligio~1	0.141626	0.133149	1.06	0.287	-0.11934	0.402593
_rereligio~2	0.153494	0.136029	1.13	0.259	-0.11312	0.420106
_rereligio~3	0.168433	0.144219	1.17	0.243	-0.11423	0.451097
_rereligio~4	0.257952	0.152513	1.69	0.091	-0.04097	0.556872
_rereligio~5	-0.05779	0.252767	-0.23	0.819	-0.5532	0.437628
_rereligio~6	0.208752	0.244224	0.85	0.393	-0.26992	0.687422
_rereligio~7	-0.56788	1.111518	-0.51	0.609	-2.74641	1.610656
_dwdwellin~1	-0.01168	0.034536	-0.34	0.735	-0.07937	0.056006
_dwdwellin~2	-0.37909	0.514333	-0.74	0.461	-1.38717	0.628982
_dwdwellin~4	0.059169	1.175321	0.05	0.96	-2.24442	2.362755
_grhhgrp_1	-0.00341	0.029202	-0.12	0.907	-0.06064	0.053826
_grhhgrp_2	-0.05048	0.023818	-2.12	0.034	-0.09716	-0.0038
_grhhgrp_3	-0.07911	0.218343	-0.36	0.717	-0.50705	0.348837
_sexheadse~2	0.005631	0.029441	0.19	0.848	-0.05207	0.063333
_cons	-1.38865	0.54626	-2.54	0.011	-2.4593	-0.318

Table 7g (43rd Round) Protein and Calories (heavy work)

		Wald chi2(35) =	2092.23
		Prob > chi2 =	0
Log likelihood =	-42967.516	Pseudo R2 =	0.0262

ycph	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.00386	0.003238	-1.19	0.233	-0.01021	0.002481
headage	-0.00038	0.000615	-0.62	0.537	-0.00158	0.000825
FII	0.014427	0.004898	2.95	0.003	0.004829	0.024026
_ststate_2	0.304716	0.072661	4.19	0	0.162303	0.447129
_ststate_4	0.049424	0.049808	0.99	0.321	-0.0482	0.147046
_ststate_5	-0.06731	0.042631	-1.58	0.114	-0.15087	0.016244
_ststate_8	0.178287	0.074985	2.38	0.017	0.031318	0.325255
_ststate_11	-0.21391	0.060631	-3.53	0	-0.33274	-0.09507
_ststate_12	-0.2243	0.052271	-4.29	0	-0.32674	-0.12185
_ststate_13	-0.23462	0.072661	-3.23	0.001	-0.37703	-0.09221
_ststate_14	-0.04434	0.046147	-0.96	0.337	-0.13478	0.046108
_ststate_19	0.229866	0.068441	3.36	0.001	0.095724	0.364008
_ststate_21	-0.96277	0.05454	-17.65	0	-1.06967	-0.85588
_ststate_23	-0.00101	0.045951	-0.02	0.983	-0.09107	0.089055
_ststate_25	-0.79428	0.085484	-9.29	0	-0.96183	-0.62674
_ststate_26	0.271823	0.05747	4.73	0	0.159184	0.384461
_occhhtype_1	-0.00928	0.035779	-0.26	0.795	-0.0794	0.060847
_occhhtype_2	0.001673	0.031413	0.05	0.958	-0.0599	0.063241
_occhhtype_3	-0.04049	0.040023	-1.01	0.312	-0.11894	0.037951
_occhhtype_4	-0.01861	0.030287	-0.61	0.539	-0.07797	0.040754
_rereligio~1	0.038535	0.12812	0.3	0.764	-0.21257	0.289645
_rereligio~2	0.02765	0.131051	0.21	0.833	-0.22921	0.284506
_rereligio~3	0.081341	0.139197	0.58	0.559	-0.19148	0.354161
_rereligio~4	0.144311	0.147834	0.98	0.329	-0.14544	0.43406
_rereligio~5	-0.07188	0.241515	-0.3	0.766	-0.54524	0.401478
_rereligio~6	0.128318	0.236736	0.54	0.588	-0.33568	0.592312
_rereligio~7	-1.19166	1.266138	-0.94	0.347	-3.67324	1.289929
_dwdwellin~1	-0.00511	0.034064	-0.15	0.881	-0.07187	0.061656
_dwdwellin~2	-0.48936	0.517893	-0.94	0.345	-1.50441	0.52569
_dwdwellin~4	-0.059	1.198727	-0.05	0.961	-2.40847	2.290457
_dwdwellin~7	1.75441	1.16674	1.5	0.133	-0.53236	4.041178
_grhhgrp_1	0.002157	0.028722	0.08	0.94	-0.05414	0.058451
_grhhgrp_2	-0.05937	0.023455	-2.53	0.011	-0.10534	-0.0134
_grhhgrp_3	-0.05829	0.21222	-0.27	0.784	-0.47424	0.357654
_sexheadse~2	0.023441	0.028954	0.81	0.418	-0.03331	0.08019
_cons	-1.94698	0.537636	-3.62	0	-3.00072	-0.89323

Table 8a (50th. Round) Calories (sedentary work)

	Wald chi2(38)	=	4764.5
	Prob > chi2	=	0
Log likelihood = -15244.294	Pseudo R2	=	0.1596

ycs	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	0.0432966	0.0052808	8.2	0	0.032946	0.053647
age_head	0.0004974	0.0011478	0.43	0.665	-0.00175	0.002747
share_irri	-0.0081308	0.0004045	-20.1	0	-0.00892	-0.00734
FII	0.0789668	0.0155833	5.07	0	0.048424	0.10951
_sstate_2	0.3334323	0.1105062	3.02	0.003	0.116844	0.550021
_sstate_4	-1.88713	0.2588685	-7.29	0	-2.3945	-1.37976
_sstate_5	0.3642811	0.0947148	3.85	0	0.178644	0.549919
_sstate_7	0.07061	0.3525787	0.2	0.841	-0.62043	0.761651
_sstate_8	-0.2669513	0.2283573	-1.17	0.242	-0.71452	0.180621
_sstate_11	1.523675	0.1623212	9.39	0	1.205531	1.841819
_sstate_12	0.290407	0.295298	0.98	0.325	-0.28837	0.86918
_sstate_13	0.8558644	0.0793035	10.79	0	0.700432	1.011296
_sstate_14	1.401455	0.1809886	7.74	0	1.046724	1.756186
_sstate_21	1.218168	0.1936576	6.29	0	0.838606	1.59773
_sstate_23	0.0801705	0.225418	0.36	0.722	-0.36164	0.521982
_sstate_25	1.091638	0.0924856	11.8	0	0.91037	1.272907
_sstate_26	-1.109548	0.1288723	-8.61	0	-1.36213	-0.85696
_ochhtype_1	0.5392457	0.0942188	5.72	0	0.35458	0.723911
_ochhtype_2	1.208642	0.0811689	14.89	0	1.049554	1.36773
_ochhtype_3	1.112301	0.0996661	11.16	0	0.916959	1.307643
_ochhtype_4	0.5657586	0.0768238	7.36	0	0.415187	0.716331
_ochhtype_5	0.7354028	0.1038519	7.08	0	0.531857	0.938949
_rreligion_1	0.5114722	0.2923325	1.75	0.08	-0.06149	1.084433
_rreligion_2	0.4027554	0.299352	1.35	0.178	-0.18396	0.989475
_rreligion_3	0.4440153	0.3154812	1.41	0.159	-0.17432	1.062347
_rreligion_4	-0.0222292	0.3419005	-0.07	0.948	-0.69234	0.647884
_rreligion_5	-0.0140531	0.4971925	-0.03	0.977	-0.98853	0.960426
_rreligion_6	0.2060739	0.3529739	0.58	0.559	-0.48574	0.89789
_grhhgrp_1	0.6530387	0.0448608	14.56	0	0.565113	0.740964
_grhhgrp_2	0.478079	0.0419655	11.39	0	0.395828	0.56033
_grhhgrp_5	0.9309399	0.5818389	1.6	0.11	-0.20944	2.071323
dwedwell~1	-0.4918765	0.9527994	-0.52	0.606	-2.35933	1.375576
dwedwell~2	-0.2286264	0.1669312	-1.37	0.171	-0.55581	0.098553
dwedwell~3	-0.3671455	0.397361	-0.92	0.356	-1.14596	0.411668
dwedwell~4	-0.6403603	0.3066251	-2.09	0.037	-1.24134	-0.03939
_sexsex_he~2	-0.1653241	0.0632011	-2.62	0.009	-0.2892	-0.04145
_ebedu_bus_2	0.6940084	0.0949849	7.31	0	0.507841	0.880175
_etedu_tra~2	0.2326599	0.3461115	0.67	0.501	-0.44571	0.911026
_cons	-12.00314	1.565032	-7.67	0	-15.0706	-8.93574

Table 8b (50th. Round) Calories (moderate work)

		Wald chi2(38) =	4531.43
		Prob > chi2 =	0
Log likelihood = -18888.438		Pseudo R2 =	0.1271

ycm	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	0.030517	0.004707	6.48	0	0.021291	0.039743
age_head	0.004944	0.000997	4.96	0	0.00299	0.006897
share_irri	-0.00688	0.000353	-19.5	0	-0.00758	-0.00619
FII	0.069996	0.013138	5.33	0	0.044246	0.095747
_sstate_2	0.130067	0.09322	1.4	0.163	-0.05264	0.312774
_sstate_4	-1.63832	0.216137	-7.58	0	-2.06194	-1.2147
_sstate_5	0.185974	0.078515	2.37	0.018	0.032088	0.339861
_sstate_7	-0.0246	0.300864	-0.08	0.935	-0.61428	0.565083
_sstate_8	-0.16745	0.173789	-0.96	0.335	-0.50807	0.173166
_sstate_11	1.175093	0.140554	8.36	0	0.899611	1.450574
_sstate_12	-0.05978	0.253692	-0.24	0.814	-0.557	0.43745
_sstate_13	0.568374	0.064007	8.88	0	0.442923	0.693825
_sstate_14	1.042966	0.155982	6.69	0	0.737247	1.348684
_sstate_21	0.799447	0.166251	4.81	0	0.473601	1.125294
_sstate_23	-0.08277	0.192023	-0.43	0.666	-0.45913	0.293587
_sstate_25	0.835359	0.07358	11.35	0	0.691145	0.979572
_sstate_26	-0.95778	0.094896	-10.09	0	-1.14378	-0.77179
_ochhtype_1	0.509952	0.079244	6.44	0	0.354637	0.665268
_ochhtype_2	1.208038	0.068744	17.57	0	1.073304	1.342773
_ochhtype_3	1.098689	0.087648	12.54	0	0.926903	1.270476
_ochhtype_4	0.528662	0.064437	8.2	0	0.402367	0.654957
_ochhtype_5	0.639944	0.092802	6.9	0	0.458056	0.821833
_rreligion_1	0.21257	0.247379	0.86	0.39	-0.27228	0.697424
_rreligion_2	0.022824	0.25327	0.09	0.928	-0.47358	0.519224
_rreligion_3	0.251129	0.266345	0.94	0.346	-0.2709	0.773156
_rreligion_4	-0.29851	0.288677	-1.03	0.301	-0.86431	0.267281
_rreligion_5	-0.69677	0.468069	-1.49	0.137	-1.61417	0.220624
_rreligion_6	-0.09958	0.316183	-0.31	0.753	-0.71929	0.520127
_grhhgrp_1	0.641244	0.040719	15.75	0	0.561437	0.721051
_grhhgrp_2	0.414191	0.037144	11.15	0	0.341391	0.486992
_grhhgrp_5	0.489834	0.538394	0.91	0.363	-0.5654	1.545066
dwedwell~1	-0.70606	0.859498	-0.82	0.411	-2.39064	0.978529
dwedwell~2	-0.01708	0.156741	-0.11	0.913	-0.32429	0.290122
dwedwell~3	0.132396	0.300341	0.44	0.659	-0.45626	0.721052
dwedwell~4	-0.48998	0.278967	-1.76	0.079	-1.03675	0.056783
_sexsex_he~2	-0.2395	0.056124	-4.27	0	-0.3495	-0.1295
_ebedu_bus_2	0.680397	0.083719	8.13	0	0.516311	0.844483
_etedu_tra~2	0.409611	0.306015	1.34	0.181	-0.19017	1.00939
_cons	-10.5731	1.325404	-7.98	0	-13.1708	-7.97534

Table 8c (50th. Round) Calories (heavy work)

	Wald chi2(38)	=	3865.59
	Prob > chi2	=	0
Log likelihood = -24073.499	Pseudo R2	=	0.088

ych	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	0.013433	0.004127	3.25	0.001	0.005344	0.021522
age_head	0.010799	0.000845	12.78	0	0.009142	0.012456
share_irri	-0.00486	0.000296	-16.41	0	-0.00544	-0.00428
FII	0.047369	0.01075	4.41	0	0.026299	0.068438
_sstate_2	-0.08357	0.076705	-1.09	0.276	-0.23391	0.066771
_sstate_4	-1.33781	0.175147	-7.64	0	-1.68109	-0.99453
_sstate_5	-0.01253	0.063784	-0.2	0.844	-0.13755	0.112481
_sstate_7	-0.00019	0.249613	0	0.999	-0.48942	0.489046
_sstate_8	-0.29499	0.133573	-2.21	0.027	-0.55679	-0.03319
_sstate_11	0.670612	0.120685	5.56	0	0.434073	0.907151
_sstate_12	-0.467	0.211814	-2.2	0.027	-0.88215	-0.05185
_sstate_13	0.420978	0.052652	8	0	0.317783	0.524174
_sstate_14	0.718197	0.131808	5.45	0	0.459857	0.976537
_sstate_21	0.459773	0.139138	3.3	0.001	0.187068	0.732479
_sstate_23	-0.18629	0.158519	-1.18	0.24	-0.49698	0.124399
_sstate_25	0.45979	0.058125	7.91	0	0.345868	0.573713
_sstate_26	-0.60269	0.066433	-9.07	0	-0.73289	-0.47248
_ochhtype_1	0.490087	0.060779	8.06	0	0.370961	0.609212
_ochhtype_2	1.237665	0.05418	22.84	0	1.131475	1.343856
_ochhtype_3	0.926378	0.074752	12.39	0	0.779867	1.07289
_ochhtype_4	0.475583	0.048624	9.78	0	0.380282	0.570884
_ochhtype_5	0.482979	0.082563	5.85	0	0.321159	0.644798
_rreligion_1	0.067199	0.221289	0.3	0.761	-0.36652	0.500918
_rreligion_2	-0.14683	0.225161	-0.65	0.514	-0.58814	0.294474
_rreligion_3	0.310119	0.238189	1.3	0.193	-0.15672	0.776961
_rreligion_4	-0.4053	0.252586	-1.6	0.109	-0.90036	0.089756
_rreligion_5	-1.59682	0.439007	-3.64	0	-2.45726	-0.73638
_rreligion_6	-0.14066	0.316966	-0.44	0.657	-0.7619	0.480585
_grhhgrp_1	0.638066	0.03839	16.62	0	0.562822	0.71331
_grhhgrp_2	0.311943	0.032977	9.46	0	0.24731	0.376576
_grhhgrp_5	0.680021	0.526735	1.29	0.197	-0.35236	1.712402
dwedwell~1	-1.75782	0.752215	-2.34	0.019	-3.23213	-0.2835
dwedwell~2	-0.0414	0.142258	-0.29	0.771	-0.32022	0.237426
dwedwell~3	0.081291	0.248275	0.33	0.743	-0.40532	0.567902
dwedwell~4	-0.34604	0.236135	-1.47	0.143	-0.80885	0.116781
_sexsex_he~2	-0.38049	0.047878	-7.95	0	-0.47433	-0.28665
_ebedu_bus_2	0.550487	0.066225	8.31	0	0.420689	0.680285

_etedu_tra~2	0.329563	0.231162	1.43	0.154	-0.12351	0.782633
_cons	-6.81923	1.080186	-6.31	0	-8.93636	-4.7021

Table 8d (50th. Round) Protein

	Wald chi2(38)	=	4448.17
	Prob > chi2	=	0
Log likelihood = -15336.745	Pseudo R2	=	0.149

yp	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	0.068526	0.00525	13.05	0	0.058235	0.078816
age_head	0.001147	0.001163	0.99	0.324	-0.00113	0.003426
share_irri	-0.00816	0.000422	-19.36	0	-0.00899	-0.00734
FII	-5.36E-02	0.017748	-3.02	0.003	-0.08842	-0.01885
_sstate_2	0.259943	0.121832	2.13	0.033	0.021158	0.498729
_sstate_4	0.44987	0.291433	1.54	0.123	-0.12133	1.021069
_sstate_5	0.050143	0.10123	0.5	0.62	-0.14826	0.24855
_sstate_7	2.014016	0.414053	4.86	0	1.202487	2.825545
_sstate_8	-0.59761	0.302529	-1.98	0.048	-1.19056	-0.00467
_sstate_11	2.308807	0.190417	12.12	0	1.935596	2.682018
_sstate_12	1.925441	0.345788	5.57	0	1.24771	2.603173
_sstate_13	-0.08585	0.067628	-1.27	0.204	-0.2184	0.046699
_sstate_14	2.055673	0.213972	9.61	0	1.636296	2.47505
_sstate_21	1.57209	0.230225	6.83	0	1.120858	2.023322
_sstate_23	1.32032	0.263997	5	0	0.802896	1.837744
_sstate_25	-0.47449	0.082989	-5.72	0	-0.63714	-0.31183
_sstate_26	-0.28636	0.100719	-2.84	0.004	-0.48376	-0.08895
_ochhtype_1	0.477591	0.090101	5.3	0	0.300996	0.654187
_ochhtype_2	1.081111	0.077217	14	0	0.929769	1.232453
_ochhtype_3	1.007923	0.096822	10.41	0	0.818156	1.19769
_ochhtype_4	0.453398	0.073412	6.18	0	0.309513	0.597284
_ochhtype_5	0.632021	0.102342	6.18	0	0.431434	0.832607
_rreligion_1	0.346403	0.265019	1.31	0.191	-0.17302	0.86583
_rreligion_2	0.000994	0.273102	0	0.997	-0.53428	0.536264
_rreligion_3	0.528458	0.284934	1.85	0.064	-0.03	1.086918
_rreligion_4	-0.30618	0.341998	-0.9	0.371	-0.97648	0.364124
_rreligion_5	-0.21557	0.496986	-0.43	0.664	-1.18964	0.758507
_rreligion_6	0.148885	0.330145	0.45	0.652	-0.49819	0.795957
_grhhgrp_1	0.716061	0.043084	16.62	0	0.631619	0.800504
_grhhgrp_2	0.372145	0.042212	8.82	0	0.289411	0.45488
_grhhgrp_5	0.699746	0.543359	1.29	0.198	-0.36522	1.764711
dwedwell~1	-1.61015	1.23181	-1.31	0.191	-4.02446	0.804149
dwedwell~2	-0.31054	0.165015	-1.88	0.06	-0.63397	0.012879
dwedwell~3	0.073199	0.291824	0.25	0.802	-0.49876	0.645163

dwedwell~4	-0.56278	0.294247	-1.91	0.056	-1.13949	0.013936
_sexsex_he~2	-0.09966	0.06359	-1.57	0.117	-0.2243	0.02497
_ebedu_bus_2	0.494038	0.089705	5.51	0	0.31822	0.669856
_etedu_tra~2	0.17358	0.328253	0.53	0.597	-0.46978	0.816943
_cons	1.689337	1.732313	0.98	0.329	-1.70593	5.084607

Table 8e (50th. Round) Protein and Calories (sedentary work)

	Wald chi2(38)	=	4201.67
	Prob > chi2	=	0
Log likelihood = -12864.056	Pseudo R2	=	0.1629

ycps	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	0.058297	0.005796	10.06	0	0.046937	0.069657
age_head	-9E-05	0.001295	-0.07	0.944	-0.00263	0.002448
share_irri	-0.00874	0.000466	-18.77	0	-0.00966	-0.00783
FII	0.006919	0.019358	0.36	0.721	-0.03102	0.044861
_sstate_2	0.444382	0.134315	3.31	0.001	0.18113	0.707635
_sstate_4	-0.7102	0.320488	-2.22	0.027	-1.33834	-0.08206
_sstate_5	0.413734	0.112997	3.66	0	0.192264	0.635204
_sstate_7	1.328413	0.44549	2.98	0.003	0.455269	2.201556
_sstate_8	-0.29775	0.318207	-0.94	0.349	-0.92143	0.325923
_sstate_11	2.163736	0.203605	10.63	0	1.764677	2.562795
_sstate_12	1.553134	0.371142	4.18	0	0.82571	2.280558
_sstate_13	0.488118	0.083915	5.82	0	0.323648	0.652587
_sstate_14	1.945885	0.229046	8.5	0	1.496963	2.394808
_sstate_21	1.686603	0.246467	6.84	0	1.203536	2.169669
_sstate_23	0.987232	0.284323	3.47	0.001	0.429969	1.544495
_sstate_25	0.392601	0.100325	3.91	0	0.195967	0.589234
_sstate_26	-0.80325	0.13738	-5.85	0	-1.07251	-0.53399
_ochhtype_1	0.425775	0.104504	4.07	0	0.220952	0.630598
_ochhtype_2	1.137629	0.088629	12.84	0	0.963918	1.311339
_ochhtype_3	0.959561	0.108955	8.81	0	0.746013	1.173108
_ochhtype_4	0.49085	0.084562	5.8	0	0.325113	0.656588
_ochhtype_5	0.614072	0.113003	5.43	0	0.39259	0.835554
_rreligion_1	0.770688	0.335741	2.3	0.022	0.112647	1.428729
_rreligion_2	0.574211	0.344089	1.67	0.095	-0.10019	1.248612
_rreligion_3	0.648982	0.359663	1.8	0.071	-0.05594	1.353908
_rreligion_4	-0.00261	0.408117	-0.01	0.995	-0.8025	0.797289
_rreligion_5	0.185938	0.564395	0.33	0.742	-0.92026	1.292131
_rreligion_6	0.48903	0.391331	1.25	0.211	-0.27797	1.256026
_grhhgrp_1	0.682488	0.047942	14.24	0	0.588524	0.776452
_grhhgrp_2	0.441196	0.046428	9.5	0	0.3502	0.532193
_grhhgrp_5	0.969734	0.558652	1.74	0.083	-0.1252	2.064672
dwedwell~1	-1.56346	1.246656	-1.25	0.21	-4.00686	0.879943

dwedwell~2	-0.39615	0.174335	-2.27	0.023	-0.73784	-0.05446
dwedwell~3	-0.33096	0.393622	-0.84	0.4	-1.10244	0.440527
dwedwell~4	-0.67108	0.319879	-2.1	0.036	-1.29804	-0.04413
_sexsex_he~2	-0.11269	0.069449	-1.62	0.105	-0.24881	0.023428
_ebedu_bus_2	0.625501	0.102689	6.09	0	0.424234	0.826769
_etedu_tra~2	0.323704	0.392894	0.82	0.41	-0.44635	1.093762
_cons	-5.40656	1.913319	-2.83	0.005	-9.1566	-1.65652

Table 8f (50th. Round) Protein and Calories (moderate work)

	Wald chi2(38) =	4220.52	
	Prob > chi2 =	0	
Log likelihood = -14398.426	Pseudo R2 =	0.1499	

Ycpm	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
Hhsize	0.060744	0.005428	11.19	0	0.050106	0.071382
age_head	0.002063	0.001208	1.71	0.088	-0.0003	0.004431
share_irri	-0.00836	0.000438	-19.1	0	-0.00922	-0.0075
FII	-0.03882	0.019404	-2	0.045	-0.07685	-0.00079
_sstate_2	0.302577	0.131938	2.29	0.022	0.043984	0.56117
_sstate_4	0.123912	0.31932	0.39	0.698	-0.50194	0.749768
_sstate_5	0.200863	0.109336	1.84	0.066	-0.01343	0.415157
_sstate_7	1.844525	0.452183	4.08	0	0.958263	2.730786
_sstate_8	-0.50235	0.318997	-1.57	0.115	-1.12758	0.122869
_sstate_11	2.241016	0.207151	10.82	0	1.835007	2.647024
_sstate_12	1.84738	0.376702	4.9	0	1.109057	2.585703
_sstate_13	0.085597	0.07225	1.18	0.236	-0.05601	0.227205
_sstate_14	2.005223	0.23339	8.59	0	1.547787	2.462659
_sstate_21	1.658069	0.251344	6.6	0	1.165444	2.150694
_sstate_23	1.282713	0.287945	4.45	0	0.718351	1.847075
_sstate_25	-0.24221	0.087784	-2.76	0.006	-0.41426	-0.07015
_sstate_26	-0.49647	0.113746	-4.36	0	-0.7194	-0.27353
_ochhtype_1	0.419313	0.095746	4.38	0	0.231655	0.606972
_ochhtype_2	1.111837	0.081471	13.65	0	0.952158	1.271516
_ochhtype_3	0.965291	0.101661	9.5	0	0.766038	1.164543
_ochhtype_4	0.477692	0.077636	6.15	0	0.32553	0.629855
_ochhtype_5	0.608783	0.106543	5.71	0	0.399962	0.817604
_rreligion_1	0.351439	0.282526	1.24	0.214	-0.2023	0.90518
_rreligion_2	0.071567	0.29082	0.25	0.806	-0.49843	0.641564
_rreligion_3	0.359053	0.304007	1.18	0.238	-0.23679	0.954896
_rreligion_4	-0.37876	0.367999	-1.03	0.303	-1.10003	0.342504
_rreligion_5	-0.42399	0.532704	-0.8	0.426	-1.46807	0.620092
_rreligion_6	0.103549	0.343729	0.3	0.763	-0.57015	0.777245
_grhhgrp_1	0.713341	0.044581	16	0	0.625964	0.800718
_grhhgrp_2	0.402665	0.043601	9.24	0	0.317208	0.488122

_grhhgrp_5	0.816736	0.536567	1.52	0.128	-0.23492	1.868388
dwedwell~1	-1.52712	1.22713	-1.24	0.213	-3.93225	0.878015
dwedwell~2	-0.29803	0.168505	-1.77	0.077	-0.62829	0.032235
dwedwell~3	-0.37648	0.345668	-1.09	0.276	-1.05397	0.301019
dwedwell~4	-0.69098	0.311601	-2.22	0.027	-1.30171	-0.08026
_sexsex_he~2	-0.121	0.065557	-1.85	0.065	-0.24949	0.007494
_ebedu_bus_2	0.578332	0.095419	6.06	0	0.391314	0.76535
_etedu_tra~2	0.383972	0.362518	1.06	0.29	-0.32655	1.094495
_cons	-0.29759	1.893639	-0.16	0.875	-4.00906	3.413871

Table 8g (43rd Round) Protein and Calories (heavy work)

	Wald chi2(35)	=	2092.23
	Prob > chi2	=	0
Log likelihood = -42967.516	Pseudo R2	=	0.0262

ycph	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.00386	0.003238	-1.19	0.233	-0.01021	0.002481
headage	-0.00038	0.000615	-0.62	0.537	-0.00158	0.000825
FII	0.014427	0.004898	2.95	0.003	0.004829	0.024026
_ststate_2	0.304716	0.072661	4.19	0	0.162303	0.447129
_ststate_4	0.049424	0.049808	0.99	0.321	-0.0482	0.147046
_ststate_5	-0.06731	0.042631	-1.58	0.114	-0.15087	0.016244
_ststate_8	0.178287	0.074985	2.38	0.017	0.031318	0.325255
_ststate_11	-0.21391	0.060631	-3.53	0	-0.33274	-0.09507
_ststate_12	-0.2243	0.052271	-4.29	0	-0.32674	-0.12185
_ststate_13	-0.23462	0.072661	-3.23	0.001	-0.37703	-0.09221
_ststate_14	-0.04434	0.046147	-0.96	0.337	-0.13478	0.046108
_ststate_19	0.229866	0.068441	3.36	0.001	0.095724	0.364008
_ststate_21	-0.96277	0.05454	-17.65	0	-1.06967	-0.85588
_ststate_23	-0.00101	0.045951	-0.02	0.983	-0.09107	0.089055
_ststate_25	-0.79428	0.085484	-9.29	0	-0.96183	-0.62674
_ststate_26	0.271823	0.05747	4.73	0	0.159184	0.384461
_occhhtype_1	-0.00928	0.035779	-0.26	0.795	-0.0794	0.060847
_occhhtype_2	0.001673	0.031413	0.05	0.958	-0.0599	0.063241
_occhhtype_3	-0.04049	0.040023	-1.01	0.312	-0.11894	0.037951
_occhhtype_4	-0.01861	0.030287	-0.61	0.539	-0.07797	0.040754
_rereligio~1	0.038535	0.12812	0.3	0.764	-0.21257	0.289645
_rereligio~2	0.02765	0.131051	0.21	0.833	-0.22921	0.284506
_rereligio~3	0.081341	0.139197	0.58	0.559	-0.19148	0.354161
_rereligio~4	0.144311	0.147834	0.98	0.329	-0.14544	0.43406
_rereligio~5	-0.07188	0.241515	-0.3	0.766	-0.54524	0.401478
_rereligio~6	0.128318	0.236736	0.54	0.588	-0.33568	0.592312
_rereligio~7	-1.19166	1.266138	-0.94	0.347	-3.67324	1.289929
_dwdwellin~1	-0.00511	0.034064	-0.15	0.881	-0.07187	0.061656

_dwdwellin~2	-0.48936	0.517893	-0.94	0.345	-1.50441	0.52569
_dwdwellin~4	-0.059	1.198727	-0.05	0.961	-2.40847	2.290457
_dwdwellin~7	1.75441	1.16674	1.5	0.133	-0.53236	4.041178
_grhhgrp_1	0.002157	0.028722	0.08	0.94	-0.05414	0.058451
_grhhgrp_2	-0.05937	0.023455	-2.53	0.011	-0.10534	-0.0134
_grhhgrp_3	-0.05829	0.21222	-0.27	0.784	-0.47424	0.357654
_sexheadse~2	0.023441	0.028954	0.81	0.418	-0.03331	0.08019
_cons	-1.94698	0.537636	-3.62	0	-3.00072	-0.89323

Table 9a (55th. Round) Calories (sedentary work)

	Wald chi2(45) =	1931
	Prob > chi2 =	0
Log likelihood = -7857.8514	Pseudo R2 =	0.12

ycs	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.0638189	0.0144204	-4.43	0	-0.09208	-0.03556
agehead	-0.0185519	0.0022729	-8.16	0	-0.02301	-0.0141
_ststate_2	2.532104	0.3705993	6.83	0	1.805743	3.258465
_ststate_3	2.836428	0.4010927	7.07	0	2.0503	3.622555
_ststate_4	1.31113	0.3905178	3.36	0.001	0.54573	2.076531
_ststate_5	1.866887	0.3715896	5.02	0	1.138584	2.595189
_ststate_7	1.139554	0.401233	2.84	0.005	0.353152	1.925957
_ststate_8	-1.440802	1.056281	-1.36	0.173	-3.51107	0.62947
_ststate_9	1.020428	0.4355616	2.34	0.019	0.166743	1.874113
_ststate_11	1.559318	0.389814	4	0	0.795297	2.323339
_ststate_12	1.078951	0.411775	2.62	0.009	0.271887	1.886015
_ststate_13	1.872915	0.3743189	5	0	1.139264	2.606567
_ststate_14	1.707802	0.3781814	4.52	0	0.96658	2.449024
_ststate_15	0.4126743	0.6359075	0.65	0.516	-0.83368	1.65903
_ststate_16	0.2636271	0.5669318	0.47	0.642	-0.84754	1.374793
_ststate_17	-0.8650333	1.074625	-0.8	0.421	-2.97126	1.241193
_ststate_18	0.7244388	0.5707129	1.27	0.204	-0.39414	1.843016
_ststate_19	2.23105	0.3737982	5.97	0	1.498419	2.963681
_ststate_21	0.2102847	0.4346424	0.48	0.629	-0.6416	1.062168
_ststate_22	3.050052	0.3906492	7.81	0	2.284393	3.81571
_ststate_23	3.001001	0.3704036	8.1	0	2.275023	3.726979
_ststate_24	1.865799	0.4075745	4.58	0	1.066967	2.66463
_ststate_25	1.414027	0.3735287	3.79	0	0.681925	2.14613
_ststate_26	1.347	0.3824738	3.52	0	0.597366	2.096635
_ststate_27	1.922414	0.5344278	3.6	0	0.874954	2.969873
_ststate_28	1.21806	0.6418103	1.9	0.058	-0.03987	2.475985
_ststate_29	2.75685	0.4275434	6.45	0	1.91888	3.59482

_ststate_30	2.154024	0.4826388	4.46	0	1.20807	3.099979
_ststate_31	1.079894	0.6934795	1.56	0.119	-0.2793	2.439089
_ststate_32	0.3632746	0.8093015	0.45	0.654	-1.22293	1.949476
_ststate_33	2.553457	0.4404817	5.8	0	1.690129	3.416786
_occhhtype_1	-1.108682	0.0919545	-12.06	0	-1.28891	-0.92845
_occhhtype_2	-0.5431939	0.066727	-8.14	0	-0.67398	-0.41241
_occhhtype_3	-0.5472977	0.0937419	-5.84	0	-0.73103	-0.36357
_occhhtype_4	-1.373881	0.0733289	-18.74	0	-1.5176	-1.23016
_rreligion_0	1.458504	0.49674	2.94	0.003	0.484911	2.432096
_rreligion_1	0.5860888	0.2390722	2.45	0.014	0.117516	1.054662
_rreligion_2	0.9721595	0.257612	3.77	0	0.467249	1.47707
_rreligion_3	0.2128791	0.2516975	0.85	0.398	-0.28044	0.706197
_rreligion_4	0.4562683	0.4565224	1	0.318	-0.4385	1.351036
_rreligion_6	0.7696976	0.2699541	2.85	0.004	0.240597	1.298798
_grhhgrp_1	1.156609	0.0826307	14	0	0.994656	1.318562
_grhhgrp_2	0.6559612	0.0808846	8.11	0	0.49743	0.814492
_grhhgrp_3	0.2387275	0.0733465	3.25	0.001	0.094971	0.382484
_hesexhead_2	0.0520304	0.0775417	0.67	0.502	-0.09995	0.204009
_cons	-4.629456	0.4615005	-10.03	0	-5.53398	-3.72493

Table 9b (55th. Round) Calories (moderate work)

	Wald chi2(45) =	2435.08
	Prob > chi2 =	0
Log likelihood = -11136.862	Pseudo R2 =	0.1109

ycm	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.03775	0.01046	-3.61	0	-0.05825	-0.01724
agehead	-0.00873	0.001764	-4.95	0	-0.01219	-0.00527
_ststate_2	3.158328	0.411779	7.67	0	2.351256	3.965399
_ststate_3	3.281149	0.434291	7.56	0	2.429954	4.132344
_ststate_4	2.075036	0.421819	4.92	0	1.248286	2.901787
_ststate_5	2.702436	0.411489	6.57	0	1.895932	3.508939
_ststate_7	1.502334	0.435619	3.45	0.001	0.648536	2.356131
_ststate_8	-0.60822	0.863459	-0.7	0.481	-2.30056	1.084131
_ststate_9	1.6048	0.466835	3.44	0.001	0.68982	2.519781
_ststate_11	1.893353	0.427516	4.43	0	1.055437	2.731269
_ststate_12	1.490785	0.439958	3.39	0.001	0.628483	2.353086
_ststate_13	2.418651	0.414273	5.84	0	1.606691	3.230611
_ststate_14	2.314481	0.416768	5.55	0	1.49763	3.131332
_ststate_15	1.267299	0.537369	2.36	0.018	0.214076	2.320523
_ststate_16	0.556534	0.55444	1	0.315	-0.53015	1.643217
_ststate_17	-0.13079	0.825341	-0.16	0.874	-1.74843	1.486843
_ststate_18	0.945655	0.571783	1.65	0.098	-0.17502	2.06633
_ststate_19	2.946294	0.413669	7.12	0	2.135518	3.757071

_ststate_21	0.654455	0.452608	1.45	0.148	-0.23264	1.54155
_ststate_22	3.619957	0.425621	8.51	0	2.785754	4.454159
_ststate_23	3.561178	0.41149	8.65	0	2.754671	4.367684
_ststate_24	2.286459	0.438542	5.21	0	1.426934	3.145985
_ststate_25	2.00256	0.412652	4.85	0	1.193776	2.811344
_ststate_26	1.972883	0.418994	4.71	0	1.151669	2.794097
_ststate_27	2.466835	0.518323	4.76	0	1.450942	3.482728
_ststate_28	2.36863	0.509296	4.65	0	1.370428	3.366833
_ststate_29	3.489344	0.451132	7.73	0	2.605142	4.373546
_ststate_30	2.48008	0.511346	4.85	0	1.477861	3.4823
_ststate_31	2.073153	0.586669	3.53	0	0.923303	3.223003
_ststate_32	1.143824	0.72585	1.58	0.115	-0.27882	2.566464
_ststate_33	3.140775	0.45598	6.89	0	2.247072	4.034479
_occhhtype_1	-0.82099	0.074746	-10.98	0	-0.96749	-0.6745
_occhhtype_2	-0.27386	0.057554	-4.76	0	-0.38666	-0.16106
_occhhtype_3	-0.30614	0.079663	-3.84	0	-0.46228	-0.15
_occhhtype_4	-1.05061	0.06045	-17.38	0	-1.16909	-0.93213
_rreligion_0	1.05942	0.478457	2.21	0.027	0.121662	1.997178
_rreligion_1	0.538201	0.207513	2.59	0.009	0.131484	0.944918
_rreligion_2	0.831104	0.222494	3.74	0	0.395024	1.267185
_rreligion_3	0.339127	0.218505	1.55	0.121	-0.08913	0.767388
_rreligion_4	0.598018	0.434278	1.38	0.169	-0.25315	1.449187
_rreligion_6	0.7389	0.231633	3.19	0.001	0.284909	1.192891
_grhhgrp_1	1.105254	0.067438	16.39	0	0.973079	1.23743
_grhhgrp_2	0.646907	0.064522	10.03	0	0.520447	0.773368
_grhhgrp_3	0.214969	0.058846	3.65	0	0.099633	0.330306
_hesexhead_2	-0.00143	0.065055	-0.02	0.982	-0.12894	0.126073
_cons	-5.42798	0.475733	-11.41	0	-6.3604	-4.49556

Table 9c (55th. Round) Calories (heavy work)

	Wald chi2(49) =	4360.24
	Prob > chi2 =	0
Log likelihood = -22654.141	Pseudo R2 =	0.1093

ych	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.01418	0.005596	-2.53	0.011	-0.02515	-0.00321
agehead	0.003562	0.001027	3.47	0.001	0.001549	0.005575
_ststate_2	2.862891	0.244257	11.72	0	2.384156	3.341625
_ststate_3	2.799432	0.268601	10.42	0	2.272985	3.32588
_ststate_4	2.166036	0.248346	8.72	0	1.679287	2.652786
_ststate_5	2.856541	0.243439	11.73	0	2.37941	3.333673
_ststate_6	-0.07182	0.750982	-0.1	0.924	-1.54372	1.40008
_ststate_7	1.171172	0.260021	4.5	0	0.661539	1.680804
_ststate_8	0.12594	0.352596	0.36	0.721	-0.56514	0.817015
_ststate_9	1.477711	0.269186	5.49	0	0.950117	2.005306

_ststate_10	0.425979	0.322568	1.32	0.187	-0.20624	1.058199
_ststate_11	1.336863	0.257458	5.19	0	0.832255	1.841471
_ststate_12	1.311904	0.259514	5.06	0	0.803266	1.820542
_ststate_13	2.229298	0.245405	9.08	0	1.748314	2.710283
_ststate_14	2.056182	0.247246	8.32	0	1.57159	2.540774
_ststate_15	2.273841	0.273796	8.3	0	1.737211	2.810472
_ststate_16	0.217956	0.337471	0.65	0.518	-0.44347	0.879386
_ststate_17	0.327285	0.394583	0.83	0.407	-0.44608	1.100653
_ststate_18	0.001088	0.421369	0	0.998	-0.82478	0.826957
_ststate_19	2.900003	0.245302	11.82	0	2.41922	3.380785
_ststate_21	0.179039	0.276358	0.65	0.517	-0.36261	0.720691
_ststate_22	3.242052	0.255335	12.7	0	2.741606	3.742499
_ststate_23	3.088819	0.244646	12.63	0	2.609322	3.568316
_ststate_24	1.645164	0.270041	6.09	0	1.115894	2.174434
_ststate_25	1.918677	0.244388	7.85	0	1.439686	2.397669
_ststate_26	1.90514	0.247859	7.69	0	1.419345	2.390936
_ststate_27	2.29809	0.312221	7.36	0	1.686148	2.910032
_ststate_28	1.831716	0.354297	5.17	0	1.137306	2.526125
_ststate_29	3.345648	0.28553	11.72	0	2.78602	3.905276
_ststate_30	2.423443	0.318194	7.62	0	1.799795	3.047092
_ststate_31	1.764066	0.376843	4.68	0	1.025466	2.502665
_ststate_32	0.618295	0.569783	1.09	0.278	-0.49846	1.735048
_ststate_33	2.983647	0.27843	10.72	0	2.437935	3.529359
_occhhtype_1	-0.2785	0.048424	-5.75	0	-0.37341	-0.18359
_occhhtype_2	0.159702	0.041106	3.89	0	0.079136	0.240268
_occhhtype_3	0.078088	0.055578	1.41	0.16	-0.03084	0.187018
_occhhtype_4	-0.55628	0.041175	-13.51	0	-0.63698	-0.47558
_rreligion_0	0.809715	0.378543	2.14	0.032	0.067784	1.551646
_rreligion_1	0.638506	0.16117	3.96	0	0.322619	0.954392
_rreligion_2	0.735431	0.168642	4.36	0	0.404899	1.065962
_rreligion_3	0.529488	0.166657	3.18	0.001	0.202847	0.856129
_rreligion_4	0.354798	0.296651	1.2	0.232	-0.22663	0.936223
_rreligion_5	0.321763	0.606797	0.53	0.596	-0.86754	1.511063
_rreligion_6	0.970079	0.172484	5.62	0	0.632016	1.308141
_rreligion_7	1.185324	1.487314	0.8	0.425	-1.72976	4.100407
_grhhgrp_1	0.92343	0.043696	21.13	0	0.837788	1.009072
_grhhgrp_2	0.520232	0.040513	12.84	0	0.440827	0.599636
_grhhgrp_3	0.214979	0.035723	6.02	0	0.144963	0.284996
_hesexhead_2	-0.14487	0.044375	-3.26	0.001	-0.23184	-0.0579
_cons	-5.15154	0.298581	-17.25	0	-5.73675	-4.56634

Table 9d (55th. Round) Protein

		Wald chi2(46) =	1840.13
		Prob > chi2 =	0
Log likelihood = -6837.6235		Pseudo R2 =	0.1295

Robust

yp	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.10634	0.017331	-6.14	0	-0.14031	-0.07237
agehead	-0.0231	0.002426	-9.52	0	-0.02785	-0.01834
_ststate_2	2.476392	0.466321	5.31	0	1.56242	3.390364
_ststate_3	2.228876	0.497711	4.48	0	1.25338	3.204372
_ststate_4	1.032514	0.492544	2.1	0.036	0.067145	1.997883
_ststate_5	1.55618	0.468998	3.32	0.001	0.636961	2.4754
_ststate_6	1.846885	0.69456	2.66	0.008	0.485572	3.208198
_ststate_7	1.212775	0.495319	2.45	0.014	0.241967	2.183583
_ststate_8	-0.59151	0.890306	-0.66	0.506	-2.33648	1.153462
_ststate_9	1.388307	0.521398	2.66	0.008	0.366386	2.410228
_ststate_11	1.84842	0.479723	3.85	0	0.908181	2.788659
_ststate_12	2.772516	0.471529	5.88	0	1.848336	3.696696
_ststate_13	1.764158	0.471686	3.74	0	0.83967	2.688645
_ststate_14	1.80108	0.473446	3.8	0	0.873143	2.729017
_ststate_15	0.947967	0.626318	1.51	0.13	-0.27959	2.175527
_ststate_16	-0.71972	0.862335	-0.83	0.404	-2.40986	0.970428
_ststate_17	-0.79372	1.111261	-0.71	0.475	-2.97175	1.384311
_ststate_18	0.953318	0.608406	1.57	0.117	-0.23914	2.145771
_ststate_19	2.078014	0.471376	4.41	0	1.154135	3.001894
_ststate_21	0.471133	0.505037	0.93	0.351	-0.51872	1.460987
_ststate_22	1.734701	0.506483	3.42	0.001	0.742013	2.727389
_ststate_23	3.443003	0.464179	7.42	0	2.533228	4.352778
_ststate_24	-0.3775	0.738998	-0.51	0.609	-1.82591	1.070909
_ststate_25	1.560138	0.465611	3.35	0.001	0.647557	2.472719
_ststate_26	1.196938	0.481356	2.49	0.013	0.253497	2.140378
_ststate_27	2.286851	0.578307	3.95	0	1.153389	3.420312
_ststate_28	1.139014	0.654439	1.74	0.082	-0.14366	2.421691
_ststate_29	2.261301	0.535456	4.22	0	1.211827	3.310774
_ststate_30	2.306648	0.556874	4.14	0	1.215195	3.398101
_ststate_31	1.167413	0.750476	1.56	0.12	-0.30349	2.638318
_ststate_32	0.589537	0.85444	0.69	0.49	-1.08514	2.26421
_ststate_33	2.664506	0.529941	5.03	0	1.625842	3.703171
_occhhtype_1	-1.04093	0.09165	-11.36	0	-1.22056	-0.8613
_occhhtype_2	-0.80409	0.070415	-11.42	0	-0.9421	-0.66608
_occhhtype_3	-0.55032	0.093139	-5.91	0	-0.73286	-0.36777
_occhhtype_4	-1.48709	0.080087	-18.57	0	-1.64406	-1.33012
_rreligion_0	0.451919	0.63351	0.71	0.476	-0.78974	1.693576
_rreligion_1	0.18625	0.260643	0.71	0.475	-0.3246	0.6971
_rreligion_2	0.54504	0.275651	1.98	0.048	0.004773	1.085306
_rreligion_3	-0.00992	0.269691	-0.04	0.971	-0.5385	0.518666
_rreligion_4	0.764119	0.508408	1.5	0.133	-0.23234	1.76058
_rreligion_6	0.760511	0.312256	2.44	0.015	0.148501	1.372522
_grhhgrp_1	0.983065	0.090498	10.86	0	0.805691	1.160438
_grhhgrp_2	0.482598	0.086652	5.57	0	0.312763	0.652433
_grhhgrp_3	0.14481	0.075891	1.91	0.056	-0.00393	0.293554
_hesexhead_2	0.077831	0.079492	0.98	0.328	-0.07797	0.233631

_cons	-3.888	0.551633	-7.05	0	-4.96918	-2.80682

Table 9e (55th. Round) Protein and Calories (sedentary work)

	Wald chi2(45) =	1464.62
	Prob > chi2 =	0
Log likelihood = -5445.3466	Pseudo R2 =	0.1385

ycps	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.1611	0.021234	-7.59	0	-0.20272	-0.11948
agehead	-0.02911	0.002781	-10.47	0	-0.03456	-0.02366
_ststate_2	2.475375	0.463189	5.34	0	1.567541	3.38321
_ststate_3	2.241904	0.501568	4.47	0	1.258849	3.224959
_ststate_4	0.950631	0.495614	1.92	0.055	-0.02075	1.922018
_ststate_5	1.497083	0.467417	3.2	0.001	0.580963	2.413204
_ststate_7	1.245089	0.49175	2.53	0.011	0.281277	2.208901
_ststate_8	-1.16723	1.087973	-1.07	0.283	-3.29962	0.965158
_ststate_9	1.055228	0.520578	2.03	0.043	0.034914	2.075542
_ststate_11	1.733246	0.478554	3.62	0	0.795298	2.671194
_ststate_12	1.427326	0.496071	2.88	0.004	0.455045	2.399608
_ststate_13	1.649166	0.470106	3.51	0	0.727775	2.570557
_ststate_14	1.724941	0.470729	3.66	0	0.80233	2.647553
_ststate_15	0.772523	0.699414	1.1	0.269	-0.5983	2.143349
_ststate_16	-0.39694	0.871957	-0.46	0.649	-2.10595	1.312065
_ststate_17	-0.51963	1.113701	-0.47	0.641	-2.70245	1.663182
_ststate_18	0.870293	0.656055	1.33	0.185	-0.41555	2.156137
_ststate_19	1.939261	0.469059	4.13	0	1.019922	2.8586
_ststate_21	0.514414	0.510527	1.01	0.314	-0.4862	1.51503
_ststate_22	1.790722	0.504691	3.55	0	0.801546	2.779899
_ststate_23	3.035751	0.462911	6.56	0	2.128462	3.943041
_ststate_24	-0.31006	0.737935	-0.42	0.674	-1.75639	1.136263
_ststate_25	1.406298	0.466174	3.02	0.003	0.492615	2.319982
_ststate_26	1.241674	0.47829	2.6	0.009	0.304244	2.179105
_ststate_27	2.037474	0.618262	3.3	0.001	0.825703	3.249244
_ststate_28	1.168754	0.703883	1.66	0.097	-0.21083	2.548338
_ststate_29	2.254987	0.529263	4.26	0	1.217651	3.292323
_ststate_30	2.22045	0.559281	3.97	0	1.12428	3.31662
_ststate_31	1.147069	0.751732	1.53	0.127	-0.3263	2.620437
_ststate_32	0.571511	0.854702	0.67	0.504	-1.10367	2.246695
_ststate_33	2.685417	0.531876	5.05	0	1.64296	3.727875
_occhhtype_1	-1.34807	0.109568	-12.3	0	-1.56282	-1.13332
_occhhtype_2	-0.9971	0.074925	-13.31	0	-1.14395	-0.85025
_occhhtype_3	-0.78123	0.108145	-7.22	0	-0.99319	-0.56927
_occhhtype_4	-1.62354	0.089178	-18.21	0	-1.79832	-1.44875
_rreligion_0	0.697726	0.642157	1.09	0.277	-0.56088	1.95633

_rreligion_1	0.298133	0.291305	1.02	0.306	-0.27281	0.86908
_rreligion_2	0.664995	0.312008	2.13	0.033	0.053471	1.27652
_rreligion_3	-0.21309	0.309517	-0.69	0.491	-0.81973	0.393554
_rreligion_4	0.187164	0.571263	0.33	0.743	-0.93249	1.306818
_rreligion_6	0.76642	0.34304	2.23	0.025	0.094074	1.438766
_grhhgrp_1	1.050753	0.099106	10.6	0	0.85651	1.244997
_grhhgrp_2	0.585034	0.097265	6.01	0	0.3944	0.775669
_grhhgrp_3	0.133271	0.088502	1.51	0.132	-0.04019	0.306732
_hesexhead_2	-0.00791	0.092188	-0.09	0.932	-0.18859	0.172777
_cons	-3.49657	0.56775	-6.16	0	-4.60934	-2.3838

Table 9f (55th. Round) Protein and Calories (moderate work)

	Wald chi2(45) =	1604.78
	Prob > chi2 =	0
Log likelihood = -6027.5826	Pseudo R2 =	0.1334

ycpm	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.14777	0.019673	-7.51	0	-0.18633	-0.10921
agehead	-0.02614	0.002599	-10.06	0	-0.03123	-0.02104
_ststate_2	2.995657	0.569728	5.26	0	1.87901	4.112304
_ststate_3	2.704073	0.599131	4.51	0	1.529797	3.878348
_ststate_4	1.576027	0.592615	2.66	0.008	0.414523	2.737531
_ststate_5	2.054495	0.571982	3.59	0	0.933431	3.17556
_ststate_7	1.754358	0.593498	2.96	0.003	0.591123	2.917594
_ststate_8	-0.042	0.956661	-0.04	0.965	-1.91702	1.833018
_ststate_9	1.865562	0.619303	3.01	0.003	0.65175	3.079375
_ststate_11	2.274179	0.582135	3.91	0	1.133214	3.415143
_ststate_12	2.082638	0.591123	3.52	0	0.924058	3.241218
_ststate_13	2.242221	0.574673	3.9	0	1.115883	3.368558
_ststate_14	2.296677	0.576207	3.99	0	1.167331	3.426023
_ststate_15	1.380729	0.735102	1.88	0.06	-0.06004	2.821502
_ststate_16	-0.05858	0.927657	-0.06	0.95	-1.87676	1.759593
_ststate_17	-0.16467	1.160743	-0.14	0.887	-2.43969	2.110343
_ststate_18	1.416472	0.709919	2	0.046	0.025057	2.807888
_ststate_19	2.571466	0.574167	4.48	0	1.44612	3.696813
_ststate_21	1.022244	0.597764	1.71	0.087	-0.14935	2.193839
_ststate_22	2.252873	0.605129	3.72	0	1.066841	3.438905
_ststate_23	3.743049	0.568234	6.59	0	2.62933	4.856767
_ststate_24	0.158628	0.808375	0.2	0.844	-1.42576	1.743014
_ststate_25	2.011292	0.568881	3.54	0	0.896306	3.126278
_ststate_26	1.738134	0.582629	2.98	0.003	0.596203	2.880064
_ststate_27	2.75305	0.674943	4.08	0	1.430186	4.075914
_ststate_28	1.57628	0.72456	2.18	0.03	0.156168	2.996391
_ststate_29	2.749148	0.626691	4.39	0	1.520857	3.977439

_ststate_30	2.706281	0.651843	4.15	0	1.428692	3.983869
_ststate_31	1.660573	0.821374	2.02	0.043	0.050709	3.270437
_ststate_32	1.107803	0.915519	1.21	0.226	-0.68658	2.902187
_ststate_33	3.145085	0.626105	5.02	0	1.917941	4.372229
_occhhtype_1	-1.23165	0.101832	-12.09	0	-1.43124	-1.03207
_occhhtype_2	-0.9242	0.072441	-12.76	0	-1.06619	-0.78222
_occhhtype_3	-0.65486	0.101177	-6.47	0	-0.85316	-0.45656
_occhhtype_4	-1.54372	0.083691	-18.45	0	-1.70775	-1.37968
_rreligion_0	0.541384	0.636549	0.85	0.395	-0.70623	1.788998
_rreligion_1	0.211889	0.276061	0.77	0.443	-0.32918	0.752959
_rreligion_2	0.547387	0.295411	1.85	0.064	-0.03161	1.126381
_rreligion_3	-0.12993	0.290158	-0.45	0.654	-0.69863	0.438771
_rreligion_4	0.832314	0.559515	1.49	0.137	-0.26431	1.928942
_rreligion_6	0.74271	0.326609	2.27	0.023	0.102568	1.382852
_grhhgrp_1	1.019727	0.094925	10.74	0	0.833679	1.205776
_grhhgrp_2	0.543573	0.09207	5.9	0	0.363119	0.724027
_grhhgrp_3	0.142	0.083122	1.71	0.088	-0.02092	0.304915
_hesexhead_2	-0.02407	0.088058	-0.27	0.785	-0.19666	0.148525
_cons	-4.09439	0.650756	-6.29	0	-5.36985	-2.81893

Table 9g (55th. Round) Protein and Calories (heavy work)

	Wald chi2(46) =	1719.09
	Prob > chi2 =	0
Log likelihood = -6597.5574	Pseudo R2 =	0.1282

ycph	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
hhsize	-0.12238	0.018053	-6.78	0	-0.15776	-0.08699
agehead	-0.0236	0.002476	-9.53	0	-0.02845	-0.01874
_ststate_2	2.537193	0.494357	5.13	0	1.568271	3.506115
_ststate_3	2.302369	0.524829	4.39	0	1.273724	3.331014
_ststate_4	1.13627	0.519071	2.19	0.029	0.118908	2.153631
_ststate_5	1.646539	0.496833	3.31	0.001	0.672765	2.620312
_ststate_6	1.224638	0.871461	1.41	0.16	-0.48339	2.932669
_ststate_7	1.296244	0.521644	2.48	0.013	0.273841	2.318647
_ststate_8	-0.50123	0.907963	-0.55	0.581	-2.2808	1.278345
_ststate_9	1.467708	0.546923	2.68	0.007	0.395759	2.539657
_ststate_11	1.908903	0.507148	3.76	0	0.914911	2.902895
_ststate_12	2.427347	0.50373	4.82	0	1.440055	3.414639
_ststate_13	1.841016	0.499452	3.69	0	0.862108	2.819924
_ststate_14	1.856278	0.501379	3.7	0	0.873593	2.838963
_ststate_15	1.05464	0.6482	1.63	0.104	-0.21581	2.325089
_ststate_16	-0.60011	0.879262	-0.68	0.495	-2.32343	1.123211
_ststate_17	-0.68753	1.12383	-0.61	0.541	-2.89019	1.515139
_ststate_18	1.057152	0.631006	1.68	0.094	-0.1796	2.293901

_ststate_19	2.155402	0.499069	4.32	0	1.177245	3.13356
_ststate_21	0.570501	0.529765	1.08	0.282	-0.46782	1.608821
_ststate_22	1.81345	0.532468	3.41	0.001	0.769832	2.857068
_ststate_23	3.466194	0.4925	7.04	0	2.500912	4.431475
_ststate_24	-0.29499	0.757078	-0.39	0.697	-1.77883	1.188859
_ststate_25	1.635896	0.493647	3.31	0.001	0.668364	2.603427
_ststate_26	1.281225	0.508534	2.52	0.012	0.284516	2.277933
_ststate_27	2.382099	0.601283	3.96	0	1.203606	3.560592
_ststate_28	1.19811	0.67355	1.78	0.075	-0.12202	2.518243
_ststate_29	2.349824	0.559276	4.2	0	1.253664	3.445984
_ststate_30	2.390771	0.580038	4.12	0	1.253917	3.527625
_ststate_31	1.230439	0.768618	1.6	0.109	-0.27603	2.736903
_ststate_32	0.732044	0.869792	0.84	0.4	-0.97272	2.436805
_ststate_33	2.745561	0.554719	4.95	0	1.658331	3.83279
_occhhtype_1	-1.07029	0.094329	-11.35	0	-1.25517	-0.88541
_occhhtype_2	-0.81205	0.070967	-11.44	0	-0.95115	-0.67296
_occhhtype_3	-0.59416	0.096597	-6.15	0	-0.78349	-0.40484
_occhhtype_4	-1.49864	0.081294	-18.43	0	-1.65797	-1.3393
_rreligion_0	0.496298	0.634987	0.78	0.434	-0.74825	1.740849
_rreligion_1	0.220065	0.267735	0.82	0.411	-0.30469	0.744816
_rreligion_2	0.534009	0.284414	1.88	0.06	-0.02343	1.091449
_rreligion_3	0.011533	0.277643	0.04	0.967	-0.53264	0.555703
_rreligion_4	0.751494	0.532589	1.41	0.158	-0.29236	1.79535
_rreligion_6	0.798433	0.31852	2.51	0.012	0.174146	1.42272
_grhhgrp_1	0.9617	0.091774	10.48	0	0.781827	1.141572
_grhhgrp_2	0.503827	0.087591	5.75	0	0.332152	0.675503
_grhhgrp_3	0.126865	0.078079	1.62	0.104	-0.02617	0.279897
_hesexhead_2	0.012299	0.08318	0.15	0.882	-0.15073	0.175329
_cons	-3.88911	0.579001	-6.72	0	-5.02393	-2.75429

The results vary considerably across the three rounds of NSS. In the 43rd round household size, occupation type and type of dwelling and the age of the head of the household did not significantly affect nutritional deprivation. The price index FII was however a significant determinant of nutritional deprivation. Except for a few cases, religious affiliation and caste factors were not significant either. State effects were, however, important. In comparison to Punjab, Maharashtra and Tripura had better records in avoiding nutritional deprivation and Andhra Pradesh, Bihar, Jammu and Kashmir, Manipur, Sikkim and Chandigarh had relatively poor records.

In the 50th round larger household sizes, higher age for the head of the household and higher price index FII were associated with greater risk of nutritional deprivation, *ceteris paribus.* All types of agricultural labourers seemed to have higher risk of becoming nutritionally deprived. Scheduled castes and tribes had greater risk of becoming nutritionally deprived. Female-headed households had smaller risk of nutritional deprivation. Higher share of irrigated land was associated with lower risk of undernutrition. Effect of religion and type of dwelling was, by and large, insignificant. State effects were, again, important. In comparison to Punjab, Bihar and West Bengal had better records in avoiding undernutrition and Andhra Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Manipur, Meghalaya and Uttar Pradesh had poorer records.

In the 55th round larger households and higher age of head of households lowered the probability of undernutrition. All categories of agricultural labourers faced lower risk of undernutrition. The role of religion was more significant and raised the risk of facing undernutrition. Scheduled castes, scheduled tribes and other backward castes all faced higher risk of undernutrition. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Goa, Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Orissa, Sikkim, Tamilnadu, Tripura, Uttar Pradesh, West Bengal, Andaman and Nicobar Islands, Chandigarh, Dadar and Nagar Haveli, Daman and Diu and Mizoram all had poorer records in reducing the risk of undernutrtion in comparison to Punjab.

IV. Conclusions

This paper has provided new estimates of the extent of undernourishment in terms of energy and protein in rural India for the 43rd, 50th and 55th quinquennial NSS rounds. The computation of undernourishment has been done at the national, state and NSS-regional levels. The paper has also computed severity of undernourishment. We further ran logit regressions to determine the determinants of such undernourishment.

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Appendix Table 1: NSS Region Wise distribution of Nutritional Deprivation
Percentages of population in respective regions (43rd Round)

	Region	AP-%	Assam-%	Bihar-%	Gujarat-%	Haryana-%	Karnataka-%	Kerala-%	MP-%	Maharashtra-%	Orrissa-%	Punjab-%	Rajasthan-%	TN-%	UP-%	WB-%
Yp	1	37.59	52.93	35.69	58.21	17.18	58.99	31.18	12.17	12.68	55.94	24.02	9.64	50.20	15.67	34.85
Ycm		70.58	54.73	50.72	77.32	47.45	67.19	67.21	49.45	47.57	55.48	58.37	44.34	60.71	52.99	63.10
Ycpm		41.38	41.82	32.71	57.68	15.14	55.21	30.51	11.30	12.36	49.02	22.27	9.16	45.80	15.51	33.03
Yp	2	33.38	43.81	32.76	38.06	23.48	58.90	20.97	15.60	25.53	62.74	18.97	10.57	48.84	13.18	43.50
Ycm		44.59	45.46	55.65	58.89	58.70	71.43	59.06	45.60	54.88	62.39	50.04	46.15	58.32	53.15	56.90
Ycpm		31.22	34.62	31.08	37.50	20.55	55.89	20.97	14.29	24.59	56.41	17.70	10.50	44.00	13.04	38.86
Yp	3	45.56	21.33	33.26	33.50		53.79		33.13	29.88	63.41		19.00	47.97	14.82	37.39
Ycm		74.31	26.00	52.09	54.50		62.99		62.99	63.00	59.29		55.50	62.11	52.31	55.91
Ycpm		43.94	17.33	30.63	33.50		50.92		28.06	41.38	54.42		17.50	45.91	14.76	34.29
Yp	4	53.52			34.09		49.16		17.35	38.37			11.13	48.75	15.00	41.11
Ycm		77.22			56.14		64.15		53.42	56.30			44.33	60.76	53.35	56.71
Ycpm		52.78			33.58		47.72		16.80	36.70			11.13	45.61	14.78	36.35
Yp	5				53.91				16.47	33.88					11.95	23.38
Ycm					69.83				45.96	44.56					47.43	34.00
Ycpm					51.68				14.22	29.51					11.40	19.88
Yp	6								22.08	28.26						
Ycm									36.67	32.39						
Ycpm									17.92	22.61						
Yp	7								12.08							
Ycm									52.83							
Ycpm									12.08							

Appendix Table 2: NSS Region Wise distribution of Nutritional Deprivation
Percentages of population in respective regions (50th. Round)

	Region	AP-%	Assam-%	Bihar-%	Gujarat-%	Haryana-%	Karnataka-%	Kerala-%	MP-%	Maharashtra-%	Orrissa-%	Punjab-%	Rajasthan-%	TN-%	UP-%	WB-%
Yp	1	17.33	17.57	30.35	31.65	4.50	16.60	28.70	16.35	39.10	17.92	6.08	43.08	29.02	30.65	13.66
Ycm		22.83	13.34	36.76	44.51	15.67	19.03	33.83	18.04	41.80	14.51	16.99	59.06	37.81	32.41	11.13
Ycpm		14.31	11.42	28.48	28.90	4.17	13.77	26.19	14.05	32.97	13.25	5.60	42.26	26.94	24.12	10.50
Yp	2	13.61	12.56	10.16	28.14	2.96	26.58	27.90	10.51	52.81	29.27	4.37	15.71	12.16	4.55	14.26
Ycm		23.98	11.54	22.61	46.91	14.81	35.89	33.90	20.25	53.48	29.43	22.24	27.99	20.23	14.55	11.46
Ycpm		12.49	10.02	9.76	26.23	2.73	25.21	25.44	8.86	47.04	25.63	3.97	15.48	11.11	4.34	10.02
Yp	3	17.12	12.66	8.01	32.58		60.44		10.44	49.13	21.87		34.84	28.08	7.05	15.52
Ycm		27.27	7.59	18.25	42.13		59.15		35.91	55.11	19.30		58.40	32.12	20.30	14.04
Ycpm		16.07	7.59	7.97	30.90		55.15		10.44	44.51	17.47		34.84	25.19	6.86	11.85
Yp	4	21.05			34.81		59.44		21.57	51.82			13.40	23.20	8.42	14.17
Ycm		30.08			50.83		60.51		34.87	65.65			34.28	29.50	24.43	9.78
Ycpm		20.55			33.98		53.50		20.76	48.89			13.14	20.66	8.29	8.88
Yp	5				26.59				19.79	42.84					6.35	
Ycm					44.63				37.03	65.35					17.26	
Ycpm					24.77				19.34	41.94					6.35	
Yp	6								43.64	12.93						
Ycm									66.14	29.55						
Ycpm									43.25	12.93						
Yp	7								10.51							
Ycm									23.25							
Ycpm									10.19							

Appendix Table 3: NSS Region Wise distribution of Nutritional Deprivation
Percentages of population in respective regions (55th. Round)

	Region	AP-%	Assam-%	Bihar-%	Gujarat-%	Haryana-%	Karnataka-%	Kerala-%	MP-%	Maharashtra-%	Orrissa-%	Punjab-%	Rajasthan-%	TN-%	UP-%	WB-%
Yp	1	4.86	0.41	2.81	2.18	0.16	2.61	5.48	2.78	1.84	1.64	0.60	0.36	14.51	0.20	0.00
Ycm		9.77	1.38	6.34	3.77	0.16	1.63	1.88	6.80	4.29	3.16	0.43	0.45	24.24	0.41	0.99
Ycpm		4.74	0.41	2.70	2.18	0.16	1.63	1.72	2.66	1.43	1.52	0.34	0.36	13.81	0.20	0.00
Yp	2	2.26	1.58	0.83	0.00	0.20	1.49	4.21	0.66	0.71	8.35	0.31	0.22	5.49	1.15	0.54
Ycm		5.65	4.17	4.33	0.35	0.20	1.49	1.16	0.83	1.69	21.91	0.31	0.22	5.71	1.21	1.35
Ycpm		2.26	1.52	0.74	0.00	0.20	1.24	1.09	0.50	0.71	8.00	0.21	0.22	4.23	0.93	0.54
Yp	3	4.30	0.00	1.83	2.53		1.56		1.88	4.62	3.20		1.63	8.73	1.12	0.66
Ycm		6.58	2.42	6.54	2.53		2.12		4.80	8.35	8.97		2.24	7.49	2.25	1.49
Ycpm		4.05	0.00	1.73	2.53		1.41		1.88	4.62	3.20		1.63	4.72	1.12	0.66
Yp	4	6.64			2.08		2.26		1.92	3.63			0.69	8.60	1.72	3.17
Ycm		12.89			3.38		2.94		4.21	4.56			1.04	8.90	3.55	6.83
Ycpm		6.45			2.08		2.19		1.79	3.39			0.69	6.55	1.59	3.08
Yp	5				0.16				2.55	2.09					0.56	
Ycm					0.16				4.65	3.59					0.84	
Ycpm					0.16				2.10	2.09					0.28	
Yp	6								2.08	1.52						
Ycm									5.42	4.05						
Ycpm									2.08	1.52						
Yp	7								0.84							
Ycm									1.67							
Ycpm									0.84							

The regions of the NSS can be identified, for example, from Dubey and Gangopadhyay (1998) or by contacting the corresponding author.