NNMB Technical Report No : 19

NATIONAL NUTRITION MONITORING BUREAU

DIET AND NUTRITIONAL STATUS OF TRIBAL POPULATION
REPORT ON FIRST REPEAT SURVEY

NATIONAL INSTITUTE OF NUTRITION
Indian Council of Medical Research
HYDERABAD -500 007, INDIA

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NATIONAL NUTRITION MONITORING BUREAU

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Authors

SUMMARY

The National Nutrition Monitoring Bureau had carried out first repeat survey in ITDP areas during 1998-99 in the same villages, which were surveyed during 1985-87 to asses the current diet and nutritional status and changes, if any, in the nutritional status and food consumption pattern of tribal population. A total of 918 villages from 9 States were covered for survey. About 90,885 individuals were covered for nutritional anthropometry and clinical examination from 30,390 households. Data on food and nutrient intake was collected from 32,023 individuals of different age and sex groups from 8,036 households.

The results indicated that there was reduction in the prevalence of severe degree undernutrition (<60% of weight for age of NCHS standards) in preschool children with a concomitant increase in the proportion of normal and mild degree undernutrition. The reduction in severe grade undernutrition was noticed in all the States and in both the sexes. But, there appeared to be a declining trend in the food intake by individuals of different age and sex groups.

The mean intake of most of the foodstuffs was below the RDI. The consumption of qualitative foods such as green leafy vegetables, milk and milk products, fruits, sugar and jaggery was grossly deficient. The intake of all the nutrients were below the recommended levels, especially in the case of micronutrients such a vitamin A, iron and riboflavin. Among the pregnant and lactating women, the median intakes of all the nutrients were lower than RDA. The extent of deficit was more with regard to vitamin A (82%), iron (76%), Calcium (71%) and folic acid (65%) among the pregnant women.

Protein-calorie adequacy status indicates that about 30-38% of the children of preschool and school age had adequate intakes of both protein and calories. Among the adult females, protein-calorie inadequacy was found more among pregnant (26.4%) and lactating women (26.5%) compared to NPNL women (7.1%).

The overall prevalence of severe grade undernutrition (<60% of weight for age of NCHS) was 10%. It was found to be high in Madhya Pradesh (20.4%) followed by Maharashtra (14.8%) and Andhra Pradesh (10.1%). However, the prevalence of severe undernutrition tended to decrease with increase in age. No sex differences were observed in the prevalence of undernutrition.

The prevalence of stunting was 63% while that of wasting was 23%. Among the adults, chronic energy deficiency was 49% in males and 55% in females. The extent of moderate and severe undernutrition in tribal children was higher than the rural children, indicating that the tribals require specific inputs to improve nutrition.

Inspite of no positive changes in dietary intakes, there was improvement in the nutritional status of preschool children in terms of reduction in sever grade undernutrition. There was also reduction in nutritional deficiency signs like kwashiorkor, marasmus, vitamin A and B-complex deficiency among preschool children. The improvement in nutritional status may be due to non-nutritional factors such as improved and accessibility of health care facilities and nutrition interventions

1. INTRODUCTION

National Nutrition Monitoring Bureau (NNMB), which was established in 1972 by the Indian Council of Medical Research in the States of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Gujarat, Madhya Pradesh, Orissa, West Bengal and Uttar Pradesh, has been carrying out annual diet and nutrition surveys to assess the food and nutrient intake and nutritional status of the rural and urban population. These results have been published in the annual reports. The results up to the year 1996 have recently been compiled and published as *25 Years of National Nutrition Monitoring Bureau.* The Bureau has also carried out repeat surveys in the same urban and rural areas that were surveyed between 1975-79, to study the changes if any, in the dietaries and nutritional status of the populations over a period of time.

The tribal population is recognized as socially and economically vulnerable and constitutes about 7% of total population in the country. In view of their special habitat and food habits, they often distinguish themselves from other population groups. Their food consumption pattern is dependent on vagaries of nature and varies from extreme deprivation (in lean seasons) to high intakes (post-harvest period). The NNMB had earlier carried out diet and nutrition surveys of the tribal populations living in Integrated Tribal Development Project (ITDP) areas, in the States of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Gujarat, Orissa and West Bengal during the year 1985-87[2]. The Steering Committee of NNMB (1996), recommended that the NNMB should carry out repeat surveys in tribal areas as was done for rural and urban population to assess changes, if any, in the nutritional status and food consumption pattern. Therefore, a repeat survey was carried out during 1998-99 among tribal populations living in. the same ITDP areas, which were surveyed in 1985-87.

1.1 Objectives

i) To assess the food and nutrient intake of tribal population living in ITDP areas in different States.

ii) To assess their nutritional status in terms of the extent of nutritional deficiency signs and anthropometry, and

iii) To assess the changes if any, over a period.

2. MATERIALS AND METHODS

The survey was carried out in the States of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Gujarat, Orissa and West Bengal. The survey was also carried out, for the first time, in the State of Madhya Pradesh.

2.1. SAMPLING DESIGN

2.1.1. Selection of Villages

The survey period of 12 months was divided into three sub-rounds, each of 4 months duration, to capture seasonal variations. In each sub-round, 40 villages were proposed to be covered. Thus, about 120 villages were selected. Of these, 90 villages were from among those, which were covered in 1985-87, and the remaining 30 villages formed a new set, selected from the list of ITDP villages in each State.

2.1.2. Selection of Households

From each selected village, 40 households (HH) were selected by adopting probability proportion to size of different tribes. In each area, households were grouped into clusters, each cluster having number of households equivalent to sample size. One cluster from each tribe was selected randomly and covered for survey.

2.2. INVESTIGATIONS

The following investigations were carried out in the selected Households (HHs).

2.2.1. Household Particulars

Demographic and socio-economic particulars of household members such as age, sex, occupation, family income, community, possession of agricultural land and live stock, type of dwelling etc. were collected by administering a pre-coded schedule to heads of all the selected households.

2.2.2. Nutrition Assessment

In each village, all the 40 selected HHs, were covered for nutrition assessment. Anthropometric measurements like height, weight, arm circumference and fat fold at triceps were taken on all the available members of the households, using standard equipment and procedures[3]. They were also examined for the presence of clinical signs of nutritional deficiencies.

2.2.3. Diet Survey

Twenty four-hour recall method of diet survey was conducted on all the members, who had participated in meal in a sub-sample of 10 HHs, covered for nutrition assessment. The HHs were selected by systematic random sampling.

2.3. ANALYSIS

2.3.1. Food and Nutrient Intake of individuals

The average daily intake of different foods was computed for individuals according to age, sex, physiological status and physical activity pattern in each State. The nutrient intakes were calculated using food composition tables of "Nutritive Value of Indian Foods"[4]. The food and nutrient intakes were compared with the levels recommended in balanced diets for Indians (1981)[5].

2.3.1.1. *Protein Calorie Adequacy Status*

The individuals of different age, sex, physiological groups were categorized according to their protein-calorie adequacy status by adopting the procedure given below:

The protein and energy requirement curves were assumed to follow a Gaussian distribution, with a coefficient of variation of 15%. The Expert Committee of the Indian Council of Medical Research (ICMR) has suggested to consider requirements for energy as recommended allowances. On the other hand, in the case of protein, the recommended "allowances" corresponded to Mean + 2SD of the actual requirements. The cut-off levels for energy/protein requirement for each group were computed, based on RDA, 1990[6]. Mean-2SD of requirements was used as the cut-off to determine whether a particular individual was consuming "adequate" amount of protein or energy. If the intake of protein or energy was found to be equal to or above this cut-off, the individual was considered as consuming adequate amount of that nutrient.

2.3.2.Anthropometry

Mean heights and weights were calculated according to age and sex. The distance charts for height and weights were compared with data from previous survey as well as with those of the National Center for Health Statistics (NCHS) standards[7].

Preschool Children

2.3.2.1.1 Gomez Classification

The body weights of preschool children were expressed as percent of sex and age specific NCHS standards and the children were graded into different categories of nutritional grades according to Gomez classification[8].

2.3.2.1.2 SD Classification

The World Health Organization has recommended the use of standard deviation classification to categorize the children into different grades of nutritional status[7].

Recently, large scale national surveys like National Family Health Survey (1993)[9] adopted Standard Deviation classification to assess the extent of undernutrition. The percent distribution of preschool children was calculated using NCHS reference values using 'weight for age' to assess undernutrition; considering 'height for age' to assess the extent of stunting; and 'weight for height' to determine the prevalence of wasting. The cut-off levels of SD classification for different grades of nutritional status using height and weight either singly or in combination are given below:

Cut-off	Nutrition Grades		
	Weight for age	Height for age	Weight for Height
> Median-2SD	Normal	Normal	Normal
Median-2SD to Median-3SD	Moderate undernutrition	Moderate Stunting	Moderate Wasting
< Median-3SD	Severe under nutrition	Severe Stunting	Severe Wasting

2.3.2.2 *School* age Children and Adolescents

Nutritional status of school age children and adolescents were assessed by categorizing them into various grades of nutritional status, using the same cut-off levels for weight as in Gomez classification.

2.3.2.3. Adults

The nutritional status of the adults was assessed based on Body Mass Index (BMI), which is a ratio of weight in kg and square of height in meters. The adults were grouped into different nutritional grades using the James' classification.[10]

3. RESULTS

3.1 SAMPLE

The coverage was about 90% or more (of the target) in all the states except in the states of Madhya Pradesh and West Bengal where it was 68% and 54% respectively. The reasons for poor coverage in these States were frequent turn over staff due to resignation during the survey period. A total of 918 villages were covered from 9 States. About 90,885 individuals were covered for anthropometry and clinical examination from 30,390 HHs. Data on food and nutrient intake was collected from 32,023 individuals from 8,036 households. The details of sample covered are presented in Table-1.

Table 1 State-wise Particulars of sample coverage

State	Diet Survey				Nutrition Assessment (No. of individuals)	
	No. of Households		No. of individuals			
	1985-1987	1998-1999	1985-1987	1998-1999	1985-1987	1998-1999
Kerala	330	1140	1156	3914	2262	8598
Tamil Nadu	170	956	656	3340	2047	10647
Karnataka	270	801	1096	3597	3361	11283
Andhra Pradesh	900	739	3620	2458	11877	9371
Maharashtra	300	940	1129	4046	4833	9325
Gujarat	820	950	3255	3489	6872	9030
Madhya Pradesh	-	799	-	4147	-	11174
Orissa	400	1084	1890	4690	5656	14007
West Bengal	270	627	1222	2342	4668	7450
Pooled	3460	8036	14324	32023	41576 (13820)	90885 (30390)

Figures in parenthesis indicate No. of Households covered - information not available

COVERAGE		
	1985-1987	1998-1999
DIET SURVEY		
• Households:	3460	8,036
• Individuals:	14,324	32,023
ANTHROPOMETRY		
• Individuals:	41,576	90,885

3.2. SOCIO-ECONOMIC PROFILE

3.2.1 Religion

A majority of the households belonged to Hindu religion (98.4%), while the rest were Christians (1.6%) (Table-2). As compared to West Bengal (2.9%) and other States (<1%), the proportion of Christians was much higher in Orissa (8.9%).

Table 2 PERCENT DISTRIBUTION OF HOUSEHOLDS BY RELIGION

State	N	Religion			
		Hindu	Muslim	Christian	Others
Kerala	4388	99.8	.0	.1	.0
Tamilnadu	3826	99.9	.0	.1	.0
Karnataka	2936	100.0	.0	.0	.0
Andhra Pradesh	3051	99.9	.0	.0	.0
Maharashtra	2526	99.1	.1	.8	.0
Gujarat	3979	99.8	.2	.0	.0
Madhya Pradesh	3078	100.0	.0	.0	.0
Orissa	4365	91.1	.0	8.9	.0
West Bengal	2241	97.1	.0	2.9	.0
Pooled	30390	98.4	.0	1.6	.0

3.2.2 Type of House

About 59% of the houses were *semi-pucca,* and the rest were *kutcha* (39.8%). The proportion of *pucca* houses was negligible (0.8%). The percent of *kutcha* houses was higher in the States of West Bengal (76.4%), Gujarat (60.6%) and Tamil Nadu (56.7%), and orissa (52.5%), and very low in the States of Madhya Pradesh (7.1%) and Maharashtra (7.2%) **(Table-3).** The type of house has been used as an index to assess the socioeconomic status of community. Hence, it would mean that the tribals living in the *kutcha* houses are poorer.

Table 3 **PERCENT DISTRIBUTION OF HOUSEHOLDS BY TYPE OF HOUSE**

State	N	Type of House		
		Kutcha	Semi Pucca	Pucca
Kerala	4388	26.2	71.2	2.6
Tamilnadu	3826	56.7	40.8	2.5
Karnataka	2936	15.4	84.6	.0
Andhra Pradesh	3051	49.9	50.0	.2
Maharashtra	2526	7.2	92.8	.0
Gujarat	3979	60.6	39.4	.1
Madhya Pradesh	3078	7.1	92.7	.2
Orissa	4365	52.5	47.2	.2
West Bengal	2241	76.4	23.5	.1
Pooled	30390	39.8	59.4	.8

3.2.3. Type of Family

About 79% of the households were nuclear families, ranging from a low 67.9% in Orissa to a high of 91.6% in Gujarat. The rest were either extended nuclear (11%) or joint families (9.6%). The proportion of Joint families was the highest in Madhya Pradesh (26%) (Table-4). In other words, there appears to be tendency even among the tribals to move away from the joint family system like in the rural areas.

Table 4 PERCENT DISTRIBUTION OF HOUSEHOLDS BY TYPE OF FAMILY

State	N	Type of Family		
		Nuclear	Joint	Extended
Kerala	4388	90.1	3.1	6.8
Tamilnadu	3826	81.7	8.5	9.8
Karnataka	2936	71.6	5.3	23.1
Andhra Pradesh	3051	85.9	7.2	6.9
Maharashtra	2526	76.7	13.4	9.9
Gujarat	3979	91.6	4.9	3.5
Madhya Pradesh	3078	68.9	26.0	5.1
Orissa	4365	67.9	9.7	22.4
West Bengal	2241	71.4	14.6	14.0
Pooled	30390	79.2	9.6	11.2

3.2.4. Major Occupation of Head of HH

About 48% of the HHs were involved in agriculture, while about 20% each were either agricultural labourers or other labourers. The proportion of cultivators ranged from about 23% in the State of Karnataka to 70% in Madhya Pradesh. In the State of Orissa the proportion of other labourers was the highest (49%) and that of agriculture labourers was the lowest (2%) **(Table-5).**

Table 5 PERCENT DISTRIBUTION OF HOUSEHOLDS BY MAJOR OCCUPATION

State	N	Major Occupation								
		Landless Agri. Labourer	Other Labourer	Owner Culti-vator	Owner + Tenant Cultivator	Culti-vation	Artisans	Service	Busi-ness	Others
Kerala	4388	13.7	30.6	12.4	.0	28.7	1.0	4.5	.3	8.8
Tamilnadu	3826	21.2	11.0	9.2	.1	48.1	2.6	4.3	1.2	2.2
Karnataka	2936	39.2	15.7	11.4	.0	11.8	6.4	6.9	1.1	7.5
Andhra Pradesh	3051	35.7	.5	10.5	.1	50.2	.4	2.0	.4	.3
Maharashtra	2526	25.6	19.2	5.1	.0	43.2	1.7	4.0	.8	.3
Gujarat	3979	31.8	10.8	10.2	33.3	1.7	.3	9.9	1.6	.5
Madhya Pradesh	3078	16.0	9.1	4.6	.0	65.8	.4	3.1	.3	.6
Orissa	4365	2.0	49.1	35.7	.5	5.5	1.6	3.1	1.8	.6
West Bengal	2241	21.4	13.9	9.1	.2	40.6	1.7	3.7	1.1	8.3
Pooled	30390	21.8	19.4	13.1	4.5	30.6	1.7	4.7	1.0	3.1

3.2.5. Land Holdings

About 35% of HHs did not possess any agricultural land, while 57% of the HHs. had less than 5 acres. The proportion of landless HHs was the highest in the State of Karnataka (57.6%) followed by Maharashtra (47.7%) and Gujarat (43.3%) **(Table-6).**

Table 6 PERCENT DISTRIBUTION OF HOUSEHOLDS BY LAND OWNERSHIP

State	N	Land (Acres)					
		No Land	1-5	5-10	10-20	20-30	>=30
Kerala	4388	19.9	75.9	2.8	1.1	.3	.1
Tamilnadu	3826	32.1	61.2	5.3	1.1	.2	.1
Kamataka	2936	57.6	41.1	1.0	.3	.0	.1
Andhra Pradesh	3051	35.1	54.4	8.6	1.5	.2	.2
Maharashtra	2526	47.7	43.4	7.6	1.0	.3	.0
Gujarat	3979	43.3	46.7	8.3	1.6	.1	.1
Madhya Pradesh	3078	26.2	52.2	15.9	4.7	.6	.6
Orissa	4365	27.8	64.1	6.3	1.6	.1	.2
West Bengal	2241	39.6	58.8	1.4	.1	.1	.0
Pooled	30390	35.2	56.6	6.4	1.5	.2	.1

3.2.6. Family size

The average family size was 4.6, which ranged from a low 3.9 in the State of Kerala to 5.5 in Madhya Pradesh. The family size was 4 or less in about 52% of HHs. About 6% of the HHs had 8-10 members per HH (Table-7).

Table 7 PERCENT DISTRIBUTION OF HOUSEHOLDS BY FAMILY SIZE - (1998-99)

State	N			Family Size		
		1-4	5-7	8-10	>=10	Average
Kerala	4388	69.9	28.4	1.6	.0	3.9
Tamilnadu	3826	60.8	36.5	2.6	.1	4.2
Karnataka	2936	42.7	46.1	7.9	3.3	5.1
Andhra Pradesh	3051	54.9	40.5	4.4	.2	4.4
Maharashtra	2526	38.7	51.6	8.9	.7	5.1
Gujarat	3979	58.2	37.8	3.8	.2	4.2
Madhya Pradesh	3078	35.6	50.0	11.9	2.5	5.5
Orissa	4365	42.1	46.5	10.3	1.1	5.1
West Bengal	2241	57.3	39.0	3.1	.6	4.3
Pooled	30390	52.1	41.1	5.9	.9	4.6

SOCIO ECONOMIC PROFILE

- **Almost all were Hindus.**
- **Majority had *semi-pucca* houses and was engaged in agriculture and allied activities.**
- **More than a half of households belonged to marginal and small farmers.**

3.3. FOOD AND NUTRIENT INTAKE OF INDIVIDUALS

The average daily intakes of foods and nutrients among individuals of different age and sex groups are given in **Tables 8 to 20.**

3.3.1 Food Consumption

Cereals and millets formed the bulk of the diets of the tribals surveyed in ITDA areas of all the States. However, in Kerala the consumption of roots and tubers (Topiaco) and nuts and oil seeds (coconuts) in the diet was considerable. Similarly,

the millet intakes were higher in the State of Maharashtra, Gujarat and Andhra Pradesh than in the States surveyed. Strangely the cereal intakes of in the state of West Bengal were considerably high in all the age groups and require explanation.

3.3.1.1.1-3 *year children*

The average intake of cereals and millets was 160 g. Only in 4 of the 9 States, the intakes were comparable the recommended level of 175 g. The deficit was higher in Kerala (53%) followed by Gujarat (30%), Tamil Nadu and Karnataka (18%) and Maharashtra (14%). The average intake of pulse was even less than 50% of the suggested level. Similarly, the mean consumption of milk and milk products also grossly deficit by 94% compared to RDI, which ranged from nil intake in the state of Orissa to high in Tamil Nadu (41 mil) **(Table 8).**

3.3.1.2. 4-6 *year children*

The mean intake of cereals and millets among 4-6 year children was 230 g with the lowest intake found in Kerala (139 g) and highest found in West Bengal (388 g). The intakes of other foods stuffs especially qualitative foods were much below the suggested level **(Table 9).**

3.3.1.3. 7-9 *year children*

The mean intake of cereals was 232 g while that of millets was 54 g. Similarly, the mean intake of pulses was 19 g, ranged from a low of 6 g in Karnataka and West Bengal and highest in Maharashtra and Tamil Nadu (29 g). With respect to protective foods such as milk, fats and oils the intakes were very low **(Table 10).**

3.3.1.4. 10-12 *Year boys*

The mean intake of cereals and millets was 82%, while that of pulse was only 46% of RDI. The intakes of all other foods were below the level of requirement **(Table 11).**

Table 8 AVERAGE INTAKE OF FOODSTUFFS (g/day) BY CHILDREN - (1-3 YEARS)

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala	Mean	81	1	6	5	17	18	10	5	10	11	1	16	2	11
(n=352)	SD	43	6	10	13	28	25	12	4	22	20	7	49	3	12
Tamil nadu	Mean	137	6	17	3	20	8	0	7	7	0	0	41	3	7
(n=329)	SD	93	22	13	11	28	12	2	4	10	0	1	115	4	12
Kamataka	Mean	142	1	5	7	15	15	12	6	7	9	3	39	1	16
(n=247)	SD	55	8	13	23	35	23	13	5	16	24	16	74	3	16
Andhra Pradesh	Mean	214	36	15	2	19	5	0	9	11	1	3	11	6	7
(n=223)	SD	144	74	16	8	35	12	1	9	25	5	10	31	11	17
Maharashtra	Mean	88	63	25	3	12	6	0	4	8	1	0	14	5	17
(n=440)	SD	81	77	31	13	23	12	2	10	35	3	4	46	6	40
Gujarat	Mean	45	78	14	2	17	12	0	5	6	0	0	24	4	12
(n=383)	SD	54	72	13	10	32	22	1	3	41	2	4	45	4	11
Madhya Pradesh	Mean	140	53	20	9	17	17	0	3	5	2	0	5	2	3
(n=380)	SD	114	92	20	26	31	29	0	5	27	10	0	19	5	6
Orissa	Mean	153	25	13	48	26	16	0	3	22	2	1	0	5	2
(n=360)	SD	76	39	17	69	50	28	4	6	95	9	7	3	12	9
West Bengal	Mean	249	0	5	70	23	54	0	3	2	7	3	1	6	0
(n=184)	SD	141	0	10	118	43	69	1	3	12	27	13	15	5	1
Pooled	Mean	126	34	14	14	18	15	2	5	9	3	1	17	4	9
(n=2898)	SD	106	65	19	46	34	29	7	6	43	14	8	56	7	20
RDA		175	-	35	40	20	10	-	-	-	-	-	300	15	30

Table 9 AVERAGE INTAKE OF FOODSTUFFS (g/day) BY CHILDREN - (4-6 YEARS)

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala	Mean	137	2	14	5	29	31	16	9	18	20	0	12	3	16
(n=259)	SD	110	10	16	16	42	41	16	7	67	29	4	40	3	14
Tamilnadu	Mean	204	12	26	5	28	12	0	9	11	0	0	11	5	9
(n=245)	SD	79	32	17	13	37	18	2	5	13	0	3	35	4	15
Karnataka	Mean	195	3	6	7	25	21	19	10	12	12	3	28	1	17
(n=219)	SD	68	18	11	22	40	35	22	14	21	26	19	58	3	13
Andhra Pradesh	Mean	255	36	14	4	25	6	0	12	9	3	2	13	5	6
(n=133)	SD	143	71	28	18	41	11	1	10	18	14	10	35	8	9
Maharashtra	Mean	132	108	30	3	19	10	0	5	11	1	0	12	8	21
(n=412)	SD	111	110	29	14	36	62	2	3	51	6	2	32	5	17
Gujarat	Mean	65	107	20	2	28	20	0	7	7	0	1	27	7	16
(n=345)	SD	75	85	17	11	42	29	2	3	46	1	9	43	4	13
Madhya Pradesh	Mean	195	63	26	11	23	23	0	3	7	1	0	7	3	3
(n=456)	SD	128	112	23	33	41	37	0	3	36	9	0	32	5	6
Orissa	Mean	212	26	13	69	40	19	1	4	17	3	0	1	5	2
(n=312)	SD	75	45	16	79	69	34	10	8	63	11	2	5	8	8
West Bengal	Mean	388	0	7	103	26	68	0	5	4	8	5	3	9	1
(n=163)	SD	138	0	12	140	49	69	0	3	14	26	15	24	7	2
Pooled	Mean	180	50	20	20	27	22	3	6	11	5	1	13	5	11
(n=2544)	SD	129	88	22	57	45	44	11	7	44	17	8	37	6	14
RDA		270		35	50	30	20	-	-	~	-	-	250	25	40

Table 10 AVERAGE INTAKE OF FOODSTUFFS (g/day) BY CHILDREN - (7-9 YEARS)

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala	Mean	163	6	14	8	3	37	17	9	18	19	1	11	3	15
	SD	86	24	16	22	60	52	17	7	37	29	5	35	3	6
Tamilnadu	Mean	247	12	28	4	34	12	1	10	11	0	0	12	5	9
	SD	83	36	20	13	40	15	3	9	12	0	4	34	3	14
Karnataka	Mean	248	3	6	9	3	21	21	11	18	13	2	27	2	18
	SD	110	23	12	28	56	36	17	7	38	29	12	45	5	19
Andhra Pradesh	Mean	291	68	13	7	29	7	0	13	14	3	2	9	4	8
	SD	152	112	16	20	48	16	4	11	29	14	11	22	3	26
Maharashtra	Mean	170	123	29	4	20	11	1	7	12	2	1	9	16	22
	SD	138	133	24	19	35	27	2	7	42	10	7	19	151	17
Gujarat	Mean	89	137	23	3	37	20	0	8	5	1	1	31	9	17
	SD	95	114	18	16	50	32	1	4	34	6	10	59	9	23
Madhya Pradesh	Mean	246	65	26	13	33	27	0	4	9	3	0	6	3	4
	SD	143	125	23	39	50	40	0	3	53	15	1	20	4	6
Orissa	Mean	280	19	12	77	40	21	1	5	25	4	0	1	4	1
	SD	85	50	17	83	64	38	7	9	103	13	6	5	4	7
West Bengal	Mean	465	1	6	101	43	79	0	5	3	9	9	5	10	1
	SD	167	16	11	152	71	74	0	4	13	21	24	42	8	2
Pooled	Mean	232	54	19	25	33	24	4	7	13	5	1	12	6	11
	SD	149	103	20	66	54	43	11	8	54	18	10	35	58	17

Table 11 AVERAGE INTAKE OF FOODSTUFFS (g/day) - CHILDREN (10-12 YEARS) - BOYS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg,	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala	Mean	191	4	14	11	31	52	22	9	22	21	1	11	3	16
(n=117)	SD	94		16	24	46	79	21	6	41	34	7	36	3	7
Tamilnadu	Mean	307		31	9	29	12	0	13	13	0	0	8	5	10
(n=89)	SD	106	68	17	26	39	13	2	7	15	0	0	29	4	17
Kamataka	Mean	307	1	7	11	41	19	28	12	17	20	4	30	2	19
(n=133)	SD	137	9	14	33	57	30	31	8	39	39	22	42	4	18
Andhra Pradesh	Mean	319	94	14	11	35	8	1	19	14	9	2	5	4	9
(n-51)	SD	181	133	15	23	48	16	7	31	28	42	9	13	5	11
Maharashtra	Mean	182	186	36	4	22	16	1	7	9	1	1	12	9	22
(n=164)	SD	174	171	24	19	39	31	3	5	38	7	5	19	6	17
Gujarat	Mean	113	187	24	2	49	29	0	9	3	2	0	38	11	18
(n=104)	SD	118	156	21	17	64	43	0	4	12	10	2	55	12	14
Madhya Pradesh	Mean	316	79	32	7	38	27	0	4	7	3	0	9	3	5
(n=178)	SD	203	147	31	24	53	40	1	4	29	16	0	27	4	20
Orissa	Mean	322	15	13	87	31	17	0	6	46	3	2	0	4	1
(n=175)	SD	86	43	18	80	59	34	5	14	156	12	16	4	4	4
West Bengal	Mean	551	0	7	89	44	84	0	5	3	11	6	8	9	1
(n=66)	SD	199	0	13	127	60	75	0	3	11	28	23	62	5	3
States Pooled	Mean	276	69	21	26	34	27	6	9	17	7	1	13	5	12
(n=1077)	SD	179	132	24	60	53	47	17	11	70	24	12	36	6	16
RDA		420		45	50	50	30	-	-		-	-	250	40	45

3.3.1.5. 10-12 *year - Girls*

As in the case of their male counter parts the intakes of cereals and millets was 339 g, which was 89% of RDI. The intakes of pulses and GLV was only 50% of suggested level, with the intakes of other food stuffs was below RDI **(Table 12).**

3.3.1.6. 13-15 *year Boys*

The mean intake of cereals and millets was 418 g, while that of pulses was 23 g. The intake of cereals and millets ranged from 231 g in Kerala to 681 g in West Bengal. The mean intake of GLV showed a wide variation among different States with an average of 31 g. Similarly the intake of flesh foods, fats and oils was considerably low **(Table 13).** The intakes, in general, were below the **RDI.**

3.3.1.7. 13-15 *year Girls*

The mean intake of cereals and millets was 399 g, which was lower than their male counter parts. The intake of pulses was 23 g with a low intake of 8 g in West Bengal and the highest intake of 41 g in Maharashtra. As in the case of boys, the intake of GLV showed wide variation in different districts while that of flesh foods, fats and oils was low **(Table 14).**

3.3.1.8. 16-18 *year boys*

The mean intake of cereals and millets was found to be high in the state of Wesl Bengal (902 g) and it was the lowest in Kerala (343 g) with an average of 561 g. for all the States pooled. The mean intake of pulse was 25 g. The intake of flesh foods, oils & fats and sugar & jaggery was low **(Table 15).**

3.3.1.9. 16-18 year girls

The consumption of cereals and millets was **484** g and was lower than boys of same age group (561 g). The pulse intake was 23 g while that of qualitative foods also showed lower intakes **(Table 16).**

3.3.1.10.Adult males (> 18 years - sedentary workers)

The average intake of cereals and millets was 513 g., which was higher compared to RDI (460 g). Except other vegetables and roots & tubers, the intake of all other foods was lower than the suggested levels. The deficit was more in case of milk (81%), followed by fats & oils (77%) and sugar & jaggery (47%) **(Table 17).**

3.3.1.11.Adult females (> 18 year - sedentary)

The average intake of cereals and millets was 402 g and was comparable with RDI of 410 g. As observed among males, except for other vegetables and roots & tubers the intakes of all other food stuffs were below the recommended level. The deficit was more with regard GLV (76%), followed by milk (71%), fats & oils (65%), sugar & jaggery (52%) **(Table 18).**

3.3.1.12.Pregnant women

The intake of cereals and millets among pregnant women was 463 g. It was higher than the intake of NPNL women (402 g). Similarly, the intakes of GLV (45 g against 24 g), other vegetables (64 against 54) were higher than NPNL women, while the consumption of other foods were lower especially milk among pregnant women **(Table 19).**

Table 12 AVERAGE INTAKE OF FOODSTUFFS (g/day) - CHILDREN (10-12 YEARS) - GIRLS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala (n=110)	Mean	198	7	17	5	31	43	20	11	21	21	0	13	4	18
	SD	82	31	20	19	46	56	18	6	31	31	4	39	12	8
Tamilnadu (n=94)	Mean	323	8	33	11	30	13	0	11	17	0	1	15	10	13
	SD	92	27	23	23	33	17	1	5	17	0	8	36	29	15
Karnataka (n=137)	Mean	303	3	7	16	37	30	31	14	19	24	3	34	4	25
	SD	94	28	13	39	60	144	73	18	49	45	15	52	14	40
Andhra Pradesh (n=56)	Mean	322	91	13	13	29	5	0	24	18	8	7	10	4	5
	SD	168	146	19	29	48	11	1	46	37	30	35	24	3	6
Maharashtra (n=167)	Mean	202	147	33	3	22	24	1	6	8	2	1	10	9	26
	SD	158	161	22	15	34	124	2	3	36	9	9	18	5	18
Gujarat (n=121)	Mean	89	206	27	2	45	24	0	9	9	1	0	38	8	19
	SD	101	168	22	11	53	37	0	4	50	5	2	69	4	16
Madhya Pradesh (n=184)	Mean	274	93	29	17	42	22	0	4	4	2	0	7	3	3
	SD	170	171	27	45	63	44	0	3	10	15	0	25	4	5
Orissa (n=167)	Mean	327	22	13	85	39	28	0	6	22	5	1	0	5	2
	SD	90	57	21	90	69	51	0	12	90	15	7	3	9	10
West Bengal (n=66)	Mean	526	0	11	105	64	70	0	6	3	8	9	4	10	1
	SD	156	0	16	167	89	65	0	4	12	20	26	25	6	3
States Pooled (n=1102)	Mean	269	70	21	27	37	28	6	9	13	8	2	14	6	13
	SD	161	136	23	69	57	81	28	14	47	24	13	39	12	20
RDA		380		45	50	50	30	-	-	-	-	-	250	35	45

Table 13 AVERAGE INTAKE OF FOODSTUFFS (g/day) - CHILDREN (13-15 YEARS) - BOYS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala	Mean	230	1	13	8	55	56	30	12	24	34	1	17	5	17
(n=97)	SD	75	12	18	30	71	77	24	7	58	43	8	45	5	8
Tamilnadu	Mean	392	16	39	8	32	15	0	15	20	0	0	21	7	11
(n=91)	SD	107	44	27	22	47	15	3	8	23	0	0	60	5	17
Karnataka	Mean	360	2	5	8	54	24	27	13	19	15	5	42	2	20
(n=114)	SD	100	19	12	25	61	36	19	8	34	35	22	65	5	16
Andhra Pradesh	Mean	360	128	15	3	42	10	0	17	20	6	11	12	6	15
(n=42)	SD	254	170	21	17	69	30	1	12	33	27	49	20	5	41
Maharashtra	Mean	253	168	39	3	18	15	1	9	5	3	2	13	10	23
(n=88)	SD	197	199	26	13	35	25	4	4	16	12	11	19	6	15
Gujarat	Mean	165	233	39	3	40	45	0	15	16	1	0	31	11	22
(n=77)	SD	165	210	30	14	52	67	0	34	63	4	0	61	6	26
Madhya Pradesh	Mean	369	112	35	12	39	27	0	5	10	2	0	13	4	5
(n=137)	SD	224	191	33	32	57	46	0	3	40	13	2	35	4	8
Orissa	Mean	400	33	12	106	40	26	0	5	40	7	4	0	5	2
(n=123)	SD	120	85	20	96	68	50	0	9	191	20	22	4	4	7
West Bengal	Mean	673	8	9	158	61	77	0	7	1	9	6	0	10	1
(n=50)	SD	209	58	15	194	83	69	0	4	4	27	23	2	6	3
Pooled	Mean	345	73	23	31	42	31	7	10	18	9	3	17	6	12
(n=819)	SD	198	153	28	80	61	53	17	13	83	26	18	45	6	18

Table 14 AVERAGE INTAKE OF FOODSTUFFS (g/day) - CHILDREN (13-15 YEARS) - GIRLS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala (n=103)	Mean	245	0	12	12	60	57	27	15	20	32	1	17	4	16
	SD	70	0	19	31	71	77	24	11	35	45	11	50	4	5
Tamilnadu (n=68)	Mean	364	40	35	11	35	16	4	16	20	2	3	7	6	9
	SD	124	99	37	25	41	19	15	8	19	9	15	26	3	15.
Karnataka (n=128)	Mean	348	5	10	14	41	21	26	12	19	21	3	31	2	18
	SD	110	41	27	39	57	34	20	8	40	42	17	38	4	14
Andhra Pradesh (n=55)	Mean	379	104	12	16	28	11	1	27	16	5	7	15	5	7
	SD	193	135	16	33	56	22	7	48	24	34	32	46	5	8
Maharashtra (n=111)	Mean	205	218	41	4	20	21	0	8	6	2	2	14	11	22
	SD	176	193	26	16	32	95	2	5	17	11	11	19	9	15
Gujarat (n=88)	Mean	104	244	33	5	57	36	0	11	6	2	0	30	11	19
	SD	118	178	25	25	75	64	0	5	31	13	2	50	13	15
Madhya Pradesh (n=146)	Mean	318	116	36	16	37	26	0	5	4	2	0	10	4	4
	SD	198	194	36	35	54	41	0	4	11	13	0	36	4	8
Orissa (n=130)	Mean	391	31	13	71	44	33	0	6	13	3	2	1	5	3
	SD	105	76	19	81	73	58	0	8	49	11	16	5	5	7
West Bengal (n=48)	Mean	617	0	8	142	66	81	0	6	3	10	0	0	9	2
	SD	174	0	14	165	95	89	0	3	10	30	3	2	5	7
Pooled (n=877)	Mean	313	86	23	27	42	32	7	10	12	9	2	15	6	12
	SD	184	157	29	66	63	63	17	15	31	29	14	36	7	13

Table 15 AVERAGE INTAKE OF FOODSTUFFS (g/day) - CHILDREN (16-18 YEARS) - BOYS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala (n=90)	Mean	331	12	16	10	53	96	28	17	25	28	2	8	4	16
	SD	113	71	24	29	62	107	23	11	57	49	16	28	4	6
Tamilnadu (n=68)	Mean	493	21	43	14	34	24	0	19	17	0	2	18	7	16
	SD	150	64	25	36	48	30	2	8	17	0	18	52	4	24
Karnataka (n=127)	Mean	440	3	9	14	54	29	26	14	23	15	3	38	3	22
	SD	164	32	17	39	82	44	22	8	41	45	15	73	11	18
Andhra Pradesh (n=73)	Mean	664	97	20	10	44	7	0	20	24	5	9	21	6	7
	SD	294	160	30	37	62	20	0	15	49	23	40	58	5	7
Maharashtra (n=93)	Mean	309	235	51	2	29	16	1	10	7	2	1	16	13	24
	SD	249	255	31	11	51	29	3	5	17	12	8	25	9	18
Gujarat (n=61)	Mean	173	380	35	5	91	70	0	14	4	0	0	44	16	19
	SD	220	295	37	20	96	112	0	7	12	0	0	57	9	17
Madhya Pradesh (n=92)	Mean	450	64	37	24	48	34	0	6	4	11	0	6	5	4
	SD	196	135	35	75	61	50	0	6	12	39	0	16	6	7
Orissa (n=129)	Mean	561	43	15	104	44	41	1	6	30	4	2	2	6	2
	SD	192	109	26	175	71	64	9	9	126	19	15	9	5	7
West Bengal (n=72)	Mean	892	10	9	137	46	97	0	7	1	16	8	4	9	1
	SD	311	87	16	170	86	83	0	4	8	35	23	29	5	3
Pooled (n=805)	Mean	478	83	25	38	48	44	8	12	16	10	3	17	7	13
	SD	278	184	31	104	71	72	17	10	60	32	18	46	8	16

Table 16: AVERAGE INTAKE OF FOODSTUFFS (g/day) - CHILDREN (16-18 YEARS) - GIRLS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala	Mean	273	0	14	11	47	73	28	16	19	37	1	9	4	16
(n=97)	SD	80	0	19	38	62	98	24	8	32	48	9	33	3	8
Tamilnadu	Mean	419	24	41	16	34	19	0	17	20	0	0	11	7	10
(n=83)	SD	106	66	26	38	46	19	1	6	19	1	0	33	4	14
Kamataka	Mean	407	2	11	15	58	24	31	15	16	22	1	45	3	25
(n=153)	SD	126	22	26	43	72	36	25	9	32	49	9	58	6	25
Andhra Pradesh	Mean	535	85	15	7	51	13	0	27	34	4	5	13	6	6
(n=87)	SD	212	154	24	21	108	33	1	40	60	18	23	23	5	7
Maharashtra	Mean	254	206	52	5	28	16	1	10	8	1	0	19	12	31
(n=78)	SD	230	209	36	20	52	30	3	19	27	5	0	25	8	38
Gujarat	Mean	173	239	35	11	72	29	0	12	18	2	2	36	12	18
(n=73)	SD	167	250	28	39	94	53	1	6	77	12	13	70	7	14
Madhya Pradesh	Mean	406	134	35	24	49	28	0	5	3	2	0	7	5	4
(n=114)	SD	335	242	33	52	75	50	0	4	7	14	0	19	5	7
Orissa	Mean	481	81	13	97	61	30	0	7	24	4	2	1	5	2
(n=128)	SD	180	190	21	108	92	47	0	11	89	16	16	7	6	6
West Bengal	Mean	689	0	6	119	58	115	0	7	2	7	13	4	11	1
(n=69)	SD	244	0	16	144	85	130	0	6	6	21	44	25	9	5
Pooled (n=882)	Mean	406	78	23	34	51	36	9	13	16	10	2	17	6	13
	SD	238	176	30	77	79	67	19	17	49	31	17	41	7	20

Table 17 AVERAGE INTAKE OF FOODSTUFFS (g/day) - MALES (> 18 YEARS) - SEDENTARY WORKERS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala (n=117)	Mean	351	1	22	8	83	89	53	19	28	53	1	32	7	20
	SD	126	8	27	33	119	116	52	15	43	72	7	66	7	14
Tamilnadu	Mean	519	1	51	15	40	26	1	22	30	0	2	27	10	16
	SD	168	63	31	33	71	30	7	11	24	0	19	55	8	18
Kamataka	Mean	475	3	10	19	61	36	40	17	25	20	9	53	3	22
	SD	169	2	19	48	85	122	30	10	49	46	40	68	6	17
Andhra Pradesh	Mean	495	95	31	6	58	11	1	17	26	10	3	23	7	10
	SD	238	14	36	21	86	19	6	14	39	50	14	41	6	8
Maharashtra	Mean	281	19	39	3	39	19	1	8	12	3	6	16	13	32
	SD	232	235	29	14	55	32	4	5	36	10	30	22	10	37
Gujarat	Mean	273	19	42	8	78	29	0	16	17	5	0	43	20	21
	SD	223	243	33	32	90	52	0	7	70	20	0	98	14	20
Madhya Pradesh	Mean	538	3	42	18	59	43	0	8	5	0	0	8	7	5
	SD	241	10	39	45	78	61	0	14	11	0	0	15	6	7
Orissa	Mean	560	35	20	82	59	75	3	7	25	4	7	1	8	3
	SD	190	11	29	104	98	376	19	12	78	20	32	7	7	13
West Bengal	Mean	684	9	12	118	52	77	1	6	4	13	10	5	11	2
	SD	330	8	20	156	68	82	5	3	15	29	31	30	10	4
Pooled (n=965)	Mean	460	5	25	33	61	48	17	14	21	15	5	28	9	16
	SD	239	14	31	79	89	172	33	12	52	42	28	59	10	20
RDA		460	-	40	40	60	50	-	-	-	-	-	150	40	30

Table 18 AVERAGE INTAKE OF FOODSTUFFS (g/day) - FEMALES (> 18 YEARS) - NPNL - SEDENTARY WORKERS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala	Mean	297	3	15	8	59	88	40	16	29	44	2	21	5	18
(n=426)	SD	86	27	22	28	85	120	28	9	44	54	19	52	4	9
Tamilnadu	Mean	427	9	45	14	46	26	2	18	26	0	4	37	9	17
(n=71)	SD	97	39	26	32	52	27	8	9	19	1	21	79	6	18
Kamataka	Mean	438	1	11	18	56	29	39	17	25	21	5	54	3	22
(n=258)	SD	128	16	23	47	92	45	29	11	52	49	25	65	6	18
Andhra Pradesh	Mean	401	63	18	12	39	13	0	17	17	15	1	13	5	9
(n=37)	SD	183	99	25	23	60	24	0	10	30	48	5	26	4	7
Maharashtra	Mean	273	144	49	1	45	19	2	10	16	3	4	24	13	34
(n=62)	SD	184	208	35	6	126	28	8	6	51	11	21	36	7	41
Gujarat	Mean	215	189	33	5	56	32	0	14	10	2	2	48	16	22
(n=111)	SD	198	222	27	23	74	49	0	7	51	11	15	82	16	22
Madhya Pradesh	Mean	398	41	35	19	55	49	0	6	9	0	0	4	9	5
(n=19)	SD	143	137	33	40	77	90	0	6	14	0	0	8	8	6
Orissa	Mean	514	30	19	97	46	44	3	7	20	6	3	1	8	2
(n=118)	SD	136	108	28	100	89	65	21	9	74	25	20	6	6	11
West Bengal	Mean	595	0	12	89	59	84	0	6	8	15	10	4	11	4
(n=60)	SD	204	0	17	133	77	65	0	4	21	34	31	13	8	8
Pooled	Mean	369	33	20	24	54	55	24	14	22	23	3	29	7	17
(n=1162)	SD	169	113	27	62	86	88	30	10	49	46	21	58	8	18
RDA		410	-	40	100	40	50	•	*	-	-	--	100	20	35

Table 19 AVERAGE INTAKE OF FOODSTUFFS (g/day) - FEMALES (> 18 YEARS) - PREGNANT - SEDENTARY WORKERS

State		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar & Jaggery
Kerala	Mean	279	2	24	11	83	61	28	16	14	29	0	16	7	20
	SD	141	14	34	29	148	66	27	10	23	48	0	47	8	9
Tamilnadu	Mean	391	25	38	9	43	22	2	18	18	0	0	25	9	9
	SD	93	76	35	22	47	23	7	11	22	0	0	42	4	13
Karnataka	Mean	431	0	10	12	46	52	44	22	16	54	0	41	4	16
	SD	120	0	17	41	61	80	36	20	28	135	0	71	7	15
Andhra Pradesh	Mean	522	63	10	15	85	3	0	11	48	0	0	15	5	14
	SD	218	125	19	28	64	2	0	4	11	0	0	20	4	3
Maharashtra	Mean	320	111	32	6	75	27	3	9	4	3	0	3	13	26
	SD	249	159	39	15	108	33	9	4	11	10	0	10	6	15
Gujarat	Mean	114	159	37	0	58	17	0	13	23	14	0	89	20	12
	SD	103	118	53	0	46	41	0	7	57	34	0	80	11	9
Madhya Pradesh	Mean	382	0	25	34	94	22	0	5	1	12	0	9	8	7
	SD	210	0	25	54	138	34	0	3	3	30	0	16	7	8
Orissa	Mean	476	65	12	189	56	24	0	4	10	8	0	0	6	0
	SD	150	171	23	191	88	49	0	5	23	31	0	0	8	0
West Bengal	Mean	610	0	12	106	50	60	1	5	4	17	0	0	8	1
	SD	217	0	14	159	77	62	4	3	13	44	0	0	5	2
Pooled	Mean	432	31	23	45	64	41	13	12	13	18	0	18	8	12
	SD	513	96	31	109	102	57	24	11	24	55	0	45	8	13

Table 20 AVERAGE INTAKE OF FOODSTUFFS (g/day) - FEMALES (> 18 YEARS) - LACTATING -SEDENTARY WORKERS

STATE		Cereals	Millets	Pulses & Legum.	Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi.	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & oils	Sugar
Kerala (198)	Mean	300	1	18	17	52	68	31	22	22	38	2	10	6	17
	SD	77	15	25	36	85	82	32	64	32	59	15	34	6	20
Tamil nadu (101)	Mean	418	20	45	11	43	29	1	20	25	0	0	18	9	12
	SD	120	61	30	26	74	30	5	9	25	1	0	51	9	22
Karnataka (76)	Mean	450	0	8	15	38	35	35	17	23	16	14	37	3	26
	SD	113	0	13	36	61	47	26	10	32	40	61	54	6	20
Andhra Pradesh (17)	Mean	495	65	51	1	52	11	0	18	40	0	1	40	10	17
	SD	242	162	42	4	68	18	0	15	53	0	6	54	7	30
Maharashtra (108)	Mean	272	174	50	5	33	13	1	9	14	4	4	16	14	25
	SD	200	216	39	24	66	24	4	5	44	16	20	37	8	16
Gujarat (35)	Mean	155	287	43	9	56	32	0	15	3	4	2	54	18	21
	SD	177	217	39	33	61	43	0	7	15	17	14	77	9	14
Madhya Pradesh (8)	Mean	502	0	29	6	19	127	0	5	0	0	0	12	7	13
	SD	204	0	20	18	54	176	0	3	0	0	0	17	6	21
Orissa (58)	Mean	522	35	20	89	59	31	2	8	35	5	0	0	8	3
	SD	179	79	29	110	92	50	14	9	89	16	0	0	7	9
West Bengal (62)	Mean	709	0	14	88	47	98	0	9	1	15	7	1	12	1
	SD	241	0	22	150	77	88	0	12	8	35	34	5	9	3
Pooled (663)	Mean	388	52	28	26	46	46	14	16	20	16	4	17	9	16
	SD	208	137	33	69	76	68	25	36	41	40	26	43	8	20

3.3.1.13. Lactating women

The average consumption of cereals & millets among lactating women was 440g, which was higher than the intake among NPNL women (402 g). The intake was higher in West Bengal (709 g) followed by Andhra Pradesh (560 g), Orissa (557 g). The consumption of pulses was 28 g. The lowest intake was observed in Kamataka (8 g) and the highest in Andhra Pradesh (51 g). The intake of qualitative foods such as flesh foods, milk, fats & oils was considerably low (Table 20).

3.3.2. Nutrient Intakes

3.3.2.1. *1-3 Year Children*

In general, the median intakes of all the nutrients were less than RDA. The intake of protein was 18 g, ranging from 10 g in Kerala to about 24.5 g in West Bengal, which is more than RDA of 22 g. The intake of energy was 691 Kcal ranging from a low 466 Kcal in Kerala to a high about 1000 Kcal in West Bengal. The average intakes of all the other nutrients were less than RDA in all the States (Table-21).

3.3.2.2. *4-6 years children*

The median intakes of all the nutrients were well below the RDA. The protein intake was below RDA in all the States except Madhya Pradesh and West Bengal, while the energy intake was about 60% of RDA, except in West Bengal where it was about 90%. Similarly the vitamin A intake was less than 20% RDA in all the States, except in Orissa where it was more than RDA. It may be mentioned that the intake of GLV was about 48g in Orissa, while it was nil or negligible in all the other States (Table-22)

3.3.2.3. *7-9 years Children*

In general, the median intake of all the nutrients was less than RDA except in West Bengal. The intake of protein (30.6 g) was much below the RDA. Similarly the intake of energy (1201 Kcal) was below the RDA. The micronutrient intakes were less than RDA (Table-23).

3.3.2.4. *10-12 year Boys*

The median intakes of all the nutrients were less than RDA, except for vitamin A in Orissa (Table-24).

3.3.2.5. *10-12 year Giris*

The intakes of all the nutrients were below the RDA except for vitamin 'A' in Orissa (Table 25).

3.3.2.6. *13-15 Years Boys*

As in the case of other ages, the nutrient intakes were less than RDA in all the States (Table 26).

3.3.2.7. *13-15 Year Girls*

The intake of all nutrients, except vitamin C was less than RDA (Table 27).

3.3.2.8. *16-18 years boys*

The median intake of energy was 2156 kcal as against 2640 kcal, which formed about 82% of RDA. Similarly, the protein intake was 53 g as against 78g of RDA. However, the intake of all other nutrients was grossly deficient when compared with the recommended level (Table-28).

Table 21 AVERAGE INTAKE OF NUTRIENTS (per day) BY CHILDREN - (1-3 YEARS)

State		Protein (9)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (Mg)	Free folic acid (µg)
Kerala (n=352)	Mean	12.9	9.1	508	160	5.7	3.4	81	.2	.2	2.8	15	37.0	13.2
	Median	10.4	7.3	467	102	5.2	2.7	35	.2	.2	2.4	12	31.8	11.3
	SD	8.3	8.2	250	158	3.3	2.5	121	.2	.2	1.8	14	25.3	8.4
Tarnilnadu (n=329)	Mean	16.9	7.6	676	163	7.9	4.1	83	.3	.3	3.6	12	53.5	17.8
	Median	16.3	5.6	662	97	7.4	3.4	46	.3	.3	3.4	11	47.3	16.8
	SD	8.5	7.0	351	188	4.6	3.5	111	.2	.2	2.0	11	30.1	9.3
Karnataka (n=247)	Mean	17.0	9.7	721	184	7.5	3.5	113	.3	.3	3.8	14	43.3	16.8
	Median	14.7	7.2	681	120	6.5	2.9	46	.2	.3	3.5	9	32.9	14.2
	SD	9.3	8.5	288	173	4.4	2.6	207	.2	.2	1.9	18	37.4	11.3
Andhra Pradesh (n=223)	Mean	25.5	9.8	1047	157	12.2	6.3	117	.6	.4	6.6	12	70.2	26.0
	Median	24.0	7.7	954	116	11.8	5.9	52	.5	.4	6.3	9	66.7	24.0
	SD	12.4	12.1	523	133	5.7	3.9	509	.3	.2	3.3	13	39.9	13.9
Maharashtra (n=440)	Mean	20.8	9.6	780	149	9.7	6.3	96	.5	.3	4.7	9	68.5	22.7
	Median	19.6	8.0	748	99	8.4	5.3	34	.4	.3	4.2	3	59.3	19.5
	SD	11.4	7.5	383	157	6.0	4.8	241	.3	.2	2.6	13	55.1	15.6
Gujarat (n=383)	Mean	17.1	9.1	612	116	6.8	4.8	97	.5	.3	3.6	10	51.8	21.1
	Median	16.4	8.1	590	88	5.8	4.1	44	.4	.2	3.2	5	47.3	19.5
	SD	8.3	5.8	283	105	4.4	3.2	310	.3	.1	2.1	14	30.2	12.4
Madhya Pradesh (n=380)	Mean	24.6	6.6	808	122	10.3	7.0	124	.7	.4	6.2	15	77.2	27.9
	Median	23.1	5.4	751	99	9.3	6.3	41	.6	.3	5.4	9	72.1	26.2
	SD	11.9	6.1	396	89	5.5	4.4	279	.4	.2	3.5	20	41.4	14.2
Orissa (n=360)	Mean	20.6	8.5	787	243	14.4	7.0	562	.4	.4	4.9	45	100.3	32.1
	Median	18.3	5.5	750	203	12.4	5.9	264	.4	.4	4.4	33	83.2	27.3
	SD	10.3	11.2	355	197	9.2	4.6	855	.3	.2	2.6	46	77.1	22.5
West Bengal (n=184)	Mean	24.9	8.5	1043	268	18.4	7.5	629	.4	.5	6.7	61	117.3	39.4
	Median	24.5	7.4	1000	123	12.8	5.1	39	.4	.4	6.6	29	70.4	27.1
	SD	13.2	6.1	540	308	15.9	6.5	1007	.2	.3	3.5	72	122.7	35.8
States Pooled (n=2898)	Mean	19.7	8.7	750	167	9.8	5.5	191	.4	.3	4.6	19	66.9	23.4
	Median	18.1	6.8	691	108	8.0	4.3	44	.4	.3	4.0	10	53.5	19.3
	SD	11.1	8.2	400	173	7.6	4.3	499	.3	.2	2.9	32	58.6	17.9
RDA		22	25	1240	500	12	12	400	.6	.7	8	30	-	30

Table 22 AVERAGE INTAKE OF NUTRIENTS (per day) BY CHILDREN - (4-6 YEARS)

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (Mg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (µ9)
Kerala (n=259)	Mean	22.2	13.1	842	228	9.3	5.6	98.4	.4	.3	4.8	23.9	61.3	21.0
	Median	19.8	10.8	756	173	8.4	4.6	51.7	.3	.3	4.3	16.9	56.2	19.6
	SD	18.0	9.3	618	170	5.2	4.9	137.7	.3	.3	3.0	31.1	34.1	11.0
Tamilnadu (n=245)	Mean	23.5	8.3	959	161	11.9	6.2	104.2	.5	.4	5.3	17.5	78.7	25.3
	Median	22.8	7.7	922	127	10.9	4.7	54.5	.4	.4	5.1	16.3	73.8	23.6
	SD	8.1	5.1	320	107	5.2	5.0	111.8	.3	.2	1.9	13.3	34.8	10.3
Karnataka (n=219)	Mean	23.2	14.4	1001	233	10.5	5.1	132.6	.4	.4	5.3	20.4	59.1	23.5
	Median	21.4	11.1	939	164	9.9	4.5	70.2	.3	.4	5.0	17.4	52.4	22.6
	SD	11.4	16.1	465	226	4.2	3.1	187.4	.2	.2	2.1	16.8	31.0	10.8
Andhra Pradesh (n=133)	Mean	28.5	8.8	1185	212	14.1	6.7	159.1	.6	.4	7.1	15.2	73.0	27.4
	Median	26.8	7.3	1218	136	13.6	6.0	57.7	.5	.5	6.9	9.1	67.4	26.2
	SD	12.8	8.2	439	264	6.2	4.6	666.6	.3	.2	3.0	16.8	51.1	14.6
Maharashtra (n=412)	Mean	30.2	13.1	1147	208	14.4	9.5	129.4	.8	.5	7.1	12.2	96.8	33.2
	Median	28.9	11.9	1088	142	13.9	8.8	51.2	.8	.4	6.8	5.3	89.9	31.2
	SD	10.8	6.4	338	189	5.6	5.8	324.1	.4	.2	2.8	18.8	54.5	16.6
Gujarat (n=345)	Mean	24.2	12.7	865	145	9.5	6.8	121.6	.7	.3	5.2	15.4	75.3	30.4
	Median	22.9	11.9	826	125	8.6	6.2	61.0	.7	.3	4.8	10.9	70.5	-28.4
	SD	9.2	5.5	294	104	4.6	3.5	322.7	.3	.1	2.3	16.2	33.1	13.5
Madhya Pradesh (n=456)	Mean	32.8	8.8	1073	158	13.8	9.7	164.4	1.0	.5	8.6	19.5	105.1	37.5
	Median	31.2	7.5	1040	130	12.7	8.5	57.4	.9	.4	7.5	11.9	97.2	34.6
	SD	12.4	6.9	370	105	6.6	5.9	354.3	.5	.2	4.2	25.8	49.0	16.2
Orissa (n=312)	Mean	25.5	9.0	1010	323	19.3	8.7	693.2	.5	.5	6.1	62.2	133.7	42.8
	Median	24.9	6.9	966	269	17.0	8.0	502.7	.4	.5	5.9	50.8	116.3	37.6
	SD	8.3	10.2	310	214	9.5	4.2	759.7	.3	.2	2.0	48.2	79.3	23.0
West Bengal (n=163)	Mean	37.2	12.5	1590	383	27.1	10.7	915.2	.6	.7	10.0	84.8	168.4	56.8
	Median	36.3	11.0	1524	206	19.3	7.7	76.9	.5	.6	9.8	50.4	117.8	42.9
	SD	12.2	8.2	503	352	17.9	7.3	1193.5	.2	.3	3.2	84.0	140.6	40.2
States Pooled (n=2544)	Mean	27.6	11.2	1047	216	13.9	7.9	250.4	.6	.4	6.6	27.3	94.6	33.2
	Median	26.2	9.5	992	148	12.2	6.5	59.5	.5	.4	6.0	15.3	80.6	28.9
	SD	12.4	8.9	437	199	8.8	5.4	555.3	.4	.2	3.3	39.4	66.5	20.2
RDA		30	25	1690	400	18	18	400	.9	1.0	11	40	-	40

Table 23 AVERAGE INTAKE OF NUTRIENTS (per day) BY CHILDREN - (7-9 YEARS))

State		Protein (g)	Total Fat(g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin. (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (µg.)
Kerala (n=224)	Mean	24.0	13.5	923	251	11.0	6.3	131	.4	.4	5.3	27	70.4	24.3
	Median	21.5	10.9	864	203	10.7	5.5	60	.4	.4	4.9	19	64.2	21.0
	SD	11.1	9.5	369	178	4.5	3.5	189	.2	.2	2.4	26	42.2	14.6
Tamilnadu (n-217)	Mean	27.1	8.8	1122	177	13.4	6.7	98	.5	.4	6.2	19	86.1	28.3
	Median	26.4	8.2	1099	139	12.4	5.2	56	.5	.4	6.0	16	82.7	27.6
	SD	9.0	4.2	328	124	5.4	5.1	121	.3	.2	2.0	15	36.2	10.7
Karnataka (n=244)	Mean	26.8	15.1	1182	247	12.8	6.0	166	.4	.5	6.4	25	72.2	28.6
	Median	25.8	12.9	1152	197	12.0	5.4	79	.4	.4	6.1	20	63.5	25.4
	SD	10.8	9.0	442	166	6.3	3.3	264	.2	.2	2.6	23	45.7	15.5
Andhra Pradesh (n=154)	Mean	33.1	8.2	1413	238	17.1	8-1	133	.7	.5	8.3	19	83.0	33.1
	Median	33.1	7.8	1433	156	16.9	6.7	73	.6	.5	8.3	14	72.9	29.7
	SD	9.6	3.9	346	188	5.3	4.5	173	.3	.2	2.4	19	36.5	14.2
Maharashtra (n=351)	Mean	34.7	22.1	1406	258	17.2	11.3	151	.9	.5	8.4	14	105.3	37.0
	Median	33.3	12.5	1326	159	16.2	9.8	58	.9	.5	7.9	8	96.6	32.8
	SD	10.8	150.6	1386	249	6.1	6.8	310	.4	.2	3.2	19	51.0	16.8
Gujarat (n=287)	Mean	30.8	16.3	1083	171	11.8	8.6	130	.9	.4	6.6	19	96.2	39.2
	Median	29.2	14.2	1051	140	10.6	7.6	75	.8	.4	6.0	14	89.8	36.1
	SD	11.5	10.8	374	126	5.6	4.6	264	.4	.2	3.0	18	38.4	16.6
Madhya Pradesh (n=335)	Mean	37.3	9.1	1265	181	16.0	10.7	197	1.1	.6	10.1	24	119.4	42.9
	Median	36.9	8.3	1223	156	15.1	9.5	61	1.0	.5	9.0	16	111.6	40.3
	SD	13.0	5.5	385	117	6.8	5.8	484	.6	.2	4.7	30	55.6	18.0
Orissa (n=371)	Mean	29.1	7.3	1217	353	22.4	9.5	812	.5	.6	7.3	69	144.9	46.7
	Median	27.7	6.3	1179	301	20.2	8.4	634	.5	.5	7.0	62	133.6	43.4
	SD	8.8	5.5	340	249	10.6	5.0	1028	.3	.2	2.2	53	82.3	23.7
West Bengal (n=170)	Mean	44.2	15.2	1898	412	30.1	11.9	904	.7	.8	11.9	90	183.4	63.1
	Median	42.6	13.3	1825	250	22.9	9.1	102	.6	.7	11.3	60	135.6	51.5
	SD	14.3	9.2	593	381	19.3	7.8	1286	.3	.3	3.7	90	150.7	43.3
States Pooled (n=2353)	Mean	31.8	13.0	1257	252	16.7	9.0	307	.7	.5	7.8	33	108.1	38.4
	Median	30.6	10.1	1201	177	14.8	7.4	71	.6	.5	7.1	19	93.2	33.6
	SD	12.2	58.7	685	220	9.9	5.7	664	.4	.2	3-6	44	72.9	22.6
RDA		41	25	1950	400	26	26	600	1.0	1.2	13	40	-	60

Table 24 AVERAGE INTAKE OF NUTRIENTS (per day) - CHILDREN (10-12 YEARS) - BOYS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (Mg)	Free folic acid (M9)
Kerala (n-117)	Mean	26.9	15.9	1062	294	12.7	7.2	154	.5	.4	6.2	33	75.8	26.7
	Median	24.2	13.9	971	230	11.6	5.7	62	.4	.4	5.5	26	66.2	23.3
	SD	13.5	11.1	427	263	5.5	4.9	209	.3	.2	3.0	29	38.2	12.3
Tamilnadu (n=89)	Mean	33.4	10.0	1410	207	16.5	8.0	156	.6	.5	7.7	21	104.7	34.3
	Median	31.3	8.8	1373	152	15.8	6.3	65	.6	.5	7.3	17	92.4	31.3
	SD	10.7	5.2	393	151	6.6	5.8	240	.3	.2	2.4	21	56.0	16.6
Kamataka (n=133)	Mean	33.4	18.9	1426	314	15.6	7.3	184	.5	.6	8.0	29	83.4	33.2
	Median	30.1	16.2	1350	230	14.1	6.0	88	.5	.5	7.2	24	74.0	29.7
	SD	15.2	14.4	532	261	8.4	4.6	294	.2	.2	3.4	25	48.8	16.3
Andhra Pradesh (n-51)	Mean	39.7	10.3	1641	331	21.5	10.8	217	.9	.6	10.0	24	101.6	40.9
	Median	36.9	8.3	1663	239	21.0	9.2	94	.8	.6	9.1	23	96.6	36.7
	SD	12.0	6.6	388	247	6.3	5.8	251	.4	.2	2.9	20	41.0	18.2
Maharashtra (n=i64)	Mean	44.1	17.4	1646	261	21.0	14.3	143	1.2	.7	10.7	14	128.6	48.7
	Median	43.8	15.7	1599	183	21.3	13.6	79	1.3	.6	11.0	9	122.0	48.3
	SD	14.3	8.3	443	211	6.8	8.6	262	.5	.3	4.0	18	59.7	21.4
Gujarat (n=104)	Mean	39.5	20.9	1383	205	14.7	11.2	126	1.2	.5	8.6	23	120.1	51.1
	Median	36.3	17.8	1291	175	13.6	10.6	101	1.1	.5	8.5	18	114.6	47.1
	SD	15.8	13.4	517	116	6.2	4.8	146	.6	.2	3.6	21	46.5	21.0
Madhya Pradesh (n=178)	Mean	46.5	10.5	1580	200	19.7	13.5	151	1.4	.7	12.8	22	140.0	50.9
	Median	43.5	9.5	1479	173	18.0	11.6	68	1.3	.6	11.3	16	130.0	48.6
	SD	17.7	6.2	572	115	9.9	9.6	268	.8	.3	6.3	22	59.3	19.4
Orissa (n=175)	Mean	32.3	7.9	1363	367	24.8	10.4	1055	.6	.7	8.4	76	153.8	50.0
	Median	30.9	7.0	1328	356	23.1	9.7	809	.5	.6	7.7	71	139.9	46.4
	SD	9.2	5.0	325	209	9.8	4.6	1229	.3	.2	2.4	51	80.1	22.8
West Bengal (n=66)	Mean	49.5	14.2	2184	400	31.3	11.8	804	.8	.8	13.6	84	174.5	61.7
	Median	46.8	13.4	2163	299	24.9	9.0	87	.8	.7	13.4	56	119.6	44.8
	SD	16.9	6.6	690	348	17.6	7.1	1086	.2	.4	4.3	80	135.2	39.3
States Pooled (n=1077)	Mean	38.2	13.9	1487	280	19.5	10.7	342	.9	.6	9.5	36	122.0	44.4
	Median	34.7	11.7	1413	202	17.5	8.9	85	.7	.6	8.5	23	107.9	39.5
	SD	15.8	10.2	538	223	10.1	7.2	697	.6	.3	4.6	42	71.4	23.1
RDA		54	22	2190	600	34	34	600	1.1	1.3	15	40	-	70

Table 25 AVERAGE INTAKE OF NUTRIENTS (per day) - CHILDREN (10-12 YEARS) - GIRLS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (µg)
Kerala (n=110)	Mean	28.4	16.7	1109	295	12.7	7.2	113	.5	.4	6.3	29	76.2	26.6
	Median	26.9	14.5	1057	248	12.0	6.7	70	.5	.4	5.8	21	66.3	24.4
	SD	11.0	14.6	390	200	5.0	3.8	165	.2	.2	2.3	29	39.6	11.4
Tamilnadu (n=94)	Mean	33.9	14.8	1460	211	17.5	8.5	167	.7	.6	7.9	24	106.4	35.5
	Median	33.1	9.8	1405	177	16.4	6.7	69	.6	.5	7.6	20	101.5	34.8
	SD	9.9	29.9	407	126	7.2	7.6	197	.4	.2	2.2	17	42.2	12.3
Karnataka (n=137)	Mean	34.9	22.1	1498	362	16.7	8.1	244	.5	.6	8.2	32	88.0	35.0
	Median	32.1	16.6	1392	263	15.3	6.8	96	.5	.5	7.7	25	75.1	32.1
	SD	15.0	34.3	603	292	7.4	5.5	347	.3	.2	3.2	32	53.2	19.5
Andhra Pradesh (n=56)	Mean	41.7	10.1	1648	348	22.1	11.2	243	.9	.6	10.4	26	102.9	41.6
	Median	37-9	9.0	1657	245	20.3	9.1	110	.7	.6	9.6	19	89.4	34.2
	SD	15.7	4.9	338	316	8.2	7.5	353	.5	.2	3.5	24	47.8	19.9
Maharashtra (n=167)	Mean	41.2	15.8	1574	279	20.1	13.4	126	1.1	.6	10.1	15	118.7	43.0
	Median	41.5	14.8	1612	188	19.0	11.4	65	1.0	.6	9.8	8	112.0	39.5
	SD	13.0	6.7	390	286	7.2	8.1	259	.5	.3	3.7	21	50.3	18.8
Gujarat (n=121)	Mean	39.4	18.5	1350	200	14.7	10.9	168	1.2	.5	8.3	22	118.2	51.2
	Median	36.3	18.0	1373	177	13.3	10.2	99	1.1	.5	7.4	20	110.9	48.9
	SD	18.2	7.9	569	128	8.5	6.2	345	.6	.2	4.7	18	49.6	24.6
Madhya Pradesh (n=184)	Mean	43.0	10.3	1462	203	18.4	11.9	214	1.2	.6	11.2	28	138.9	51.1
	Median	42.0	8.7	1492	167	17.4	10.4	74	1.1	.6	9.9	20	129.6	48.0
	SD	15.6	6.5	438	130	7.5	6.7	375	.7	.2	5.4	33	61.5	21.3
Orissa (n=167)	Mean	33.2	8.4	1406	396	25.2	10.5	877	.6	.7	8.4	74	160.2	52.3
	Median	32.0	7.0	1381	333	23.0	9.9	747	.5	.6	8.3	67	146.6	48.8
	SD	8.6	10.0	343	273	10.8	5.0	954	.3	.2	2.1	57	89.4	25.9
West Bengal (n=66)	Mean	49.6	14.8	2118	426	32.9	13.1	953	.8	.9	13.4	98	202.7	70.2
	Median	50.7	13.4	2088	322	26.7	10.6	153	.8	.8	13.5	68	149.0	58.5
	SD	14.1	7.5	587	397	20.9	8.2	1413	.3	.4	3.8	98	165.1	47.3
States Pooled (n=1102)	Mean	37.9	14.5	1476	294	19.5	10.6	332	.9	.6	9.2	37	123.4	44.9
	Median	36.1	11.6	1429	207	17.6	8.8	85	.7	.6	8.6	23	109.5	39.8
	SD	14.7	17.4	502	254	10.5	6.8	646	.6	-3	4.1	47	76.9	25.2
RDA		57	22	1970	600	31	31	600	1.0	1.2	13	40	-	70

Table 26 AVERAGE INTAKE OF NUTRIENTS (per day) - CHILDREN (13-15 YEARS) - BOYS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin (mg)	Niacin (mg)	Vit. C (mg)	Total Folic acid fug)	Free folic acid (µg)
Kerala (n=97)	Mean	32.0	21.6	1265	361	14.5	8.1	154	.5	.5	7.2	42	89.1	32.8
	Median	28.9	19.0	1233	276	13.8	7.1	77	.5	.5	7.1	34	76.6	31.3
	SD	13.6	14.5	399	258	5.7	4.1	249	.2	.2	2.6	39	46.5	15.0
Tamilnadu (n=91)	Mean	40.8	12.3	1718	277	20.8	10.1	160	.8	.7	9.5	25	121.3	40.7
	Median	40.9	10.7	1688	218	18.6	8.0	85	.7	.6	9.6	20	116.7	39.6
	SD	11.7	7.5	426	196	7.9	7.5	202	.4	.2	2.5	20	50.3	15.1
Karnataka (n=114)	Mean	36.8	19.5	1625	310	17.0	7.7	172	.6	.6	9.0	32	91.9	37.5
	Median	34.0	17.0	1564	221	15.8	6.8	91	.6	.6	8.6	30	86.8	35.2
	SD	12.4	10.5	369	247	5.5	3.3	241	.2	.2	2.6	22	41.4	13.1
Andhra Pradesh (n=42)	Mean	47.7	12.1	1942	276	23.1	11.6	125	1.1	.7	12.3	24	109.3	47.9
	Median	44.5	10.1	1924	191	21.9	10.3	98	.9	.6	12.1	16	100.3	41.1
	SD	17.6	6.6	545	186	5.8	5.3	147	.5	.2	4.0	23	42.6	20.1
Maharashtra (n=88)	Mean	49.0	18.4	1845	341	23.4	14.9	107	1.3	.7	12.1	12	136.7	50.0
	Median	48.5	18.5	1831	219	21.6	12.4	74	1.1	.7	11.2	5	134.1	45.9
	SD	16.2	7.3	499	360	8.5	8.6	117	.7	.3	4.8	14	57.2	23.5
Gujarat (n=77)	Mean	52.0	22.8	1816	243	19.0	137	244	1.5	.7	11.1	26	149.0	62.3
	Median	48.7	19.7	1686	197	18.0	13.1	106	1.3	.7	10.8	23	138.6	52.5
	SD	23.2	10.5	751	183	8.1	6.6	435	.8	.3	4.8	19	60.2	28.7
Madhya Pradesh (n=137)	Mean	55.8	12.9	1901	239	22.8	15.3	198	1.6	.8	15.0	26	164.8	61.8
	Median	54.1	11.7	1803	208	21.1	13.0	80	1.4	.8	13.7	17	152.6	58.3
	SD	19.6	7.7	609	132	8.7	8.4	347	.9	.3	7.0	29	67.8	24.6
Orissa (n=123)	Mean	41.0	9.5	1718	481	30.7	12.7	1159	.7	.8	10.6	91	186.0	61.9
	Median	40.8	9.1	1718	408	28.7	11.6	824	.6	.8	10.0	79	170.1	56.6
	SD	12.4	4.9	407	302	12.7	6.7	1793	.3	.3	3.4	73	92.4	27.7
West Bengal (n=50)	Mean	61.4	15.6	2670	577	44.6	17.1	1401	.9	1.1	16.7	131	266.2	90.8
	Median	57.9	15.2	2539	517	39.8	15.9	1068	.9	1.1	16.3	106	226.1	77.9
	SD	17.6	6.6	709	472	25.1	9.9	1651	.3	.4	4.6	116	194.4	56.2
States Pooled (n=819)	Mean	45.3	15.9	1774	338	23.0	12.1	393	1.0	.7	11.3	43	142.9	52.5
	Median	42.6	13.3	1700	234	20.1	9.8	95	.8	.7	10.2	28	122.3	45.1
	SD	18.2	10.0	597	281	12.6	7.5	946	.7	.3	5.1	56	89.2	29.3
RDA		70	22	2450	600	41	41	600	1.2	1.5	16	40		100

Table 27 AVERAGE INTAKE OF NUTRIENTS (per day) - CHILDREN (13-15 YEARS) - GIRLS

State		Protein (9)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free foiic acid (µg)
Kerala (n=103)	Mean	32.7	20.0	1279	360	15.5	8.5	192	.6	.5	7.6	43	99.5	35.9
	Median	32.3	17.9	1334	290	15.4	7.8	94	.5	.5	7.3	39	100.5	34.4
	SD	12.9	13.7	369	241	5.4	4.1	265	.3	.2	2.8	29	48.1	15.7
Tarnilnadu (n=68)	Mean	42.1	13.4	1703	309	21.2	11.4	185	.8	.7	9.6	27	127.7	42.8
	Median	40.8	10.8	1696	222	20.0	8.8	88	.8	.7	9.6	24	118.5	41.1
	SD	13.9	9.8	429	247	7.1	8.5	230	.4	.3	2.5	19	63.0	18.1
Kamataka (n=128)	Mean	37.2	18.8	1591	321	17.4	7.7	213	.6	.6	9.0	31	93.8	36.9
	Median	35.6	16.6	1665	263	16.5	6.8	91	.6	.6	8.8	25	78.6	33.8
	SD	14.5	10.8	443	244	6.8	3.9	331	.3	.2	3.1	27	55.4	17.0
Andhra Pradesh (n=55)	Mean	45.6	12.7	1903	374	24.6	12.1	276	1.0	.7	11.4	27	113.8	47.3
	Median	44.1	10.4	1882	303	23.7	10.9	131	.9	.7	11.4	18	109.2	46.1
	SD	12.6	7.2	412	312	8.5	7.2	316	.4	.2	2.8	26	46.9	18.4
Maharashtra (n=111)	Mean	49.3	19.3	1854	353	24.2	15.6	121	1.4	.7	11.6	14	139.7	52.8
	Median	48.6	16.6	1830	232	22.6	14.2	86	1.3	.7	11.3	11	134.0	49.0
	SD	15.5	10.4	464	339	9.7	9.4	148	.6	.3	4.2	17	61.0	24.1
Gujarat (n=88)	Mean	46.8	22.8	1588	219	16.4	12.3	181	1.4	.6	9.5	28	143.4	61.5
	Median	44.5	21.8	1522	180	14.8	11.7	116	1.4	.6	9.1	23	134.6	58.1
	SD	19.6	15.0	612	135	7.3	5.5	338	.7	.3	4.0	27	63.3	28.2
Madhya Pradesh (n=146)	Mean	52.0	12.0	1730	227	21.4	14.6	211	1.5	.8	13.8	26	160.8	59.7
	Median	49.3	10.4	1645	203	20.1	13.2	80	1.5	.7	12.3	21	155.1	56.7
	SD	17.9	7.5	493	126	7.7	7.7	292	.8	.3	6.4	27	65.5	22.8
Orissa (n=130)	Mean	37.6	9.1	1649	395	26.2	10.9	684	.7	.7	9.6	66	153.3	51.2
	Median	37.9	8.3	1668	307	24.2	9.8	607	.6	.7	9.4	62	146.5	50.2
	SD	9.0	5.3	366	284	9.8	5.4	767	.3	.2	2.2	48	77.0	22.1
West Bengal (n=48)	Mean	55.5	14.0	2425	527	40.3	15.7	1263	.9	1.0	15.5	124	252.3	85.0
	Median	55.9	14.1	2545	514	37.2	13.6	1019	.8	1.0	15.4	103	226.6	78.1
	SD	13.9	5.0	592	381	20.4	8.5	1397	.4	.4	4.5	100	159.7	46.4
States Pooled (n=877)	Mean	43.6	15.8	1693	329	21.9	11.9	324	1.0	.7	10.7	39	137.8	50.9
	Median	41.5	13.1	1670	242	20.0	10.0	99	.8	.7	9.7	27	124.0	46.5
	SD	16.4	11.0	520	266	10.7	7.3	580	.6	.3	4.5	45	79.5	26.3
RDA		65	22	2060	600	28	28	600	1.0	1.2	14	40	-	100

Table 28 AVERAGE INTAKE OF NUTRIENTS (per day) - CHILDREN (16-18 YEARS) - BOYS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (µg)
Kerala	Mean	39.3	20.8	1670	382	18.8	9.4	179	.8	.7	9.5	48	109.7	40.0
	Median	35.8	19.2	1690	273	17.7	9.0	94	.7	.7	9.2	40	101.1	40.0
	SD	16.5	12.1	501	348	7.3	4.7	250	.4	.3	3.6	32	53.7	15.8
Tamilnadu	Mean	50.4	13.8	2140	299	25.5	12.1	222	1.0	.8	12.0	30	143.9	48.6
	Median	48.1	12.3	2073	245	23.6	9.1	103	.9	.8	11.3	26	132.5	43.8
	SD	15.0	6.5	546	170	11.6	12.0	311	.6	.3	3.8	24	59.4	18.4
Karnataka	Mean	42.9	20.6	1935	336	20.7	9.0	226	.7	.7	10.7	37	110.7	44.2
	Median	39.7	16.5	1888	227	19.4	8.1	97	.6	.7	10.1	30	94.3	40.1
	SD	15.7	17.7	641	292	8.2	4.6	334	.3	.3	3.8	30	56.7	18.5
Andhra Pradesh	Mean	66.4	13.6	2889	453	32.6	13.3	213	1.3	1.0	17.0	29	144.3	58.9
	Median	63.0	11.4	2752	344	32.0	12.1	118	1.2	1.0	16.7	19	143.5	56.9
	SD	20.3	7.2	800	333	9.2	5.6	331	.5	.3	5.1	31	60.5	23.2
Maharashtra	Mean	62.3	23.2	2338	345	29.4	18.7	120	1.7	.9	15.4	16	173.0	66.1
	Median	58.3	21.5	2247	236	27.5	17.8	100	1.5	.9	14.4	10	160.4	56.0
	SD	20.2	11.4	610	369	10.3	10.4	106	.8	.3	5.8	18	65.2	28.7
Gujarat	Mean	70.6	33.1	2400	314	26.1	20.2	219	2.3	.9	16.4	44	213.9	94.8
	Median	68.5	29.6	2175	272	22.8	18.5	195	2.2	.8	13.4	45	201.3	94.1
	SD	31.5	13.8	1021	158	15.4	11.4	180	1.2	.4	9.7	28	91.7	42.7
Madhya Pradesh	Mean	57.4	12.5	2042	297	25.9	15.2	274	1.5	.9	15.5	36	175.6	62.2
	Median	56.7	10.6	1976	231	23.7 j	12.9	81	1.1	.8	14.1	25	163.4	57.5
	SD	19.1	8.1	534	231	12.2	10.4	632	.9	.3	6.7	48	99.2	29.4
Orissa	Mean	53.2	12.0	2340	528	36.5	14.7	1093	1.0	1.0	13.9	91	205.6	70.4
	Median	51.9	10.8	2261	396	33.2	12.6	755	.9	.9	13.6	72	176.9	60.1
	SD	15.8	7.1	642	502	22.0	10.2	1658	.5	.4	4.3	109	183.4	52.4
West Bengal	Mean	77.4	17.0	3446	571	48.8	17.6	1219	1.2	1.3	21.2	117	259.4	93.6
	Median	75.9	16.2	3472	513	41.9	15.7	839	1.2	1.2	20.9	91	215.5	81.6
	SD	24.5	6.7	1097	420	23.3	9.6	1444	.5	.5	6.8	101	172.9	51.5
States Pooled	Mean	56.0	18.0	2303	395	29.0	14.0	440	1.2	.9	14.2	51	167.4	62.5
	Median	52.9	15.1	2156	278	25.0	10.9	111	.9	.8	12.9	34	143.1	53.1
	SD	22.7	12.5	851	357	16.7	9.7	937	.8	.4	6.4	67	117.5	38.2
RDA		78	22	2640	500	50	50	600	1.3	1.6	17	40	-	.100

3.3.2.9. *16-18 years girls*

The median intake of energy (1911) kcal was marginally lower than the recommended level of 2060 kcal. The intake of protein was 47 g as against 63 g of RDA. As observed among their male counterparts, the intake of other nutrients was grossly deficient as compared to RDA **(Table-29).**

3.3.2.10. *Adult males (≥18 years - Sedentary)*

The median intake of energy (2159 kcal) was much below the RDA, and ranged from 1932 kcal in Kerala to 2503 kcal in West Bengal. Similarly, the intake of protein (51 g) was also less than recommended level of 60 g. The median intakes of all the micronutrients were far below the recommended levels except for vitamin A in the State of Orissa (Table-30).

3.3.2.11. *Adult females (≥18 years - NPNL)*

The intakes of all the nutrients were below the recommended levels. The lowest consumption of energy was observed in Kerala (1644 kcal), while the highest was in West Bengal (2374 kcal). The intake of iron, vitamin A and riboflavin was grossly deficit compared to RDA (Table-31).

3.3.2.12. *Pregnant women*

The median intake of energy among pregnant women was 1773 kcal against RDA of 2175. The deficit was about 19%. The deficit was found more in case of iron (75%) and vitamin A (82%) **(Table-32).**

3.3.2.13. *Lactating women*

The median energy intake (1866 kcal) and that of protein (45 g) were below the RDA. As in the case of pregnant women, the intake of all the micronutrients, especially vitamin A and iron, was far below the recommended levels (Table-33).

3.3.3. Protein calorie adequacy status of individuals

3.3.3.1.*1-3 year children*

Only about one third of the 1-3 year children (30.6%) were consuming adequate amounts of protein and calories, while in about 25%, the intake of both the nutrients were inadequate. About 44% of children were consuming adequate amounts of protein and calorie intake was inadequate. Thus, it was observed that the calorie inadequacy was a major problem, with over two thirds (69%) consuming inadequate amounts **(Table-34 & Fig.-1).**

The proportion of children consuming inadequate amounts of protein and calories was high, and those consuming adequate amounts were lowest in the State of Kerala (57.1% and 9.4% respectively).

3.3.3.2. *4-6 years children*

About 30% of 4-6 year children were found to be consuming adequate amounts of protein and calories, the proportion of which ranged from 9% in the State of Kerala to about 80% in West Bengal. The overall proportion of children, who were consuming inadequate amounts of protein and calories, was about 15%. About 70% of children, in general, were consuming inadequate amounts of energy, the highest proportion being in Kerala (91.1%), and least in Andhra Pradesh (45.1%) **(Table-35 & Flg.1).**

Table 29 AVERAGE INTAKE OF NUTRIENTS (per day) - CHILDREN (16-18 YEARS) - GIRLS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (µg)
Kerala (n=97)	Mean	36.3	20.2	1410	393	16.7	8.8	183	.6	.5	8.5	42	96.5	35.1
	Median	34.7	19.2	1352	284	15.7	7.6	90	.6	.5	8.2	35	95.1	34.7
	SD	13.6	12.9	386	267	6.2	4.2	319	.2	.2	3.0	34	48.4	14.5
Tamilnadu (n=83)	Mean	44.6	12.6	1845	294	23.7	12.3	232	.9	.7	10.4	31	140.5	46.6
	Median	41.9	10.8	1812	246	21.1	8.8	98	.7	.7	9.9	26	128.7	42.9
	SD	10.7	6.1	344	192	8.8	9.8	325	.5	.2	2.3	26	56.2	16.7
Karnataka (n=153)	Mean	42.8	22.9	1864	391	20.4	9.3	242	.7	.7	10.3	37	112.3	43.8
	Median	41.1	19.1	1790	303	19.4	8.0	105	.7	.7	9.8	30	99.3	40.8
	SD	14.7	13.2	518	263	7.3	4.5	368	.3	.2	3.2	31	61.4	18.9
Andhra Pradesh (n-87)	Mean	54.6	13.6	2390	440	28.6	13.1	236	1.1	.9	13.8	34	135.0	53.9
	Median	51.0	12.1	2337	268	26.1	10.5	140	1.0	.9	13.0	23	125.3	51.5
	SD	16.2	6.7	570	422	9.8	8.4	321	.5	.3	3.6	34	61.2	21.0
Maharashtra (n=78)	Mean	55.1	20.9	2079	311	26.6	16.4	161	1.5	.8	13.7	18	162.1	60.9
	Median	52.6	18.8	2055	252	25.4	14.2	98	1.4	.7	12.6	12	150.8	58.3
	SD	19.6	9.6	612	248	9.7	9.3	232	.7	.3	5.3	20	72.8	26.0
Gujarat (n=73)	Mean	52.5	24.1	1845	265	20.2	13.6	325	1.5	.7	11.4	38	165.1	68.4
	Median	48.3	20.8	1732	223	17.9	11.2	112	1.4	.6	9.9	28	147.3	61.3
	SD	27.3	12.2	867	176	10.3	7.4	653	1.0	.4	5.9	35	81.5	38.9
Madhya Pradesh (n=114)	Mean	59.8	14.0	2111	263	26.2	16.1	280	1.7	.9	15.8	35	183.6	69.3
	Median	56.9	13.0	2022	244	23.8	13.9	88	1.4	.8	14.1	22	181.4	63.2
	SD	23.8	8.0	972	140	11.6	8.2	439	.9	.3	7.4	38	78.7	31.5
Orissa (n=128)	Mean	50.1	11.0	2158	594	35.4	15.1	984	1.0	1.0	12.5	89	207.9	70.5
	Median	45.5	9.7	2062	478	33.7	13.1	799	.8	.9	11.9	79	192.4	64.5
	SD	19.1	7.1	736	543	15.3	8.1	1150	.7	.4	4.2	66	111.1	34.7
West Bengal (n=69)	Mean	61.5	17.2	2722	479	39.9	15.1	1063	1.0	1.1	17.0	112	234.4	82.2
	Median	62.0	14.2	2667	403	35.7	13.9	701	.9	1.0	16.7	92	200.3	74.1
	SD	19.1	10.3	837	346	18.6	7.4	1219	.4	.4	5.3	88	149.6	44.1
States Pooled (n=882)	Mean	50.0	17.3	2023	389	26.1	13.0	410	1.1	.8	12.4	48	156.9	57.8
	Median	46.6	14.3	1911	280	22.9	10.6	112	.9	.8	11.4	32	138.0	49.8
	SD	20.0	11.0	748	338	13.1	8.0	728	.7	.3	5.3	52	93.0	31.4
RDA		63	22	2060	500	30	30	600	1.0	1.2	14	40	-	100

Table 30 AVERAGE INTAKE OF NUTRIENTS *(per* day) - MALES (>= 18 YEARS) - SEDENTARY WORKERS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (µg)
Kerala (n=117)	Mean	49.5	37.2	1935	529	21.7	12.3	206	.9	.8	11.5	57	140.7	52.0
	Median	48.0	33.0	1932	397	20.7	10.5	122	.8	.8	10.8	48	125.0	45.2
	SD	19.5	25.9	595	381	8.2	6.3	298	.4	.3	4.5	45	70.9	24.3
Tamilnadu (n=71)	Mean	53.5	17.1	2276	315	25.6	11.0	256	.9	.9	12.6	36	159.8	53.4
	Median	50.7	13.9	2200	270	24.5	9.9	129	.9	.8	12.2	26	144.2	48.3
	SD	17.9	12.6	697	176	8.7	6.0	288	.4	.3	4.2	28	74.5	23.1
Karnataka (n=243)	Mean	49.6	27.4	2154	431	23.6	10.3	331	.8	.9	12.0	44	129.3	51.7
	Median	47.0	23.3	2191	329	22.9	9.8	135	.7	.8	11.4	36	115.2	48.5
	SD	19.6	15.6	678	300	9.2	4.7	671	.3	.3	4.5	36	70.7	228
Andhra Pradesh (n=62)	Mean	56.4	15.1	2371	452	27.6	12.3	178	1.2	.9	14.1	32	147.2	56.9
	Median	55.9	12.9	2345	252	28.6	10.4	121	1.0	.9	14.0	27	144.7	54.2
	SD	16.1	8.3	598	482	7.3	5.5	178	.5	.2	3.8	27	50.7	19.1
Maharashtra (n=86)	Mean	55.1	22.8	2110	365	26.0	17.3	152	1.5	.9	13.8	21	160.8	58.2
	Median	52.0	19.5	1986	270	25.6	15.7	82	1.2	.8	12.8	16	144.0	51.1
	SD	22.9	13.4	701	336	10.7	11.7	218	.8	.4	7.0	20	80.7	32.0
Gujarat (n=103)	Mean	58.1	31.0	2145	322	24.6	15.7	268	1.6	.8	14.0	39	184.5	71.6
	Median	54.5	29.4	2039	271	22.8	13.8	136	1.4	.8	11.8	34	170.9	66.0
	SD	25.7	16.5	844	203	10.6	8.5	520	1.0	.4	6.7	35	84.8	37.3
Madhya Pradesh (n=46)	Mean	63.5	14.3	2278	293	29.3	18.7	232	1.8	1.0	18.8	38	200.8	68.9
	Median	59.5	14.7	2028	248	26.0	14.6	87	1.6	.9	15.1	31	182.5	65.0
	SD	29.7	7.2	821	181	15.7	15.3	386	1.3	.5	11.1	34	112.6	35.5
Orissa (n=153)	Mean	55.6	15.3	2425	505	35.8	15.5	851	1.0	1.1	14.7	87	204.4	70.6
	Median	52.7	12.2	2272	360	31.9	12.5	575	.9	.9	13.3	78	179.3	61.3
	SD	20.4	13.1	799	453	20.0	14.4	963	.6	.9	6.4	77	129.9	37.5
West Bengal (n=84)	Mean	64.0	17.6	2733	509	40.2	15.5	1061	1.0	1.1	17.1	104	231.4	82.0
	Median	58.2	15.2	2503	433	34.8	13.2	266	.9	.9	15.1	79	201.5	71.1
	SD	27.2	12.3	1200	365	21.7	9.0	1317	.6	.5	*7.8*	90	153.9	46.7
States Pooled (n=965)	Mean	54.6	23.6	2245	430	27.8	13.6	419	1.1	.9	13.7	53	167.0	61.4
	Median	51.1	19.1	2159	315	25.2	11.0	132	.9	.8	12.3	38	147.0	54.6
	SD	22.2	17.4	796	351	14.5	9.6	746	.7	.5	6.3	56	101.0	32.8
RDA		60	20	2425	400	28	28	600	1.2	1.4	16	40	-	100

Table 31 AVERAGE INTAKE OF NUTRIENTS (per day) - FEMALES (>= 18 YEARS) - NPNL - SEDENTARY WORKERS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (Mg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (µg)
Keraia (n=426)	Mean	41.8	27.8	1626	482	18.5	10.6	174	.7	.7	9.6	51	107.2	40.1
	Median	40.8	25.9	1644	428	17.7	9.4	103	.7	.6	9.4	42	99.1	36.7
	SD	14.9	13.9	405	315	6.0	4.9	242	.3	.2	3.1	42	54.4	17.2
Tamilnadu (n-71)	Mean	46.5	16.3	1932	326	22.5	10.0	236	.9	.8	10.7	36	145.2	48.1
	Median	42.9	13.2	1892	237	20.9	8.7	120	.8	.7	10.2	30	137.8	44.9
	SD	10.6	9.9	379	223	6.7	5.1	286	.3	.3	2.3	26	54.9	16.7
Karnataka (n-258)	Mean	46.5	27.1	2018	421	22.2	10.0	300	.7	.8	11 1	41	123.0	48.6
	Median	42.5	23.8	1941	319	20.8	8.8	130	.7	.8	10.5	32	108.1	45.7
	SD	17.3	15.9	554	315	8.5	4.8	416	.3	.3	3.6	36	69.3	20.7
Andhra Pradesh (n-37)	Mean	44.0	10.8	1842	377	22.3	9.9	204	.9	.7	10.9	28	110.0	41.9
	Median	42.4	10.3	1830	228	21.4	8.9	135	.7	.7	10.8	25	106.2	40.3
	SD	14.5	4.8	543	315	7.6	4.3	197	.4	.2	3.2	23	40.0	14.5
Maharashtra (n=62)	Mean	50.6	21.9	1971	301	23.5	13.9	147	1.3	.7	12.4	23	150.0	53.7
	Median	47.7	18.9	1847	235	23.0	10.9	93	1.1	.6	11.5	15	141.7	46.9
	SD	19.9	10.0	612	220	10.7	9.4	257	.8	.3	5.5	38	87.7	37.0
Gujarat (n=111)	Mean	50.9	28.0	1865	270	19.2	13.1	217	1.5	.7	11.7	30	151.3	61.6
	Median	45.8	25.5	1703	236	18.5	11.7	124	1.2	.7	10.3	26	138.7	55.1
	SD	21.4	16.8	678	151	8.2	6.8	387	.8	.3	5.9	24	67.6	30.6
Madhya Pradesh (n=19)	Mean	47.0	14.9	1817	216	21.6	11.4	227	1.2	.7	12.7	39	156.5	53.4
	Median	44.8	12.4	1741	211	21.2	9.9	68	1.1	.7	12.9	25	146.5	50.5
	SD	12.8	8.6	370	105	6.6	5.3	336	.6	.2	3.1	35	61.9	20.6
Orissa (n=118)	Mean	50.4	14.1	2171	477	33.8	13.7	962	.9	.9	12.9	87	200.2	68.8
	Median	47.7	11.0	2127	393	31.4	12.6	758	.8	.9	12.4	79	187.7	63.3
	SD	14.5	11.9	544	342	13.2	6.5	945	.5	.3	3.5	62	101.3	31.4
West Bengal (n=60)	Mean	55.4	17.4	2401	429	33.7	13.3	837	.9	1.0	14.8	90	193.3	70.2
	Median	54.3	14.4	2374	312	28.7	11.6	138	.9	.9	14.7	65	156.4	59.3
	SD	18.7	10.6	761	334	16.7	7.3	1129	.4	.4	4.6	79	135.0	40.7
States Pooled (n=1162)	Mean	46.2	24.0	1878	418	22.4	11.3	324	.9	.8	11.1	49	134.3	50.0
	Median	43.3	21.0	1804	319	20.2	9.9	118	.7	.7	10.5	37	117.5	44.8
	SD	16.8	14.8	567	304	10.2	5.9	554	.5	.3	4.0	47	78.9	26.2
RDA		50	20	1875	400	30	30	600	.9	1.1	12	40	_	100

Table 32 AVERAGE INTAKE OF NUTRIENTS (per day) - FEMALES (>= 18 YEARS) - PREGNANT - SEDENTARY WORKERS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (µg)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (µg)
Kerala (n=36)	Mean	38.0	23.3	1486	391	17.9	9.1	194	.7	.6	8.7	46	127.7	43.2
	Median	35.8	22.9	1468	306	17.5	8.4	96	.6	.5	7.9	29	116.6	34.5
	SD	18.5	15.4	583	290	7.1	4.3	255	.3	.3	3.8	43	76.4	24.4
Tamilnadu (n=19)	Mean	41.9	15.1	1785	328	20.6	9.4	174	.8	.7	9.6	29	126.5	42.5
	Median	37.1	14.2	1708	250	20.0	8.5	117	.6	.7	9.8	31	122.1	43.9
	SD	11.4	5.8	387	281	6.0	4.3	171	.4	.2	1.8	16	43.4	12.1
Karnataka (n=13)	Mean	49.7	30.0	i 2017	507	21.8	9.9	226	.7	.8	11.6	36	111.9	45.0
	Median	38.2	21.3	1878	226	18.8	8.2	90	.7	.7	9.8	22	93.1	39.3
	SD	35.5	27.0	806	673	10.5	6.4	359	.3	.4	6.2	29	62.3	20.5
Andhra Pradesh (n=4)	Mean	48.5	11.0	2261	221	25.5	11.3	305	1.0	.8	13.2	50	130.0	52.9
	Median	49.8	8.4	2289	202	25.3	10.5	101	.9	.9	13.5	54	122.6	48.5
	SD	4.1	5.8	276	60	3.2	2.6	422	.4	.1	1.0	13	18.0	10.5
Maharashtra (n=12)	Mean	46.5	20.4	1916	285	22.5	13.9	131	1.2	.8	11.9	32	152.6	52.9
	Median	49.2	21.4	1812	252	22.5	13.7	90	1.1	.8	12.0	27	144.5	54.6
	SD	14.9	8.8	731	252	8.0	7.2	140	.5	.3	4.3	30	60.5	20.7
Gujarat (n=6)	Mean	44.3	33.2	1483	358	14.6	10.6	149	1.2	.7	8.9	25	131.7	51.5
	Median	41.4	28.4	1429	316	14.9	10.9	154	1.2	.8	9.0	25	122.1	48.7
	SD	16.2	12.4	494	109	4.0	2.3	39	.5	.2	2.7	16	56.8	17.9
Madhya Pradesh (n-6)	Mean	38.7	12.0	1589	267	20.6	8.2	346	.7	.6	10.0	53	149	49
	Median	32.7	12.3	1322	186	19.0	8.4	75	.7	.6	9.2	61	157	55
	SD	13.3	7.9	722	205	8.7	2.6	447	.2	.2	3.7	42	55	18
Orissa (n=15)	Mean	50.9	11.8	2092	820	46.2	19.9	1664	1.0	1.1	12.7	143	294.5	94.0
	Median	53.1	9.4	2328	618	44.1	16.3	1593	.8	1.0	13.5	122	264.2	86.8
	SD	13.1	8.5	502	567	23.0	12.6	1615	.8	.4	3.3	121	192.3	55.7
West Bengal (n=18)	Mean	56.5	15.2	2385	464	37.3	16.3	955	1.0	1.0	15.4	93	210.2	73.1
	Median	59.8	12.6	2394	371	33.7	14.7	462	.9	1.0	15.7	79	200.2	69.9
	SD	16.7	7.5	760	388	19.7	9.8	1344	.6	.4	4.5	92	150.3	43.1
States Pooled (n=129)	Mean	50.5	20.3	1997	451	27.5	14.2	477	1.1	.9	13.2	59	175.9	60.4
	Median	42.5	16.7	1773	293	20.9	9.3	109	.7	.7	10.1	36	137.6	47.0
	SD	60.5	16.2	1740	451	28.3	25.0	911	2.5	1.0	24.1	70	215.6	69.8
RDA		65	30	2175	1000	38	38	600	1.1	1.3	14	40	-	400

Table 33 AVERAGE INTAKE OF NUTRIENTS (per day) - FEMALES (>= 18 YEARS) - LACTATING -SEDENTARY WORKERS

State		Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Old Iron (mg)	New Iron (mg)	Vit. A (ug)	Thiamin (mg)	Ribo-flavin, (mg)	Niacin (mg)	Vit.C (mg)	Total folic acid (µg)	Free folic acid (ug)
Kerala (n=198)	Mean	40.0	24.9	1577	426	19.0	10.1	257	.7	.6	9.4	46	117.0	42.1
	Median	36.9	20.7	1570	320	18.0	8.8	115	.6	.6	9.0	34	109.3	39.1
	SD	16.1	19.1	473	357	8.5	8.0	344	.3	.2	3.4	37	57.8	18.3
Tamilnadu (n=101)	Mean	45.0	15.5	1905	314	22.3	10.2	211	.8	.7	10.3	33	141.8	46.7
	Median	44.5	12.3	1845	258	21.7	8.8	116	.8	.7	10.3	29	134.8	46.3
	SD	10.8	9.6	439	202	6.1	4.7	225	.3	.2	2.4	24	52.9	15.4
Karnataka (n=76)	Mean	46.3	24.8	2035	346	21.1	9.2	241	.7	.8	11.4	35	107.7	44.7
	Median	43.0	23.2	2047	255	19.6	8.2	120	.7	.8	10.5	29	96.6	40.9
	SD	18.8	13.6	447	227	6.2	3.5	311	.2	.2	4.1	29	50.2	17.8
Andhra Pradesh (n=17)	Mean	57.0	18.3	2375	287	25.8	11.3	161	1.1	.9	13.8	31	159.1	59.3
	Median	56.9	15.5	2619	228	27.6	9.4	170	.9	.9	14.6	30	147.7	57.4
	SD	18.7	8.3	696	139	8.5	6.1	75	.6	.3	4.8	21	55.9	21.8
Maharashtra (n=108)	Mean	54.3	23.0	2030	338	25.7	15.7	153	1.4	.8	13.2	20	160.5	57.6
	Median	54.3	20.1	2026	239	24.7	13.4	81	1.2	.8	12.6	9	144.6	51.5
	SD	20.5	11.1	637	340	11.0	9.3	248	.8	.3	5.7	28	78.2	30.6
Gujarat (n=35)	Mean	60.7	32.8	2052	321	22.6	16.5	232	1.8	.8	13.3	31	183.9	76.3
	Median	62.7	31.5	2178	273	21.0	15.4	165	1.8	.8	13.3	22	1880	87.4
	SD	22.6	10.5	674	166	9.9	6.7	286	.8	.3	5.4	25	70.0	31.4
Madhya Pradesh (n=8)	Mean	59.9	13.9	2060	279	25.6	19.4	116	2.0	.9	20.6	28	174.0	58.5
	Median	54.9	14.6	1904	246	24.7	22.3	76	2.2	.9	21.0	25	160.3	55.1
	SD	25.7	5.5	826	144	10.4	10.8	130	1.2	.4	10.4	21	85.1	27.2
Orissa (n=58)	Mean	52.3	14.3	2214	498	34.4	15.5	874	1.0	.9	13.3	89	204.5	69.5
	Median	47.6	11.7	2033	334	27.5	12.2	622	.8	.8	12.0	75	174.9	60.2
	SD	22.3	12.6	753	446	17.6	10.5	972	.6	.4	5.1	69	121.3	36.9
West Bengal (n=62)	Mean	63.9	17.9	2797	440	37.3	14.5	810	1.1	1.0	17.5	87	196.6	71.3
	Median	63.4	15.6	2719	295	32.2	12.9	84	1.0	1.0	17.7	67	166.5	63.3
	SD	21.6	11.1	917	374	19.8	8.3	1276	.5	.4	5.9	88	152.4	44.1
States Pooled (n=663)	Mean	48.9	21.7	1974	382	24.3	12.3	331	1.0	.8	11.9	45	147.2	53.2
	Median	45.4	18.2	1866	274	21.2	9.8	113	.8	.7	10.8	30	126.3	45.0
	SD	19.8	14.8	689	323	12.5	8.1	599	.6	.3	5.2	49	87.1	28.7
RDA		75	45	2425	1000	30	30	950	1.1	1.3	15	80	-	150

Table 34 PROTEIN - CALORIE ADEQUACY (%) - 1 -3 YEARS CHILDREN

State	N	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	352	57.1	.0	33.5	9.4
Tamilnadu	329	26.1	.0	52.6	21.3
Karnataka	247	29.1	.4	44.5	25.9
Andhra Pradesh	223	13.9	.0	27.4	58.7
Maharashtra	440	21.6	.2	41.1	37.0
Gujarat	383	28.5	.0	55.9	15.7
Madhya Pradesh	380	10.8	.0	52.1	37.1
Orissa	360	18.1	.0	49.2	32.8
West Bengal	184	16.3	.0	25.0	58.7
Pooled	2898	25.2	.1	44.1	30.6

P-: Protein inadequacy
P+ : Protein adequacy C- : Calorie inadequacy
C+ : Calorie adequacy

Table 35 PROTEIN - CALORIE ADEQUACY (%) - 4-6 YEARS CHILDREN

State	n	Protein Calorie Adequacy		
		P- C-	P+ C-	P+ C+
Kerala	259	35.1	56.0	8.9
Tamilnadu	245	20.4	55.5	24.1
Karnataka	219	25.6	53.4	21.0
Andhra Pradesh	133	13.5	31.6	54.9
Maharashtra	412	7.0	52.2	40.8
Gujarat	345	17.4	69.9	12.8
Madhya Pradesh	456	6.4	63.4	30.3
Orissa	312	13.5	59.6	26.9
West Bengal	163	1.8	18.4	79.8
Pooled	2544	14.9	55.1	30.1

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

3.3.3.3. *7-9 years children*

About 66% of the children, in general, were consuming inadequate calories, the proportion of which ranged from about 17% in West Bengal to 79.7% in Gujarat. Twenty two percent of the children were consuming inadequate amounts of both proteins and calories, ranging from a low 2 to 13% in the States of West Bengal, Andhra Pradesh and Maharashtra to a high 51.3% in Kerala **(Table-36 & Fig. 1).**

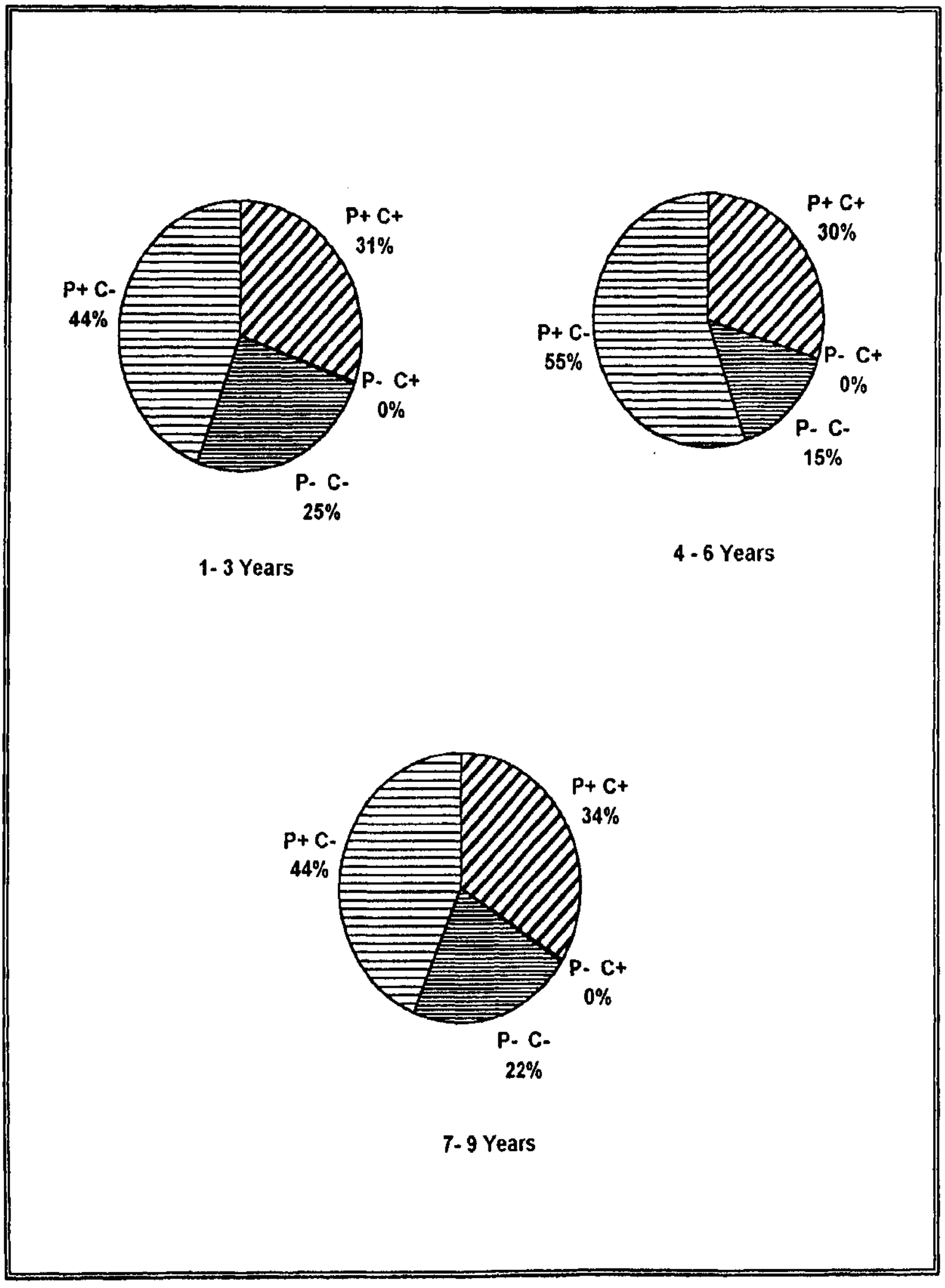
Table 36 PROTEIN - CALORIE ADEQUACY (%) 7-9 YEARS CHILDREN

State	N	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	224	51.3	.0	41.1	7.6
Tamilnadu	217	31.3	.0	47.9	20.7
Karnataka	244	34.0	.0	39.8	26.2
Andhra Pradesh	154	9.7	.6	30.5	59.1
Maharashtra	351	12.5	.0	43.9	43.6
Gujarat	287	24.0	.3	55.7	19.9
Madhya Pradesh	335	11.0	.0	56.1	32.8
Orissa	371	24.0	.0	43.4	32.6
West Bengal	170	2.4	.0	14.7	82.9
Pooled	2353	22.3	.1	43.7	34.0

P+ : Protein adequacy P- : Protein inadequacy
C+ : Calorie adequacy C- : Calorie inadequacy

Fig.1

PROTEIN AND CALORIE ADEQUACY STATUS AMONG CHILDREN (1998-99)



3.3.3.4. *10-12 years Boys*

About 39% of 10-12 years boys were found to be consuming adequate amounts of protein and calories, while 30% were consuming inadequate amounts of both the nutrients. In general, about 61% of children were consuming inadequate amounts of calories, with the proportion ranging from a low 18% in West Bengal to a high 87% in Kerala **(Table-37).**

Table 37 PROTEIN - CALORIE ADEQUACY (%) 10-12 YEARS BOYS)

State	N	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	117	59.8	1.7	27.4	11.1
Tamilnadu	89	32.6	.0	30.3	37.1
Kamataka	133	42.9	1.5	26.3	29.3
Andhra Pradesh	51	13.7	.0	17.6	68.6
Maharashtra	164	15.9	.0	30.5	53.7
Gujarat	104	28.8	.0	36.5	34.6
Madhya Pradesh	178	12.4	.0	46.1	41.6
Orissa	175	42.3	1.1	30.9	25.7
West Bengal	66	6.1	.0	12.1	81.8
Pooled	1077	29.6	.6	31.1	38.7

P+ : Protein adequacy
C+ : Calorie adequacy

P-: Protein inadequacy
C-: Calorie inadequacy

3.3.3.5. *10-12 Year Girls*

As in the case of boys, about 31% of 10-12 year old girls were consuming inadequate calories and proteins. However, a higher proportion of girls were consuming adequate amounts of calories and proteins (52%) as compared to boys (39%) **(Table-38).**

Table 38 PROTEIN - CALORIE ADEQUACY (%) 10-12 YEARS GIRLS

State	N	Protein Calo	rie Adequacy		
		P- C-	P- C+	P+ C-	P+ C+
Kerala	110	63.6	1.8	16.4	18.2
Tamilnadu	94	36.2	7.4	11.7	44.7
Karnataka	137	35.8	8.8	12.4	43.1
Andhra Pradesh	56	14.3	5.4	7.1	73.2
Maharashtra	167	23.4	1.2	9.6	65.9
Gujarat	121	33.1	.0	18.2	48.8
Madhya Pradesh	184	20.1	.5	21.7	57.6
Orissa	167	37.7	4.8	11.4	46.1
West Bengal	66	4.5	4.5	1.5	89.4
Pooled	1102	31.1	3.4	13.4	52.0

P+ : Protein adequacy
C+ : Calorie adequacy

P-; Protein inadequacy
C-: Calorie inadequacy

3.3.3.6. *13-15 Year Boys*

The proportion of 13-15 year boys consuming inadequate amounts of both protein and calories (35.7%) was higher than among the younger age groups. The proportion ranged from 4% in West Bengal to 69.1% in Kerala. In general, the proportion of children consuming inadequate calories was about 51%, and that of protein was about 39% **(Table-39).**

Table 39 PROTEIN - CALORIE ADEQUACY (%) 13-15 YEARS BOYS

State	N	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	97	69.1	1.0	14.4	15.5
Tamilnadu	91	39.6	.0	13.2	47.3
Karnataka	114	54.4	8.8	11.4	25.4
Andhra Pradesh	42	23.8	4.8	11.9	59.5
Maharashtra	88	23.9	2.3	19.3	54.5
Gujarat	77	29.9	.0	20.8	49.4
Madhya Pradesh	137	16.8	2.2	26.3	54.7
Orissa	123	39.0	2.4	9.8	48.8
West Bengal	50	4.0	4.0	.0	92.0
Pooled	819	35.7	2.8	15.3	46.3

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

3.3.3.7. *13-15 Year Girls*

The proportion of 13-15 year girls consuming inadequate amounts of protein and calories (25%), which was relatively lower than in boys (35.7%). The percentage of girls (58.4%) consuming adequate amounts of proteins as well as calories was higher than boys (46.3%) **(Table-40).**

Table 40 PROTEIN - CALORIE ADEQUACY (%) 13-15 YEARS GIRLS

State	n	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	103	51.5	8.7	14.6	25.2
Tamilnadu	68	23.5	5.9	8.8	61.8
Karnataka	128	32.8	14.8	4.7	47.7
Andhra Pradesh	55	9.1	7.3	3.6	80.0
Maharashtra	111	10.8	7.2	9.0	73.0
Gujarat	88	31.8	.0	12.5	55.7
Madhya Pradesh	146	14.4	6.8	13.7	65.1
Orissa	130	26.9	16.2	3.8	53.1
West Bengal	48	6.3	.0	.0	93.8
Pooled	877	24.5	8.6	8.6	58.4

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

3.3.3.8. *16-18 years boys*

About one fourth of the individuals consuming inadequate amounts of both protein and calories. The calorie inadequacy was in about 30.3% of the individuals, while protein inadequacy was observed in 29.7% of the individuals **(Table-41).**

Table 41 PROTEIN-CALORIE ADEQUACY(%) 16-18 YEARS BOYS

State	n	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	90	56.7	6.7	8.9	27.8
Tamilnadu	68	27.9	1.5	7.4	63.2
Karnataka	127	44.9	11.0	3.1	40.9
Andhra Pradesh	73	4.1	1.4	1.4	93.2
Maharashtra	93	9.7	4.3	8.6	77.4
Gujarat	61	18.0	1.6	13.1	67.2
Madhya Pradesh	92	15.2	7.6	19.6	57.6
Orissa	129	20.9	5.4	1.6	72.1
West	72	9.7	.0	.0	90.3
Pooled	805	24.6	5.1	6.7	63.6

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

3.3.3.9. *16-18 years girls*

Seventy six percent of the individuals consuming adequate amounts of both protein and calories, while 14.3% were consuming inadequate amounts of both the nutrients together **(Table-42).**

Table 42 PROTEIN - CALORIE ADEQUACY (%) 16-18 YEARS GIRLS

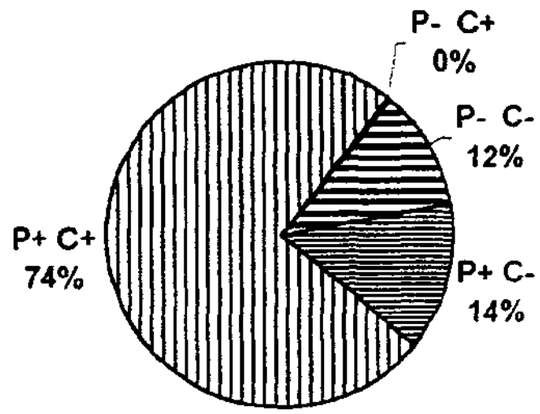
State	n	Protein Calo		rie	
		P- C-	P- C+	P+ C-	P+ C+
Kerala	97	44.3	4.1	12.4	39.2
Tamilnadu	83	6.0	3.6	3.6	86.7
Karnataka	153	19.0	9.8	3.3	68.0
Andhra Pradesh	87	2.3	5.7	.0	92.0
Maharashtra	78	10.3	3.8	3.8	82.1
Gujarat	73	23.3	1.4	12.3	63.0
Madhya Pradesh	114	6.1	2.6	8.8	82.5
Orissa	128	10.2	5.5	.8	83.6
West Bengal	69	2.9	.0	.0	97.1
Pooled	882	14.3	4.6	4.9	76.2

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

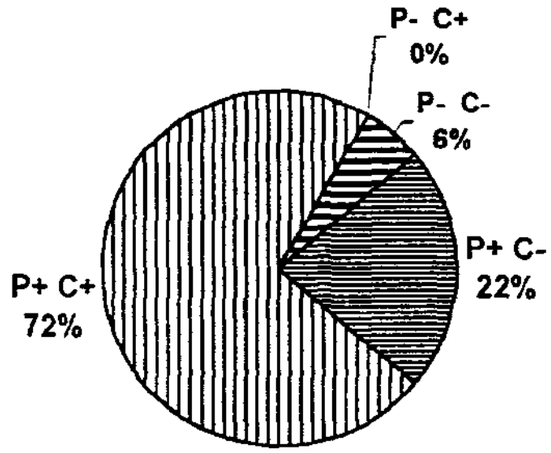
3.3.3.10. *Adult males (>18 years - Sedentary workers)*

About 74% of the adult males were consuming adequate quantities of both the proteins and calories (P+C+). The calorie inadequacy was higher (25.4%) compared to protein inadequacy (11.8%). The inadequacy for both protein and calories (P-C-) was higher in Kerala (20.5%) followed by Karnataka (16.9%), Gujarat (11.7%), Maharashtra (10.5%) and lowest observed in West Bengal (1.2%) **(Table-43 & Fig.2).**

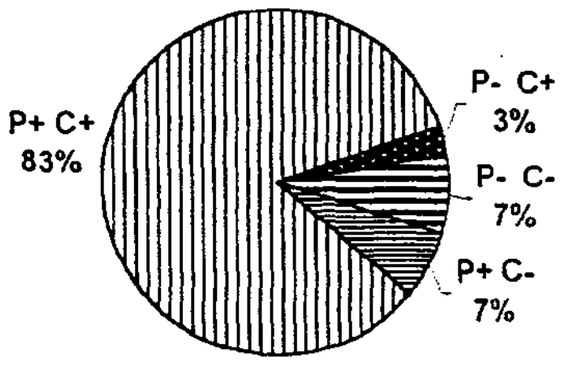
Fig.2
PROTEIN CALORIE ADEQUACY OF ADULTS (1998-999)



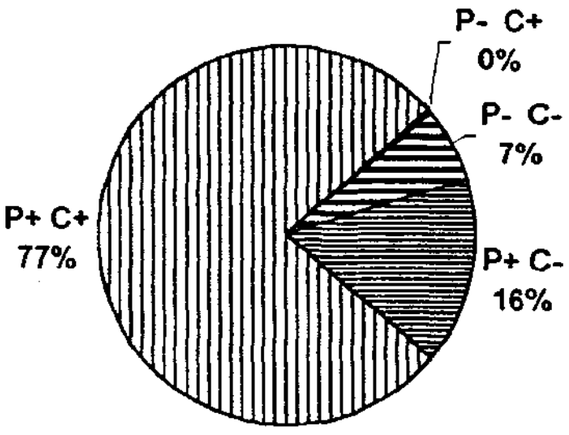
Males (Sedentary)



Males (Moderate)



Females (Sedentary)



Females (Moderate)

Table 43 PROTEIN - CALORIE ADEQUACY (%) IN MALES - 18 YEARS AND ABOVE (SEDENTARY)

State	N	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	117	20.5	.9	14.5	64.1
Tamilnadu	71	4.2	.0	16.9	78.9
Karnataka	243	16.9	.4	13.6	69.1
Andhra Pradesh	62	8.1	.0	8.1	83.9
Maharashtra	86	10.5	.0	17.4	72.1
Gujarat	103	11.7	.0	17.5	70.9
Madhya Pradesh	46	6.5	.0	10.9	82.6
Orissa	153	9.2	.0	8.5	82.4
West Bengal	84	1.2	.0	17.9	81.0
Pooled	965	11.6	.2	13.8	74.4

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

3.3.3.11. *Adult females (≥18 years - NPNL)*

About 84% of the adult females were consuming adequate protein and calories (P+C+), while 7.1% were consuming inadequate amounts of both the nutrients. The adequacy for both the nutrients was observed to be high in Tamil Nadu (98.6%) followed by Orissa (96.6%), West Bengal (93.3%), Karnataka (90.7%) and so on (Table-44 & Fig.2).

Table 44 PROTEIN - CALORIE ADEQUACY (%) IN FEMALES - 18 YEARS AND ABOVE (NPNL-SEDENTARY)

State	n	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	426	11.0	6.3	11.0	71.6
Tamilnadu	71	.0	.0	1.4	98.6
Karnataka	258	6.2	.4	2.7	90.7
Andhra Pradesh	37	8.1	.0	2.7	89.2
Maharashtra	62	8.1	3.2	.0	88.7
Gujarat	111	7.2	.0	11.7	81.1
Madhya Pradesh	19	.0	.0	15.8	84.2
Orissa	118	.8	.8	1.7	96.6
West Bengal	60	3.3	.0	3.3	93.3
Pooled	1162	7.1	2.7	6.5	83.7

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

3.3.3.12. *Pregnant women*

Compared to non-pregnant and non-lactating women (7.1%) a higher proportion of pregnant women (26.4%) consuming inadequate intakes of protein and calories. This proportion was higher in the State of Madhya Pradesh (50%), followed by Kerala (44.4%), Gujarat (33.3%) and Orissa (20%). Only about 60% of the pregnant women consuming adequate quantities of both protein and calories (Table-45).

Table 45 PROTEIN - CALORIE ADEQUACY (%) IN FEMALES - 18 YEARS AND ABOVE (PREGNANT - SEDENTARY)

State	N	Protein Calo	rie		
		P- C-	P- C+	P+ C-	P+ C+
Kerala	36	44.4	.0	19.4	36.1
Tamilnadu	19	15.8	5.3	15.8	63.2
Karnataka	13	15.4	7.7	7.7	69.2
Andhra Pradesh	4	.0	.0	.0	100.0
Maharashtra	12	16.7	.0	8.3	75.0
Gujarat	6	33.3	.0	33.3	33.3
Madhya Pradesh	6	50.0	.0	.0	50.0
Orissa	15	20.0	.0	6.7	73.3
West Bengal	18	16.7	.0	.0	83.3
Pooled	129	26.4	1.6	11.6	60.5

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

3.3.3.13. *Lactating women*

As observed among pregnant women, a higher proportion of lactating women (26.5%) consuming inadequate amounts of both protein and calories compared to non-pregnant and non-lactating women (7.1%). Only 58% of the women consuming adequate amounts of both the nutrients, while in the remaining the intakes were deficient either in protein, calories or both (Table-46).

Table 46 PROTEIN - CALORIE ADEQUACY (%) IN FEMALES - ABOVE 18 YEARS (LACTATING - SEDENTARY

State	n	Protein Calorie Adequacy			
		P- C-	P- C+	P+ C-	P+ C+
Kerala	198	44.9	8.1	16.2	30.8
Tamilnadu	101	23.8	5.9	6.9	63.4
Karnataka	76	17.1	21.1	2.6	59.2
Andhra Pradesh	17	5.9	11.8	.0	82.4
Maharashtra	108	22.2	.9	8.3	68.5
Gujarat	35	20.0	.0	2.9	77.1
Madhya Pradesh	8	12.5	12.5	12.5	62.5
Orissa	58	22.4	8.6	.0	69.0
West Bengal	62	6.5	3.2	1.6	88.7
Pooled	663	26.5	7.4	8.0	58.1

P+ : Protein adequacy P-: Protein inadequacy
C+ : Calorie adequacy C-: Calorie inadequacy

FOOD AND NUTRIENT INTAKES OF INDIVIDUALS

> Food Intake was below RDI in all the ages.
> Consumption of qualitative foods such as GLV, milk and milk products, fruits, sugar and *jaggery* was grossly deficient.
> Only a third of the children in pre-school and school ages had adequate energy and protein intakes, while the proportion was much higher among adults.

3.3.4 Distribution of Food intakes (%RDA)

The distribution of individuals according to intakes expressed as % of RDA is presented In **Tables 47 to 52.**

In general, about 60% of the individuals had intakes ≥70% of RDA. However, there was considerable deficit, up to about 50%, in the intakes of pulses, GLV, milk and milk and milk products and fats and oils.

Table 47 FREQUENCY DISTRIBUTION (%) OF 1-3 YEAR CHILDREN ACCORDING TO LEVEL OF RDA FOOD GROUPS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=352	n=329	n=247	n=223	n=440	n=383	n=380	n=360	n=184	n=2898
Cereals & Millets	<50	63.9	24.6	14.2	9.9	22.3	32.4	8.9	7.5	9.8	22.9
	50-70	19.9	17.6	25.5	7.6	19.8	25.6	13.7	14.2	8.7	17.7
	>=70	16.2	57.8	60.3	82.5	58.0	42.0	77.4	78.3	81.5	59.4
Pulses	<50	87.2	56.5	92.3	68.6	47.3	66.1	51.8	74.2	90.2	67.8
	50-70	6.0	21.6	2.8	10.8	15.9	12.8	13.2	7.5	5.4	11.4
	>=70	6.8	21.9	4.9	20.6	36.8	21.1	35.0	18.3	4.3	20.8
Leafy-Veg	<50	88.6	95.1	91.5	94.2	95.7	96.9	85.5	51.9	63.0	85.6
	50-70	3.1	1.8	.0	2.7	1.4	.5	3.4	1.1	.0	1.7
	>=70	8.2	3.0	8.5	3.1	3.0	2.6	11.1	46.9	37.0	12.7
Other-Veg	<50	61.9	55.6	72.9	61.9	68.9	65.0	65.5	65.8	65.8	64.8
	50-70	2.6	2.7	1.6	3.1	3.0	1.8	2.1	.6	.0	2.0
	>=70	35.5	41.6	25.5	35.0	28.2	33.2	32.4	33.6	34.2	33.2
Roots & Tubers	<50	31.5	53.8	43.3	81.6	76.4	67.1	57.1	65.0	29.9	57.8
	50-70	5.7	13.4	9.3	3.6	3.9	.0	3.2	2.5	1.1	4.7
	>=70	62.8	32.8	47.4	14.8	19.8	32.9	39.7	32.5	69.0	37.5
Milk & Milk Prod.	<50	96.0	90.9	91.9	98.7	98.2	97.4	99.7	100.0	99.5	97.0
	50-70	2.6	1.2	2.8	.9	.9	1.3	.0	.0	.5	1.1
	>=70	1.4	7.9	5.3	.4	.9	1.3	.3	.0	.0	1.9
Fats & Oils	<50	96.3	95.1	96.0	64.6	80.5	84.6	92.6	72.5	72.8	84.8
	50-70	2.6	2.4	.4	21.5	10.9	7.8	3.4	12.2	14.7	7.9
	>=70	1.1	2.4	3.6	13.9	8.6	7.6	3.9	15.3	12.5	7.3
Sugar & Jaggery	<50	82.4	83.9	64.0	91.0	53.0	72.3	97.1	92.5	100.0	80.2
	50-70	14.5	7.6	13.0	4.5	22.0	12.0	2.4	5.0	.0	9.9
	>=70	3.1	8.5	23.1	4.5	25.0	15.7	.5	2.5	.0	9.9

Table 48 FREQUENCY DISTRIBUTION (%) OF 4-6 YEAR CHILDREN ACCORDING TO LEVEL OF RDA FOOD GROUPS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=259	n=245	n=219	n=133	n=412	n=345	n=456	n=312	n=163	n=2544
Cereals & Millets	<50	55.2	13.5	18.7	10.5	5.3	30.1	6.8	2.6	.6	15.6
	50-70	32.0	28.2	29.7	12.0	18.2	37.7	16.0	24.7	3.1	23.3
	>=70	12.7	58.4	51.6	77.4	76.5	32.2	77.2	72.8	96.3	61.1
Pulses	<50	65.3	31.8	86.3	66.2	30.6	49.9	36.8	67.0	79.1	52.2
	50-70	9.3	18.8	6.4	13.5	13.3	13.9	17.3	12.2	11.0	13.4
	>=70	25.5	49.4	7.3	20.3	56.1	36.2	45.8	20.8	9.8	34.4
Leafy-Veg	<50	90.7	89.4	88.6	94.0	95.4	96.8	85.3	40.4	54.0	82.7
	50-70	1.9	4.5	3.2	1.5	1.5	.9	3.3	3.8	1.2	2.5
	>=70	7.3	6.1	8.2	4.5	3.2	2.3	11.4	55.8	44.8	14.9
Other-Veg	<50	56.0	50.6	62.6	62.4	64.1	54.8	66.2	59.6	66.9	60.5
	50-70	2.3	2.0	3.2	3.0	1.2	6.1	2.4	1.0	1.2	2.5
	>=70	41.7	47.3	34.2	34.6	34.7	39.1	31.4	39.4	31.9	37.0
Roots & Tubers	<50	34.4	70.2	51.6	90.2	78.4	59.4	59.6	66.7	25.2	60.7
	50-70	11.6	8.2	16.9	3.0	2.9	.9	3.5	1.9	1.8	5.1
	>=70	54.1	21.6	31.5	6.8	18.7	39.7	36.8	31.4	73.0	34.2
Milk & Milk Prod.	<50	96.9	97.1	94.5	97.0	99.3	95.7	99.1	100.0	98.8	97.8
	50-70	1.5	2.4	1.8	2.3	.2	2.0	.0	.0	.0	1.0
	>=70	1.5	.4	3.7	.8	.5	2.3	.9	.0	1.2	1.2
Fats & Oils	<50	98.8	97.1	98.6	94.7	85.7	93.9	97.1	93.3	82.2	93.6
	50-70	.4	1.2	.0	3.8	10.7	4.9	2.0	4.8	10.4	4.4
	>=70	.8	1.6	1.4	1.5	3.6	1.2	.9	1.9	7.4	2.0
Sugar & Jaggery	<50	89.6	82.0	72.1	97.7	60.2	70.4	98.7	98.1	100.0	83.8
	50-70	7.7	5.7	13.7	.0	6.1	13.6	1.1	.6	.0	5.6
	>=70	2.7	12.2	14.2	2.3	33.7	15.9	.2	1.3	.0	10.6

Table 49 FREQUENCY DISTRIBUTION (%) OF 10-12 YEAR BOYS ACCORDING TO LEVEL OF RDA FOOD GROUPS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=117	n=89	n=133	n=51	n=164	n=104	n=178	n=175	n=66	n=1077
Cereals & Millets	<50	71.8	10.1	20.3	5.9	6.1	28.8	2.2	4.0	3.0	16.3
	50-70	21.4	27.0	33.1	7.8	17.1	24.0	21.3	28.0	3.0	22.2
	>=70	6.8	62.9	46.6	86.3	76.8	47.1	76.4	68.0	93.9	61.5
Pulses	<50	72.6	31.5	90.2	74.5	32.3	51.0	39.9	76.0	86.4	59.2
	50-70	17.9	21.3	2.3	5.9	15.2	20.2	14.0	5.7	6.1	12.2
	>=70	9.4	47.2	7.5	19.6	52.4	28.8	46.1	18.3	7.6	28.6
Leafy-Veg	<50	82.1	86.5	85.7	80.4	94.5	98.1	90.4	30.3	54.5	77.5
	50-70	.9	1.1	2.3	7.8	1.2	.0	.6	.6	.0	1.2
	>=70	17.1	12.4	12.0	11.8	4.3	1.9	9.0	69.1	45.5	21.3
Other-Veg	<50	59.0	57.3	57.9	56.9	68.9	46.2	56.7	71.4	56.1	60.4
	50-70	10.3	9.0	.8	2.0	4.9	8.7	4.5	.6	1.5	4.5
	>=70	30.8	33.7	41.4	41.2	26.2	45.2	38.8	28.0	42.4	35.1
Roots & Tubers	<50	34.2	79.8	66.9	86.3	73.8	57.7	61.8	73.1	21.2	62.9
	50-70	16.2	7.9	12.0	3.9	1.2	.0	2.2	2.3	3.0	5.2
	>=70	49.6	12.4	21.1	9.8	25.0	42.3	36.0	24.6	75.8	31.9
Milk & Milk Prod.	<50	96.6	98.9	93.2	100.0	100.0	90.4	98.3	100.0	98.5	97.4
	50-70	2.6	1.1	6.8	.0	.0	4.8	.6	.0	.0	1.8
	>=70	.9	.0	.0	.0	.0	4.8	1.1	.0	1.5	.8
Fats & Oils	<50	99.1	98.9	100.0	98.0	94.5	92.3	99.4	100.0	98.5	98.0
	50-70	.9	1.1	.0	2.0	4.3	5.8	.6	.0	.0	1.6
	>=70	.0	.0	.0	.0	1.2	1.9	.0	.0	1.5	.5
Sugar & Jaggery	<50	93.2	77.5	72.9	92.2	62.8	69.2	97.8	99.4	100.0	84.6
	50-70	5.1	6.7	13.5	3.9	5.5	14.4	1.1	.0	.0	5.4
	>=70	1.7	15.7	13.5	3.9	31.7	16.3	1.1	.6	.0	10.0

Table 50 FREQUENCY DISTRIBUTION (%) OF 10-12 YEAR GIRLS ACCORDING TO LEVEL OF RDA - FOOD GROUPS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=110	n=94	n=137	n=56	n=167	n=121	n=184	n=167	n=66	n=1102
Cereals & Millets	<50	46.4	2.1	9.5	1.8	3.0	26.4	6.5	1.2	.0	10.7
	50-70	34.5	21.3	26.3	7.1	22.2	18.2	15.2	15.0	3.0	19.2
	>=70	19.1	76.6	64.2	91.1	74.9	55.4	78.3	83.8	97.0	70.1
Pulses	<50	68.2	35.1	88.3	76.8	38.3	43.0	41.8	74.3	78.8	58.2
	50-70	13.6	23.4	6.6	5.4	15.0	20.7	18.5	8.4	9.1	13.9
	>=70	18.2	41.5	5.1	1779	46.7	36.4	39.7	17.4	12.1	27.9
Leafy-Veg	<50	91.8	80.9	81.0	82.1	94.6	95.9	80.4	33.5	53.0	76.9
	50-70	.0	4.3	2.9	.0	1.2	.0	2.7	1.8	.0	1.6
	>=70	8.2	14.9	16.1	17.9	4.2	4.1	16.8	64.7	47.0	21.5
Other-Veg	<50	61.8	48.9	65.0	67.9	66.5	48.8	60.3	66.5	45.5	602
	50-70	5.5	10.6	3.6	.0	7.2	2.5	2.2	3.0	.0	4.1
	>=70	32.7	40.4	31.4	32.1	26.3	48.8	37.5	30.5	54.5	35.8
Roots & Tubers	<50	33.6	73.4	73.0	96.4	72.5	62.0	73.4	66.5	24.2	65.2
	50-70	6.4	10.6	8.0	.0	1.2	2.5	3.3	3.0	4.5	4.3
	>=70	60.0	16.0	19.0	3.6	26.3	35.5	23.4	30.5	71.2	30.6
Milk & Milk Prod.	<50	97.3	97.9	97.1	98.2	100.0	93.4	98.9	100.0	98.5	98.1
	50-70	.9	2.1	.7	1.8	.0	4.1	.5	.0	.0	1.0
	>=70	1.8	.0	2.2	.0	.0	2.5	.5	.0	1.5	.9
Fats & Oils	<50	98.2	96.8	96.4	100.0	94.6	97.5	99.5	98.2	89.4	97.0
	50-70	.9	.0	1.5	.0	3.0	2.5	.5	1.2	7.6	1.7
	>=70	.9	3.2	2.2	.0	2.4	.0	.0	.6	3.0	1.3
Sugar & Jaggery	<50	85.5	78.7	72.3	100.0	46.1	64.5	99.5	98.8	100.0	80.9
	50-70	10.0	7.4	8.8	.0	15.6	15.7	.5	.6	.0	7.0
	>=70	4.5	13.8	19.0	.0	38.3	19.8	.0	.6	.0	l2.1

Table 51 FREQUENCY DISTRIBUTION (%) OF ADULT (>18 YEAR) MALES ACCORDING TO LEVEL OF RDA-FOOD GROUPS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=117	n=71	n=243	n=62	n=86	n=103	n=46	n=153	n=84	n=965
Cereals & Millets	<50	17.9	.0	2.5	1.6	7.0	14.6	2.2	2.0	.0	5.5
	50-70	23.9	7.0	16.5	4.8	14.0	8.7	6.5	3.9	3.6	11.3
	>=70	58.1	93.0	81.1	93.5	79.1	76.7	91.3	94.1	96.4	83.2
Pulses	<50	52.1	15.5	79.0	45.2	20.9	26.2	30.4	62.7	75.0	52.8
	50-70	12.0	7.0	8.6	8.1	15.1	7.8	4.3	5.9	8.3	8.7
	>=70	35.9	77.5	12.3	46.8	64.0	66.0	65.2	31.4	16.7	38.4
Leafy-Veg	<50	91.5	80.3	80.2	90.3	95.3	93.2	80.4	44.4	50.0	76.7
	50-70	.9	.0	.0	.0	.0	.0	.0	.0	1.2	.2
	>=70	7.7	19.7	19.8	9.7	4.7	6.8	19.6	55.6	48.8	23.1
Other-Veg	<50	47.0	56.3	51.9	56.5	57.0	35.9	50.0	60.1	51.2	51.8
	50-70	2.6	7.0	2.1	4.8	10.5	6.8	4.3	2.0	4.8	4.2
	>=70	50.4	36.6	46.1	38.7	32.6	57.3	45.7	37.9	44.0	43.9
Roots & Tubers	<50	22.2	70.4	70.0	88.7	74.4	67.0	50.0	61.4	33.3	60.0
	50-70	12.8	11.3	7.8	3.2	3.5	3.9	6.5	.7	2.4	5.9
	>=70	65.0	18.3	22.2	8.1	22.1	29.1	43.5	37.9	64.3	34.1
Milk & Milk Prod.	<50	82.9	84.5	77.4	90.3	97.7	90.3	100.0	100.0	98.8	89.1
	50-70	5.1	4.2	10.7	3.2	2.3	2.9	.0	.0	.0	4.4
	>=70	12.0	11.3	11.9	6.5	.0	6.8	.0	.0	1.2	6.5
Fats & Oils	<50	95.7	94.4	98.4	96.8	83.7	59.2	97.8	93.5	89.3	90.6
	50-70	1.7	2.8	.4	1.6	11.6	23.3	2.2	2.0	4:8	5.0
	>=70	2.6	2.8	1.2	1.6	4.7	17.5	.0	4.6	6.0	4.5
Sugar & Jaggery	<50	35.0	52.1	38.3	83.9	17.4	35.9	97.8	94.1	98.8	56.7
	50-70	35.0	11.3	24.3	8.1	19.8	25.2	.0	1.3	1.2	16.5
	>=70	29.9	36.6	37.4	8.1	62.8	38.8	2.2	4.6	.0	26.8

Table 52 FREQUENCY DISTRIBUTION (%) OF ADULT (>18 YEAR) FEMALES ACCORDING TO LEVEL OF RDA - FOOD GROUPS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=426	n=71	n=258	n=37	n=62	n=111	n=19	n=118	n=60	n=1162
Cereals & Millets	<50	16.0	.0	1.6	2.7	6.5	12.6	.0	.0	1.7	7.9
	50-70	30.8	5.6	7.8	5.4	12.9	17.1	5.3	1.7	1.7	16.2
	>=70	53.3	94.4	90.7	91.9	80.6	70.3	94.7	98.3	96.7	75.9
Pulses	<50	65.3	12.7	80.2	56.8	24.2	33.3	26.3	63.6	68.3	59.2
	50-70	11.5	8.5	6.2	18.9	8.1	12.6	10.5	2.5	15.0	9.6
	>=70	23.2	78.9	13.6	24.3	67.7	54.1	63.2	' 319	16.7	31.2
Leafy-Veg	<50	91.5	85.9	85.3	89.2	100.0	95.5	89.5	35.6	56.7	83.0
	50-70	3.1	7.0	3.5	2.7	.0	.9	.0	7.6	3.3	3.4
	>=70	5.4	7.0	11.2	8.1	.0	3.6	10.5	56.8	40.0	13.5
Other-Veg	<50	49.5	43.7	58.9	56.8	58.1	43.2	52.6	66.1	50.0	53.1
	50-70	1.2	.0	.8	5.4	3.2	6.3	.0	.0	1.7	1.6
	>=70	49.3	56.3	40.3	37.8	38.7	50.5	47.4	33.9	48.3	45.3
Roots & Tubers	<50	36.4	70.4	74.0	86.5	71.0	64.0	52.6	56.8	26.7	54.7
	50-70	11.7	12.7	6.2	2.7	6.5	3.6	21.1	1.7	1.7	7.8
	>=70	51.9	16.9	19.8	10.8	22.6	32.4	26.3	41.5	71.7	37.4
Milk & Milk Prod.	<50	84.0	76.1	63.6	91.9	87.1	70.3	100.0	100.0	98.3	80.7
	50-70	4.0	4.2	8.9	2.7	1.6	11.7	.0	.0	.0	5.0
	>=70	12.0	19.7	27.5	5.4	11.3	18.0	.0	.0	1.7	14.3
Fats & Oils	<50	92.3	70.4	89.1	86.5	38.7	34.2	63.2	68.6	50.0	76.6
	50-70	4.5	18.3	5.0	13.5	22.6	18.0	5.3	16.1	21.7	10.1
	>=70	3.3	11.3	5.8	.0	38.7	47.7	31.6	15.3	28.3	13.3
Sugar & Jaggery	<50	12.7	45.1	25.2	59.5	8.1	26.1	78.9	92.4	90.0	33.1
	50-70	16.4	11.3	12.4	21.6	3.2	10.8	15.8	1.7	5.0	12.0
	>=70	70.9	43.7	62.4	18.9	88.7	63.1	5.3	5.9	5.0	54.8

3.3.5 Distribution of Nutrient intakes (% RDA)

The results are presented in **Tables 53 to 65.** The deficit in nutrient intakes (<70% RDA) was higher in the case of micronutrients as compared to energy or protein.

Table 53 FREQUENCY DISTRIBUTION (%) OF 1-3 YEAR CHILDREN ACCORDING TO LEVEL OF RDA - NUTRIENTS

Percent of RDA		States									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=352	n=329	n=247	n=223	n=440	n=383	n=380	n=360	n=184	n=2898
Protein	<50	53.1	23.4	23.9	12.1	18.4	23.8	8.9	15.6	15.2	22.1
	50-70	17.0	21.6	30.4	8.5	20.0	22.7	11.8	19.7	12.5	18.6
	>=70	29.8	55.0	45.7	79.4	61.6	53.5	79.2	64.7	72.3	59.3
Total Fat	<50	77.3	86.3	76.5	74.0	78.0	76.8	88.7	74.7	78.8	79.3
	50-70	10.8	5.8	8.5	18.4	12.0	13.8	6.3	15.3	14.1	11.4
	>=70	11.9	7.9	15.0	7.6	10.0	9.4	5.0	10.0	7.1	9.3
Energy	<50	72.7	43.2	38.1	21.1	38.4	53.8	31.8	35.6	24.5	41.7
	50-70	17.9	35.6	35.6	20.2	24.3	30.5	31.1	31.7	16.8	27.6
	>=70	9.4	21.3	26.3	58.7	37.3	15.7	37.1	32.8	58.7	30.7
Calcium	<50	78.1	83.3	76.1	84.3	83.9	91.1	91.6	61.1	66.8	80.5
	50-70	11.1	6.4	7.7	6.3	7.0	4.4	6.1	13.6	5.4	7.7
	>=70	10.8	10.3	16.2	9.4	9.1	4.4	2.4	25.3	27.7	11.8
Old Iron	<50	61.9	35.0	42.1	13.9	28.2	52.2	18.4	14.7	19.6	32.8
	50-70	20.5	27.4	27.9	14.8	22.7	22.2	23.4	13.1	10.9	20.9
	>=70	17.6	37.7	30.0	71.3	49.1	25.6	58.2	72.2	69.6	46.3
New Iron	<50	86.4	87.2	86.6	50.7	58.9	73.1	47.4	50.8	59.8	66.6
	50-70	8.0	5.2	8.5	30.0	15.5	15.7	23.4	20.3	9.8	15.2
	>=70	5.7	7.6	4.9	19.3	25.7	11.2	29.2	28.9	30.4	18.2
Vitamin-A	<50	87.5	88.8	88.3	90.6	92.0	94.8	84.7	48.6	62.5	82.8
	50-70	5.1	5.5	2.0	3.6	1.6	.8	3.7	1.9	.5	2.8
	>=70	7.4	5.8	9.7	5.8	6.4	4.4	11.6	49.4	37.0	14.4
Thiamin	<50	84.9	66.3	81.8	29.1	36.1	35.2	23.4	46.4	46.2	49.0
	50-70	6.0	19.8	8.9	10.8	14.1	15.4	11.1	14.4	21.2	13.3
	>=70	9.1	14.0	9.3	60.1	49.8	49.3	65.5	39.2	32.6	37.7
Riboflavin	<50	84.1	69.6	70.9	47.1	66.6	78.1	57.6	48.9	42.9	64.6
	50-70	8.0	12.8	10.9	16.6	16.6	12.5	21.1		13.6	14.7
	>=70	8.0	17.6	18.2	36.3	16.8	9.4	21.3	32.8	43.5	20.7
Niacin	<50	81.0	64.4	64.0	22.9	46.8	66.8	28.4	43.9	23.9	51.0
	50-70	11.1	28.0	21.1	19.3	20.5	19.6	25.8	28.1	18.5	21.5
	>=70	8.0	7.6	15.0	57.8	32.7	13.6	45.8	28.1	57.6	27.5
Vitamin-C	<50	62.2	66.3	72.5	67.7	80.5	77.8	66.1	30.8	29.3	63.3
	50-70	12.8	16.7	9.7	13.0	9.5	9.7	10.0	6.1	9.8	10.7
	>=70	25.0	17.0	17.8	19.3	10.0	12.5	23.9	63.1	60.9	26.0
Total folic acid	<50	18.5	6.7	15.4	3.6	5.9	8.1	2.1	6.1	9.2	8.2
	50-70	11.9	6.1	12.1	2.2	4.5	4.7	2.1	4.4	7.1	5.9
	>=70	69.6	87.2	72.5	94.2	89.5	87.2	95.8	89.4	83.7	85.9
Free folic acid	<50	67.6	44.1	55.5	22.4	37.0	35.5	17.4	25.3	25.0	37.0
	50-70	15.1	22.2	19.4	19.3	17.5	20.1	18.9	13.6	11.4	17.7
	>=70	17.3	33.7	25.1	58.3	45.5	44.4	63.7	61.1	63.6	45.3

Table 54 FREQUENCY DISTRIBUTION (%) OF 4-6 YEAR CHILDREN ACCORDING TO LEVEL OF RDA - NUTRIENTS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=259	n=245	n=219	n=133	n=412	n=345	n=456	n=312	n=163	n=2544
Protein	<50	31.3	15.1	19.6	11.3	4.6	14.8	4.8	10.6	1.8	11.9
	50-70	23.9	28.6	28.3	10.5	14.1	27.8	9.6	22.4	4.9	19.0
	>=70	44.8	56.3	52.1	78.2	81.3	57.4	85.5	67.0	93.3	69.0
Total Fat	<50	57.5	86.9	59.4	82.7	55.8	55.4	82.0	76.6	58.3	68.0
	50-70	18.9	9.4	19.2	11.3	22.6	25.2	11.4	15.4	23.9	17.6
	>=70	23.6	3.7	21.5	6.0	21.6	19.4	6.6	8.0	17.8	14.3
Energy	<50	60.6	39.6	35.6	22.6	18.4	53.0	25.7	30.4	3.1	32.9
	50-70	30.5	36.3	43.4	22.6	40.8	34.2	44.1	42.6	17.2	37.0
	>=70	8.9	24.1	21.0	54.9	40.8	12.8	30.3	26.9	79.8	30.1
Calcium	<50	52.9	76.3	64.4	72.9	72.3	82.9	77.6	33.3	48.5	66.2
	50-70	16.2	11.4	11.9	9.0	9.2	8.4	12.3	18.9	5.5	11.8
	>=70	30.9	12.2	23.7	18.0	18.4	8.7	10.1	47.8	46.0	22.1
Old Iron	<50	54.4	33.5	39.7	17.3	15.0	54.2	18.9	7.4	4.3	27.4
	50-70	30.1	31.0	37.9	19.5	24.8	24.3	30.5	16.0	12.3	25.9
	>=70	15.4	35.5	22.4	63.2	60.2	21.4	50.7	76.6	83.4	46.7
New Iron	<50	88.0	86.5	91.8	83.5	52.2	82.6	55.7	60.6	55.2	70.2
	50-70	8.9	4.9	5.9	13.5	27.4	11.3	21.7	22.8	14.7	16.2
	>=70	3.1	8.6	2.3	3.0	20.4	6.1	22.6	16.7	30.1	13.6
Vitamin-A	<50	89.2	84.1	83.1	91.7	90.5	93.9	81.8	36.5	54.0	79.1
	50-70	2.7	5.7	6.4	1.5	1.7	1.4	3.9	2.6	.0	2.9
	>=70	8.1	10.2	10.5	6.8	7.8	4.6	14.3	60.9	46.0	17.9
Thiamin	<50	74.9	57.6	76.7	38.3	19.2	20.3	15.6	52.2	28.2	38.6
	50-70	14.3	26.5	19.6	27.1	18.7	26.1	18.0	26.0	46.6	23.1
	>=70	10.8	15.9	3.7	34.6	62.1	53.6	66.4	21.8	25.2	38.3
Riboflavin	<50	90.0	86.5	89.0	78.9	75.5	91.0	70.6	68.3	38.7	77.4
	50-70	6.9	11.4	6.8	17.3	14.8	8.1	19.7	19.9	27.0	14.5
	>=70	3.1	2.0	4.1	3.8	9.7	.9	9.6	11.9	34.4	8.1
Niacin	<50	72.6	58.8	61.6	24.8	31.3	62.9	23.7	42.3	6.7	43.1
	50-70	20.5	32.2	28.8	43.6	33.3	27.8	28.3	39.4	19.0	30.2
	>=70	6.9	9.0	9.6	31.6	35.4	9.3	48.0	18.3	74.2	26.7
Vitamin-C	<50	58.3	63.7	61.2	70.7	81.3	74.2	66.0	17.0	25.8	59.8
	50-70	11.6	15.5	12.8	14.3	6.8	9.3	11.0	9.0	9.2	10.5
	>=70	30.1	20.8	26.0	15.0	11.9	16.5	23.0	74.0	65.0	29.6
Total folic acid	<50	9.7	.8	5.5	1.5	1.0	.9	.2	1.3	.6	2.1
	50-70	8.1	2.4	10.5	3.8	.7	2.9	1.1	3.2	1.2	3.3
	>=70	82.2	96.7	84.0	94.7	98.3	96.2	98.7	95.5	98.2	94.5
Free folic acid	<50	52.9	35.5	41.1	31.6	22.1	24.6	11.8	10.9	12.3	25.2
	50-70	24.3	29.4	29.2	24.1	20.4	23.2	20.0	18.3	16.0	22.4
	>=70	22.8	35.1	29.7	44.4	57.5	52.2	68.2	70.8	71.8	52.5

Table 55 FREQUENCY DISTRIBUTION (%) OF 7-9 YEAR CHILDREN ACCORDING TO LEVEL OF RDA - NUTRIENTS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=224	n=217	n=244	n=154	n=351	n=287	n=335	n=371	n=170	n=2353
Protein	<50	46.0	25.8	27,0	7.8	8.3	18.1	9.0	18.1	1.8	17.8
	50-70	20.5	35.9	33.6	22.7	23.1	30.7	17.6	34.5	12.4	26.3
	>=70	33.5	38.2	39.3	69.5	68.7	51.2	73.4	47.4	85.9	56.0
Total Fat	<50	58.9	84.3	47.5	89.0	50.1	36.9	80.6	88.1	45.9	64.8
	50-70	14.7	12.0	19.3	8.4	27.4	32.8	12.5	8.4	24.1	18.0
	>=70	26.3	3.7	33.2	2.6	22.5	30.3	6.9	3.5	30.0	17.2
Energy	<50	61.6	36.4	28.7	10.4	14.8	42.9	20.0	27.5	2.4	27.7
	50-70	30.8	42.9	45.1	29.2	40.5	36.9	46.3	39.9	14.7	38.0
	>=70	7.6	20.7	26.2	60.4	44.7	20.2	33.7	32.6	82.9	34.4
Calcium	<50	49.6	71.9	51.2	61.7	61.5	77.7	71.6	26.7	41.2	56.7
	50-70	12.9	13.8	17.2	7.1	14.2	10.5	15.2	18.9	12.9	14.2
	>=70	37.5	14.3	31.6	31.2	24.2	11.8	13.1	54.4	45.9	29.0
Old Iron	<50	70.1	55.3	57.8	18.2	27.9	69.3	35.2	14.0	8.8	39.4
	50-70	25.0	31.8	32.0	47.4	33.3	15.7	34.9	25.3	22.9	29.2
	>=70	4.9	12.9	10.2	34.4	38.7	15.0	29.9	60.6	68.2	31.3
New Iron	<50	96.4	91.2	96.7	89.0	66.1	88.2	72.5	84.4	65.9	82.4
	50-70	2.7	4.6	2.5	8.4	20.8	9.1	16.7	9.4	15.3	10.7
	>=70	.9	4.1	.8	2.6	13.1	2.8	10.7	6.2	18.8	6.9
Vitamin-A	<50	86.6	93.5	87.7	88.3	89.5	94.1	85.1	34.8	55.3	78.2
	50-70	3.1	4.6	1.2	3.2	2.0	1.0	3.6	3.2	1.2	2.6
	>=70	10.3	1.8	11.1	8.4	8.5	4.9	11.3	62.0	43.5	19.3
Thiamin	<50	77.2	63.1	80.3	40.3	20.8	19.9	22.7	60.4	28.8	44.5
	50-70	11.6	23.0	14.3	29.9	18.2	22.0	14.9	24.3	39.4	20.9
	>=70	11.2	13.8	5.3	29.9	61.0	58.2	62.4	15.4	31.8	34.6
Riboflavin	<50	93.3	90.3	88.1	86.4	76.1	88.5	74.3	71.2	39.4	78.8
	50-70	4.5	8.3	8.2	11.7	14.2	9.1	16.1	18.9	23.5	13.0
	>=70	2.2	1.4	3.7	1.9	9.7	2.4	9.6	10.0	37.1	8.2
Niacin	<50	72.8	59.9	59.0	21.4	31.3	57.8	24.8	42.6	4.7	42.3
	50-70	21.4	32.3	32.0	43.5	30.5	25.8	26.9	38.8	12.9	29.7
	>=70	5.8	7.8	9.0	35.1	38.2	16.4	48.4	18.6	82.4	28.0
Vitamin-C	<50	51.3	60.4	53.7	60.4	76.9	64.5	58.2	15.4	18.2	51.3
	50-70	9.8	18.0	12.3	13.6	10.0	10.1	10.1	4.9	10.0	10.4
	>=70	38.8	21.7	34.0	26.0	13.1	25.4	31.6	79.8	71.8	38.2
Total folic acid	<50	14.7	2.3	15.6	1.3	.9	.7	.3	3.2	2.4	4.2
	50-70	10.7	6.0	11.9	8.4	3.7	3.8	2.1	3.0	5.9	5.6
	>=70	74.6	91.7	72.5	90.3	95.4	95.5	97.6	93.8	91.8	90.2
Free folic acid	<50	75.4	59.4	61.9	53.2	42.7	33.8	23.9	23.5	20.0	41.6
	50-70	17.4	30.0	22.1	22.1	21.7	28.6	31.3	23.2	15.9	24.1
	>=70	7.1	10.6	16.0	24.7	35.6	37.6	44.8	53.4	64.1	34.3

Table 56 FREQUENCY DISTRIBUTION (%) OF 10-12 YEAR BOYS ACCORDING TO LEVEL OF RDA - NUTRIENTS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=117	n=89	n=133	n=51	n=164	n=104	n=178	n=175	n=66	n=1077
Protein	<50	57.3	28.1	36.1	11.8	11.6	22.1	9.0	31.4	3.0	24.2
	50-70	26.5	41.6	40.6	45.1	25.0	30.8	24.2	44.6	19.7	32.7
	>=70	16.2	30.3	23.3	43.1	63.4	47.1	66.9	24.0	77.3	43.1
Total Fat	<50	37.6	74.2	29.3	74.5	20.7	14.4	59.0	75.4	37.9	46.2
	50-70	20.5	16.9	20.3	7.8	28.7	20.2	20.8	18.3	22.7	20.6
	>=70	41.9	9.0	50.4	17.6	50.6	65.4	20.2	6.3	39.4	33.1
Energy	<50	60.7	23.6	23.3	9.8	10.4	33.7	16.3	21.7	4.5	23.2
	50-70	26.5	39.3	45.9	21.6	36.0	31.7	42.1	51.4	13.6	37.5
	>=70	12.8	37.1	30.8	68.6	53.7	34.6	41.6	26.9	81.8	39.3
Calcium	<50	65.8	82.0	63.9	58.8	75.0	81.7	86.0	43.4	50.0	68.2
	50-70	15.4	6.7	14.3	11.8	12.8	11.5	7.3	19.4	13.6	12.8
	>=70	18.8	11.2	21.8	29.4	12.2	6.7	6.7	37.1	36.4	18.9
Old Iron	<50	80.3	58.4	72.9	29.4	32.9	65.4	44.4	22.9	15.2	47.3
	50-70	15.4	31.5	18.8	45.1	35.4	26.0	30.9	29.1	31.8	28.4
	>=70	4.3	10.1	8.3	25.5	31.7	8.7	24.7	48.0	53.0	24.3
New Iron	<50	94.0	94.4	97.0	86.3	69.5	87.5	77.5	93.1	78.8	85.9
	50-70	5.1	2.2	.8	9.8	21.3	10.6	14.6	5.7	9.1	9.5
	>=70	.9	3.4	2.3	3.9	9.1	1.9	7.9	1.1	12.1	4.6
Vitamin-A	<50	82.1	86.5	86.5	76.5	92.1	98.1	88.2	26.3	54.5	76.0
	50-70	2.6	2.2	3.0	3.9	1.2	.0	2.2	.6	1.5	1.8
	>=70	15.4	11.2	10.5	19.6	6.7	1.9	9.6	73.1	43.9	22.2
Thiamin	<50	76.1	48.3	65.4	13.7	14.0	9.6	14.6	56.6	16.7	36.7
	50-70	10.3	28.1	23.3	31.4	12.8	14.4	12.9	24.6	30.3	19.1
	>=70	13.7	23.6	11.3	54.9	73.2	76.0	72.5	18.9	53.0	44.2
Riboflavin	<50	87.2	80.9	75.9	58.8	64.0	70.2	52.8	53.7	31.8	64.3
	50-70	9.4	13.5	18.0	39.2	23.8	26.0	32.6	37.7	42.4	26.5
	>=70	3.4	5.6	6.0	2.0	12.2	3.8	14.6	8.6	25.8	9.3
Niacin	<50	79.5	55.1	52.6	17.6	26.8	46.2	18.5	45.7	1.5	39.6
	50-70	12.0	33.7	32.3	47.1	19.5	30.8	25.8	37.7	24.2	28.1
	>=70	8.5	11.2	15.0	35.3	53.7	23.1	55.6	16.6	74.2	32.2
Vitamin-C	<50	41.0	60.7	42.1	49.0	73.2	55.8	57.3	10.9	19.7	46.0
	50-70	12.8	16.9	17.3	13.7	14.6	12.5	9.6	3.4	6.1	11.5
	>=70	46.2	22.5	40.6	37.3	12.2	31.7	33.1	85.7	74.2	42.5
Total folic acid	<50	12.0	.0	9.8	.0	.0	1.0	.0	3.4	1.5	3.2
	50-70	12.8	7.9	12.8	5.9	5.5	5.8	2.2	4.6	4.5	6.7
	>=70	75.2	92.1	77.4	94.1	94.5	93.3	97.8	92.0	93.9	90.1
Free folic acid	<50	76.9	62.9	66.2	41.2	34.1	27.9	24.2	28.0	25.8	41.7
	50-70	17.9	25.8	20.3	39.2	16.5	23.1	27.5	25.1	28.8	23.6
	>=70	5.1	11.2	13.5	19.6	49.4	49.0	48.3	46.9	45.5	34.7

Table - 57 FREQUENCY DISTRIBUTION (%) OF 10-12 YEAR GIRLS ACCORDING TO LEVEL OF RDA - NUTRIENTS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=110	n=94	n=137	n=56	n=167	n=121	n=184	n=167	n=66	n=1102
Protein	<50	59.1	33.0	39.4	14.3	20.4	27.3	18.5	31.7	4.5	28.6
	50-70	25.5	42.6	35.0	42.9	24.0	29.8	24.5	46.7	22.7	32.1
	>=70	15.5	24.5	25.5	42.9	55.7	43.0	57.1	21.6	72.7	39.3
Total Fat	<50	42.7	59.6	26.3	69.6	22.2	18.2	64.7	80.2	33.3	46.5
	50-70	13.6	28.7	17.5	16.1	32.3	19.8	13.0	13.2	25.8	19.6
	>=70	43.6	11.7	56.2	14.3	45.5	62.0	22.3	6.6	40.9	33.9
Energy	<50	40.9	5.3	12.4	1.8	6.0	28.1	15.8	8.4	1.5	14.2
	50-70	39.1	42.6	35.8	19.6	26.9	23.1	26.1	40.7	4.5	30.4
	>=70	20.0	52.1	51.8	78.6	67.1	48.8	58.2	50.9	93.9	55.4
Calcium	<50	58.2	78.7	54.0	64.3	80.2	86.8	85.9	41.3	48.5	67.7
	50-70	19.1	11.7	19.0	10.7	4.8	10.7	7.1	24.6	16.7	13.6
	>=70	22.7	9.6	27.0	25.0	15.0	2.5	7.1	34.1	34.8	18.7
Old Iron	<50	78.2	47.9	51.1	17.9	27.5	64.5	39.1	16.2	13.6	40.2
	50-70	16.4	33.0	29.2	42.9	31.7	23.1	35.3	27.5	18.2	28.8
	>=70	5.5	19.1	19.7	39.3	40.7	12.4	25.5	56.3	68.2	31.0
New Iron	<50	95.5	91.5	92.0	80.4	62.3	83.5	78.3	85.6	71.2	81.8
	50-70	2.7	.0	5.8	12.5	23.4	14.0	12.5	11.4	16.7	11.5
	>=70	1.8	8.5	2.2	7.1	14.4	2.5	9.2	3.0	12.1	6.7
Vitamin-A	<50	90.9	81.9	78.1	82.1	92.8	93.4	79.9	31.7	51.5	75.5
	50-70	2.7	4.3	3.6	1.8	1.2	.0	6.5	3.0	3.0	3.1
	>=70	6.4	13.8	18.2	16.1	6.0	6.6	13.6	65.3	45.5	21.4
Thiamin	<50	61.8	47.9	65.7	30.4	13.8	9.9	18.5	52.7	13.6	35.0
	50-70	23.6	27.7	24.8	26.8	16.2	9.9	20.1	26.3	34.8	22.1
	>=70	14.5	24.5	9.5	42.9	70.1	80.2	61.4	21.0	51.5	42.8
Riboflavin	<50	85.5	72.3	69.3	60.7	67.7	74.4	57.1	57.5	28.8	64.8
	50-70	14.5	23.4	23.4	33.9	14.4	16.5	27.7	26.9	27.3	22.4
	>=70	.0	4.3	7.3	5.4	18.0	9.1	15.2	15.6	43.9	12.8
Niacin	<50	62.7	30.9	32.1	3.6	18.6	35.5	16.3	17.4	3.0	25.3
	50-70	23.6	44.7	35.0	35.7	22.8	31.4	23.4	49.1	10.6	31.2
	>=70	13.6	24.5	32.8	60.7	58.7	33.1	60.3	33.5	86.4	43.5
Vitamin-C	<50	48.2	50.0	42.3	50.0	77.2	51.2	48.9	13.8	15.2	45.4
	50-70	15.5	14.9	10.9	16.1	9.0	19.8	11.4	4.8	9.1	11.7
	>=70	36.4	35.1	46.7	33.9	13.8	28.9	39.7	81.4	75.8	42.9
Total folic acid	<50	12.7	3.2	10.9	.0	2.4	.0	1.1	1.8	.0	3.7
	50-70	15.5	3.2	19.0	7.1	2.4	4.1	4.3	3.0	4.5	6.8
	>=70	71.8	93.6	70.1	92.9	95.2	95.9	94.6	95.2	95.5	89.5
Free folic acid	<50	79.1	52.1	59.9	55.4	42.5	26.4	21.7	26.9	24.2	41.1
	50-70	15.5	31.9	21.9	19.6	25.1	24.0	31.5	24.0	16.7	24.3
	>=70	5.5	16.0	18.2	25.0	32.3	49.6	46.7	49.1	59.1	34.6

Table 58 FREQUENCY DISTRIBUTION (%) OF 13-15 YEAR BOYS ACCORDING TO LEVEL OF RDA - NUTRIENTS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=97	n=91	n=114	n=42	n=88	n=77	n=137	n=123	n=50	n=819
Protein	<50	63.9	31.9	53.5	19.0	22.7	27.3	13.1	34.1	2.0	32.0
	50-70	24.7	45.1	35.1	50.0	29.5	26.0	29.2	43.1	20.0	33.6
	>=70	11.3	23.1	11.4	31.0	47.7	46.8	57.7	22.8	78.0	34.4
Total Fat	<50	25.8	54.9	21.1	66.7	17.0	10.4	43.8	60.2	20.0	35.9
	50-70	13.4	22.0	21.1	14.3	15.9	18.2	21.2	26.8	34.0	20.8
	>=70	60.8	23.1	57.9	19.0	67.0	71.4	35.0	13.0	46.0	43.3
Energy	<50	49.5	14.3	10.5	2.4	11.4	23.4	9.5	12.2	.0	15.9
	50-70	34.0	38.5	55.3	33.3	31.8	27.3	33.6	36.6	4.0	35.0
	>=70	16.5	47.3	34.2	64.3	56.8	49.4	56.9	51.2	96.0	49.1
Calcium	<50	53.6	73.6	64.0	71.4	72.7	80.5	77.4	30.1	42.0	62.5
	50-70	7.2	11.0	14.0	11.9	10.2	11.7	13.1	21.1	2.0	12.3
	>=70	39.2	15.4	21.9	16.7	17.0	7.8	9.5	48.8	56.0	25.2
Old Iron	<50	89.7	59.3	77.2	40.5	42.0	63.6	46.0	22.0	12.0	52.3
	50-70	8.2	26.4	20.2	40.5	30.7	29.9	34.3	28.5	26.0	26.5
	>=70	2.1	14.3	2.6	19.0	27.3	6.5	19.7	49.6	62.0	21.2
New Iron	<50	97.9	93.4	100.0	90.5	73.9	85.7	77.4	91.9	70.0	87.5
	50-70	2.1	2.2	.0	9.5	19.3	11.7	14.6	4.1	16.0	"8.2
	>=70	.0	4.4	.0	.0	6.8	2.6	8.0	4.1	14.0	4.3
Vitamin-A	<50	87.6	85.7	88.6	97.6	93.2	88.3	85.4	26.0	48.0	
	50-70	4.1	5.5	1.8	.0	3.4	1.3	2.2	.0	.0	
	>=70	8.2	8.8	9.6	2.4	3.4	10.4	12.4	74.0	52.0	21.1
Thiamin	<50	71.1	39.6	73.7	21.4	18.2	11.7	10.2	52.8		37.4
	50-70	22.7	25.3	17.5	21.4	12.5	6.5	11.7	22.0	30.0	18.1
	>=70	6.2	35.2	8.8	57.1	69.3	81.8	78.1	25.2	62.0	44.
Riboflavin	<50	85.6	65.9	76.3	7l.4	63.6	61.5	48.2	43.9	22.0	6
	50-70	12.4	31.9	19.3	19.0	22.7	27.3	33.6	46.3	26.0	60.3
	>=70	2.1	2.2	4.4	9.5	13.6	11.7	18.2	9.8	52.0	11.8
Niacin	<50	69.1	26.4	40.4	9.5	22.7	28.6	11.7	21.1	2.0	27.6
	50-70	21.6	49.5	43.0	31.0	27.3	23.4	24.1	42.3	6.0	31.5
	>=70	9.3	24.2	16.7	59.5	50.0	48.1	64.2	36.6	92.0	40.9
Vitamin-C	<50	27.8	50.5	30.7	52.4	72.7	37.7	53.3	9.8	12.0	38.3
	50-70	10.3	17.6	12.3	14.3	15.9	26.0	4.4	3.3	12.0	11.7
	>=70	61.9	31.9	57.0	33.3	11.4	36.4	42.3	87.0	76.0	49.9
Total folic acid	50-70	4.1	1.1	.0	.0	1.1	1.3	.0	.0	.0	.9
	>=70	95.9	98.9	100.0	100.0	98.9	98.7	100.0	100.0	100.0	99.1
Free folic acid	<50	88.7	76.9	86.0	69.0	58.0	46.8	32.1	36.6	36.0	58.2
	50-70	9.3	18.7	11.4	9.5	20.5	14.3	35.0	33.3	8.0	20.1
	>=70	2.1	4.4	2.6	21.4	21.6	39.0	32.8	30.1	56.0	21.6

Table 59 FREQUENCY DISTRIBUTION (%) OF 13-15 YEAR GIRLS ACCORDING TO LEVEL OF RDA - NUTRIENTS

Percent of RDA		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=103	n=68	n=128	n=55	n=111	n=88	n=146	n=130	n=48	n=877
Protein	<50	50.5	23.5	41.4	10.9	14.4	27.3	13.7	33.1	6.3	26.6
	50-70	32.0	42.6	43.0	47.3	29.7	23.9	26.0	47.7	12.5	34.5
	>=70	17.5	33.8	15.6	41.8	55.9	48.9	60.3	19.2	81.3	38.9
Total Fat	<50	33.0	51.5	24.2	54.5	16.2	15.9	54.8	72.3	22.9	39.6
	50-70	12.6	26.5	20.3	20.0	27.0	17.0	19.2	16.9	45.8	21.1
	>=70	54.4	22.1	55.5	25.5	56.8	67.0	26.0	10.8	31.3	39.3
Energy	<50	28.2	1.5	12.5	1.8	1.8	18.2	5.5	3.1	2.1	8.9
	50-70	37.9	30.9	25.0	10.9	18.0	26.1	22.6	27.7	4.2	24.2
	>=70	34.0	67.6	62.5	87.3	80.2	55.7	71.9	69.2	93.8	66.9
Calcium	<50	50.5	72.1	60.9	49.1	70.3	77.3	78.8	47.7	41.7	62.6
	50-70	14.6	11.8	15.6	16.4	9.9	17.0	15.1	20.8	4.2	14.7
	>=70	35.0	16.2	23.4	34.5	19.8	5.7	6.2	31.5	54.2	22.7
Old Iron	<50	38.8	10.3	35.2	5.5	10.8	43.2	13.0	6.2	4.2	19.8
	50-70	39.8	30.9	35.9	18.2	22.5	30.7	32.2	17.7	6.3	27.7
	>=70	21.4	58.8	28.9	76.4	66.7	26.1	54.8	76.2	89.6	52.5
New Iron	<50	88.3	82.4	93.8	83.6	49.5	70.5	52.1	79.2	50.0	72.2
	50-70	9.7	4.4	4.7	7.3	22.5	17.0	29.5	14.6	18.8	15.3
	>=70	1.9	13.2	1.6	9.1	27.9	12.5	18.5	6.2	31.3	12.5
Vitamin-A	<50	83.5	80.9	83.6	69.1	93.7	92.0	80.1	42.3	43.8	75.7
	50-70	1.0	7.4	3.1	10.9	1.8	3.4	2.7	2.3	2.1	3.3
	>=70	15.5	11.8	13.3	20.0	4.5	4.5	17.1	55.4	54.2	21.0
Thiamin	<50	51.5	23.5	50.0	12.7	9.0	9.1	8.2	40.8	8.3	25.9
	50-70	33.0	26.5	31.3	21.8	12.6	4.5	11.6	26.9	22.9	21.1
	>=70	15.5	50.0	18.8	65.5	78.4	86.4	80.1	32.3	68.8	53.0
Riboflavin	<50	75.7	48.5	54.7	34.5	46.8	56.8	43.2	39.2	12.5	48.1
	50-70	12.6	39.7	31.3	47.3	33.3	29.5	26.7	36.9	16.7	30.1
	>=70	11.7	11.8	14.1	18.2	19.8	13.6	30.1	23.8	70.8	21.8
Niacin	<50	48.5	13.2	28.1	5.5	15.3	27.3	10.3	11.5	6.3	19.6
	50-70	33.0	42.6	38.3	27.3	22.5	28.4	22.6	44.6	2.1	30.7
	>=70	18.4	44.1	33.6	67.3	62.2	44.3	67.1	43.8	91.7	49.7
Vitamin-C	<50	21.4	39.7	41.4	54.5	75.7	45.5	49.3	17.7	14.6	40.8
	50-70	10.7	20.6	11.7	9.1	12.6	15.9	10.3	5.4	2.1	10.9
	>=70	68.0	39.7	46.9	36.4	11.7	38.6	40.4	76.9	83.3	48.2
Total folic acid	<50	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
	50-70	2.9	.0	2.3	.0	.9	.0	.0	.8	2.1	1.0
	>=70	96.1	100.0	97.7	100.0	99.1	100.0	100.0	99.2	97.9	98.9
Free folic acid	<50	81.6	79.4	79.7	60.0	50.5	38.6	36.3	50.0	25.0	56.2
	50-70	14.6	16.2	13.3	27.3	25.2	27.3	37.0	33.8	20.8	24.9
	>=70	3.9	4.4	7.0	12.7	24.3	34.1	26.7	16.2	54.2	18.9

Table 60 FREQUENCY DISTRIBUTION (%) OF 16-18 YEAR BOYS ACCORDING TO LEVEL OF RDA - NUTRIENTS

		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Prades	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=90	n=68	n=127	n=73	n=93	n=61	n=92	n=129	n=72	n=805
Protein	<50	57.8	22.1	48.0	5.5	9.7	13.1	18.5	20.2	6.9	24.5
	50-70	28.9	44.1	32.3	21.9	28.0	21.3	28.3	35.7	6.9	28.4
	>=70	13.3	33.8	19.7	72.6	62.4	65.6	53.3	44.2	86.1	47.1
Total Fat	<50	22.2	39.7	25.2	46.6	6.5	4.9	53.3	51.9	20.8	31.4
	50-70	12.2	32.4	21.3	21.9	22.6	1.6	20.7	21.7	23.6	20.1
	>=70	65.6	27.9	53.5	31.5	71.0	93.4	26.1	26.4	55.6	48.4
Energy	<50	25.6	4.4	15.7	1.4	2.2	8.2	8.7	7.0	2.8	9.1
	50-70	40.0	30.9	32.3	4.1	16.1	23.0	26.1	15.5	6.9	22.2
	>=70	34.4	64.7	52.0	94.5	81.7	68.9	65.2	77.5	90.3	68.7
Calcium	<50	47.8	51.5	55.1	41.1	54.8	41.0	57.6	29.5	31.9	45.7
	50-70	11.1	25.0	19.7	11.0	23.7	21.3	17.4	14.0	5.6	16.5
	>=70	41.1	23.5	25.2	47.9	21.5	37.7	25.0	56.6	62.5	37.8
Old Iron	<50	82.2	60.3	81.1	20.5	38.7	57.4	62.0	27.9	8.3	50.1
	50-70	14.4	27.9	11.0	45.2	31.2	26.2	25.0	27.1	25.0	24
	>=70	3.3	11.8	7.9	34.2	30.1	16.4	13,0	45.0	66.7	8
New Iron	<50	98.9	94.1	98.4	94.5	73.1	77.0	89.1	92.2	76.4	89.2
	50-70	1.1	.0	1.6	5.5	22.6	13.1	5.4	5.4	18.1	7.6
	>=70	.0	5.9	.0	.0	4.3	9.8	5.4	2.3	5.6	3.2
Vitamin-A	<50	87.8	82.4	81.1	86.3	95.7	88.5	82.6	35.7	48.6	74.
	50-70	1.1	2.9	4.7	5.5	3.2	4.9	.0	.8	.0	2.5
	>=70	11.1	14.7	14.2	8.2	1.1	6.6	17.4	63.6	51.4	22.9
Thiamin	<50	41.1	16.2	50.4	4.1	4.3	4.9	16.3	17.8	8.3	20.6
	50-70	42.2	55.9	38.6	26.0	19.4	4.9	26.1	41.9	20.8	32.0
	>=70	16.7	27.9	11.0	69.9	76.3	90.2	57.6	40.3	70.8	47.3
Riboflavin	<50	82.2	67.6	75.6	30.1	49.5	54.1	54.3	38.0	13.9	52.9
	50-70	15.6	23.5	15.0	32.9	32.3	21.3	33.7	37.2	25.0	26.5
	>=70	2.2	8.8	9.4	37.0	18.3	24.6	12.0	24.8	61.1	20.6
Niacin	<50	45.6	10.3	34.6	2.7	6.5	18.0	10.9	8.5	2.8	16.6
	50-70	33.3	50.0	32.3	8.2	26.9	23.0	19.6	26.4	6.9	25.7
	>=70	21.1	39.7	33.1	89.0	66.7	59.0	69.6	65.1	90.3	57.6
Vitamin-C	<50	18.9	39.7	33.9	53.4	68.8	21.3	41.3	16.3	15.3	33.9
	50-70	12.2	17.6	11.0	4.1	15.1	3.3	9.8	3.1	8.3	9.3
	>=70	68.9	42.6	55.1	42.5	16.1	75.4	48.9	80.6	76.4	56.8
Total folic acid	<50	10.0	2.9	8.7	.0	.0	.0	1.1	2.3	1.4	3.4
	50-70	15.6	5.9	18.1	5.5	1.1	3.3	5.4	7.0	2.8	8.0
	>=70	74.4	91.2	73.2	94.5	98.9	96.7	93.5	90.7	95.8	88.7
Free folic acid	<50	76.7	66.2	70.1	42.5	37.6	13.1	37.0	32.6	22.2	45.8
	50-70	20.0	20.6	19.7	28.8	22.6	16.4	28.3	25.6	13.9	22.1
	>=70	3.3	13.2	10.2	28.8	39.8	70.5	34.8	41.9	63.9	32.0

Table 61 FREQUENCY DISTRIBUTION (%) OF 16-18 YEAR GIRLS ACCORDING TO LEVEL OF RDA - NUTRIENTS

		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=97	n=83	n=153	n=87	n=78	n=73	n=114	n=128	n=69	n=882
Protein	<50	44.3	8.4	23.5	4.6	12.8	23.3	5.3	11.7	2.9	15.9
	50-70	26.8	48.2	37.3	19.5	15.4	21.9	20.2	32.8	18.8	27.9
	>=70	28.9	43.4	39.2	75.9	71.8	54.8	74.6	55.5	78.3	56.2
Total Fat	<50	24.7	53.0	13.7	41.4	9.0	8.2	40.4	62.5	29.0	32.2
	50-70	14.4	25.3	22.2	32.2	20.5	21.9	20.2	18.8	27.5	22.1
	>=70	60.8	21.7	64.1	26.4	70.5	69.9	39.5	18.8	43.5	45.7
Energy	<50	16.5	2.4	1.3	1.1	3.8	12.3	3.5	3.1	1.4	4.8
	50-70	40.2	7.2	20.9	1.1	10.3	23.3	11.4	7.8	1.4	14.4
	>=70	43.3	90.4	77.8	97.7	85.9	64.4	85.1	89.1	97.1	80.8
Calcium	<50	43.3	50.6	37.9	44.8	50.0	60.3	53.5	23.4	34.8	43.0
	50-70	12.4	21.7	19.0	19.5	29.5	19.2	22.8	11.7	13.0	18.5
	>=70	44.3	27.7	43.1	35.6	20.5	20.5	23.7	64.8	52.2	38.5
Old Iron	<50	47.4	3.6	20.3	1.1	14.1	37.0	9.6	3.9	1.4	15.4
	50-70	34.0	45.8	39.9	13.8	16.7	26.0	27.2	10.9	10.1	25.9
	>=70	18.6	50.6	39.9	85.1	69.2	37.0	63.2	85.2	88.4	58.7
New Iron	<50	89.7	80.7	89.5	78.2	53.8	65.8	52.6	59.4	58.0	70.9
	50-70	9.3	9.6	7.2	8.0	19.2	16.4	21.9	20.3	20.3	14.4
	>=70	1.0	9.6	3.3	13.8	26.9	17.8	25.4	20.3	21.7	14.7
Vitamin-A	<50	86.6	78.3	81.7	85.1	89.7	82.2	78.1	35.2	46.4	73.0
	50-70	1.0	3.6	3.3	2.3	1.3	4.1	.9	.8	2.9	2.2
	>=70	12.4	18.1	15.0	12.6	9.0	13.7	21.1	64.1	50.7	24.8
Thiamin	<50	46.4	9.6	33.3	4.6	3.8	9.6	4.4	21.9	7.2	17.7
	50-70	33.0	42.2	35.3	19.5	5.1	11.0	19.3	21.9	15.9	23.9
	>=70	20.6	48.2	31.4	75.9	91.0	79.5	76.3	56.3	76.8	58.4
Riboflavin	<50	71.1	43.4	39.2	14.9	38.5	52.1	23.7	15.6	10.1	34.0
	50-70	21.6	32.5	32.7	31.0	35.9	17.8	31.6	31.3	20.3	29.0
	>=70	7.2	24.1	28.1	54.0	25.6	30.1	44.7	53.1	69.6	37.0
Niacin	<50	39.2	3.6	17.0	1.1	9.0	27.4	3.5	8.6	1.4	12.6
	50-70	28.9	38.6	32.7	11.5	11.5	19.2	14.9	16.4	4.3	20.9
	>=70	32.0	57.8	50.3	87.4	79.5	53.4	81.6	75.0	94.2	66.6
Vitamin-C	<50	27.8	42.2	34.6	47.1	66.7	35.6	47.4	12.5	11.6	35.4
	50-70	14.4	10.8	9.2	4.6	9.0	15.1	11.4	3.9	2.9	9.0
	>=70	57.7	47.0	56.2	48.3	24.4	49.3	41.2	83.6	85.5	55.7
Total folic acid	<50	14.4	1.2	15.7	1.1	2.6	2.7	.9	3.9	1.4	5.8
	50-70	13.4	2.4	7.8	8.0	2.6	2.7	5.3	4.7	7.2	6.2
	>=70	72.2	96.4	76.5	90.8	94.9	94.5	93.9	91.4	91.3	88.0
Free folic acid	<50	89.7	67.5	71.2	49.4	39.7	37.0	33.3	28.9	27.5	50.7
	50-70	8.2	20.5	19.6	32.2	26.9	28.8	23.7	28.9	15.9	22.7
	>=70	2.1	12.0	9.2	18.4	33.3	34.2	43.0	42.2	56.5	26.6

Table 62 FREQUENCY DISTRIBUTION (%) OF ADULT(>18 YEAR) MALES ACCORDING TO LEVEL OF RDA - NUTRIENTS

		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=117	n=71	n=243	n=62	n=86	n=103	n=46	n=153	n=84	n=965
Protein	<50	18.8	2.8	15.6	6.5	9.3	7.8	6.5	5.9	1.2	9.8
	50-70	19.7	29.6	24.3	9.7	23.3	21.4	10.9	22.2	23.8	21.8
	>=70	61.5	67.6	60.1	83.9	67.4	70.9	82.6	71.9	75.0	68.4
Total Fat	<50	12.0	21.1	11.1	29.0	5.8	1.0	30.4	32.0	26.2	17.1
	50-70	4.3	29.6	9.9	25.8	16.3	7.8	15.2	30.1	16.7	16.1
	>=70	83.8	49.3	79.0	45.2	77.9	91.3	54.3	37.9	57.1	66.8
Energy	<50	11.1	2.8	6.2	1.6	8.1	12.6	4.3	3.9	.0	6.1
	50-70	23.9	18.3	24.3	14.5	19.8	16.5	13.0	13.7	19.0	19.3
	>=70	65.0	78.9	69.5	83.9	72.1	70.9	82.6	82.4	81.0	74.6
Calcium	<50	25.6	32.4	19.3	29.0	36.0	26.2	30.4	20.9	26.2	25.3
	50-70	8.5	19.7	16.0	30.6	20.9	26.2	32.6	14.4	9.5	17.8
	>=70	65.8	47.9	64.6	40.3	43.0	47.6	37.0	64.7	64.3	56.9
Old Iron	<50	13.7	4.2	12.3	3.2	8.1	9.7	4.3	3.9	4.8	8.3
	50-70	29.1	23.9	25.5	8.1	25.6	27.2	17.4	9.8	11.9	20.8
	>=70	57.3	71.8	62.1	88.7	66.3	63.1	78.3	86.3	83.3	70.9
New Iron	<50	69.2	80.3	83.1	67.7	44.2	51.5	45.7	60.8	54.8	65.6
	50-70	16.2	15.5	10.3	21.0	23.3	21.4	17.4	19.6	20.2	17.1
	>=70	14.5	4.2	6.6	11.3	32.6	27.2	37.0	19.6	25.0	17.3
Vitamin-A	<50	87.2	77.5	76.5	88.7	90.7	86.4	78.3	40.5	50.0	73.1
	50-70	4.3	1.4	4.9	1.6	1.2	3.9	6.5	2.0	1.2	3.2
	>=70	8.5	21.1	18.5	9.7	8.1	9.7	15.2	57.5	48.8	23.7
Thiamin	<50	26.5	23.9	39.9	9.7	14.0	9.7	13.0	28.1	29.8	25.6
	50-70	29.1	23.9	28.4	16.1	12.8	15.5	13.0	20.3	20.2	21.9
	>=70	44.4	52.1	31.7	74.2	73.3	74.8	73.9	51.6	50.0	52.5
Riboflavin	<50	47.0	43.7	37.9	25.8	48.8	47.6	32.6	31.4	26.2	38.3
	50-70	23.9	22.5	27.2	40.3	22.1	26.2	21.7	20.9	26.2	25.4
	>=70	29.1	33.8	35.0	33.9	29.1	26.2	45.7	47.7	47.6	36.3
Niacin	<50	25.6	9.9	20.2	8.1	16.3	15.5	6.5	5.9	3.6	14.1
	50-70	25.6	29.6	26.7	11.3	24.4	25.2	15.2	26.1	17.9	24.0
	>=70	48.7	60.6	53.1	80.6	59.3	59.2	78.3	68.0	78.6	61.9
Vitamin-C	<50	23.9	35.2	27.2	41.9	61.6	31.1	41.3	12.4	15.5	29.1
	50-70	11.1	16.9	8.6	8.1	7.0	9.7	2.2	7.2	4.8	8.6
	>=70	65.0	47.9	64.2	50.0	31.4	59.2	56.5	80.4	79.8	62.3
Total folic acid	<50	5.1	1.4	6.2	1.6	3.5	.0	.0	2.0	3.6	3.3
	50-70	7.7	4.2	10.3	4.8	7.0	1.0	4.3	7.2	7.1	6.8
	>=70	87.2	94.4	83.5	93.5	89.5	99.0	95.7	90.8	89.3	89.8
Free folic acid	<50	56.4	54.9	51.9	37.1	47.7	33.0	32.6	30.1	28.6	42.9
	50-70	21.4	26.8	32.5	40.3	24.4	18.4	30.4	27.5	16.7	26.7
	>=70	22.2	18.3	15.6	22.6	27.9	48.5	37.0	42.5	54.8	30.4

Table 63 FREQUENCY DISTRIBUTION (%) OF ADULT(>18 YEAR) FEMALES ACCORDING TO LEVEL OF RDA - NUTRIENTS

		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=426	n=71	n=258	n=37	n=62	n=111	n=19	n=118	n=60	n=1162
Protein	<50	13.6	.0	4.3	5.4	9.7	5.4	.0	.0	3.3	7.3
	50-70	23.2	11.3	24.0	21.6	12.9	18.9	21.1	12.7	8.3	19.8
	>=70	63.1	88.7	71.7	73.0	77.4	75.7	78.9	87.3	88.3	72.9
Total fiat	<50	9.2	25.4	11.2	45.9	3.2	2.7	42.1	44.1	26.7	15.8
	50-70	7.3	32.4	10.1	35.1	14.5	7.2	15.8	19.5	21.7	12.8
	>=70	83.6	42.3	78.7	18.9	82.3	90.1	42.1	36.4	51.7	71.3
Energy	<50	4.5	.0	.4	2.7	4.8	5.4	.0	.0	3.3	2.8
	50-70	17.6	1.4	8.1	8.1	3.2	13.5	15.8	2.5	3.3	10.8
	>=70	77.9	98.6	91.5	89.2	91.9	81.1	84.2	97.5	93.3	86.5
Calcium	<50	21.8	29.6	25.2	43.2	35.5	37.8	36.8	16.1	38.3	26.5
	50-70	11.0	29.6	16.3	18.9	27.4	20.7	52.6	15.3	10.0	16.4
	>=70	67.1	40.8	58.5	37.8	37.1	41.4	10.5	68.6	51.7	57.1
Old Iron	<50	29.3	4.2	19.0	16.2	22.6	36.0	15.8	5.1	3.3	21.3
	50-70	41.1	46.5	32.2	29.7	22.6	30.6	31.6	6.8	16.7	32.2
	>=70	29.6	49.3	48.8	54.1	54.8	33.3	52.6	88.1	80.0	46.5
New Iron	<50	82.6	93.0	86.0	83.8	71.0	73.0	73.7	66.1	66.7	79.9
	50-70	14.1	4.2	11.2	16.2	11.3	12.6	21.1	21.2	18.3	13.7
	>=70	3.3	2.8	2.7	.0	17.7	14.4	5.3	12.7	15.0	6.5
Vitamin-A	<50	89.9	77.5	75.2	78.4	91.9	91.0	73.7	31.4	51.7	77.5
	50-70	.5	5.6	5.8	5.4	3.2	2.7	5.3	.8	1.7	2.7
	>=70	9.6	16.9	19.0	16.2	4.8	6.3	21.1	67.8	46.7	19.8
Thiamin	<50	11.3	.0	8.9	10.8	4.8	4.5	.0	5.1	6.7	8.0
	50-70	34.5	25.4	37.6	16.2	17.7	8.1	15.8	31.4	18.3	29.2
	>=70	54.2	74.6	53.5	73.0	77.4	87.4	84.2	63.6	75.0	62.8
Riboflavin	<50	32.6	18.3	15.9	27.0	30.6	33.3	15.8	9.3	10.0	24.0
	50-70	38.0	39.4	31.8	37.8	30.6	27.0	42.1	23.7	18.3	32.9
	>=70	29.3	42.3	52.3	35.1	38.7	39.6	42.1	66.9	71.7	43.1
Niacin	<50	11.3	.0	2.7	2.7	6.5	11.7	.0	.0	3.3	6.5
	50-70	24.4	14.1	19.0	16.2	19.4	19.8	10.5	6.8	1.7	18.4
	>=70	64.3	85.9	78.3	81.1	74.2	68.5	89.5	93.2	95.0	75.1
Vitamin-C	<50	25.6	25.4	32.2	40.5	56.5	36.0	42.1	16.1	16.7	29.0
	50-70	7.7	21.1	13.2	16.2	21.0	17.1	10.5	1.7	3.3	10.8
	>=70	66.7	53.5	54.7	43.2	22.6	46.8	47.4	82.2	80.0	60.2
Total folic acid	<50	12.7	.0	9.3	2.7	4.8	.9	.0	2.5	3.3	7.6
	50-70	13.6	1.4	12.8	13.5	8.1	6.3	.0	5.1	3.3	10.1
	>=70	73.7	98.6	77.9	83.8	87.1	92.8	100.0	92.4	93.3	82.4
Free folic acid	<50	77.9	60.6	59.3	73.0	59.7	43.2	47.4	30.5	40.0	61.0
	50-70	15.5	32.4	28.3	24.3	19.4	25.2	31.6	29.7	23.3	22.9
	>=70	6.6	7.0	12.4	2.7	21.0	31.5	21.1	39.8	36.7	16.1

Table **64 FREQUENCY DISTRIBUTION (%) OF ADULT(>18 YEAR) PREGNANT FEMALES ACCORDING** TO LEVEL **OF RDA - NUTRIENTS**

		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=36	n=19	n=13	n=4	n=12	n=6	n=6	n=15	n=18	n=129
Protein	<50	41.7	15.8	15.4	.0	8.3	16.7	33.3	6.7	11.1	209
	50-70	41.7	47.4	69.2	25.0	33.3	33.3	16.7	26.7	11.1	36.4
	>=70	16.7	36.8	15.4	75.0	58.3	50.0	50.0	66.7	77.8	42.6
Total Fat	<50	22.2	26.3	15.4	75.0	8.3	.0	33.3	53.3	33.3	27.1
	50-70	8.3	15.8	7.7	.0	8.3	.0	16.7	13.3	16.7	10.9
	>=70	69.4	57.9	76.9	25.0	83.3	100.0	50.0	33.3	50.0	62.0
Energy	<50	16.7	.0	7.7	.0	8.3	16.7	.0	.0	.0	7.0
	50-70	47.2	31.6	15.4	.0	16.7	50.0	50.0	26.7	16.7	310
	>=70	36.1	68.4	76.9	100.0	75.0	33.3	50.0	73.3	83.3	62.0
Calcium	<50	38.9	26.3	38.5	50.0	41.7	.0	50.0	13.3	22.2	31.0
	50-70	8.3	26.3	30.8	25.0	33.3	33.3	.0	.0	16.7	17.1
	>=70	52.8	47.4	30.8	25.0	25.0	66.7	50.0	86.7	61.1	51.9
Old Iron	<50	36.1	15.8	23.1	.0	8.3	50.0	33.3	.0	11.1	20.9
	50-70	38.9	47.4	46.2	.0	41.7	50.0	.0	20.0	.0	31.0
	>=70	25.0	36.8	30.8	100.0	50.0	.0	66.7	80.0	88.9	48.1
New Iron	<50	86.1	89.5	76.9	75.0	58.3	100.0	83.3	26.7	50.0	71.3
	50-70	13.9	5.3	15.4	25.0	16.7	.0	.0	46.7	33.3	186
	>=70	.0	5.3	7.7	.0	25.0	.0	16.7	26.7	16.7	10,1
Vitamin-A	<50	86.1	84.2	84.6	75.0	91.7	100.0	50.0	26.7	50.0	72.9
	50-70	.0	5.3	.0	.0	.0	.0	.0	.0	.0	.8
	>=70	13.9	10.5	15.4	25.0	8.3	.0	50.0	73.3	50.0	26.4
Thiamin	<50	41.7	10.5	30.8	.0	8.3	16.7	33.3	26.7	16.7	24.8
	50-70	30.6	47.4	30.8	25.0	16.7	.0	16.7	20.0	11.1	25,6
	>=70	27.8	42.1	38.5	75.0	75.0	83.3	50.0	53.3	72.2	49.6
Riboflavin	<50	72.2	47.4	46.2	.0	41.7	33.3	50.0	6.7	11.1	41,9
	50-70	16.7	42.1	38.5	100.0	33.3	50.0	33.3	33.3	38.9	34.1
	>=70	11.1	10.5	15.4	.0	25.0	16.7	16.7	60.0	50.0	24.0
Niacin	<50	33.3	5.3	7.7	.0	16.7	33.3	.0	.0	5.6	14.7
	50-70	41.7	42.1	30.8	.0	16.7	16.7	33.3	26.7	5.6	28.7
	>=70	25.0	52.6	61.5	100.0	66.7	50.0	66.7	73.3	88.9	56.6
Vitamin-C	<50	36.1	26.3	38.5	.0	33.3	33.3	33.3	6.7	22.2	27.9
	50-70	13.9	21.1	15.4	.0	25.0	33.3	.0	.0	11.1	14.0
	>=70	50.0	52.6	46.2	100.0	41.7	33.3	66.7	93.3	66.7	58.1
Total folic acid	<50	16.7	5.3	7.7	.0	8.3	.0	.0	.0	5.6	7.8
	50-70	8.3	.0	30.8	.0	.0	16.7	.0	.0	5.6	7.0
	>=70	75.0	94.7	61.5	100.0	91.7	83.3	100.0	100.0	88.9	85.3
Free folic acid	<50	69.4	78.9	69.2	75.0	41.7	50.0	33.3	13.3	33.3	54.3
	50-70	16.7	21.1	15.4	25.0	41.7	33.3	50.0	20.0	16.7	22.5
	>=70	13.9	.0	15.4	.0	16.7	16.7	16.7	66.7	50.0	23.3

Table 65 FREQUENCY DISTRIBUTION (%) OF ADULT(>18 YEAR) LACTATING FEMALES ACCORDING TO LEVEL OF RDA - NUTRIENTS

		State									Pooled
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	West Bengal	
		n=198	n=101	n=76	n=17	n=108	n=35	n=8	n=58	n=62	n=663
Protien	<50	41.9	14.9	23.7	5.9	16.7	17.1	12.5	20.7	8.1	24.0
	50-70	29.8	45.5	38.2	23.5	23.1	8.6	37.5	29.3	16.1	29.6
	>=70	28.3	39.6	38.2	70.6	60.2	74.3	50.0	50.0	75.8	46.5
Total Fat	<50	19.7	20.8	11.8	5.9	5.6	.0	25.0	44.8	22.6	17.8
	50-70	10.6	40.6	13.2	23.5	11.1	.0	25.0	19.0	19.4	17.0
	>=70	69.7	38.6	75.0	70.6	83.3	100.0	50.0	36.2	58.1	65.2
Energy	<50	14.6	4.0	.0	5.9	6.5	14.3	12.5	3.4	1.6	7.5
	50-70	37.9	20.8	17.1	.0	18.5	8.6	12.5	17.2	6.5	22.2
	>=70	47.5	75.2	82.9	94.1	75.0	77.1	75.0	79.3	91.9	70.3
Calcium	<50	33.3	32.7	30.3	35.3	37.0	22.9	37.5	25.9	40.3	33.0
	50-70	12.6	24.8	21.1	17.6	22.2	31.4	12.5	20.7	6.5	18.3
	>=70	54.0	42.6	48.7	47.1	40.7	45.7	50.0	53.4	53.2	48.7
Old Iron	<50	27.8	7.9	14.5	5.9	17.6	20.0	12.5	6.9	6.5	16.6
	50-70	46.0	39.6	40.8	23.5	17.6	31.4	25.0	22.4	8.1	32.6
	>=70	26.3	52.5	44.7	70.6	64.8	48.6	62.5	70.7	85.5	50.8
New Iron	<50	89.4	88.1	89.5	82.4	54.6	45.7	37.5	60.3	59.7	75.1
	50-70	8.1	10.9	10.5	5.9	17.6	25.7	12.5	15.5	16.1	12.7
	>=70	2.5	1.0	.0	11.8	27.8	28.6	50.0	24.1	24.2	12.2
Vitamin-A	<50	77.8	81.2	80.3	100.0	90.7	88.6	87.5	44.8	67.7	78.1
	50-70	2.0	5.0	2.6	.0	3.7	2.9	.0	1.7	.0	2.6
	>=70	20.2	13.9	17.1	.0	5.6	8.6	12.5	53.4	32.3	19.3
Thiamin	<50	31.3	13.9	25.0	5.9	12.0	5.7	12.5	20.7	6.5	19.3
	50-70	34.3	29.7	34.2	17.6	12.0	2.9	12.5	24.1	17.7	25.2
	>=70	34.3	56.4	40.8	76.5	75.9	91.4	75.0	55.2	75.8	55.5
Riboflavin	<50	62.6	37.6	32.9	5.9	35.2	28.6	37.5	24.1	16.1	39.7
	50-70	29.8	46.5	47.4	52.9	41.7	34.3	12.5	36.2	32.3	37.7
	>=70	7.6	15.8	19.7	41.2	23.1	37.1	50.0	39.7	51.6	22.6
Niacin	<50	28.8	8.9	11.8	5.9	14.8	17.1	.0	6.9	3.2	15.7
	50-70	41.4	46.5	38.2	17.6	21.3	14.3	37.5	27.6	11.3	32.4
	>=70	29.8	44.6	50.0	76.5	63.9	68.6	62.5	65.5	85.5	51.9
Vitamin-C	<50	28.8	34.7	34.2	35.3	63.0	42.9	37.5	15.5	27.4	35.6
	50-70	11.6	14.9	13.2	11.8	13.9	17.1	25.0	.0	8.1	11.8
	>=70	59.6	50.5	52.6	52.9	23.1	40.0	37.5	84.5	64.5	52.6
Total folic acid	<50	7.6	.0	5.3	.0	2.8	.0	.0	8.6	4.8	4.5
	50-70	12.6	5.0	13.2	5.9	7.4	5.7	.0	1.7	14.5	9.2
	>=70	79.8	95.0	81.6	94.1	89.8	94.3	100.0	89.7	80.6	86.3
Free folic acid	[illegible]	75.8	66.3	77.6	29.4	50.0	28.6	50.0	29.3	41.9	59.1
	50-70	17.7	25.7	11.8	52.9	18.5	11.4	12.5	31.0	14.5	19.8
	>=70	6.6	7.9	10.5	17.6	31.5	60.0	37.5	39.7	43.5	21.1

3.4 NUTRITIONAL STATUS

3.4.1. Preschool Children

3.4.1.1 *Effect of Sex*

No sex differences were observed in the distribution of children according to Gomez classification. The prevalence of severe undernutrition was similar both among girls (9.5%) as compared to boys (10.7%). The proportion of normals among the girls was slightly higher (6.7%) as compared to boys in the present study (4.9%) **(Table 66).**

Table 66 DISTRIBUTION (%) OF 1-5 YEARS CHILDREN ACCORDING TO SEX - GOMEZ CLASSIFICATION

State	Sex	n	Nutritional Grades*			
			Normal	Mild	Moderate	Severe
Kerala	Boys	469	5.1	35.2	52.0	7.7
	Girls	399	7.3	42.9	43.6	6.3
	Pooled	868	6.1	38.7	48.2	7.0
Tamilnadu	Boys	715	3.5	33.1	55.1	8.3
	Girls	649	5.2	33.1	54.9	6.8
	Pooled	1364	4.3	33.1	55.0	7.6
Karnataka	Boys	546	5.7	46.9	44.9	2.6
	Girls	513	11.3	45.4	41.1	2.1
	Pooled	1059	8.4	46.2	43.1	2.4
Andhra Pradesh	Boys	675	5.6	36.1	47.1	11.1
	Girls	637	8.0	36.6	46.5	8.9
	Pooled	1312	6.8	36.4	46.8	10.1
Maharashtra	Boys	764	2.6	22.8	60.2	14.4
	Girls	694	3.2	24.2	57.3	15.3
	Pooled	1458	2.9	23.5	58.8	14.8
Gujarat	Boys	728	4.1	30.1	55.5	10.3
	Girls	693	8.8	35.1	46.8	9.4
	Pooled	1421	6.4	32.5	51.2	9.9
Madhya Pradesh	Boys	741	8.4	25.0	45.6	21.1
	Girls	773	7.9	26.6	45.7	19.8
	Pooled	1514	8.1	25.8	45.6	20.4
Orissa	Boys	1006	3.5	33.2	54.0	9.3
	Girls	940	3.6	34.3	55.9	6.3
	Pooled	1946	3.5	33.7	54.9	7.9
West Bengal	Boys	432	7.6	39.4	46.1	6.9
	Girls	456	7.9	37.5	49.3	5.3
	Pooled	888	7.8	38.4	47.7	6.1

NCHS Standards

Sex	n	Nutritiona Grades*			
		Normal	Mild	Moderate	Severe
Boys	6076	4.9	32.7	51.8	10.7
Girls	5754	6.7	34.1	49.7	9.5
Pooled	11830	5.8	33.4	50.8	10.1

*: NCHS Standards

3.4.1.2 *Effect of Age*

The distribution of children by nutritional grades by age is provided in **Tables** 67 - 69. The -prevalence of severe undernutrition tended to decrease with increasing age from 11.1% in 1-3 years to 9% in 3-5 years age group. This was observed in both the sexes.

Table 67 DISTRIBUTION (%) OF 1-5 YEARS CHILDREN ACCORDING TO AGE - GOMEZ CLASSIFICATION

State	Age (Years)	n	Nutritional Grades*			
			Normal	Mild	Moderate	Severe
Kerala	1+	278	5.0	38.5	46.8	9.7
	2+	224	7.1	35.3	50.4	7.1
	3+	221	6.8	39.4	49.3	4.5
	4+	145	5.5	43.4	45.5	5.5
	Pooled	868	6.1	38.7	48.2	7.0
Tamilnadu	1+	362	4.4	26.5	59.9	9.1
	2+	348	4.3	35.6	50.9	9.2
	3+	339	4.1	35.4	54.6	5.9
	4+	315	4.4	35.6	54.3	5.7
	Pooled	1364	4.3	33.1	55.0	7.6
Karnataka	1+	247	9.3	46.6	41.7	2.4
	2+	296	12.2	45.6	40.2	2.0
	3+	273	3.7	47.6	46.2	2.6
	4+	243	8.2	44.9	44.4	2.5
	Pooled	1059	8.4	46.2	43.1	2.4
Andhra Pradesh	1+	330	5.5	29.4	50.6	14.5
	2+	305	4.9	40.3	46.2	8.5
	3+	379	7.1	39.3	46.2	7.4
	4+	298	9.7	36.2	44.0	10.1
	Pooled	1312	6.8	36.4	46.8	10.1
Maharashtra	1+	365	2.2	24.4	55.3	18.1
	2+	344	2.6	24.1	58.4	14.8
	3+	386	3.6	21.5	62.4	12.4
	4+	363	3.0	24.0	59.0	14.0
	Pooled	1458	2.9	23.5	58.8	14.8
Gujarat	1+	393	5.3	27.0	57.5	10.2
	2+	369	7.3	39.6	42.3	10.8
	3+	364	6.3	32.4	52.2	9.1
	4+	295	6.8	31.2	52.9	9.2
	Pooled	1421	6.4	32.5	51.2	9.9
Madhya Pradesh	1+	377	7.4	23.3	4579	23.3
	2+	298	6.0	32.9	41.6	19.5
	3+	435	9.2	24.6	46.7	19.5
	4+	404	9.2	24.3	47.3	19.3
	Pooled	1514	8.1	25.8	45.6	20.4
Orissa	1+	458	1.7	27.5	59.8	10.9
	2+	479	4.4	33.6	53.7	8.4
	3+	529	3.8	33.1	56.1	7.0
	4+	480	4.2	40.4	50.0	5.4
	Pooled	1946	3.5	33.7	54.9	7.9
West Bengal	1+	207	12.1	32.4	51.7	3.9
	2+	223	6.7	35.0	49.3	9.0
	3+	261	7.3	41.0	45.2	6.5
	4+	197	5.1	45.2	45.2	4.6
	Pooled	888	7.8	38.4	47.7	6.1

* NCHS Standards

Age (Years)	n	Nutritional Grades*			
		Normal	Mild	Moderate	Severe
1 +	3017	5.3	29.5	53.0	12.1
2+	2886	6.0	35.6	48.4	10.0
3+	3187	5.7	33.8	51.6	8.9
4+	2740	6.2	34.7	49.9	9.2
Pooled	11830	5.8	33.4	50.8	10.1

: NCHS Standards

Table 68 - DISTRIBUTION (%) OF 1-5 YEARS CHILDREN ACCORDING TO GOMEZ CLASSIFICATION

State	Age (Years)	Sex	n	Nutritional Grades*			
				Normal	Mild	Moderate	Severe
Kerala	1-3	Boys	273	4.8	34.4	52.0	8.8
		Girls	229	7.4	40.2	44.1	8.3
	3-5	Boys	196	5.6	36.2	52.0	6.1
		Girls	170	7.1	46.5	42.9	3.5
	Pooled		868	6.1	38.7	48.2	7.0
Tamilnadu	1-3	Boys	365	4.4	31.0	55.3	9.3
		Girls	345	4.3	31.0	55.7	9.0
	3-5	Boys	350	2.6	35.4	54.9	7.1
		Girls	304	6.3	35.5	53.9	4.3
	Pooled		1364	4.3	33.1	55.0	7.6
Karnataka	1-3	Boys	281	6.4	48.4	43.1	2.1
		Girls	262	15.6	43.5	38.5	2.3
	3-5	Boys	265	4.9	45.3	46.8	3.0
		Girls	251	6.8	47.4	43.8	2.0
	Pooled		1059	8.4	46.2	43.1	2.4
Andhra Pradesh	1-3	Boys	338	3.8	32.2	51.2	12.7
		Girls	297	6.7	37.4	45.5	10.4
	3-5	Boys	337	7.4	40.1	43.0	9.5
		Girls	340	9.1	35.9	47.4	7.6
	Pooled		1312	6.8	36.4	46.8	10.1
Maharashtra	1-3	Boys	380	1.8	23.4	60.0	14.7
		Girls	329	3.0	25.2	53.2	18.5
	3-5	Boys	384	3.4	22.1	60.4	14.1
		Girls	365	3.3	23.3	61.1	12.3
	Pooled		1458	2.9	23.5	58.8	14.8
Gujarat	1-3	Boys	415	4.1	30.8	54.0	11.1
		Girls	347	8.9	35.7	45.5	9.8
	3-5	Boys	313	4.2	29.1	57.5	9.3
		Girls	346	8.7	34.4	48.0	9.0
	Pooled		1421	6.4	32.5	51.2	9.9
Madhya Pradesh	1-3	Boys	328	7.3	28.0	44.8	19.8
		Girls	347	6.3	27.1	43.2	23.3
	3-5	Boys	413	9.2	22.5	46.2	22.0
		Girls	426	9.2	26.3	47.7	16.9
	Pooled		1514	8.1	25.8	45.6	20.4
Orissa	1-3	Boys	497	3.0	29.4	55.3	12.3
		Girls	440	3.2	32.0	58.2	6.6
	3-5	Boys	509	3.9	36.9	52.7	6.5
		Girls	500	4.0	36.2	53.8	6.0
	Pooled		1946	3.5	33.7	54.9	7.9
West Bengal	1-3	Boys	205	7.3	36.6	48.3	7.8
		Girls	225	11.1	31.1	52.4	5.3
	3-5	Boys	227	7.9	41.9	44.1	6.2
		Girls	231	4.8	43.7	46.3	5.2
	Pooled		888	7.8	38.4	47.7	6.1

Age (Years)	Sex	n	Nutritional Grades*			
			Normal	Mild	Moderate	Severe
1-3	Boys	3082	4.5	31.9	52.3	11.4
	Girls	2821	6.9	33.2	49.1	10.8
3-5	Boys	2994	5.3	33.5	51.2	10.0
	Girls	2933	6.5	35.0	50.3	8.2
Pooled		11830	5.8	33.4	50.8	10.1

*: NCHS Standards

Table 69 - DISTRIBUTION (%) OF 1-5 YEARS CHILDREN ACCORDING TO GOMEZ CLASSIFICATION

State	Age (Years)	n	Nutritional Grades*			
			Normal	Mild	Moderate	Severe
Kerala	1-3	502	6.0	37.1	48.4	8.6
	3-5	366	6.3	41.0	47.8	4.9
	Pooled	868	6.1	38.7	48.2	7.0
Tamilnadu	1-3	710	4.4	31.0	55.5	9.2
	3-5	654	4.3	35.5	54.4	5.8
	Pooled	1364	4.3	33.1	55.0	7.6
Karnataka	1-3	543	10.9	46.0	40.9	2.2
	3-5	516	5.8	46.3	45.3	2.5
	Pooled	1059	8.4	46.2	43.1	2.4
Andhra Pradesh	1-3	635	5.2	34.6	48.5	11.7
	3-5	677	8.3	38.0	45.2	8.6
	Pooled	1312	6.8	36.4	46.8	10.1
Maharashtra	1-3	709	2.4	24.3	56.8	16.5
	3-5	749	3.3	22.7	60.7	13.2
	Pooled	1458	2.9	23.5	58.8	14.8
Gujarat	1-3	762	6.3	33.1	50.1	10.5
	3-5	659	6.5	31.9	52.5	9.1
	Pooled	1421	6.4	32.5	51.2	9.9
Madhya Pradesh	1-3	675	6.8	27.6	44.0	21.6
	3-5	839	9.2	24.4	47.0	19.4
	Pooled	1514	8.1	25.8	45.6	20.4
Orissa	1-3	937	3.1	30.6	56.7	9.6
	3-5	1009	4.0	36.6	53.2	6.2
	Pooled	1946	3.5	33.7	54.9	7.9
West Bengal	1-3	430	9.3	33.7	50.5	6.5
	3-5	458	6.3	42.8	45.2	5.7
	Pooled	888	7.8	38.4	47.7	6.1

Age (Years)	n	Nutritional Grades*			
		Normal	Mild	Moderate	Severe
1-3	5903	5.6	32.5	50.8	11.1
3-5	5927	5.9	34.2	50.8	9.1
Pooled	11830	5.8	33.4	50.8	10.1

*: NCHS Standards

3.4.1.3 Under weight, stunting and wasting

The extent of different types of undernutrition viz. stunting (low height for age), wasting (low weight for height) and underweight (low weight for age) were computed by adopting standard deviation (SD) classification using NCHS standards (Tables 70-72). All the children with less than Median-2SD of NCHS standards for the above anthropometric indicators were considered as undernourished. It may be mentioned that the proportion of undernutrition (weight for age) computed by Gomez classification, and by SD classification may be different since the cut-off values used are different.

3.4.1.4. *Underweight*

About 72% of children were underweight. The proportion ranged from 59.9% in Karnataka to 83% in Maharashtra. Nearly a third of the children (32%) were severely undernourished (<Median-3SD), the proportion ranging from about 17% in Karnataka to 43% in Maharashtra. The extent of under-nutrition was similar in boys (73%) and girls (71%) (Table-70).

Table 70 - DISTRIBUTION (%) OF 1-5 YEARS CHILDREN ACCORDING TO WEIGHT FOR AGE - STANDARD DEVIATION (SD) CLASSIFICATION

State	Sex	n	Wt for Age SD Classification (Year)				
			<-3SD	-3SD to -2SD	-2SD to -1SD	-1SDto Median	>= Median
Kerala	Boys	469	26.2	42.9	24.7	4.9	1.3
	Girls	399	23.1	40.1	27.8	7.5	1.5
	Pooled	868	24.8	41.6	26.2	6.1	1.4
Tamilnadu	Boys	715	30.1	43.6	21.7	3.5	1.1
	Girls	648	33.8	41.0	19.8	4.2	1.2
	Pooled	1363	31.8	42.4	20.8	3.8	1.2
Karnataka	Boys	546	17.2	43.4	31.3	7.3	.7
	Girls	513	17.7	41.3	29.4	9.7	1.8
	Pooled	1059	17.5	42.4	30.4	8.5	1.2
Andhra Pradesh	Boys	675	30.1	40.3	22.1	6.4	1.2
	Girls	637	25.6	41.4	23.2	8.3	1.4
	Pooled	1312	27.9	40.9	22.6	7.3	1.3
Maharashtra	Boys	764	42.1	41.6	13.2	3.0	.0
	Girls	694	43.9	38.2	14.0	3.0	.9
	Pooled	1458	43.0	40.0	13.6	3.0	.4
Gujarat	Boys	728	33.7	41.8	19.4	3.7	1.5
	Girls	693	32.6	38.7	18.5	7.9	2.3
	Pooled	1421	33.1	40.3	18.9	5.8	1.9
Madhya Pradesh	Boys	741	42.5	31.6	16.6	7.6	1.8
	Girls	773	41.3	32.9	17.1	6.0	2.8
	Pooled	1514	41.9	32.2	16.8	6.7	2.3
Orissa	Boys	1006	28.2	45.5	22.3	3.9	.1
	Girls	940	31.3	43.4	21.4	3.4	.5
	Pooled	1946	29.7	44.5	21.8	3.6	.3
West Bengal	Boys	432	21.3	44.9	25.0	7.6	1.2
	Girls	456	28.1	38.8	24.3	7.0	1.8
	Pooled	888	24.8	41.8	24.7	7.3	1.5

Sex	n	Wt for Age SD Classification (Year)				
		<-3SD	-3SD to -2SD	-2SD to-1SD	-1SD to Median	>= Median
Boys	6076	31.2	41.6	21.2	5.1	.9
Girls	5753	31.9	39.5	21.0	6.0	1.5
Pooled	11829	31.5	40.6	21.1	5.5	1.2

* : NCHS Standards

3.4.1.5. *Stunting*

The prevalence of stunting was 63.3%, which ranged from 45.3% in Karnataka to 76% in Maharashtra. About 37% of the children (boys: 37.5%; girls: 36.2%) were suffering from severe stunting (<Median-3SD). Their proportion ranged from 20.9% in Karnataka to 53.6% in Madhya Pradesh **(Table-71).**

Table 71 DISTRIBUTION (%) OF 1-5 YEARS CHILDREN ACCORDING HEIGHT FOR AGE - STANDARD DEVIATION (SD) CLASSIFICATION

State	Sex	n	Ht for Age SD Classification (Year)				
			<-3SD	-3SD to -2SD	-2SD to -1SD	-1SD to Median	>= Median
Kerala	Boys	469	36.9	27.3	22.6	8.5	4.7
	Girls	399	33.8	25.6	23.3	12.8	4.5
	Pooled	868	35.5	26.5	22.9	10.5	4.6
Tamilnadu	Boys	715	25.9	30.5	26.6	13.3	3.8
	Girls	649	24.7	32.4	25.1	11.2	6.6
	Pooled	1364	25.3	31.4	25.9	12.3	5.1
Karnataka	Boys	546	22.3	25.6	30.8	15.0	6.2
	Girls	513	19.3	23.0	30.8	19.7	7.2
	Pooled	1059	20.9	24.4	30.8	17.3	6.7
Andhra Pradesh	Boys	675	28.4	27.7	26.4	13.0	4.4
	Girls	637	28.3	29.2	23.1	12.9	6.6
	Pooled	1312	28.4	28.4	24.8	13.0	5.5
Maharashtra	Boys	764	48.2	28.0	14.0	7.5	2.4
	Girls	694	49.6	26.4	14.8	6.9	2.3
	Pooled	1458	48.8	27.2	14.4	7.2	2.3
Gujarat	Boys	728	40.4	25.1	17.4	10.6	6.5
	Girls	693	34.6	26.8	18.0	10.8	9.7
	Pooled	1421	37.6	26.0	17.7	10.7	8.0
Madhya Pradesh	Boys	741	53.0	21.7	12.4	6.5	6.3
	Girls	773	54.1	18.2	13.2	7.4	7.1
	Pooled	1514	53.6	19.9	12.8	6.9	6.7
Onssa	Boys	1006	42.2	29.5	19.0	8.0	1.3
	Girls	940	38.0	30.0	20.9	8.9	2.2
	Pooled	1946	40.2	29.8	19.9	8.4	1.7
westt Bengal	Boys	432	28.7	25.2	21.3	16.7	8.1
	Girls	456	32.7	20.8	23.9	14.7	7.9
	Pooled	888	30.7	23.0	22.6	15.7	8.0

Sex	n	Ht for Age SD Classification (Year)				
		<-3SD	-3SD to -2SD	-2SD to-1SD	-ISD to Median	>= Median
Boys	6076	37.5	26.9	20.6	10.5	4.5
Girls	5754	36.2	26.1	20.8	11.1	5.8
Pooled	11830	36.8	26.5	20.7	10.8	5.1

*:NCHS Standards

3.4.1.6. *Wasting*

About 23% of the children (boys: 23.7% and girls: 22.5%) were suffering from wasting. The prevalence ranged from 16.8% in Kerala to 31.9% in Tamilnadu. About 3% of the children had severe wasting (<Median-3SD) ranging from 1% in West Bengal to 5.9% in Gujarat **(Table-72).**

Table 72 DISTRIBUTION (%) OF 1-5 YEARS CHILDREN ACCORDING WEIGHT FOR HEIGHT- STANDARD DEVIATION (SD) CLASSIFICATION

State	Sex	n	Wt for Ht SD Classification				
			<-3SD	-3SD to -2SD	-2SD to -1SD	-1SD to Median	>= Median
Kerala	Boys	469	2.6	16.4	44.6	288	7.7
	Girls	399	2.0	12.3	46.6	30.3	8.8
	Pooled	868	2.3	14.5	45.5	29.5	8.2
Tamilnadu	Boys	715	3.2	28.0	49.0	16.4	3.5
	Girls	649	2.6	30.2	46.8	16.8	3.5
	Pooled	1364	2.9	29.0	47.9	16.6	3.5
Karnataka	Boys	546	1.8	17.2	49.6	24.9	6.4
	Girls	513	1.4	18.3	48.0	25.0	7.4
	Pooled	1059	1.6	17.8	48.8	24.9	6.9
Andhra Pradesh	Boys	675	5.5	24.4	41.9	22.1	6.1
	Girls	637	3.8	19.6	41.9	29.2	5.5
	Pooled	1312	4.6	22.1	41.9	25.5	5.8
Maharashtra	Boys	764	3.0	21.9	50.5	20.8	3.8
	Girls	694	1.6	22.2	48.3	23.3	4.6
	Pooled	1458	2.3	22.0	49.5	22.0	4.2
Gujarat	Boys	728	6.5	22.5	41.3	20.5	9.2
	Girls	693	5.3	21.1	39.2	24.8	9.5
	Pooled	1421	5.9	21.8	40.3	22.6	9.4
Madhya Pradesh	Boys	741	5.0	19.8	39.0	26.3	9.9
	Girls	773	5.2	17.3	39.5	25.1	12.9
	Pooled	1514	5.1	18.6	39.2	25.7	11.4
Orissa	Boys	1006	1.5	13.7	48.6	29.1	7.1
	Girls	940	1.8	13.9	53.2	25.2	5.9
	Pooled	1946	1.6	13.8	50.8	27.2	6.5
West Bengal	Boys	432	1.4	18.1	53.9	23.6	3.0
	Girls	456	.7	21.7	51.8	20.4	5.5
	Pooled	888	1.0	19.9	52.8	22.0	4.3

Sex	n	Wt for Ht SD Classification				
		<-3SD	-3SD to -2SD	-2SDto-1SD	-1SD to Median	>= Median
Boys	6076	3.5	20.2	46.3	23.6	6.4
Girls	5754	2.9	19.6	46.1	24.4	7.1
Pooled	11830	3.2	19.9	46.2	24.0	6.8

*: NCHS Standards

3.4.1.7. School Age Children and Adolescents

The distribution of children (6-17 years) according to weight for age by using NCHS standards is presented in **Table 73.** The prevalence of moderate to severe undernutrition (<75% Wt for age NCHS standards) was high among the age group of 10-13 year children (79%) as compared to 6-9 year children (60.8%) and 14-17 year children (73.1%).

Table 73 DISTRIBUTION (%) OF SCHOOL AGE CHILDREN AND ADOLESCENTS ACCORDING TO WEIGHT FOR AGE STATUS

AGE GROUP (YEARS)	SEX	n	Nutritional Grades*			
			Normal >=90	Mild 75-90	Moderate 60- 75	Severe <60
6-9	Boys	3718	5.1	32.8	51.8	10.4
	Girls	3892	7.1	33.4	51.3	8.3
	Pooled	7610	6.1	33.1	51.5	9.3
10-13	Boys	2928	3.0	17.4	52.6	27.0
	Girls	3021	3.3	18.3	44.6	33.8
	Pooled	5949	3.1	17.9	48.5	30.5
14-17	Boys	2007	2.0	20.2	49.7	28.2
	Girls	2333	3.0	27.9	55.2	14.0
	Pooled	4340	2.5	24.3	52.6	20.5

* : NCHS Standards (Year wise)

3.4.2. Adults

3.4.2.1. *Body Mass Index (BMI)*

The distribution of adult men and women according to BMI grades is given in **Tables 74-78** and **Fig.3.** At the aggregate level, about 50% of males and 43% of females had normal BMI (18.5-25.0), while 49% of males and 55% of females had chronic energy deficiency (<18.5). About 1% of males and females each were found to be over weight (BMI more than 25). The extent of CED among males ranged from 39.3% in Kerala to 58.2% in Tamil Nadu, while among females, it ranged from 50% in Madhya Pradesh to 62.5% in Andhra Pradesh and 62.3% in Maharashtra.

Table 74 DISTRIBUTION (%) OF ADULT (>= 18 YEARS) MALES ACCORDING TO BMI* CLASSIFICATION

States	N				BMI Grades			
		< 16 CED III	16-17 CED II	17-18.5 CED I	18.5-20 Low Wt. Normal	20-25 Normal	25-30 Obese I	>=30 Obese II
Kerala	2291	4.1	8.3	26.9	32.3	27.4	.9	.1
Tamilnadu	2381	8.8	14.2	35.1	26.0	15.1	.6	.1
Karnataka	2828	7.3	11.4	28.6	24.1	27.2	1.4	.0
Andhra Pradesh	2236	9.9	11.5	30.9	29.2	18.2	.3	.0
Maharashtra	1873	7.9	16.2	33.6	26.4	14.6	1.1	.2
Gujarat	1584	10.4	12.8	30.6	25.5	19.3	1.3	.1
Madhya Pradesh	2788	6.3	10.0	30.9	28.2	23.1	1.4	.1
Orissa	3337	5.3	8.3	30.0	36.0	20.1	.2	.1
West Bengal	2016	7.0	12.2	31.4	29.3	19.4	.6	.0
Pooled	21334	7.2	11.3	30.8	28.9	20.9	.9	.1

*BMI : Body Mass Index

Fig. 3
DISTRIBUTION (%) OF ADULTS BY BMI GRADES (1998-99)

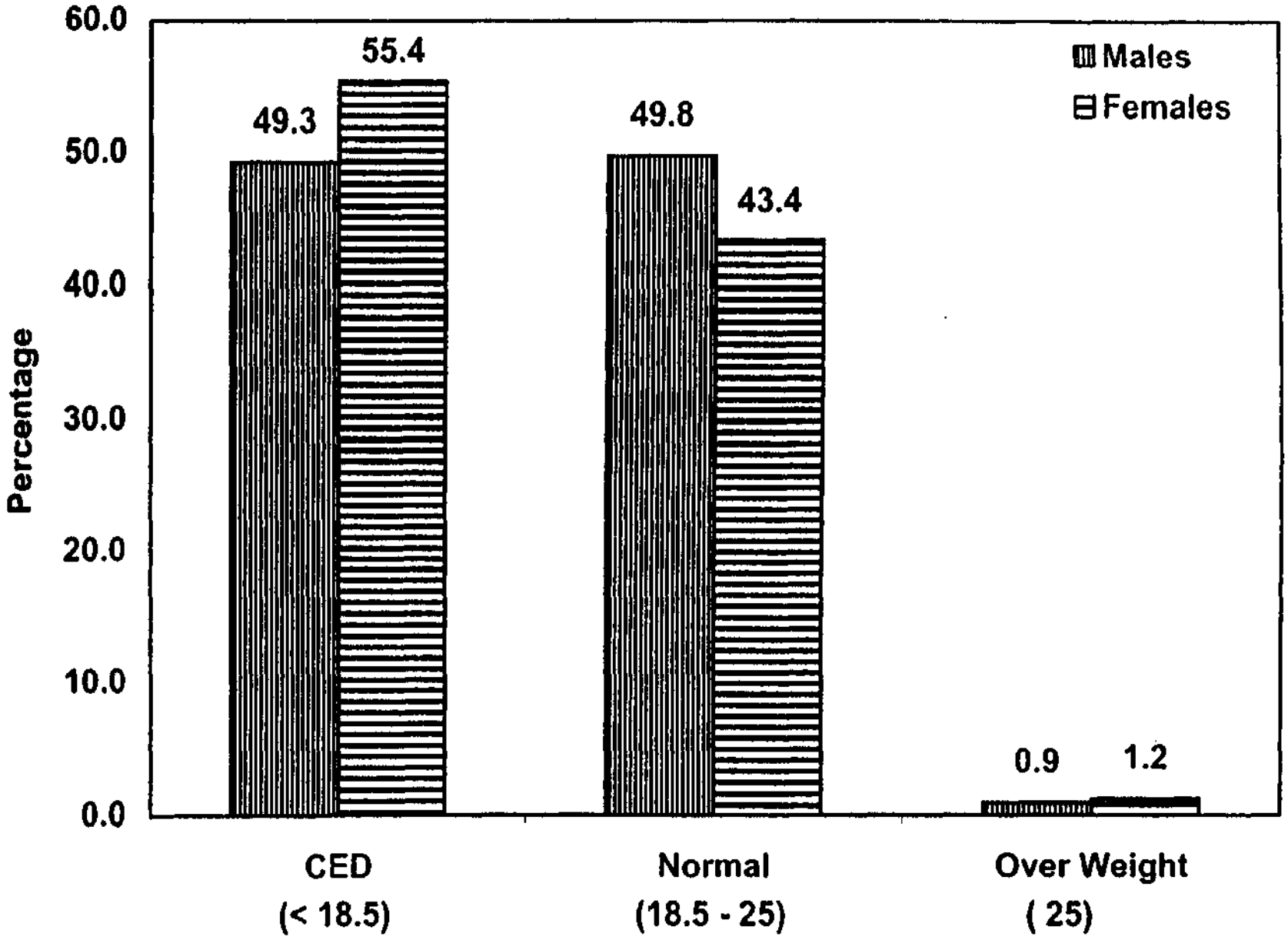


Table 75 DISTRIBUTION (%) OF ADULT (>= 18 YEARS) FEMALES ACCORDING TO BMI* CLASSIFICATION

State	n	BMI Grades						
		< 16 CED III	16-17 CED II	17-18.5 CED I	18.5-20 LowWt. Normal	20-25 Normal	25-30 Obese I	>=30 Obese II
Kerala	3833	10.6	13.3	26.5	22.8	24.7	2.0	.1
Tamilnadu	3709	13.5	15.7	30.1	21.9	17.8	.8	.1
Karnataka	3919	13.1	14.7	25.7	21.1	23.4	2.0	.1
Andhra Pradesh	2979	14.9	17.7	29.9	21.4	15.4	.6	.0
Maharashtra	2647	15.3	17.6	29.4	21.0	15.7	1.0	.0
Gujarat	3108	9.7	12.3	28.5	24.5	23.1	1.4	.5
Madhya Pradesh	3209	9.3	12.4	28.4	24.4	24.2	1.2	.1
Orissa	4132	10.7	13.1	27.8	27.6	20.3	.6	.0
West Bengal	2224	16.4	17.2	31.0	20.5	14.5	.4	.0
Pooled	29760	12.3	14.7	28.4	23.0	20.3	1.1	.1

*BMI: Body Mass Index

Table 76 DISTRIBUTION (%) OF ADULTS(>=18 YEARS) BY SEX ACCORDING TO BMI* CLASSIFICATION

Sex	n	BMI Grades*						
		< 16 CED III	16-17 CED II	17-18.5 CED I	18.5-20 Low Wt. Normal	20-25 Normal	25-30 Obese I	>= 30 Obese II
Male	21334	7.2	11.3	30.8	28.9	20.9	.9	.1
Female	29760	12.3	14.7	28.4	23.0	20.3	1.1	.1
Pooled	51094	10.2	13.3	29.4	25.5	20.6	1.0	.1

*BMI: Body Mass Index

Table 77 DISTRIBUTION (%) OF ADULT (>= 18 YEARS) MALES ACCORDING TO BMI* CLASSIFICATION

State	n	BMI Grades		
		Chronic energy Deficient (< 18.5)	Normal (18.5-25)	Over Weight (>= 25)
Kerala	2291	39.3	59.7	1.0
Tamilnadu	2381	58.2	41.1	.7
Karnataka	2828	47.2	51.3	1.5
Andhra Pradesh	2236	52.4	47.4	.3
Maharashtra	1873	57.7	41.0	1.3
Gujarat	1584	53.9	44.8	1.4
Madhya Pradesh	2788	47.2	51.3	1.5
Orissa	3337	43.7	56.1	.3
West Bengal	2016	50.6	48.7	.7
Pooled	21334	49.3	49.8	.9

*BMI: Body Mass Index

Table 78 DISTRIBUTION (%) OF ADULT (>= 18 YEARS) FEMALES ACCORDING TO BMI* CLASSIFICATION

State	n	BMI Grades		
		Chronic energy Deficient (< 18.5)	Normal (18.5-25)	Over Weight (>= 25)
Kerala	3833	50.4	47.5	2.0
Tamilnadu	3709	59.3	39.7	.9
Karnataka	3919	53.4	44.5	2.1
Andhra Pradesh	2979	62.5	36.9	.6
Maharashtra	2647	62.3	36.7	1.0
Gujarat	3108	50.5	47.6"	1.9
Madhya Pradesh	3209	50.0	48.7	1.3
Orissa	4132	51.6	47.8	.6
West Benqal	2224	646	34.9	.5
Pooled	29760	55.4	43.4	1.3

*BMI : Body Mass Index

NUTRITIONAL STATUS

- **Severe undernutrition decreased with increasing age in pre-school children**
- **About three fourths of pre-school children were underweight, while 63% had stunting. A quarter of them had wasting.**
- **About 50 % of adults had CED**

3.5 TIME TRENDS

To assess the time trends, data from Madhya Pradesh was not included, since no survey was done in 1985-87.

3.5.1 Food and Nutrient Intake

At the outset, it may be mentioned that the comparisons between two periods was made using mean intakes of foods and nutrients, since the information on median intakes could not be calculated.

3.5.1.1. *Foods*

3.5.1.1.1 *1-3 years children*

The mean intakes decreased in all the States, except for a marginal increase in cereal intake in Andhra pradesh (42g), West Bengal (32g), Karnataka and Tamil Nadu (+29 g each), between 1985-87 and 1998-99. There was no significant change in the intake of various other foods, over the period of time. These were far below the recommended levels in all the States. **(Table-79** & **Fig.4).**

Fig. 4
FOOD INTAKE AMONG 1-3 YEARS CHILDREN

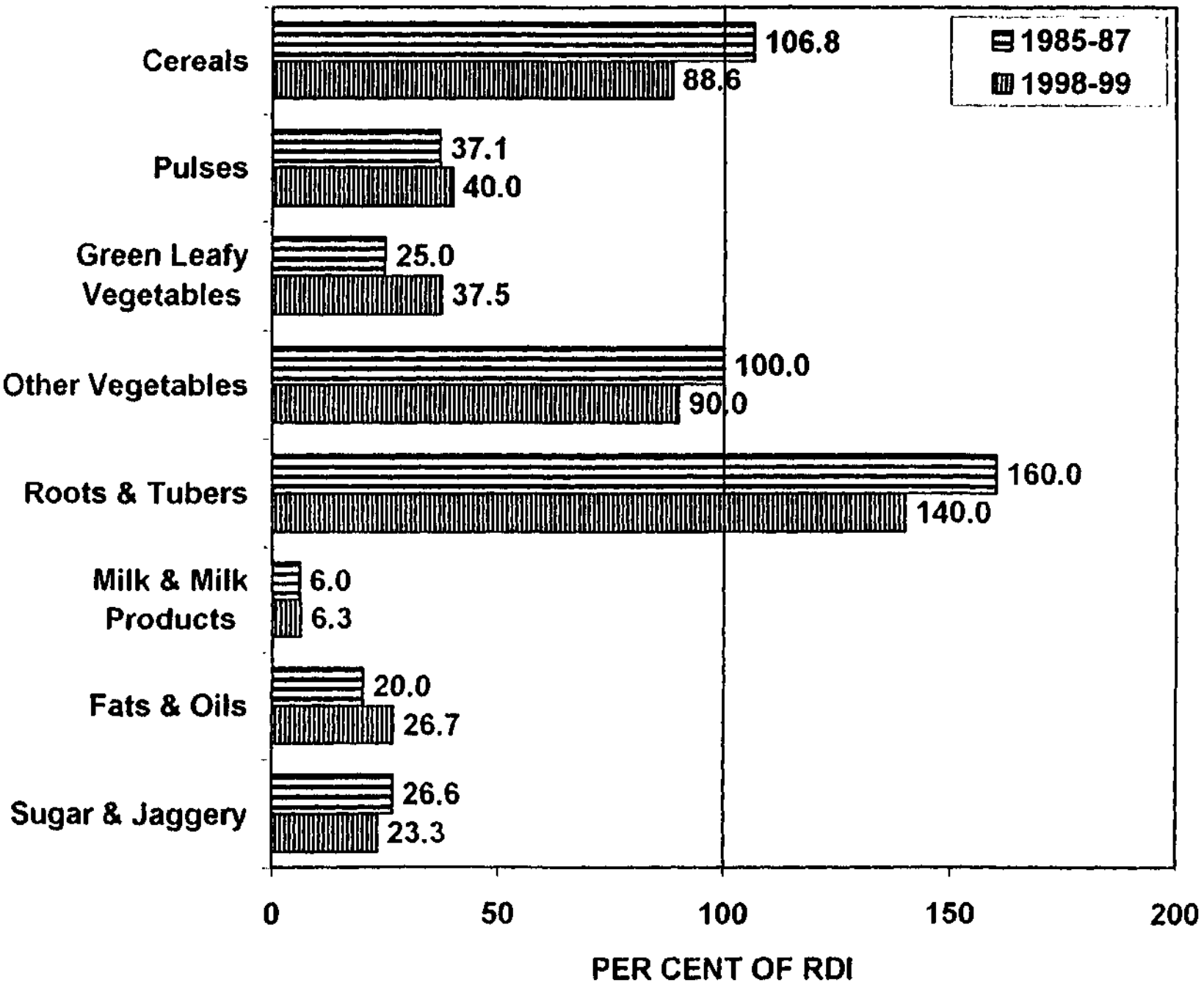


Table 79 Average intake of Foodstuffs (g/day) among 1-3 years children

Food-stuffs	Year	Kerala	Tamil Nadu	Kam-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled	RDA 1981
Number of Individuals	1985-87	101	64	116	354	139	260	155	130	1319	
	1998-99	352	329	247	223	440	383	360	184	2518	
Cereals & Millets	1985-87	111	219	150	208	199	223	171	212	187	175
	1998-99	82	143	143	250	151	122	178	249	155	
Pulses	1985-87	5	20	8	12	17	31	7	5	13	35
	1998-99	6	17	5	15	25	14	13	5	14	
Green leafy vegetables	1985-87	1	3	4	5	3	3	19	42	10	40
	1998-99	5	3	7	2	3	2	48	70	15	
Other Vegetables	1985-87	14	28	10	20	9	19	34	30	20	20
	1998-99	18	20	15	19	12	17	26	23	18	
Roots & Tubers	1985-87	29	4	10	13	12	14	8	40	16	10
	1998-99	19	8	15	5	6	12	16	54	14	
Nuts & Oil Seeds	1985-87	10	*	3	*	*	-	*	-	2	-
	1998-99	10	-	12	-	1	-	-	-	3	
Condiments & Spices	1985-87	6	9	5	8	8	4	3	2	6	-
	1998-99	5	7	6	9	4	5	3	3	5	
Fruits	1985-87	6	12	3	23	14	3	17	3	10	-
	1998-99	10	7	7	12	9	6	22	2	10	
Flesh Foods	1985-87	7	*	2	3	2	3	2	6	3	-
	1998-99	12	-	11	4	1	1	3	10	5	
Milk &M-Products	1985-87	23	12	11	12	26	44	*	15	18	300
	1998-99	16	41	40	11	14	24	-	1	19	
Fats & Oils	1985-87	3	4	*	4	4	3	3	4	3	15
	1998-99	2	4	1	6	5	4	5	6	4	
Sugar & Jaggery	1985-87	5	14	15	6	13	12	*	2	8	30
	1998-99	11	7	16	7	17	12	3	-	10	

*: Less than 1g

3.5.1.1.2. *4-6 years children*

The average intakes of cereals, in all the States, were below the recommended levels, except in Andhra Pradesh and West Bengal. However, an increase of 71 g in cereal intake was observed in West bengal, while it was decreased by about 32g in Andhra Pradesh as compared to 1985-87. Similar trend was observed with regard to the other foods **(Table-80 & Fig.5).**

Fig. 5
FOOD INTAKE AMONG 4-6 YEARS CHILDREN

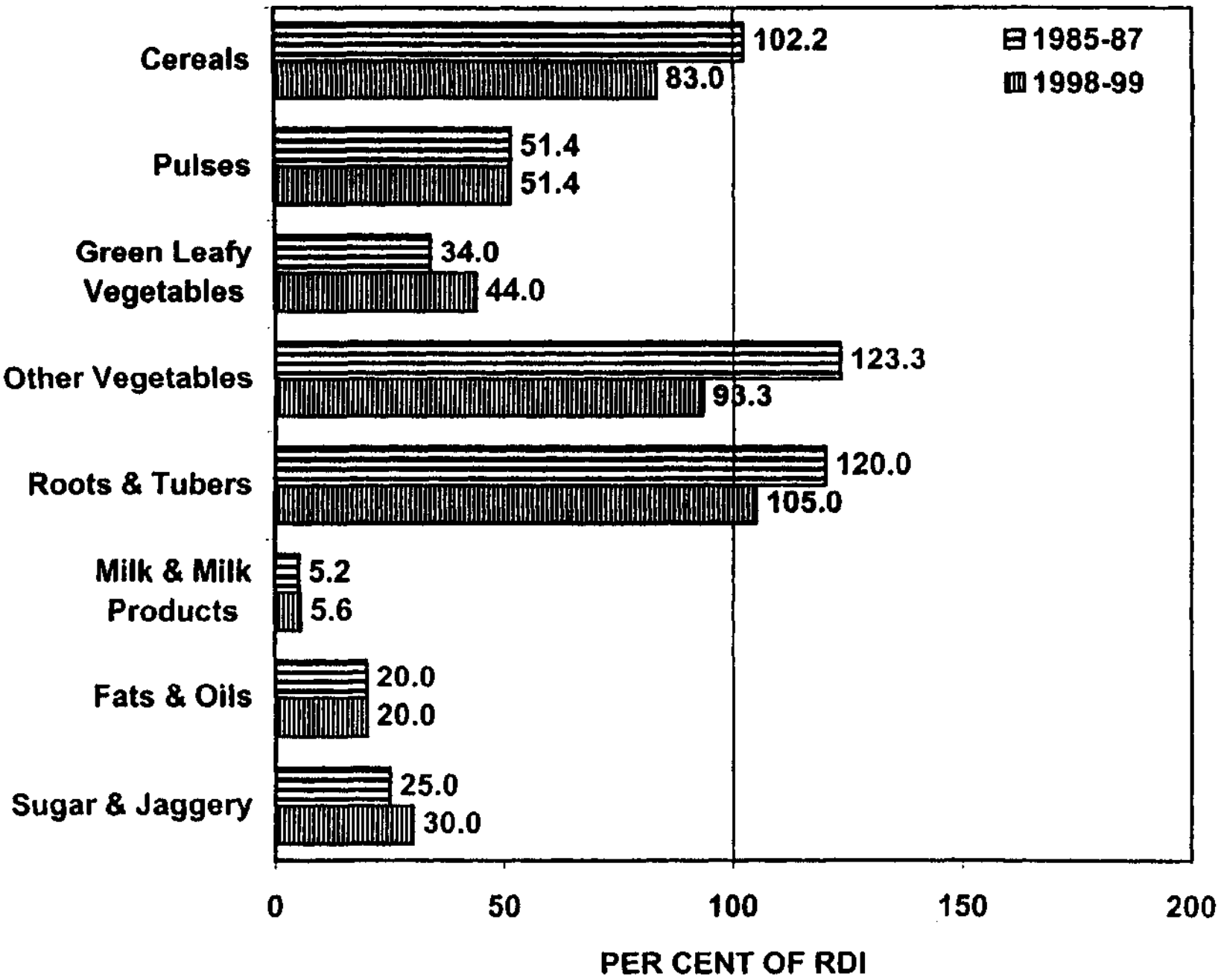


Table 80 Average intake of Foodstuffs (g/day) among 4-6 year children

Food-stuffs	Year	Kerala	Tamil Nadu	Karn-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled	RDA 1981
Number of Individuals	1985-87	93	65	132	360	99	308	142	120	1319	
	1998-99	259	245	219	133	412	345	312	163	2088	
Cereals & Millets	1985-87	185	323	232	324	282	283	263	317	276	270
	1998-99	139	215	198	292	241	173	238	388	224	
Pulses	1985-87	8	27	11	17	24	39	10	7	18	35
	1998-99	14	26	6	14	31	20	13	7	18	
Green leafy vegetables	1985-87	2	2	7	7	8	4	42	62	17	50
	1998-99	5	6	7	4	3	2	69	103	22	
Other Vegetables	1985-87	26	60	16	59	17	37	38	41	37	
	1998-99	29	28	25	25	19	28	40	26	28	
Roots & Tubers	1985-87	67	7	19	21	18	15	7	38	24	30
	1998-99	31	12	21	6	11	20	19	68	21	
Nuts & Oil Seeds	1985-87	13	*	3	*	1	-	*	-	2	20
	1998-99	16	1	19	-	-	-	1	-	4	
Condiments & Spices	1985-87	10	11	7	13	9	5	8	2	8	-
	1998-99	9	9	10	12	5	7	4	5	7	
Fruits	1985-87	8	16	7	29	33	3	45	5	18	-
	1998-99	18	11	12	9	12	7	17	4	11	
Flesh Foods	1985-87	10	*	4	4	7	2	2	12	5	
	1998-99	20	-	15	5	1	1	3	13	6	
Milk & M-Products	1985-87	4	5	3	14	28	38	-	10	13	250
	1998-99	12	11	28	13	12	27	1	3	14	
Fats & Oils	1985-87	6	7	2	7	6	5	3	3	5	25
	1998-99	3	5	1	5	8	7	5	9	5	
Sugar & Jaggery	1985-87	5	20	16	6	21	12	*	2	10	
	1998-99	16	9	17	6	21	16	2	1	12	40

*: *Less than 1g*

3.5.1.1.3. *7-9 years children*

A decreasing trend in the mean intakes of all foods from the previous survey (1985-87) was seen in all the States, except for green leafy vegetables in Orissa. In Kerala there was a slight increase in the intakes of pulses, fruits, milk and milk products and sugar and jaggery. There was an overall decrease of about 52 g in the intake of cereals and millets when compared to intakes during 1985-87. The decrease was minimum (25 g) in Orissa and maximum (110 g) in Gujarat **(Table-81).**

Table 81 Average intake of Foodstuffs (g/day) among 7-9 years children

Food-stuffs	Year	Kerala	Tamil Nadu	Kam-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled
Number of Individuals	1985-87	69	48	115	278	103	248	154	94	1109
	1998-99	224	217	244	154	351	287	371	170	2018
Cereals & Millets	1985-87	182	359	330	388	313	349	350	403	334
	1998-99	169	259	251	360	293	226	300	466	282
Pulses	1985-87	8	30	13	22	28	46	8	10	21
	1998-99	15	28	6	13	30	23	12	6	18
Green leafy vegetables	1985-87	*	3	11	13	9	3	40	69	19
	1998-99	8	4	9	7	4	3	77	101	27
Other Vegetables	1985-87	49	48	19	48	19	47	41	42	39
	1998-99	30	34	35	29	20	37	40	43	33
Roots & Tubers	1985-87	109	8	18	44	25	17	10	48	35
	1998-99	37	12	22	7	11	20	21	79	24
Nuts & Oil Seeds	1985-87	23	*	3	1	*	-	*	-	3
	1998-99	17	1	21	-	1		1	-	5
Condiments & Spices	1985-87	11	11	11	16	11	6	5	3	9
	1998-99	9	10	11	13	7	8	5	5	8
Fruits	1985-87	4	16	12	32	12	5	17	3	13
	1998-99	18	11	18	14	12	5	25	4	14
Flesh Foods	1985-87	9	2	4	7	9	2	5	12	6
	1998-99	20	-	15	4	3	1	4	17	7
Milk &M-Products	1985-87	7	5	5	10	17	39	1	9	12
	1998-99	11	12	27	9	9	31	1	5	12
Fats & Oils	1985-87	2	6	*	7	9	4	2	4	4
	1998-99	3	5	2	4	16	9	4	10	7
Sugar & Jaggery	1985-87	3	20	13	6	16	14	-	3	9
	1998-99	15	9	18	8	22	17	2	1	12

*: *Less than 1g*

3.5.1.1.4. *10-12 years boys*

The mean daily intake of various foods was less than the recommended levels in all the States. The average intake of cereals and millets declined by 73 g during repeat survey (1998-99). The decrease ranged from 41 g in Andhra Pradesh to 123 g in Orissa. The intake of green leafy vegetables increased in Orissa by 51 g, while in other States there was not much of a change (Table-82).

Table 82 Average intake of Foodstuffs (g/day) among 10-12 Year Boys

Food-stuffs	Year	Kerala	Tamil Nadu	Karn-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled	RDA 1981
Number of Individuals	1985-87	26	32	46	124	72	177	84	63	624	
	1998-99	117	89	133	51	164	104	175	66	899	
Cereals & Millets	1985-87	246	428	384	454	360	405	460	514	408	420
	1998-99	195	334	308	413	369	300	337	551	335	
Pulses	1985-87	6	25	17	21	31	58	9	10	23	45
	1998-99	14	32	7	14	36	25	13	7	19	
Green leafy vegetables	1985-87	1	2	13	12	2	2	36	54	15	50
	1998-99	11	10	11	11	4	2	87	89	29	
Other Vegetables	1985-87	34	55	16	65	19	43	52	61	43	50
	1998-99	31	29	41	35	22	49	31	44	34	
Roots & Tubers	1985-87	117	8	18	32	28	18	18	59	36	30
	1998-99	52	12	19	8	16	29	17	84	27	
Nuts & Oil Seeds	1985-87	21	*	3	3	*	*	*	0	3	-
	1998-99	22	-	28	1	1	-	-	-	7	
Condiments & Spices	1985-87	15	13	7	18	14	6	5	3	10	-
	1998-99	9	13	13	20	8	9	6	5	9	
Fruits	1985-87	2	19	12	57	19	4	36	7	20	-
	1998-99	22	13	17	14	9	3	46	3	19	
Flesh Foods	1985-87	13	4	3	7	8	4	4	6	6	-
	1998-99	22	-	24	11	2	2	6	16	10	
Milk & M-Products	1985-87	4	3	9	11	13	39	-	6	11	250
	1998-99	11	8	30	6	12	38	-	8	14	
Fats & Oils	1985-87	1	8	*	9	13	6	2	4	6	40
	1998-99	3	6	2	4	9	11	4	9	6	
Sugar & Jaggery	1985-87	4	25	13	7	17	14	*	2	10	45
	1998-99	16	11	19	9	22	19	1	1	13	

*: *Less than 1g*

3.5.1.1.5. *10-12 years girls*

The mean intake of cereals decreased by 40 g from that observed in the previous survey (1985-87). The intake of green leafy vegetables, however, increased considerably in Orissa and West Bengal **(Table-83).**

Table 83 Average intake of Foodstuffs (g/day) among 10-12 Year Girls

Foodstuffs	Year	Kerala	Tamil Nadu	Kam-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled	RDA 1981
Number of Individuals	1985-87	41	28	40	105	23	102	72	37	448	
	1998-99	110	94	137	56	167	121	167	66	918	
Cereals & Millets	1985-87	224	363	331	419	319	401	414	499	373	380
	1998-99	206	331	307	413	349	295	349	526	333	
Pulses	1985-87	7	22	16	31	28	57	6	7	22	45
	1998-99	17	33	7	13	33	27	13	11	20	
Green leafy vegetables	1985-87	1	2	9	22	7	2	31	53	16	50
	1998-99	6	11	16	13	3	2	85	105	29	
Other Vegetables	1985-87	31	22	25	55	11	43	68	52	39	50
	1998-99	31	30	37	29	22	45	39	64	36	
Roots & Tubers	1985-87	128	6	21	52	15	15	9	56	37	30
	1998-99	43	13	30	5	24	24	28	70	29	
Nuts & Oil Seeds	1985-87	19	0	1	*	*	-	*	-	3	-
	1998-99	20	-	31	-	1	-	-	-	7	
Condiments & Spices	1985-87	14	13	7	17	9	7	4	3	9	-
	1998-99	11	11	14	24	6	9	6	6	10	
Fruits	1985-87	6	7	14	37	21	7	12	4	14	-
	1998-99	21	17	19	18	8	9	23	3	15	
Flesh Foods	1985-87	17	-	3	4	4	6	3	21	7	-
	1998-99	22	1	27	15	4	1	5	17	11	
Milk & M-Products	1985-87	5	2	9	9	13	30	*	13	10	250
	1998-99	13	15	34	10	10	38	-	4	16	
Fats & Oils	1985-87	2	3	*	12	3	6	2	4	4	35
	1998-99	4	10	4	4	9	8	5	10	7	
Sugar & Jaggery	1985-87	4	15	14	6	22	14	0	2	10	45
	1998-99	18	13	25	5	26	19	2	1	15	

*: *Less than 1g*

3.5.1.1.6. 13-15 year boys

In all the States, except in Kerala, Maharashtra and West Bengal, the food consumption was less than that reported in the earlier survey (1985-87). The consumption of green leafy vegetables increased remarkably in Orissa and West Bengal, while it decreased in Karnataka, Andhra Pradesh and Gujarat in present survey (1998-99). The average intake of pulses was only 21 g with the lowest of 6 g in Karnataka and the highest of 40 g in Gujarat. The intake of milk & milk products, fats & oils and flesh foods was very low **(Table-84).**

Table 84 Average intake of Foodstuffs (g/day) among 13-15 year Boys

Food-stuffs	Year	Kerala	Tamil Nadu	Karn-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled
Number of Individuals	1985-87	26	18	30	96	48	107	68	24	417
	1998-99	97	91	114	42	88	77	123	50	682
Cereals & Millets	1985-87	216	513	418	539	414	526	556	540	465
	1998-99	231	408	362	488	422	398	433	681	405
Pulses	1985-87	9	52	13	21	33	49	7	9	24
	1998-99	13	39	6	15	39	40	12	9	21
Green leafy vegetables	1985-87	*	-	26	12	1	9	30	54	16
	1998-99	8	8	8	3	3	3	106	158	35
Other Vegetables	1985-87	60	40	47	94	24	61	82	57	59
	1998-99	55	32	54	42	18	40	41	61	42
Roots & Tubers	1985-87	257	12	24	32	25	16	9	20	48
	1998-99	56	15	24	11	15	45	26	77	32
Nuts & Oil Seeds	1985-87	19	-	3	1	*	1	*	-	3
	1998-99	30	1	27	-	1	-	-	-	9
Condiments & Spices	1985-87	12	16	9	19	11	8	5	2	10
	1998-99	12	15	13	17	9	15	5	7	11
Fruits	1985-87	1	16	10	50	15	13	8	1	15
	1998-99	25	20	19	20	5	16	40	1	20
Flesh Foods	1985-87	9	3	2	5	8	6	7	24	8
	1998-99	34	-	20	16	5	1	11	14	13
Milk &M-Products	1985-87	9	3	7	4	11	36	*	15	11
	1998-99	17	21	42	12	13	31	-	-	18
Fats & Oils	1985-87	2	7	*	8	10	9	2	3	5
	1998-99	5	7	2	6	10	11	5	10	6
Sugar & Jaggery	1985-87	3	21	25	6	17	17	*	*	11
	1998-99	17	11	20	15	23	22	2	1	14

*: *Less than 1g*

3.5.1.1.7. *13-15 year girls*

There was a decline in the intake of cereals (-71 g) and roots & tubers (-26 g) during 1998-99 as compared to 1985-87. The intake of green leafy vegetables increased considerably in Orissa and West Bengal, and a marginal increase was noticed with regard to other vegetables in all the States except Orissa and Andhra Pradesh. A maximum decline of 166 g during 1998-99 in the Intake of roots and tubers was observed in Kerala **(Table-85).**

Table 85 Average intake of Foodstuffs (g/day) among 13-15 year Girls

Food-stuffs	Year	Kerala	Tamil Nadu	Karn-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled
Number of Individuals	1985-87	35	28	27	94	39	115	52	37	427
	1998-99	103	68	128	55	111	88	130	48	731
Cereals & Millets	1985-87	257	489	381	545	405	482	534	613	463
	1998-99	245	404	353	483	423	349	421	617	392
Pulses	1985-87	6	33	22	23	22	61	8	14	24
	1998-99	12	35	10	12	41	33	13	8	21
Green leafy vegetables	1985-87	1	-	*	39	2	2	32	61	17
	1998-99	12	11	14	16	4	5	71	142	29
Other Vegetables	1985-87	53	27	28	62	16	54	70	51	46
	1998-99	60	35	41	28	20	57	44	66	43
Roots & Tubers	1985-87	223	10	74	36	37	13	17	78	59
	1998-99	57	16	21	11	21	36	33	81	33
Nuts & Oil Seeds	1985-87	20	*	8	2	*	-	*	*	4
	1998-99	27	4	26	1	-	-	-	-	9
Condiments & Spices	1985-87	13	16	8	25	17	7	5	3	12
	1998-99	15	16	12	27	8	11	6	6	12
Fruits	1985-87	2	22	20	58	-	7	6	9	16
	1998-99	20	20	19	16	6	6	13	3	13
Flesh Foods	1985-87	14	*	1	1	1	2	5	17	5
	1998-99	34	4	24	13	4	2	5	11	13
Milk & M-Products	1985-87	11	-	*	14	10	32	*	8	10
	1998-99	17	7	31	15	14	30	1	1	16
Fats & Oils	1985-87	2	3	*	11	6	7	2	5	5
	1998-99	4	6	2	5	11	11	5	9	6
Sugar & Jaggery	1985-87	4	23	21	13	15	14	*	3	12
	1998-99	16	9	18	7	22	19	3	2	13

*; *Less than 1g*

3.5.1.1.8. *16 years and above males (sedentary)*

The average intake of all the foods except cereals and millets in Andhra Pradesh, Maharashtra, Orissa and West Bengal and green leafy vegetables in Orissa and West Bengal, declined between 1985-87 and 1998-99. The decline was 6 g in pulses, 28 g in roots and tubers and 5-10 g in other foods.

The decline was more in case of roots and tubers in Kerala (-219 g), Andhra Pradesh (-60 g) and Maharashtra (-56 g). The intakes of cereals and millets decreased considerably in Tamil Nadu (-121 g), Kamataka *(-77* g). On the other hand it increased in West Bengal and Andhra Pradesh by more than 100 g. The intake of pulses increased in Kerala, Tamil Nadu and Orissa. The intake of green leafy vegetables increased considerably in Orissa (32 g to 86 g) and West Bengal (70 to 120 g). The intake of roots and tubers showed a decline in Kerala and increase in West Bengal, Gujarat and Tamil Nadu **(Table-86** & **Fig.6).**

Fig. 6
FOOD INTAKE AMONG SEDENTARY MALES
(> 16 YEARS)

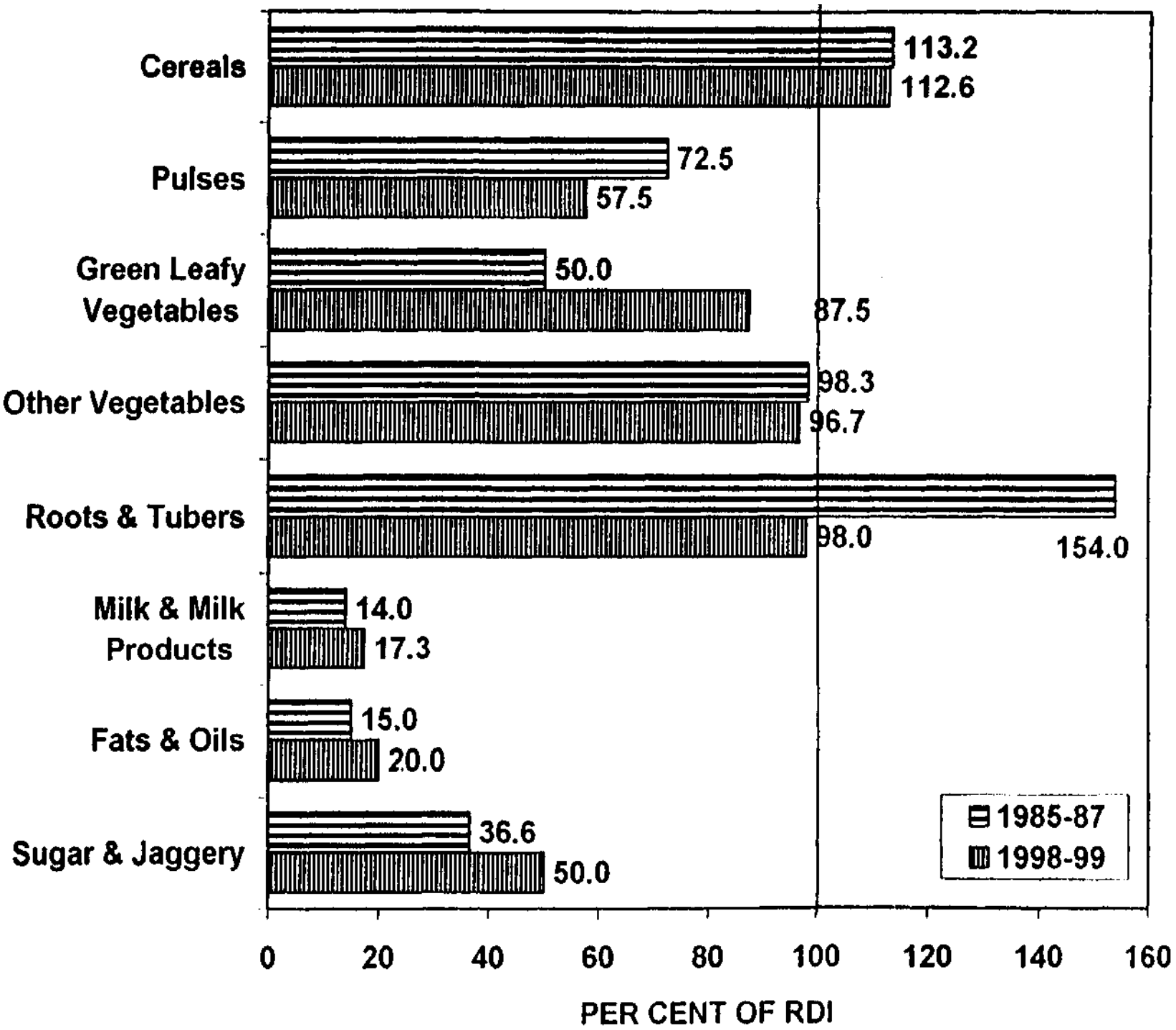


Table 86 Average intake of Foodstuffs (g/day) among 16 years and above Males (Sedentary)

Food-stuffs	Year	Kerala	Tamil Nadu	Karn-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled	RDA 1981
Number of Individuals	1985-87	80	16	32	154	85	163	68	59	657	
	1998-99	179	111	323	80	133	132	237	130	1325	
Cereals & Millets	1985-87	359	640	544	507	438	541	556	585	521	460
	1998-99	341	519	467	611	496	481	593	755	518	
Pulses	1985-87	8	35	19	34	45	69	8	13	29	40
	1998-99	19	48	9	26	42	40	19	11	23	
Green leafy vegetables	1985-87	0	0	28	10	7	11	32	70	20	40
	1998-99	8	14	18	6	3	7	86	120	35	
Other Vegetables	1985-87	57	37	46	109	19	68	74	59	59	60
	1998-99	73	38	60	67	37	82	54	55	58	
Roots & Tubers	1985-87	314	10	39	72	76	29	18	61	77	50
	1998-99	95	26	33	12	20	36	64	85	49	
Nuts & Oil Seeds	1985-87	34	-	10	2	*	-	*	*	6	
	1998-99	46	1	37	1	1	-	2	-	16	
Condiments & Spices	1985-87	20	10	12	19	15	9	4	4	12	-
	1998-99	18	20	16	17	9	16	6	6	13	
Fruits	1985-87	12	29	16	31	27	8	28	7	20	-
	1998-99	28	25	24	24	11	14	31	3	21	
Flesh Foods	1985-87	29	-	3	10	16	5	8	11	10	-
	1998-99	48	3	26	10	7	4	10	23	19	
Milk&M-Products	1985-87	17	-	46	16	18	56	*	16	21	150
	1998-99	23	27	51	20	15	47	2	5	26	
Fats & Oils	1985-87	3	6	4	10	7	11	3	5	6	40
	1998-99	6	9	3	6	13	19	8	10	8	
Sugar & Jaggery	1985-87	6	19	15	9	24	16	*	3	11	30
	1998-99	19	15	22	10	30	21	3	1	15	

*: *Less than 1g*

3.5.1.1.9.*16 years and above females (sedentary-NPNL)*

The average intake of cereals increased in West Bengal, Maharashtra and Karnataka and decreased in Kerala, Tamil Nadu and Gujarat. The intake of-pulses increased considerably in Tamil Nadu and decreased in Andhra Pradesh and Gujarat. The consumption of green leafy vegetables increased substantially in Orissa from 37 g to 92 g and in West Bengal from 50 to 84 g. There was a drastic decrease in the intake of roots and tubers in Kerala from 205 g to 86 g and a considerable increase in West Bengal from 61 g to 90 g. (Table-87 & Fig.7).

Fig. 7
FOOD INTAKE AMONG SEDENTARY FEMALES - NPNL
(> 16 YEARS)

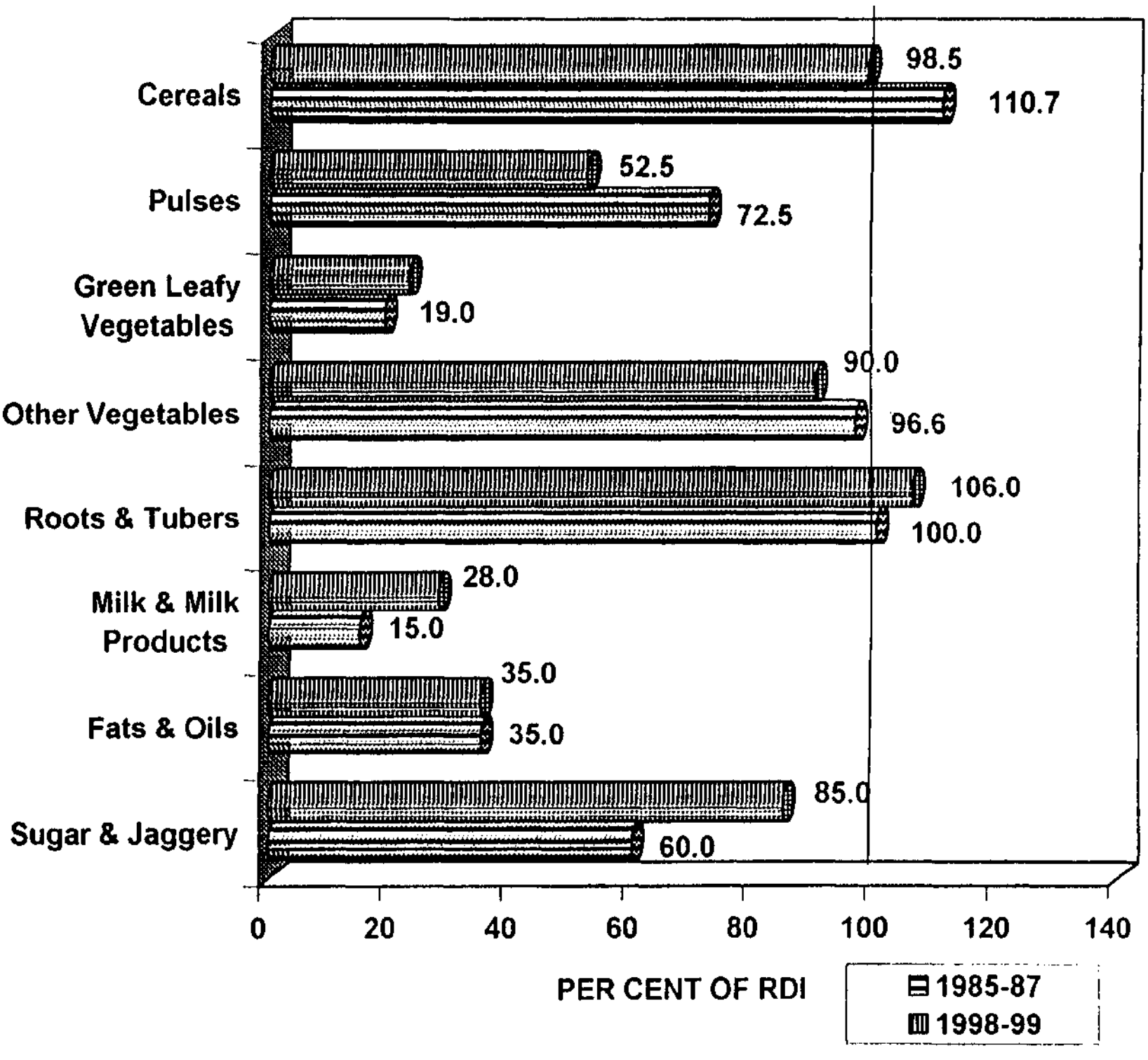


Table 87 Average intake of Foodstuffs (g/day) among 16 years and above Females (Sedentary- NPNL)

Food-stuffs	Year	Kerala	Tamil Nadu	Kam-ataka	Andhra Pradesh	Maha-rashtra	Guj-arat	Orissa	West Bengal	Pooled	RDA 1981
Number of Individuals	1985-87	164	48	56	184	148	237	206	115	1158	
	1998-99	474	113	277	40	91	120	137	72	1324	
Cereals & Millets	1985-87	305	466	430	473	387	505	544	526	454	410
	1998-99	296	441	441	471	433	401	536	599	404	
Pulses	1985-87	10	24	19	29	56	70	8	14	29	40
	1998-99	15	43	12	17	48	32	18	12	21	
Green leafy vegetables	1985-87	2	2	23	26	6	6	37	50	19	100
	1998-99	9	15	18	11	2	6	92	84	23	
Other Vegetables	1985-87	66	54	35	92	20	75	67	57	58	60
	1998-99	57	47	57	38	44	57	46	62	54	
Roots & Tubers	1985-87	205	8	31	31	19	28	21	61	50	50
	1998-99	86	24	29	12	20	31	42	90	53	
Nuts & Oil Seeds	1985-87	31	-	9	1	*	*	*	-	5	
	1998-99	39	1	38	-	2	-	3	-	22	
Condiments & Spices	1985-87	19	15	11	17	12	8	4	3		
	1998-99	16	18	16	17	10	13	6	6	14	
Fruits Flesh Foods	1985-87	8	13	11	25	25	7	22	2	14	-
	1998-99	27	23	24	20	15	10	18	7	22	
	1985-87	24	30	*	12	9	4	10	12	13	-
	1998-99	44	3	25	19	5	3	8	23	25	
Milk & M-Products	1985-87	10	10	16	14	13	43	*	10	15	100
	1998-99	19	27	55	13	21	50	1	7	28	
Fats& Oils	1985-87	2	6	12	10	7	12	5	5	7	20
	1998-99	5	8	3	5	13	16	7	11	7	
Sugar & Jaggery		5	18	20	9	22	18	*	3	12	
	1998-99	18	14	23	9	32	22	2	4	17	20

*: *Less than 1g*

3.5.1.2. Nutrient Intakes

3.5.1.2.1. *1-3 Year children*

There was an overall decline in the average intake of all nutrients during 1998-99 except for protein in Kamataka and Andhra Pradesh, and energy in Karnataka, Andhra Pradesh, Orissa and West Bengal. There was an increase in intake of calcium in Orissa and West Bengal, iron in Andhra Pradesh, Orissa and West Bengal vitamin A, and thiamin and riboflavin in Orissa and West Bengal, while there was a considerable decline in Gujarat. The extent of decrease in energy was maximum in Gujarat (40%), followed by Tamil Nadu (30%). The intake of iron increased in Orissa and, declined considerably in Tamil Nadu, Maharashtra and Gujarat. The average intake of vitamin 'A' increased in Karnataka, Orissa and West Bengal, while there was considerable decrease in Andhra Pradesh and Maharashtra (Table-88 & Fig.8).

Fig. 8
NUTRIENT INTAKE AMONG 1-3 YEARS CHILDREN

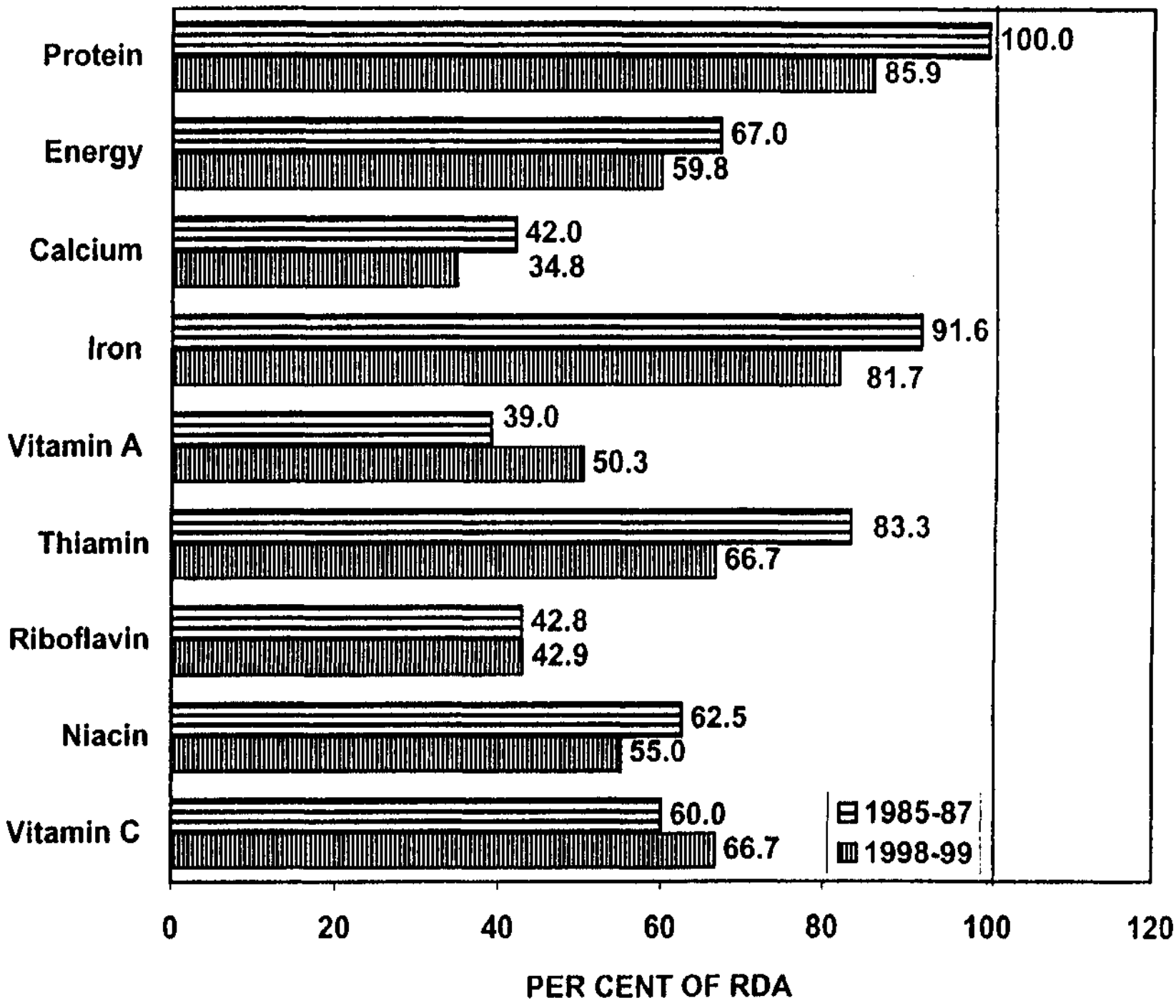


Table 88 Average Intake of Nutrients (Per day) among 1-3 years children

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	Vit.A (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	Vit.C (mg)
Kerala	1985-87	101	14.1	596	153	6.2	50	0.2	0.2	3.4	15
	1998-99	352	12.9	508	106	5.7	81	0.2	0.2	2.8	15
Tamil Nadu	1985-87	64	23.1	965	218	12.1	83	0.5	0.3	5.1	15
	1998-99	329	16.9	676	163	7.9	83	0.3	0.3	3.6	12
Karnataka	1985-87	116	14.6	646	291	8.7	66	0.4	0.2	3.0	8
	1998-99	247	17.0	721	184	7.5	113	0.3	0.3	3.8	14
Andhra Pradesh	1985-87	354	23.1	923	211	11.8	176	0.5	0.3	5.7	17
	1998-99	223	25.5	1047	157	12.2	117	0.6	0.4	6.6	13
Mahara-stra	1985-87	139	25.0	906	245	13.0	143	0.7	0.4	5.9	11
	1998-99	440	20.8	780	149	9.7	96	0.5	0.3	4.7	9
Gujarat	1985-87	260	37.9	1027	216	12.7	97	1.0	0.4	6.9	11
	1998-99	383	17.1	612	116	6.8	97	0.5	0.3	3.6	10
Orissa	1985-87	155	16.2	701	138	9.6	248	0.2	0.2	4.3	27
	1998-99	360	20.6	787	243	14.4	562	0.4	0.4	4.9	45
West Bengal	1985-87	130	21.9	895	213	13.9	387	0.2	0.3	5.9	42
	1998-99	184	24.9	1043	268	18.4	629	0.4	0.5	6.7	61
Pooled	1985-97	1319	22.0	832	210	11.0	156	0.5	0.3	5.0	18
	1998-99	2518	18.9	741	174	9.8	201	0.4	0.3	4.4	20
RDA	1990		22	1240	500	12	400	0.6	0.7	8	30

3.5.1.2.2 4-6 *year children*

In general, the average intake of all the nutrients in all states surveyed except in Orissa and West Bengal declined over the period, the reduction being considerable in the case of protein and energy. The intake of protein remained similar in Kerala, Orissa and Karnataka but declined considerably in Gujarat (-20.2 g), Tamil Nadu (-9.3 g) and Andhra Pradesh (-6.8 g). The intake of energy increased in West Bengal and Karnataka but decreased considerably in Tamil Nadu, Gujarat and Andhra Pradesh. The intake of Calcium decreased in all the States except in Orissa, Kerala and West Bengal. The average intake of vitamin A declined drastically in Andhra Pradesh, Maharashtra, while it increased in Orissa, West Bengal, Kerala and Tamil Nadu. The intake of iron, thiamin and riboflavin decreased in all the States except Orissa and West Bengal **(Table-89 & Flg.9).**

Fig. 9
NUTRIENT INTAKE AMONG 4-6 YEARS CHILDREN

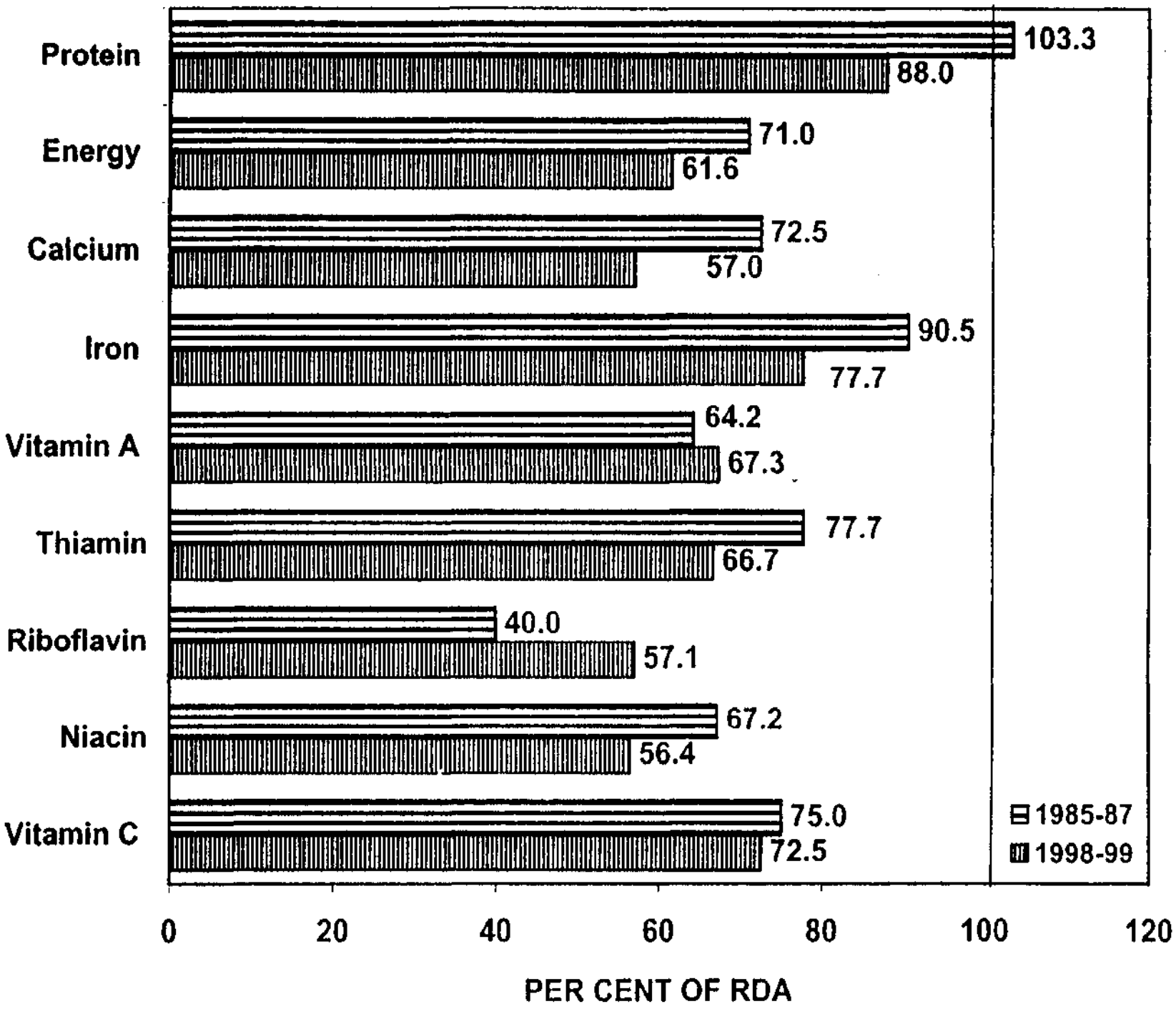


Table 89 Average Intake of Nutrients (Per day) among 4-6 years children

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	Vit.A (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	Vit. C (mg)
Kerala	1985-87	93	21.2	958	189	10.1	68	0.4	0.3	5.4	28
	1998-99	259	22.2	842	228	9.3	98	0.4	0.3	4.8	24
Tamil Nadu	1985-87	65	32.8	1414	237	16.3	91	0.6	0.4	7.6	26
	1998-99	245	23.5	959	161	11.9	104	0.5	0.4	5.3	18
Karnataka	1985-87	132	21.7	952	507	14.3	144	0.7	0.4	4.4	14
	1998-99	219	23.2	1001	233	10.5	133	0.4	0.4	5.3	20
Andhra Pradesh	1985-87	360	35.3	1390	331	18.7	253	0.7	0.5	8.8	32
	1998-99	133	28.5	1185	212	14.1	159	0.6	0.4	7.1	15
Mahara-shtra	1985-87	99	37.0	1304	313	18.0	358	1.0	0.5	9.3	19
	1998-99	412	30.2	1147	208	14.4	129	0.8	0.5	7.1	12
Gujarat	1985-87	308	44.4	1281	219	16.1	130	1.2	0.5	8.7	18
	1998-99	345	24.2	865	145	9.5	122	0.7	0.3	5.2	15
Orissa	1985-87	142	24.9	1044	232	16.6	454	0.3	0.3	6.3	46
	1998-99	312	25.5	1010	323	19.3	693	0.5	0.5	6.1	62
West Bengal	1985-87	120	31.1	1266	293	20.2	560	0.4	0.4	8.4	57
	1998-99	163	37.2	1590	383	27.1	915	0.6	0.7	10.0	85
Pooled	1985-87	1319	31.0	1201	290	16.3	257	0.7	0.4	7.4	30
	1998-99	2088	26.4	1042	228	14.0	269	0.6	0.4	6.2	29
RDA	1990		30	1690	400	18	400	0.9	1.0	11	40

3.5.1.2.3. *7-9 year children*

There was a decline of about 159 kcal in energy, 5 g in protein and 3 mg in iron, with marginal changes in the intake of other nutrients over the period **(Table- 90 & Fig. 10).**

Fig. 10
NUTRIENT INTAKE AMONG 7-9 YEARS CHILDREN

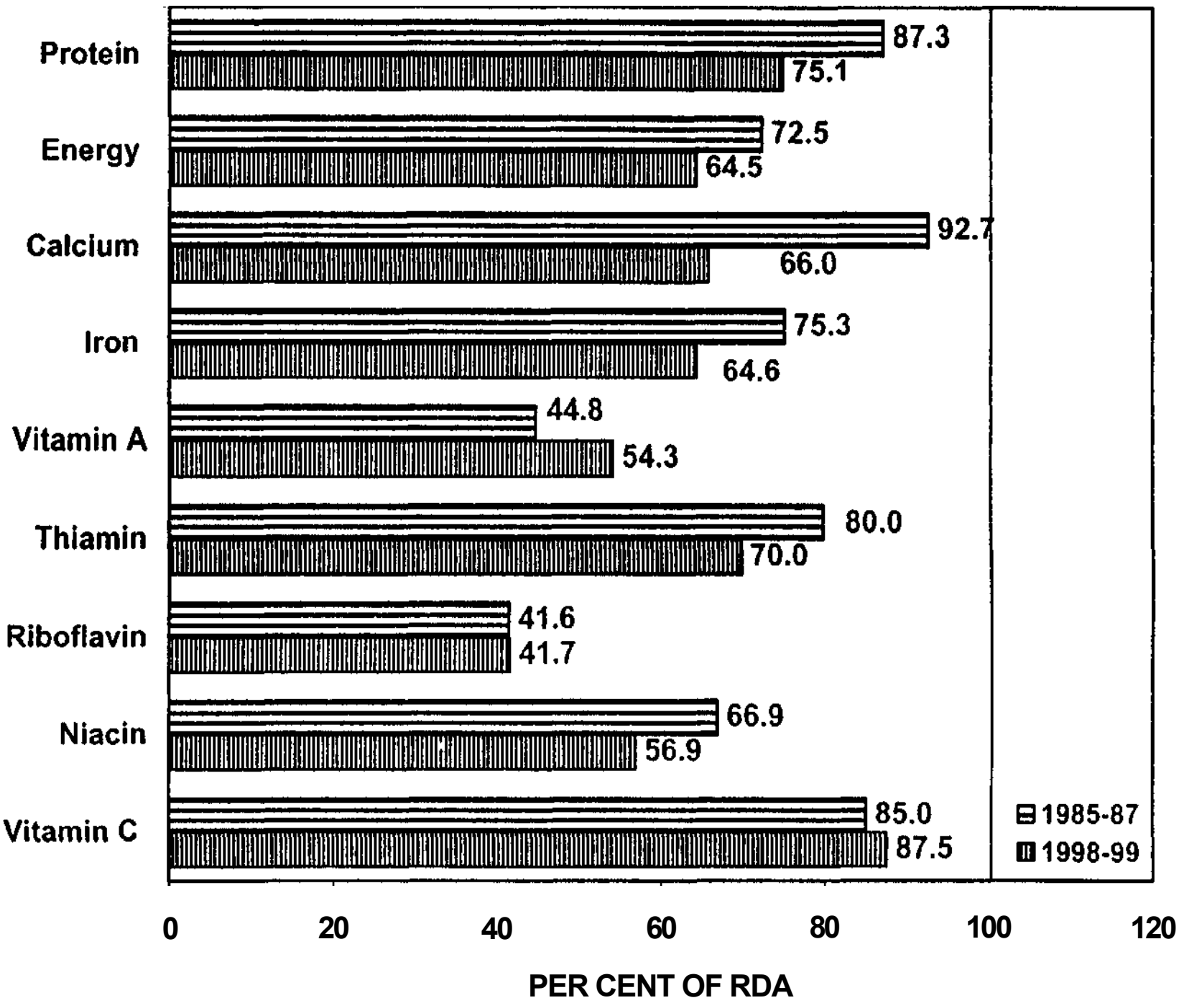


Table 90 Average Intake of Nutrients (Per day) among 7-9 years children

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	Vit.A (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	Vit.C (mg)
Kerala	1985-87	69	23.7	1010	245	11.4	58	0.4	0.4	5.7	41
	1998-99	224	24.0	923	251	11.0	131	0.4	0.4	5.3	27
Tamil Nadu	1985-87	48	36.4	1523	340	19.2	104	0.8	0.5	8.2	23
	1998-99	217	27.1	1122	177	13.4	98	0.5	0.4	6.2	19
Karnataka	1985-87	115	30.0	1288	781	20.9	214	1.0	0.6	5.9	19
	1998-99	244	26.8	1182	247	12.8	166	0.4	0.5	6.4	25
Andhra Pradesh	1985-87	278	42,1	1642	436	22.7	302	0.9	0.6	10.1	37
	1998-99	154	33.1	1413	238	17.1	133	0.7	0.5	8.3	19
Mahara-shtra	1985-87	103	30.3	1404	372	20.0	266	1.0	0.6	9.3	19
	1998-99	351	34.7	1406	258	17.2	151	0.9	0.5	8.4	14
Gujarat	1985-87	248	53.9	1539	241	19.7	134	1.5	0.6	11.0	22
	1998-99	287	30.8	1083	171	11.8	130	0.9	0.4	6.6	19
Orissa	1985-87	154	30.3	1325	220	18.3	446	0.4	0.4	7.9	43
	1998-99	371	29.1	1217	353	22.4	813	0.5	0.6	7.3	69
West Bengal	1985-87	94	40.0	1591	332	24.5	628	0.6	0.6	11.2	64
	1998-99	170	44.2	1898	412	30.1	904	0.7	0.8	11.9	90
Pooled	1985-87	1109	35.8	1415	371	19.6	269	0.8	0.5	8.7	34
	1998-99	2018	30.8	1256	264	16.8	326	0.7	0.5	7.4	35
RDA	1990		41	1950	400	26	600	1.0	1.2	13	40

3.5.1.2.4. 10-12 *year boys*

The intake of all the nutrients declined when compared with the earlier values (1985-87) except protein and energy in West Bengal, calcium, iron and vitamin A in Orissa and West Bengal, thiamin in Kerala, Orissa, West Bengal, riboflavin in Maharahstra, Orissa and West Bengal, niacin in Karnataka and West Bengal and Vitamin 'C' in Orissa, West Bengal and Karnataka **(Table-91).** The protein intake showed no change or marginal increase in Kerala, Karnataka, Maharashtra and West Bengal, while it declined considerably in other States. The intake of energy declined considerably in all the States, except in Maharashtra, where it increased marginally in the State of West Bengal. The intake of calcium increased in Orissa, West Bengal and Kerala and declined in other States particularly Karnataka. The average intake of iron was more or less similar in Kerala and increased marginally in West Bengal and Orissa but decreased in other States. The intake of vitamin A increased in Orissa, Kerala, Tamil Nadu and West Bengal but declined in other States. The intakes of riboflavin remained same in all the States, over the period.

Table 91 Average Intake of Nutrients (Per day) among 10-12 Year Boys

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	Vit.A (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	Vit.C (mg)
Kerala	1985-87	26	27.2	1229	264	13.3	64	0.4	0.4	6.7	38
	1998-99	117	26.9	1062	294	12.7	154	0.5	0.4	6.2	33
Tamil Nadu	1985-87	32	41.2	1789	465	22.0	105	0.9	0.5	9.5	26
	1998-99	89	33.4	1410	207	16.5	156	0.6	0.5	7.7	21
Karnataka	1985-87	46	34.0	1477	959	24.0	216	1.2	0.7	6.4	19
	1998-99	133	33.4	1426	314	15.6	184	0.5	0.6	8.0	29
Andhra Pradesh	1985-87	124	46.3	1909	567	26.2	441	1.1	0.7	11.2	46
	1998-99	51	39.7	1641	331	21.5	217	0.9	0.6	10.0	24
Mahara-shtra	1985-87	72	45.5	1644	373	23.0	226	1.3	0.6	10.8	17
	1998-99	164	44.1	1647	261	21.0	143	1.2	0.7	10.7	14
Gujarat	1985-87	177	67.1	1797	300	24.2	144	1.7	0.7	12.8	23
	1998-99	104	39.5	1383	205	14.7	126	1.2	0.5	8.6	23
Orissa	1985-87	84	37.9	1731	223	21.7	442	0.5	0.5	10.2	51
	1998-99	175	32.3	1363	367	24.8	1055	0.6	0.7	8.4	76
West Bengal	1985-87	63	46.0	1969	287	26.2	507	0.7	0.6	12.8	63
	1998-99	66	49.5	2184	400	31.3	804	0.8	0.8	13.6	84
Pooled	1985-87	624	43.2	1693	430	22.6	268	1.0	0.6	10.1	35
	1998-99	899	36.5	1468	296	19.5	379	0.8	0.6	8.9	38
RDA	1990		54	2190	600	34	600	1.1	1.3	15	40

3.5.1.2.5. *10-12 year girls*

The average intake of protein, energy and calcium declined while that of vitamin 'A' increased over the period. There was considerable decline in the intake of protein in Gujarat, with marginal changes in other States. However, the intake considerably increased in Maharashtra. The intake of energy increased considerably in Maharashtra and West Bengal declined substantially in Gujarat and remained more or less unchanged in other Stafes **(Table-92).** The intakes of calcium increased in Orissa and West Bengal but declined in Gujarat, Maharashtra, Karnataka and Tamil Nadu. There was considerable decrease in the intake of iron in Gujarat with marginal changes in other States. The average intake of vitamin 'A' increased considerably in Orissa from 362 µg in 1985-87 to 877 µg and in West Bengal from 504 g to 953 g, and declined in Maharashtra and Andhra Pradesh, while remained more or less similar in other States. The intake of thiamin showed an increase in Orissa, Kerala, West Bengal and Maharashtra and decline in Gujarat, Tamil Nadu, Karnataka and Andhra Pradesh. The intake of riboflavin remained similar in all the States, barring Orissa, where there was an increase.

Table 92 Average Intake of Nutrients (Per day) among 10-12 Year Girls

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	VitA (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	VitC (mg)
Kerala	1985-87	41	25.9	1163	295	12.8	84	0.4	0.4	6.5	44
	1998-99	110	28.4	1109	296	12.8	113	0.5	0.4	6.3	29
Tamil Nadu	1985-87	28	33.8	1446	483	19.6	82	0.9	0.5	7.2	12
	1998-99	94	33.9	1460	211	17.5	167	0.7	0.6	7.9	24
Kamataka	1985-87	40	30.0	1293	641	19.1	193	0.9	0.5	6.1	19
	1998-99	137	34.9	1498	362	16.7	244	0.5	0.6	8.2	32
Andhra Pradesh	1985-87	105	45.0	1823	450	25.9	462	1.0	0.6	10.9	46
	1998-99	56	41.7	1648	348	22.1	243	0.9	0.6	10.4	26
Mahara-stra	1985-87	43	37.0	1389	340	19.0	246	1.0	0.5	8.8	15
	1998-99	167	41.2	1574	279	20.1	126	1.1	0.6	10.1	15
Gujarat	1985-87	102	61.8	1766	266	22.2	140	1.6	0.7	12.4	19
	1998-99	121	39.4	1350	200	14.7	168	1.2	0.5	8.3	22
Orissa	1985-87	72	33.7	1528	187	19.3	362	0.4	0.4	9.1	44
	1998-99	167	33.2	1406	396	25.2	877	0.6	0.7	8.4	74
West Bengal	1985-87	37	47.5	1922	347	25.1	504	0.6	0.6	12.8	58
	1998-99	66	49.6	2118	426	32.9	953	0.8	0.9	13.4	98
Pooled	1985-87	468	39.3	1541	376	20.4	259	0.9	0.5	9.2	32
	1998-99	918	36.9	1479	312	19.7	355	0.8	0.6	8.8	38
RDA	1990		57	1970	600	31	600	1.0	1.2	13.0	40

3.5.1.2.6. *13-15 year boys*

There was a considerable decrease in the intake of protein, energy and calcium over the period except in West Bengal, while the changes were marginal in case of other nutrients. The decrease in the intake of energy was considerable in Gujarat, Andhra Pradesh, Tamil Nadu and Orissa and marginally decreased in Kerala, Karnataka, while it was more or less same in other States except in West Bengal where it increased by 650.Kcal. There was a considerable increase in Kerala, Orissa and West Bengal while it was decreased in other States in the intake of calcium. The intake of vitamin A increased considerably in West Bengal (498 to 1401 µ.g) Orissa (333 to 1560 µg) and Kerala (61 µ.g to 154 µg), Tamil Nadu (90-160 µg) while it decreased in other States. The intake of thiamin declined in Kamataka, Andhra Pradesh, Maharashtra and Gujarat and increased in West Bengal. The intake of riboflavin increased in the States of Orissa and West Bengal, while it remained similar in other States **(Table-93).**

Table 93 Average Intake of Nutrients (Per day) among 13-15 Year Boys

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	Vit.A (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	Vit.C (mg)
Kerala	1985-87	26	24.6	1325	293	12.9	61	0.5	0.5	6.2	80
	1998-99	97	32.0	1265	361	14.5	154	0.5	0,5	7.2	42
Tamil Nadu	1985-87	18	51.5	2152	384	24.3	90	0.9	0.6	11.4	20
	1998-99	91	40.8	1718	277	20.8	160	0.8	0.7	9.5	25
Karnataka	1985-87	30	36.1	1659	793	25.1	331	1.0	0.6	7.8	37
	1998-99	114	36.8	1625	310	17.0	172	0.6	0.6	9.0	52
Andhra Pradesh	1985-87	96	53.5	2179	530	29.5	414	1.2	0.7	13.9	53
	1998-99	42	47.7	1942	277	23.1	125	1.1	0.7	12.3	24
Mahara-stra	1985-87	48	50.0	1789	382	25.0	171	1.4	0.7	12.5	16
	1998-99	88	49.0	1845	341	23.4	107	1.3	0.7	12.1	12
Gujarat	1985-87	107	85.9	2232	331	26.7	236	2.1	0.8	14.8	31
	1998-99	77	55.8	1901	239	22.8	198	1.6	0.8	15.0	27
Orissa	1985-87	68	45.3	2031	255	24.7	333	0.6	0.5	11.9	47
	1998-99	123	41.0	1718	481	30.7.	1560	0.7	0.8	10.6	91
West Bengal	1985-87	24	48.6	2021	361	26.8	498	0.6	0.6	12.9	54
	1998-99	50	61.4	2670	577	44.6	1401	0.9	1.1	16.7	131
Pooled	1985-87	417	49.4	1924	416	24.4	267	1.0	0.6	11.4	42
	1998-99	682	43.2	1749	356	23.1	433	0.9	0.7	10.5	47
RDA	1990		70	2450	600	41	600	1.2	1.5	16	40

3.5.1.2.7. *13-15 year girls*

The intake of protein declined considerably in Gujarat and Andhra Pradesh, while it increased in Maharashtra. The decline in the intake of energy was higher in the states of Tamil Nadu, Andhra Pradesh, Gujarat and Orissa, while it was marginal in other States. There was drastic reduction in the intake of calcium in Karnataka and Andhra Pradesh, while it increased in Kerala, Orissa and West Bengal. The average intakes of iron declined in the States of Andhra Pradesh, Karnataka and Gujarat and increased marginally in Kerala, Maharashtra and Orissa, while it increased considerably in West Bengal. The intake of vitamin 'A', increased in all the States over the period **(Table-94).**

Table 94 Average Intake of Nutrients (Per day) among 13-15 Years Girls

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	Vit.A (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	Vit.C (mg)
Kerala	1985-87	35	29.2	1439	323	14.7	72	0.5	0.5	7.6	71
	1998-99	103	32.7	1279	360	15.5	192	0.6	0.5	7.6	43
Tamil Nadu	1985-87	28	44.4	1974	343	22.0	82	0.8	0.5	10.4	18
	1998-99	68	42.1	1703	309	21.2	185	0.8	0.7	9.6	27
Karnataka	1985-87	27	35.8	1570	916	23.0	188	1.2	0.6	6.9	22
	1998-99	128	37.2	1591	321	17.4	213	0.6	0.6	9.0	31
Andhra Pradesh	1985-87	94	56.5	2294	614	34.0	76	1.3	0.8	13.9	63
	1998-99	55	45.6	1903	374	24.6	276	1.0	0.7	11.4	27
Mahara-shtra	1985-87	39	44.0	1673	378	23.0	108	1.1	0.6	10.8	14
	1998-99	111	49.3	1854	353	24.2	121	1.4	0.7	11.6	14
Gujarat	1985-87	115	78.4	2068	254	24.6	152	1.9	0.8	13.5	22
	1998-99	146	52	1730	228	21.4	211	1.5	0.8	13.8	26
Orissa	1985-87	52	43.1	1966	227	23.7	348	0.5	0.5	11.6	45
	1998-99	130	37.6	1649	395	26.2	684	0.7	0.7	9.6	66
West Bengal	1985-87	37	54.8	2361	366	30.5	563	0.7	0.7	15.1	68
	1998-99	48	55.5	2425	527	40.3	1263	0.9	1.0	15.5	124
Pooled	1985-87	427	48.3	1918	428	24.4	199	1.0	0.6	11.2	40
	1998-99	731	41.9	1686	349	22.0	347	0.9	0.7	10.0	42
RDA	1990		65	2060	600	28	600	1.0	1.2	14.0	40

3.5.1.2.8. 16 *years and above males (sedentary)*

The changes in consumption between 1985-87 and 1998-99 were negligible, except for an 18% increase in vitamin A and 28% decline in calcium intakes **(TabTe-95 & Fig.11).**

Fig. 11
NUTRIENT INTAKE AMONG SEDENTARY MALES (>16 YEARS)

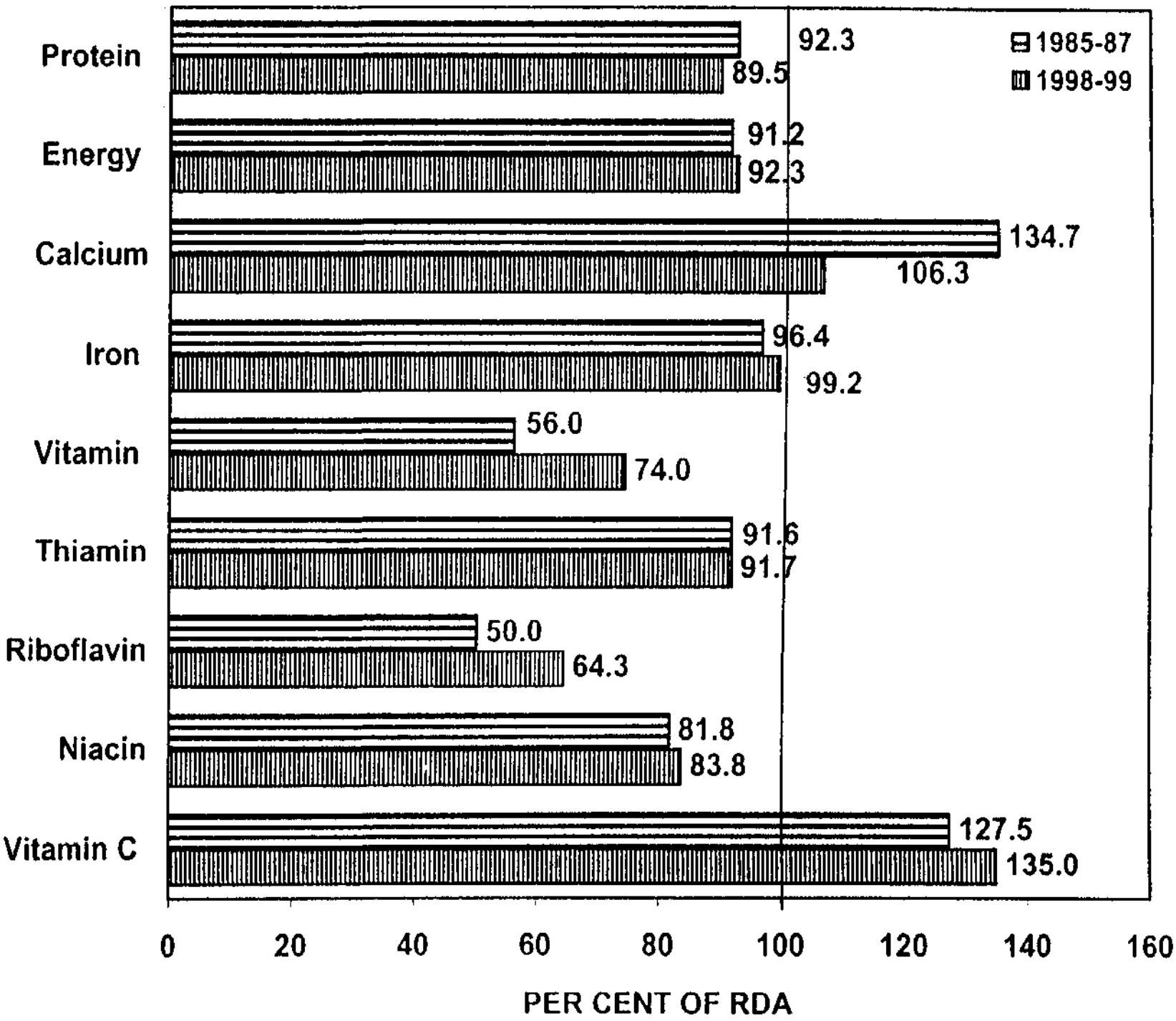


Table 95 Average Intake of Nutrients (Per day) among 16 Years and above Males (Sedentary)

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	Vit.A (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	Vit.C (mg)
Kerala	1985-87	80	41.5	2058	516	20.5	105	0.7	0.7	10.4	98
	1998-99	179	45.6	1830	473	20.4	190	0.8	0.8	10.7	55
Tamil Nadu	1985-87	16	55.4	2501	453	20.1	94	1.0	0.6	13.2	22
	1998-99	111	52.1	2206	307	25.1	240	0.9	0.8	12.3	34
Karnataka	1985-87	32	51.0	2179	1086	33.0	419	1.4	0.9	10.8	42
	1998-99	323	47.8	2094	409	22.8	305	0.7	0.8	11.6	42
Andhra Pradesh	1985-87	154	56.9	2220	610	30.9	322	1.2	0.8	14.0	58
	1998-99	80	55.8	2408	455	27.8	176	1.1	0.9	14.0	31
Mahara-shtra	1985-87	85	55.0	1991	539	26.0	353	1.3	0.7	13.2	28
	1998-99	133	57.5	2178	369	27.0	141	1.6	0.9	14.3	20
Gujarat	1985-87	163	84.8	2412	443	29.0	259	2.1	0.9	16.0	37
	1998-99	132	60.4	2193	327	24.9	257	1.8	0.9	14.7	40
Orissa	1985-87	68	45.2	2064	226	24.7	490	0.5	0.5	12.6	50
	1998-99	237	54.3	2379	491	35.4	938	1.0	1.0	14.4	87
West Bengal	1985-87	59	53.0	2285	443	31.4	642	0.7	0.7	14.7	72
	1998-99	130	67.7	2941	517	42.4	1075	1.1	1.1	18.3	107
Pooled	1985-87	657	55.4	2213	539	27.0	336	1.1	0.7	13.1	51
	1998-99	1325	53.7	2239	425	27.8	444	1.1	0.9	13.4	54
RDA	1990		60	2425	400	28	600	1.2	1.4	16	40

3.5.1.2.9. *16 year and above females (NPNL-Sedentary)*

The average intake of protein decreased marginally in the State of Tamil Nadu, Andhra Pradesh, Gujarat and Maharashtra. The intake of vitamin A decreased considerably in Andhra Pradesh, Maharashtra, West Bengal and Kamataka, while showing an increase in Kerala, Tamil Nadu, Gujarat and Orissa. The average intake of calcium increased in Kerala, West Bengal and Orissa and declined in Tamil Nadu, Kamataka, Andhra Pradesh, Maharashtra and Gujarat. **(Table-96 & Flg.12).**

The average intake of iron increased in Orissa and West Bengal but decreased in Kamataka and Gujarat. There was a considerable increase in the intake of vitamin 'A' in Orissa, while the changes were marginal in other States. The average intake of thiamin declined in Kamataka and Gujarat but increased in West Bengal and Orissa. The intake of riboflavin increased in Orissa and West Bengal.

Fig. 12
NUTRIENT INTAKE AMONG SEDENTARY FEMALES - NPNL (>16 YEARS)

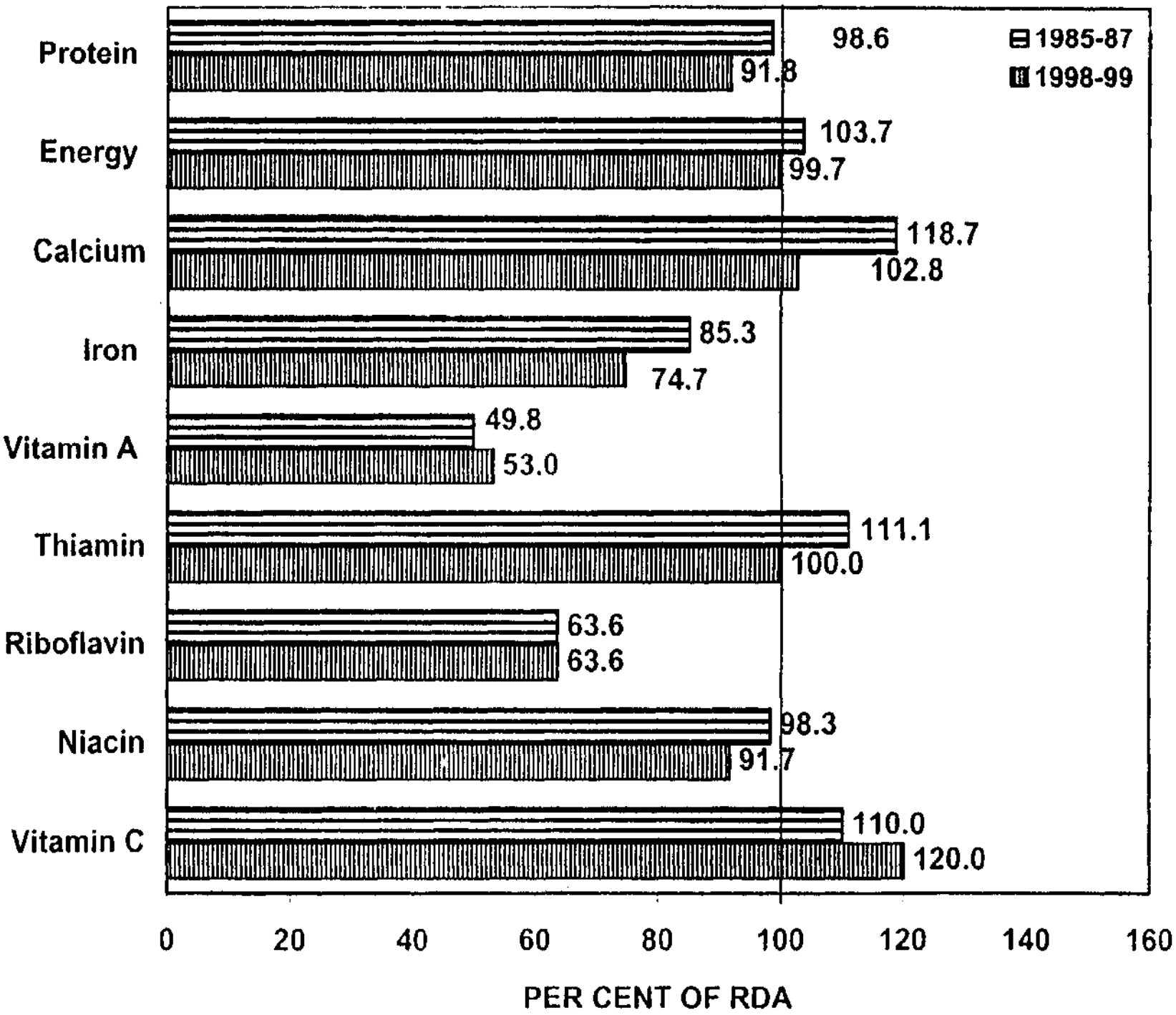


Table 96 Average Intake of Nutrients (Per day) among 16 Years and above Females (Sedentary)

State	Year	N	Protein (g)	Energy (Kcal)	Calc-ium (mg)	Iron (mg)	VitA (µg)	Thia-min (mg)	Ribo-flavin (mg)	Nia-cin (mg)	Vit.C (mg)
Kerala	1985-87	164	37.2	1678	425	18.4	111	0.6	0.6	9.2	74
	1998-99	474	41.0	1598	468	18.3	179	0.7	0.6	9.5	51
Tamil Nadu	1985-87	48	48.9	1905	538	24.4	109	0.9	0.59	11.4	24
	1998-99	113	45.6	1908	314	22.6	233	0.9	0.8	10.6	35
Karnataka	1985-87	56	39.4	1828	958	27.2	305	1.2	0.72	7.9	33
	1998-99	277	46.6	2021	418	22.2	296	0.7	0.8	11.1	41
Andhra Pradesh	1985-87	184	52.6	2016	574	29.6	420	1.1	0.73	12.7	55
	1998-99	40	44.5	1859	363	22.2	198	0.9	0.7	11.1	28
Mahara-shtra	1985-87	148	52.0	1774	357	25.0	320	1.3	0.68	12.5	19
	1998-99	91	51.1	2004	301	24.1	137	1.3	0.7	12.7	22
Gujarat	1985-87	237	70.8	2275	339	27.8	201	2.0	0.85	15.3	34
	1998-99	120	50.9	1848	274	19.2	223	1.5	0.7	11.7	31
Orissa	1985-87	206	44.6	2042	264	24.8	458	0.5	0.51	11.9	52
	1998-99	137	49.0	2120	483	33.0	906	0.9	0.9	12.5	83
West Bengal	1985-87	115	49.2	2053	344	26.7	471	0.7	0.60	13.6	59
	1998-99	72	55.4	2415	418	33.2	189	0.9	1.0	14.8	88
Pooled	1985-87	1158	49.3	1946	475	25.6	299	1.0	0.7	11.8	44
	1998-99	1324	45.9	1870	411	22.4	318	0.9	0.7	11.0	48
RDA	1990		50.0	1875	400	30	600	0.9	1.1	12.0	40

TIME TRENDS

FOOD AND NUTRIENT INTAKE

- Intake of Income elastic foods such as milk, fats & oils and sugars increased in all the ages between 1985-87 and 1998-99.
- Intake of most of the nutrients decreased in all ages.

3.5.2. Nutritional Status

3.5.2.1. *Prevalence of clinical signs of nutritional deficiencies*

3.5.2.1.1. *Preschool children*

The prevalence of kwashiorkor (0.2%) and marasmus (0.3%) showed a significant reduction as compared to that observed in 1985-87. The overall prevalence of emaciation was about 2.8%, the highest being in the State of Gujarat (16.3%) (Table-97 & Fig. 13).

The prevalence of Bitot spots, a sign of vitamin 'A' deficiency, was 0.5%, ranging from nil in the State of Gujarat, to a high of about 1.8% in Tamil Nadu and Maharashtra. There was a four fold decrease in the prevalence as compared to that reported during 1985-87 (2.1%). About 2% of the children had angular stomatitis.

Fig. 13
PERCENT PREVALENCE OF NUTRITIONAL DEFICIENCY SIGNS OF PRESCHOOL CHILDREN

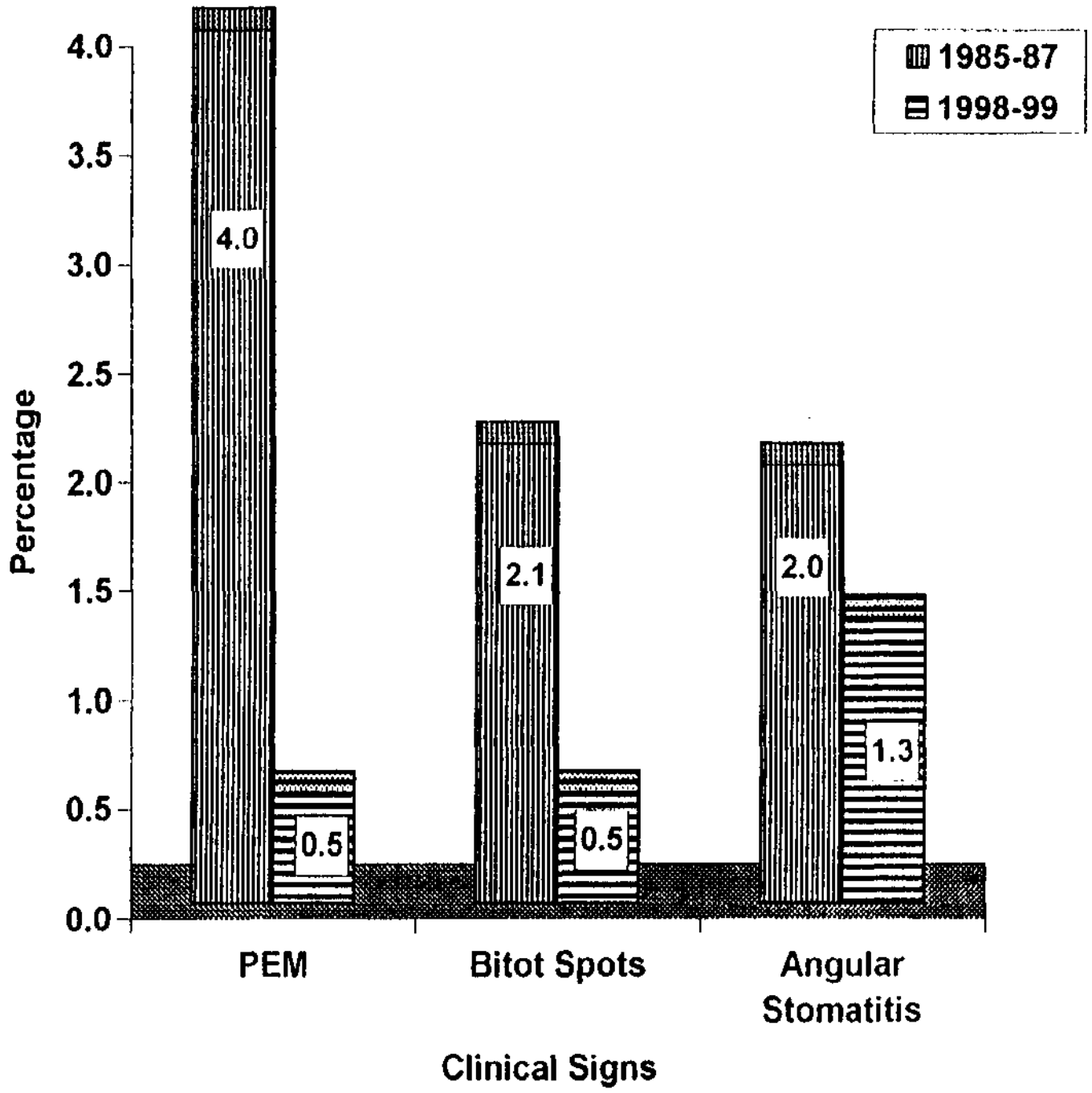


Table 97 Percent prevalence of nutritional deficiency signs - Preschool children

Nutritional deficiency signs	Year	Kerala	Tamil Nadu	Kama -taka	Andhra Pradesh	Maha-rashtra	Gujarat	Orissa	West Bengal	Pooled
Number	1985-87	289	267	517	1770	686	840	618	657	5644
	1998-99	561	716	503	1207	734	1127	2050	297	6454
Oedema	1985-87	-	7.9	-	0.5	0.2	-	0.7	-	1.2
	1998-99	0.0	0.0	0.1	0.0	0.1	1.5	0.0	0.1	0.2
Emaciation	1985-87	-	2.3	1.0	0.6	6.1	3.8	0.5	2.1	2.1
	1998-99	0.0	0.5	0.2	0.6	1.6	16.3	0.3	1.0	2.8
Marasmus	1985-87	2.4	-	0.6	0.2	14.0	4.3	0.3	0.6	2.8
	1998-99	0.0	0.7	0.2	0.7	1.7	16.2	0.2	1.2	0.3
Bitot spots	1985-87	0.4	5.6	1.4	0.2	4.2	1.1	1.9	2.3	2.1
	1998-99	0.2	1.7	0.4	0.6	1.8	0.0	0.1	0.9	0.5
Angular stomatitis	1985-87	0.4	5.6	2.5	0.9	0.7	-	2.1	3.5	2.0
	1998-99	0.2	3.2	0.0	0.6	1.7	2.9	0.2	2.5	1.3
Caries	1985-87	14.2	8.6	-	0.7	3.5	-	2.8	2.3	4.0
	1998-99	1.9	5.3	7.0	1.0	0.1	0.4	1.0	1.4	2.1
Mottled Enamel	1985-87	1.0	1.1	1.4	0.3	0.7	0.1	0.8	8.6	1.8
	1998-99	0.2	1.8	0.5	-	-	0.1	.1	0.7	0.3
Goitre	1985-87	0.4	-	-	0.2	-	-	-	-	0.1
	1998-99	-	0.6	-	-	0.7	-	0.0	-	0.3
Phryno-derma	1985-87	-	-	-	-	-	-	-	-	*
	1998-99	-	-	0.4	-	1.0	0.3	-	0.5	0.2

NAD: Nothing abnormal detected *: Less than 0.1 %

3.5.2.1.2 *School age children*

The prevalence of Bitot Spots (2.2%) among 5-12 year boys was more than half of that reported during 1985-87 (5.6%). Similarly, the prevalence of angular stomatitis decreased by more than a half (2.7%) than the earlier figure of 6.4% (1985-87). The overall prevalence of goitre was 1.7%, ranging from nil in the States of Kerala, Orissa and Gujarat to a high (7.1%) in Tamil Nadu.

The prevalence of various deficiency signs was more or less similar among boys and girls, except for goitre, which was higher among girls (2.7%) as compared to boys (1.7%). It may be mentioned that the sample may not be adequate to decide the prevalence of goitre particularly in individual States **(Tables 98-99).**

Table 98 Percent prevalence of nutritional deficiency signs - Boys (5-12 years)

Nutritional, deficiency signs	Year	Kerala	Tamil Nadu	Kama -taka	Andhra Pradesh	Maha- rashtra	Gujarat	Orissa	West Bengal	Pooled
Number	1985-87	168	164	385	1086	496	1066	565	436	4366
	1998-99	389	846	843	808	1115	868	1380	699	6948
NAD	1985-87	28.6	36.0	76.2	77.4	48.8	78.4	71.9	38.1	56
	1998-99	80.7	45.0	47.0	83.2	69.1	95.2	88.8	63.9	72.4
Bitot spots	1985-87	4.2	6.7	3.9	0.7	13.7	5.3	3.0	7.1	5.6
	1998-99	1.0	6.6	0.4	1.2	4.7	0.2	0.7	2.0	2.2
Angular stomatitis	1985-87	16.1	8.5	6.5	3.9	0.6	0	6.0	9.2	6.4
	1998-99	0.5	10.0	0.1	1.5	4.1	0.8	0.9	3.0	2.7
Dental Caries	1985-87	42.3	26.8	3.4	3.9	8.1	0.7	11.7	8.5	13.2
	1998-99	15.9	32.7	43.7	9.3	5.4	2.3	7.8	7.6	14.7
Mottled Enamel	1985-87	3.0	9.2	7.3	2.3	3.6	6.2	4.1	2.5	4.8
	1998-99	0.3	7.1	2.1	0.5	3.9	0.2	0.1	8.6	2.7
Goitre	1985-87	0.6	0.6	-	0.6	1.2	1.0	-	-	0.5
	1998-99	-	7.1	0.5	0.2	4.1	-	-	1.0	1.7
Phryno- derma	1985-87	-	12.8	-	0.5	0.4	2.1	0.4	-	2.0
	1998-99	1.2	0.2	0.2	-	4.1	-	0.1	1.9	1.1

NAD: Nothing abnormal detected

Table 99 Percent prevalence of nutritional deficiency signs - Girls (5-12 years)

Nutritional deficiency signs	Year	Kerala	Tamil Nadu	Kama - taka	Andhra Pradesh	Maha- rashtra	Gujarat	Orissa	West Bengal	Pooled
Number	1985-87	180	211	332	1141	450	857	440	464	4075
	1998-99	347	955	843	871	1103	876	1400	704	7101
NAD	1985-87	33.9	37.4	84.6	76.6	55.8	86.7	79.3	53.9	63.5
	1998-99	85.6	48.6	53.4	87.1	75.6	95.0	91.2	70.7	76.2
Emaciation	1985-87	-	0.5	-	0.3	16.4	5.8	0.2	1.1	3.0
	1998-99	-	-	-	-	0.1	1.4	0.1	1.0	.3
Marasmus	1985-87	-	-	-	-	0.7	3.4	-	-	0.5
	1998-99	-	-	-	-	-	0.1	-	-	*
Bitot spots	1985-87	2.2	3.3	1.2	0.4	9.6	2.6	2.1	2.8	3.0
	1998-99	1.2	5.9	0.1	0.6	2.7	0.3	0.1	1.0	1.5
Angular stomatitis	1985-87	9.4	10.0	3.6	2.4	0.2	0.1	3.0	4.3	4.1
	1998-99	-	5.2	0.1	1.4	3.1	1.6	0.5	2.7	1.9
Dental Caries	1985-87	41.1	27.0	1.2	4.0	6.0	0.1	9.3	7.5	12.0
	1998-99	12.7	31.1	40.9	7.5	4.1	0.9	7.1	6.3	13.4
Mottled Enamel	1985-87	1.7	12.8	5.4	1.1	2.4	2.7	2.3	1.7	3.8
	1998-99	0.3	6.6	1.2	1.0	2.4	0.7	0.1	8.2	2.5
Goitre	1985-87	0.6	0.5	-	0.5	0.2	0.7	0.2	0.2	0.4
	1998-99	-	12.0	0.4	0.1	3.4	-	-	1.3	2.7
Phryno- derma	1985-87	2.2	5.2	-	0.3	0.9	1.6	-	0.2	1.3
	1998-99	1.2	-	0.1	-	3.0	-	-	2.6	0.8

NAD: Nothing abnormal detected

*: Less than 0.1 %

3.5.2.1.3. *Adolescent Boys and Girls*

Among males, the prevalence of Bitot spots decreased from 4.2% in 1985-87 to 1.6% in 1998-99. Similarly, the prevalence of angular stomatitis decreased from 3.7% to 1.7% in the present study **(Tables 100-101).**

The prevalence of angular stomatitis among females decreased from 2.9% to 1.1%. About 6% of the girls exhibited goitre.

Table 100 Percent prevalence of nutritional deficiency signs - Males (12-21 years)

Nutritional deficiency signs	Year	Kerala	Tamil Nadu	Kama -taka	Andhra Pradesh	Maha- rashtra	Gujarat	Orissa	West Bengal	Pooled
Number	1985-87	122	139	182	717	348	606	443	400	2957
	1998-99	451	643	1002	565	597	535	911	537	5241
NAD	1985-87	38.5	40.3	84.1	78.7	66.1	86.1	82.4	59.8	67.0
	1998-99	89.6	54.7	67.2	74.9	91.9	98.5	95.6	75.6	80.1
Bitot spots	1985-87	1.6	4.3	2.2	0.8	13.2	2.2	5.0	4.3	4.2
	1998-99	0.7	8.7	0.1	0.7	1.3	-	0.1	2.2	1.6
Angular stomatitis	1985-87	7.4	7.2	2.2	2.9	-	-	3.0	7.0	3.7
	1998-99	0.7	7.6	0.3	1.2	1.3	0.4	0.8	1.9	1.7
Dental Caries	1985-87	19.7	17.3	1.1	2.9	1.2	0.2	7.2	0.8	6.3
	1998-99	7.8	24.0	25.9	5.1	0.8	0.9	2.4	2.4	10.0
Mottled Enamel	1985-87	1.6	10.8	7.1	3.9	1.7	3.0	0.7	-	3.6
	1998-99	-	4.0	0.4	1.9	1.7	0.2	0.1	5.4	1.6
Goitre	1985-87	0.8	-	-	2.2	2.9	1.3	-	1.0	1.0
	1998-99	0.2	7.8	-	1.5	0.6	-	0.1	1.0	1.4
Phryno- derma	1985-87	0.8	15.1	0.6	0.6	-	1.3	-	-	2.3
	1998-99	0.7	-	0.1	-	1.0	-	0.2	4.5	0.7

NAD: Nothing abnormal detected

Table 101 Percent prevalence of nutritional deficiency signs - Females (12-21 years)

Nutritional deficiency signs	Year.	Kerala	Tamil Nadu	Kama -taka	Andhra Pradesh	Maha-rashtra	Gujarat	Orissa	West Bengal	Pooled
Number	1985-87	207	182	256	788	303	510	447	451	3144
	1998-99	788	956	1345	813	759	795	1083	586	7125
NAD	1985-87	45.4	41.8	82.0	74.9	62.4	88.2	82.8	53.9	66.4
	1998-99	87.7	48.4	57.5	77.1	90.0	97.5	95.4	61.6	75.9
Bitot spots	1985-87	-	0.6	0.8	1.4	8.3	0.8	0.7	2.0	1.8
	1998-99	0.3	7.2	0.1	0.9	0.8	-	-	1.5	1.3
Angular stomatitis	1985-87	3.4	3.3	1.2	1.9	0.3	-	3.6	9.3	2.9
	1998-99	0.8	3.6	0.1	0.7	0.8	0.5	0.8	1.7	1.1
Dental Caries	1985-87	17.9	21.4	1.2	1.8	-	-	8.5	2.2	6.6
	1998-99	7.2	27.9	31.4	5.8	0.7	0.3	2.0	2.4	11.7
Mottled Enamel	1985-87	1.0	3.3	9.8	1.8	1.7	2.9	1.1	0.7	2.8
	1998-99	-	3.0	0.2	1.0	1.3	-	-	3.9	1.0
Goitre	1985-87	3.9	2.2	0.8	8.1	7.9	0.6	0.2	-	3.0
	1998-99	2.4	20.1	6.4	6.2	5.6	-	0.4	5.7	5.8
Phryno-derma	1985-87	1.9	11.0	-	0.5	0.7	0.4	0.5	-	1.9
	1998-99	2.8	0.4	-	-	0.1	0.1	0.5	20.1	2.1

NAD: Nothing abnormal detected

3.5.2.1.4. *Adult Males and Females*

The prevalence of nutritional deficiency signs was negligible among adult males as well as females. (Table-102-103).

Table 102 Percent prevalence of nutritional deficiency signs - ≥ 21 Years Males

Nutritional deficiency signs	Year	Kerala	Tamil Nadu	Kama - taka	Andhra Pradesh	Maha-rashtra	Gujarat	Orissa	West Bengal	Pooled
Number	1985-87	480	475	760	2830	1204	1342	1518	1051	9660
	1998-99	2131	2205	2527	2063	1704	1442	3101	1837	17010
NAD	1985-87	55.4	43.6	77.8	59.7	60.6	82.3	78.3	72.7	66.3
	1998-99	96.0	44.4	76.7	54.8	99.5	99.3	98.0	90.4	81.8
Emaci-ation	1985-87	-	-	-	-	-	-	-	-	-
	1998-99	-	-	0.1	-	-	-	-	0.4	0.1
Bitot spots	1985-87	0.4	0.8	0.5	1.8	5.3	0.2	1.7	1.9	1.6
	1998-99	0.1	3.0	-	0.8	0.1	0.1	-	0.4	0.6
Angular stomatitis	1985-87	2.3	1.1	0.5	1.1	0.1	0.1	1.1	1.8	1.0
	1998-99	0.2	1.9	0.2	0.7	0.1	0.1	0.4	0.6	0.5
Dental Caries	1985-87	10.4	35.2	10.3	15.5	1.2	0.8	4.7	4.2	10.3
	1998-99	3.4	49.5	7.8	10.4	-	0.1	1.3	2.1	9.7
Mottled Enamel	1985-87	0.4	2.3	18.6	20.0	0.3	4.3	11.3	2.9	7.5
	1998-99	-	1.0	-	0.7	-	-	-	0.5	0.3
Goitre	1985-87	0.6	0.2	-	1.5	0.9	0.8	-	0.3	0.5
	1998-99	-	1.8	0.3	0.7	0.3	-	-	0.7	0.4
Phryno-derma	1985-87	1.7	5.1	-	0.3	0.3	0.1	-	-	0.9
	1998-99	0.1	-	-	-	-	-	-	2.7	0.3

NAD: Nothing abnormal detected

Table 103 Percent prevalence of nutritional deficiency signs - >21 Year Females

Nutritional deficiency signs	Year	Kerala	Tamil Nadu	Kama -taka	Andhra Pradesh	Maha-rashtra	Gujarat	Orissa	West Bengal	Pooled
Number	1985-87	783	589	881	3355	1252	1594	1577	1128	11159
	1998-99	3416	3279	3437	2617	2415	2720	3748	2010	23642
NAD	1985-87	45.6	27.5	68.2	54.2	60.5	80.8	76.7	52.7	58.3
	1998-99	89.8	31.7	47.9	62.7	95.8	93.2	95.2	68.5	72.7
Bitot spots	1985-87	0.3	0.9	0.6	1.0	6.6	0.3	1.7	2.5	1.1
	1998-99	0.1	4.1	-	0.3	-	-	-	-	0.6
Angular stomatitis	1985-87	6.6	4.6	1.5	1.6	0.1	-	2.0	4.8	2.7
	1998-99	0.4	3.6	0.2	1.1	-	1.3	0.6	1.5	1.1
Dental Caries	1985-87	18.1	44.5	10.1	16.9	0.4	0.7	4.6	6.4	12.7
	1998-99	5.9	55.4	18.8	14.8	-	-	2.4	2.3	13.5
Mottled Enamel	1985-87	0.9	1.2	19.3	17.1	0.4	4.0	11.8	4.1	7.4
	1998-99	-	1.9	0.2	1.8	-	0.1	0.1	1.1	0.6
Goitre	1985-87	2.3	0.5	0.5	7.2	2.2	0.6	0.2	0.7	1.8
	1998-99	2.3	17.5	5.1	4.9	3.6	-	0.7	5.8	4.9
Phryno-derma	1985-87	4.2	22.1	-	0.4	0.6	1.3	-	0.1	3.6
	1998-99	2.6	0.1	-	-	-	0.3	0.3	20.0	2.2

NAD: Nothing abnormal detected

3.5.2.2. Anthropometry

The mean anthropometric measurements of height, weight, mid upper arm circumference (MUAC) and fat fold at triceps (FFT) are presented according to age and sex for each state in Annexure. By and large, there was a marginal increase in various anthropometric measurements, especially among .children of school age and adolescents in different States, except Gujarat.

The distance charts for heights, and weights are presented in Figs. 14-23. The measurements, however, were lower than the NCHS standards in all the age and sex groups.

3.5.2.2.1. ***Pre-school children***

3.5.2.2.1.1 Gomez classification

The weights of pre-school children were expressed as percent of NCHS standards and categorized into different nutritional grades, based on Gomez classification **(Tables-104-106** & **Fig.24).**

The overall prevalence of severe under nutrition (<60% weight for age of NCHS) (8.6%) was less than half of the prevalence reported during the year 1985-1987 (19.8%) with concomitant increase in the prevalence of mild undernutrition (1985-87: 24.5%, 1998-99: 34.4%). There was a marginal increase in the prevalence of normals from 4.1% to 5.4% during the present survey **(Table-104).** The reduction in the prevalence of severe under-nutrition was noticed in all the States and in both sexes **(Table-105&106).**

Table 104 Distribution (%) of (1-5 year) pre-school children According to weight for age: Gomez classification

State	Period	N	Weight for Age % of NCHS			
			>=90	75-90	60-75	<60
Kerala	1985-87	287	5.2	23.0	56.1	15.7
	1998-99	868	6.1	38.7	48.2	7.0
Tamil Nadu	1985-87	262	4.6	34.7	51.5	9.2
	1998-99	1364	4.3	33.1	55.0	7.6
Karnataka	1985-87	511	2.3	15.1	49.7	32.9
	1998-99	1059	8.4	46.2	43.1	2.4
Andhra Pradesh	1985-87	1759	3.4	24.3	53.4	18.9
	1998-99	1312	6.8	36.4	46.8	10.1
Maharashtra	1985-87	685	2.2	23.6	59.0	15.2
	1998-99	1458	2.9	23.5	58.8	14.8
Gujarat	1985-87	892	3.0	23.3	47.8	25.9
	1998-99	1421	6.4	32.5	51.2	9.9
Orissa	1985-87	550	6.9	25.1	42.0	26.1
	1998-99	1946	3.5	33.7	54.9	7.9
West Bengal	1985-87	652	5.0	26.8	54.1	14.1
	1998-99	888	7.8	38.4	47.7	6.1
Pooled	1985-87	5598	4.1	24.5	51.6	19.8
	1998-99	10316	5.4	34.4	51.6	8.6

Table 105 Distribution (%) of (1-5 year) Boys according to Weight for Age - Gomez Classification

State	Period	N	Weight for ag		e %of NCHS	
			>=90	75-90	60-75	<60
Kerala	1985-87	125	4.8	24.8	59.2	11.2
	1998-99	469	5.1	35.2	52.0	7.7
Tamil Nadu	1985-87	134	3.7	37.3	49.3	9.7
	1998-99	715	3.5	33.1	55.1	8.3
Karnataka	1985-87	268	3.4	16.0	48.9	31.7
	1998-99	546	5.7	46.9	44.9	2.6
Andhra Pradesh	1985-87	855	2.3	21.9	57.2	18.6
	1998-99	675	5.6	36.1	47.1	11.1
Maharashtra	1985-87	342	2.0	22.5	59.9	15.6
	1998-99	764	2.6	22.8	60.2	14.4
Gujarat	1985-87	410	2.4	19.5	53.5	24.6
	1998-99	728	4.1	30.1	55.5	10.3
Orissa	1985-87	274	5.5	28.1	38.3	28.1
	1998-99	1006	3.5	33.2	54.0	9.3
West Bengal	1985-87	338	3.6	27.5	55.6	13.3
	1998-99	432	7.6	39.4	46.1	6.9
Pooled	1985-87	2746	3.5	24.7	52.7	19.1
	1998-99	5335	4.4	33.7	52.6	9.3

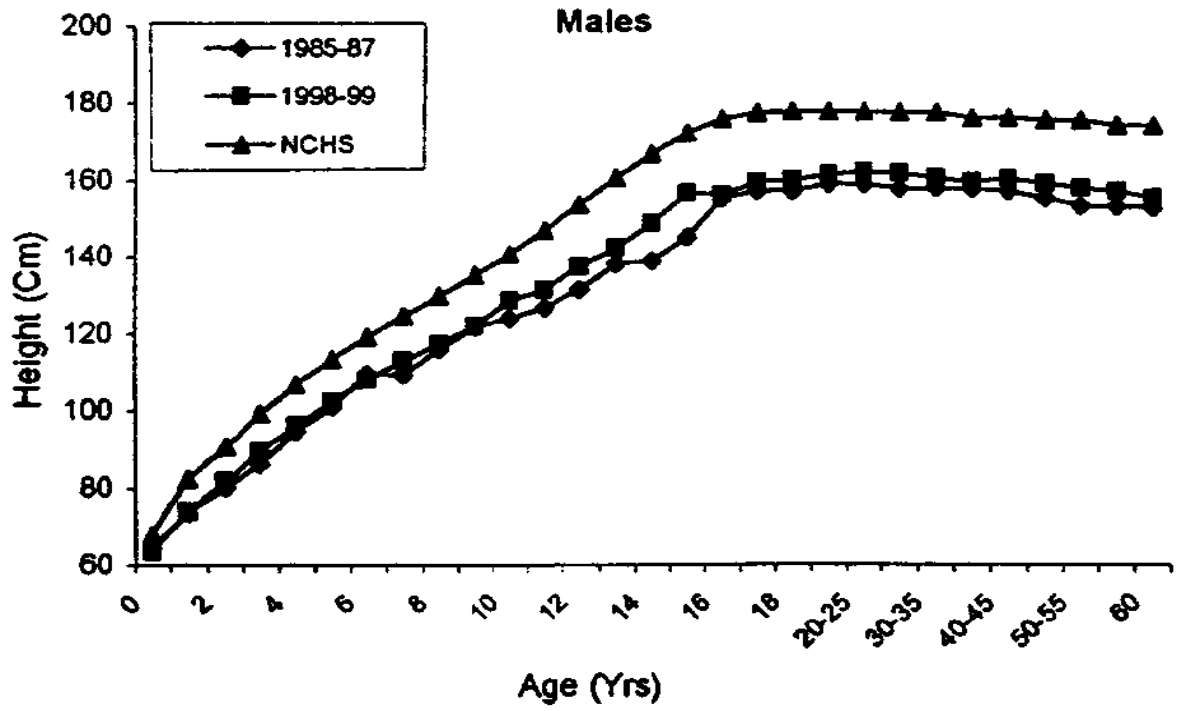
NUTRITIONAL ANTHROPOMETRY

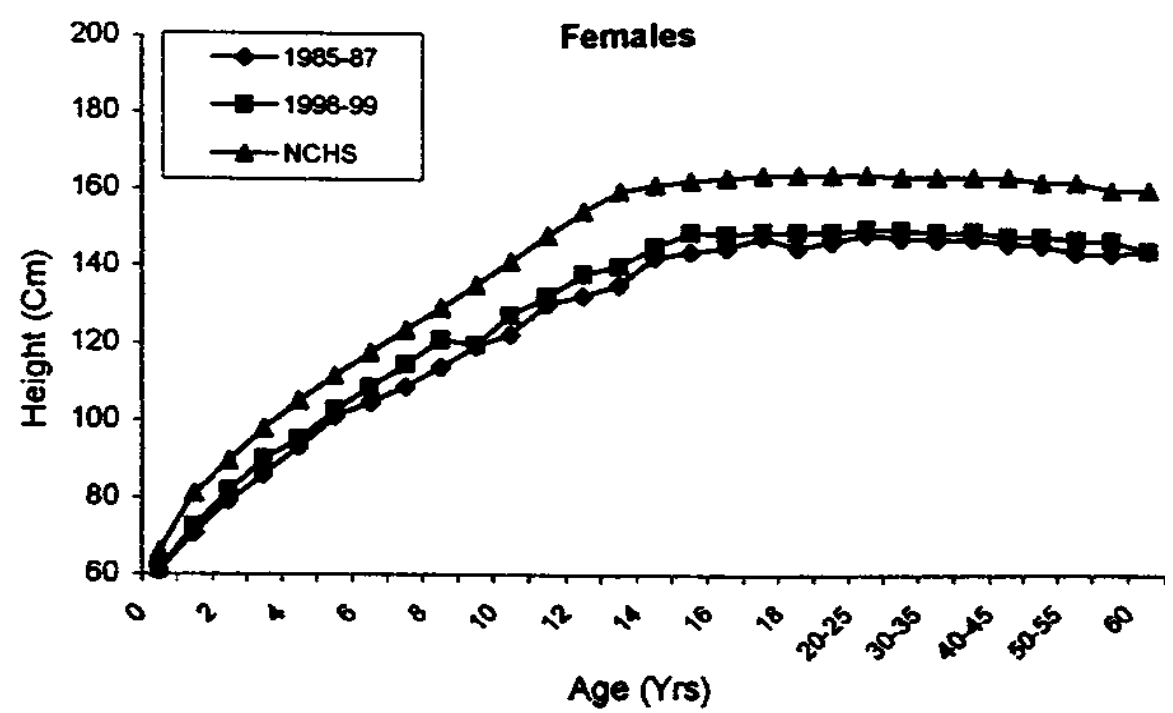
- Severe undernutrition decreased over a decade, while there was a marginal increase in normals.
- Severe undernutrition decreased with increasing age in pro-school children
- About three fourths of pre-school children were underweight, while 63% had stunting. A quarter of them had wasting.
- About 50 % of adults had CED

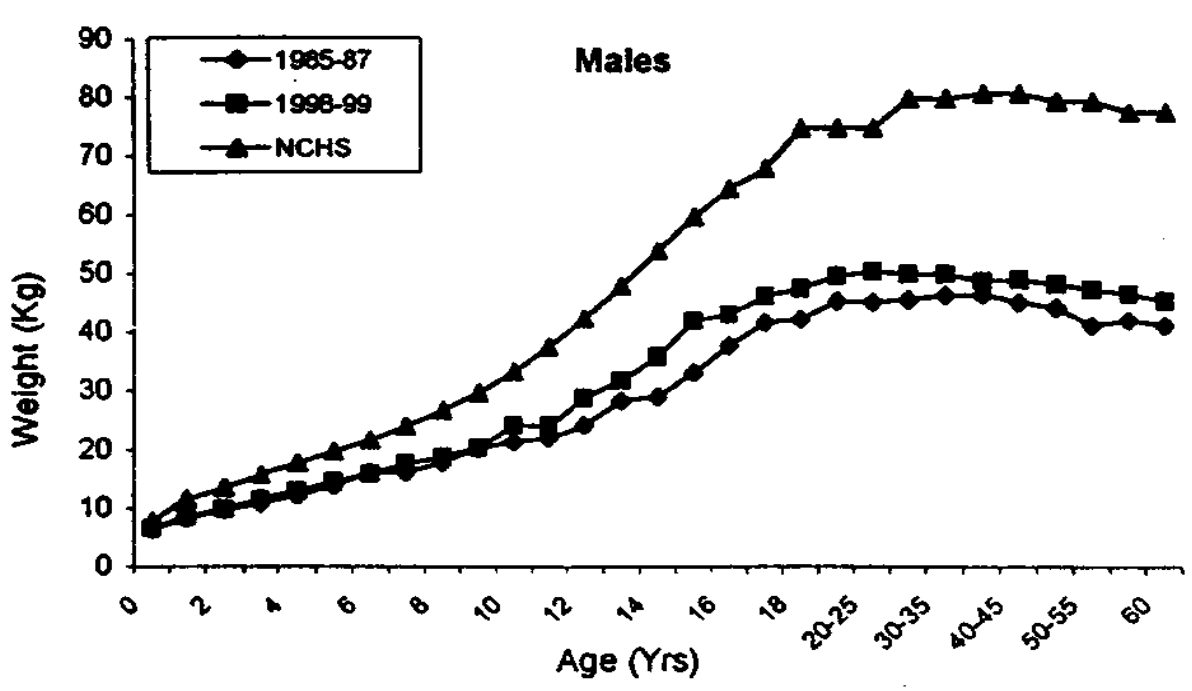
Table 106 - Distribution (%) of (1-5 year) Girls According to Weight for Age - *Gomez Classification*

State	Period	N	Weight for age % of NCHS			
			>=90	75-90	60-75	<60
Kerala	1985-87	162	5.5	21.6	53.7	19.2
	1998-99	399	7.3	42.9	43.6	6.3
Tamil Nadu	1985-87	128	5.5	32.0	53.9	8.6
	1998-99	649	5.2	33.1	54.9	6.8
Karnataka	1985-87	243	1.2	14.0	50.6	34.2
	1998-99	513	11.3	45.4	41.1	2.1
Andhra Pradesh	1985-87	904	4.3	26.6	49.9	19.2
	1998-99	637	8.0	36.6	46.5	8.9
Maharashtra	1985-87	343	2.3	24.8	58.0	14.9
	1998-99	694	3.2	24.2	57.3	15.3
Gujarat	1985-87	419	3.6	27.0	42.2	27.2
	1998-99	693	8.8	35.1	46.8	9.4
Orissa	1985-87	276	8.3	22.1	45.7	24.9
	1998-99	940	3.6	34.3	55.9	6.3
West Bengal	1985-87	314	6.4	26.1	52.5	15.0
	1998-99	456	7.9	37.5	49.3	5.3
Pooled	1985-87	2789	4.6	24.3	50.7	20.4
	1998-99	4981	6.5	35.2	50.4	7.8

FIG. 14 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - KERALA







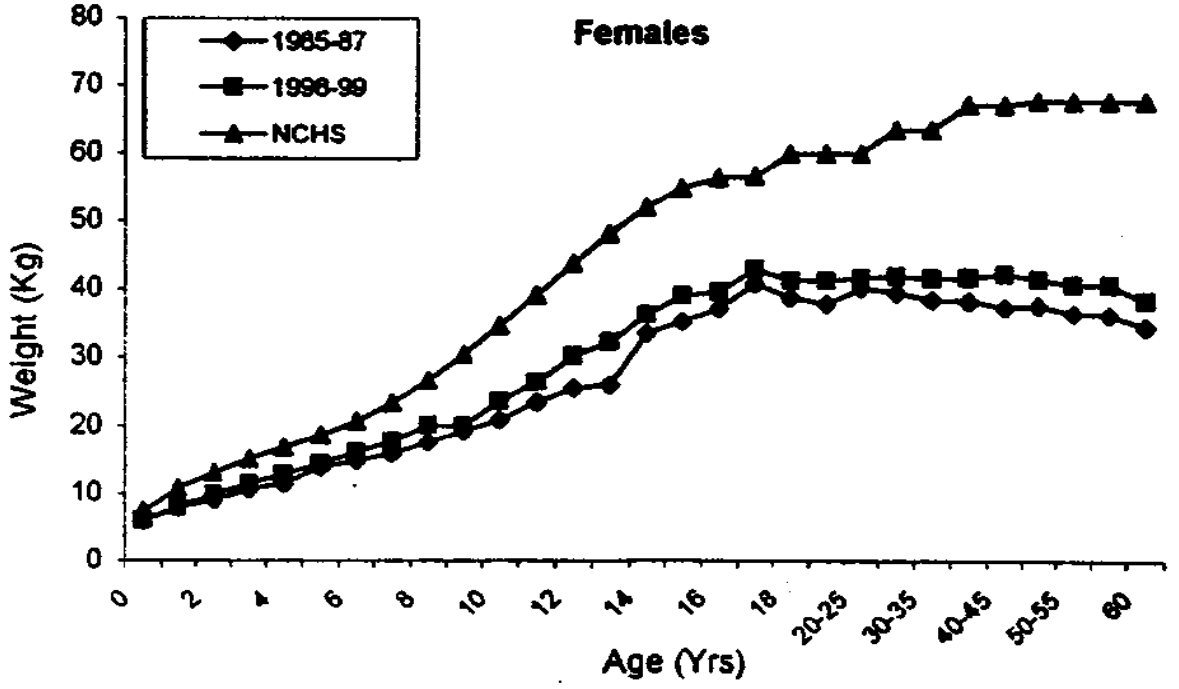
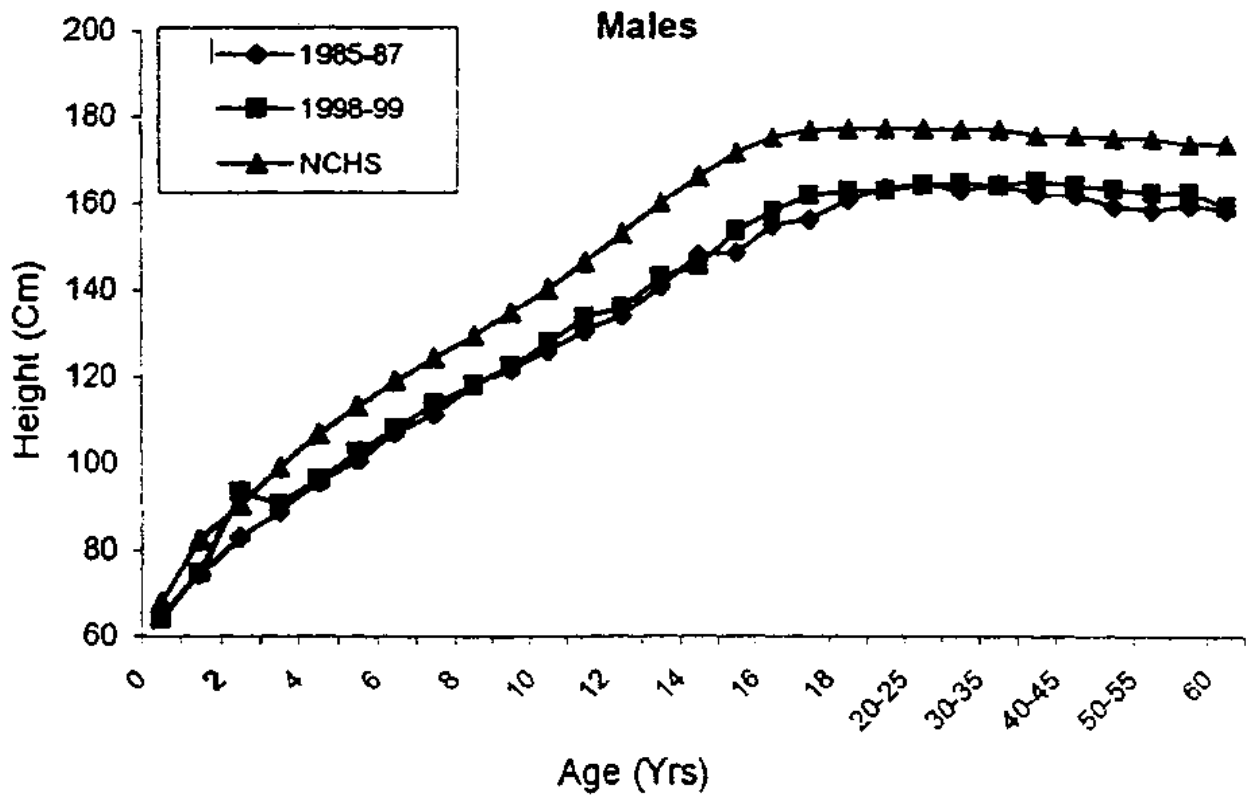
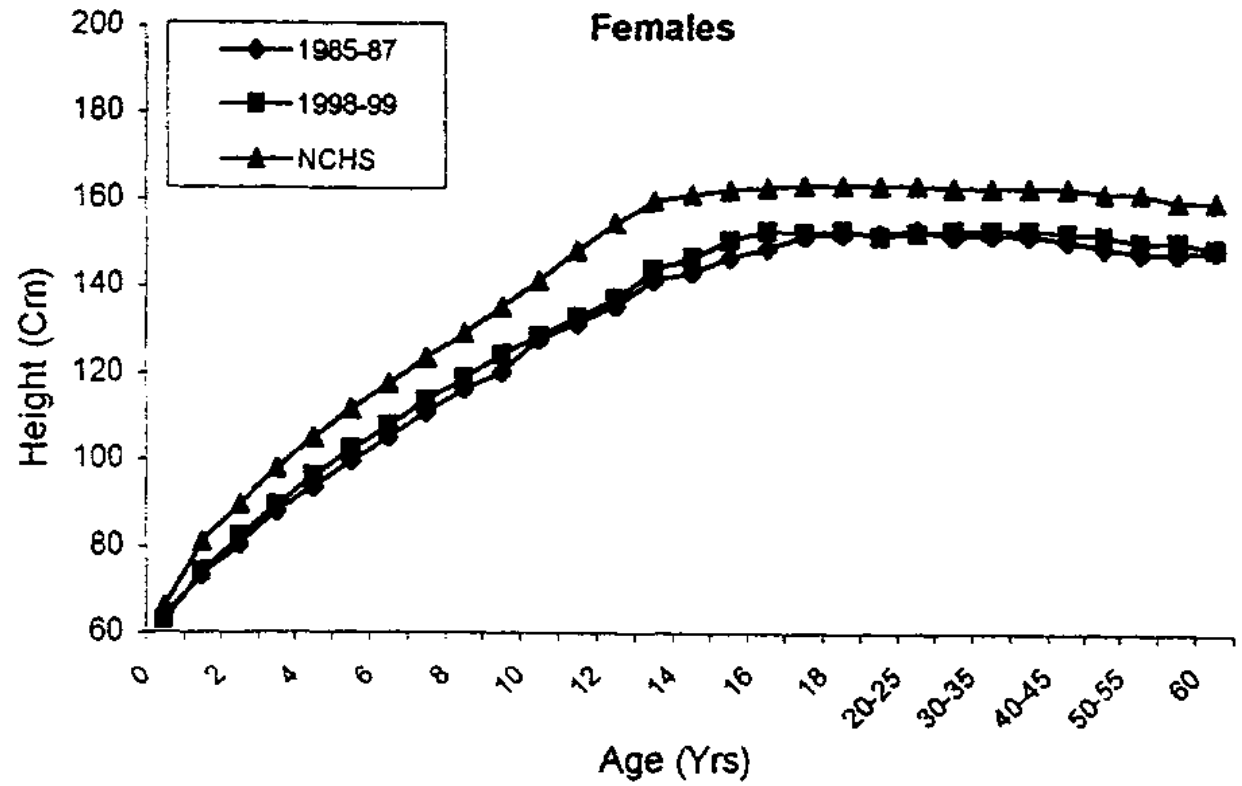
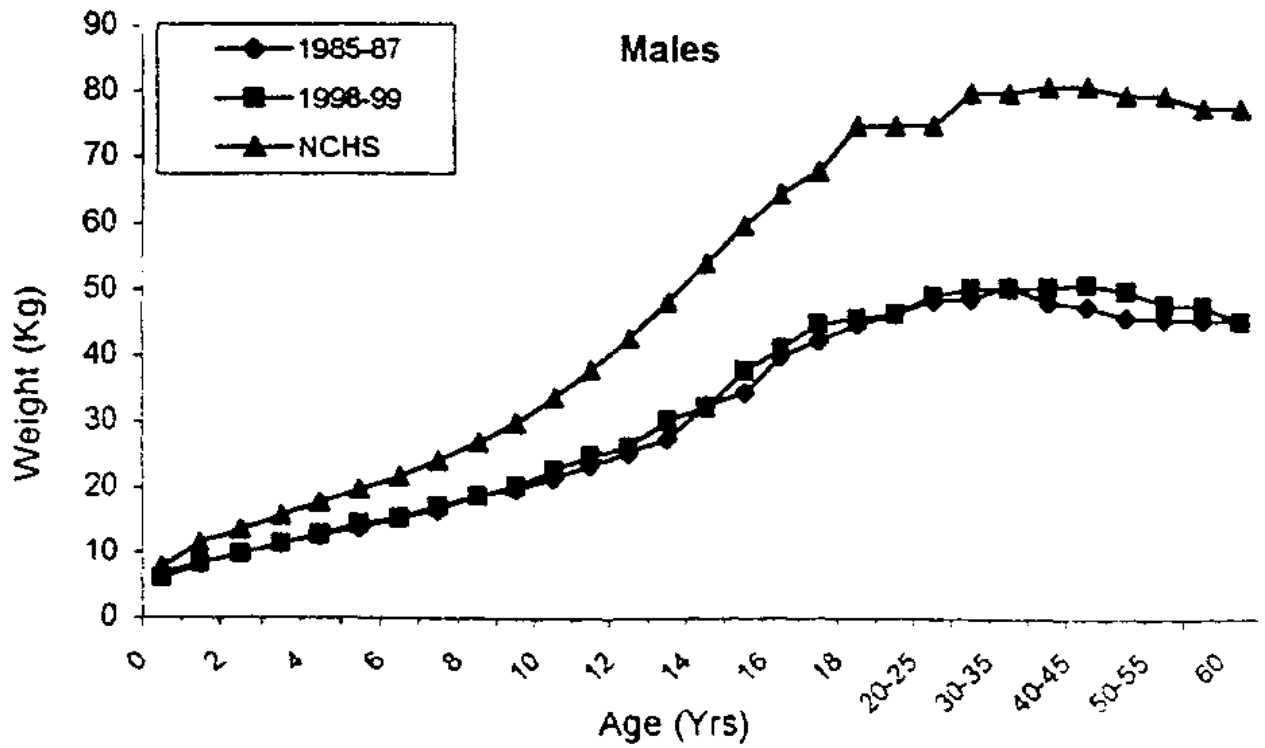


FIG.15 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - TAMIL NADU







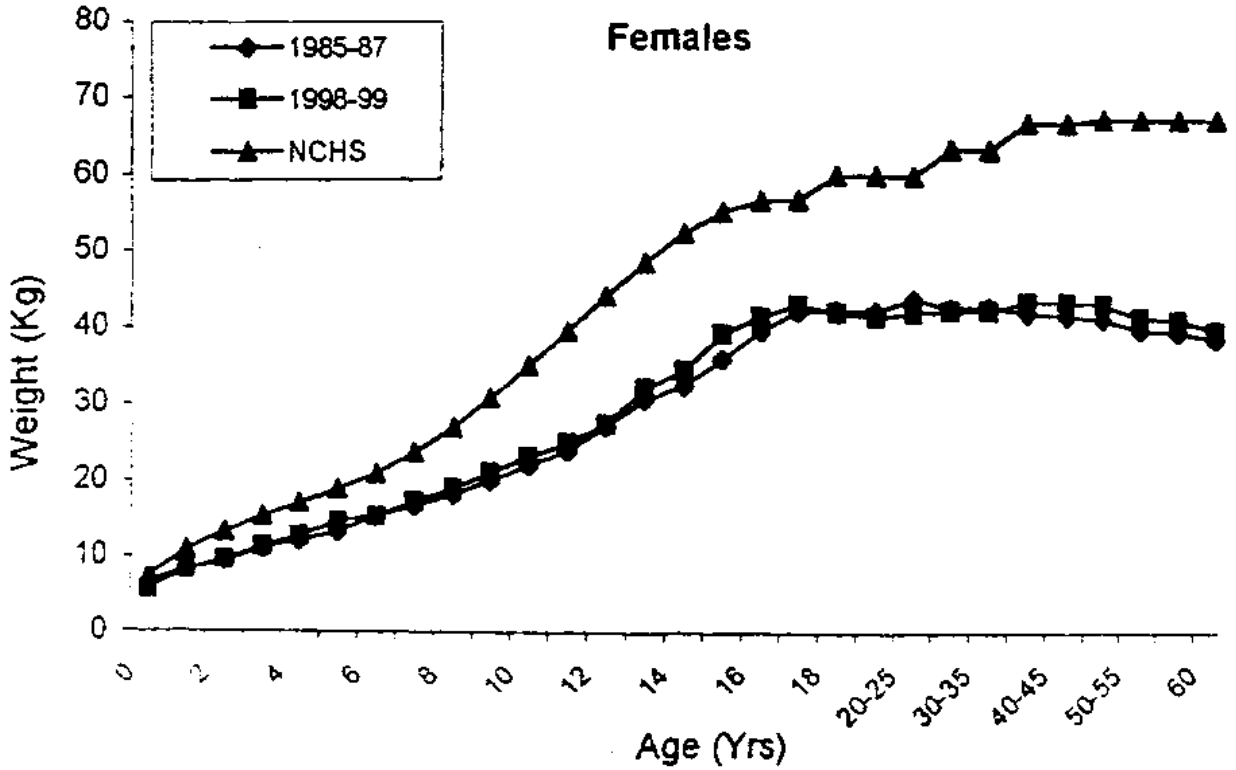
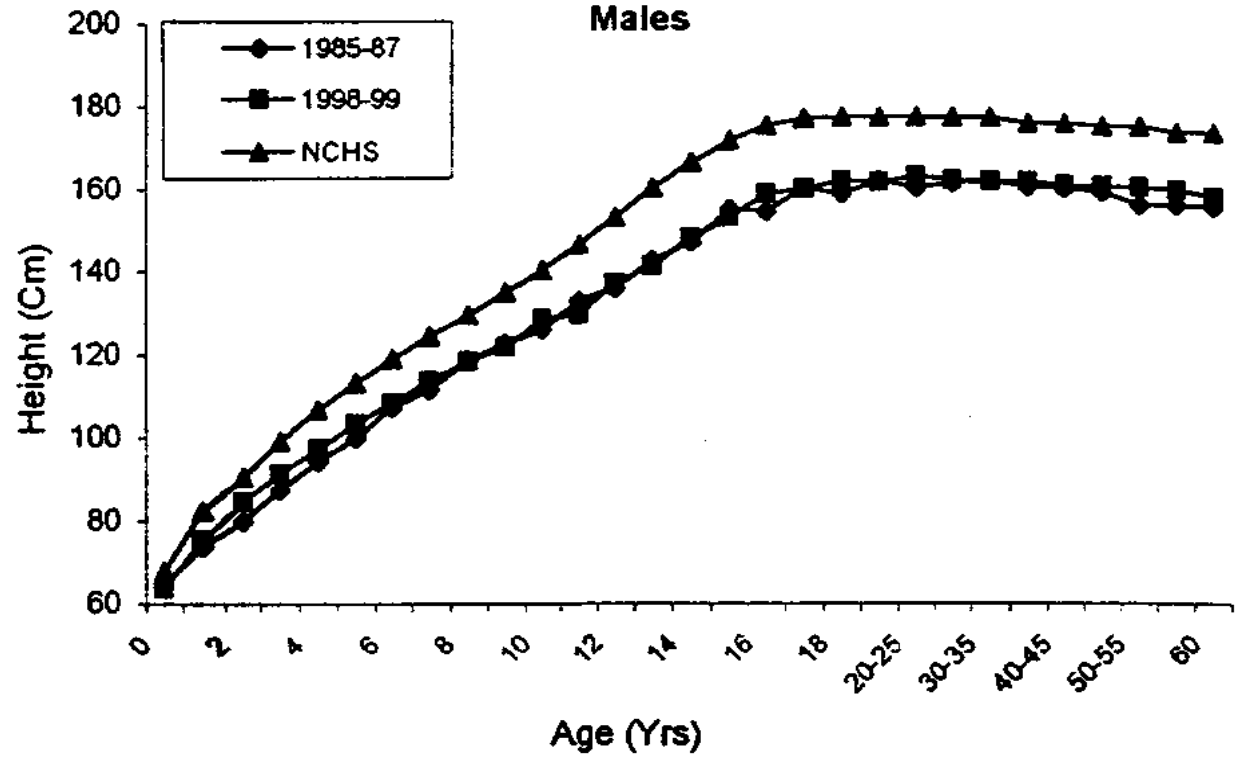
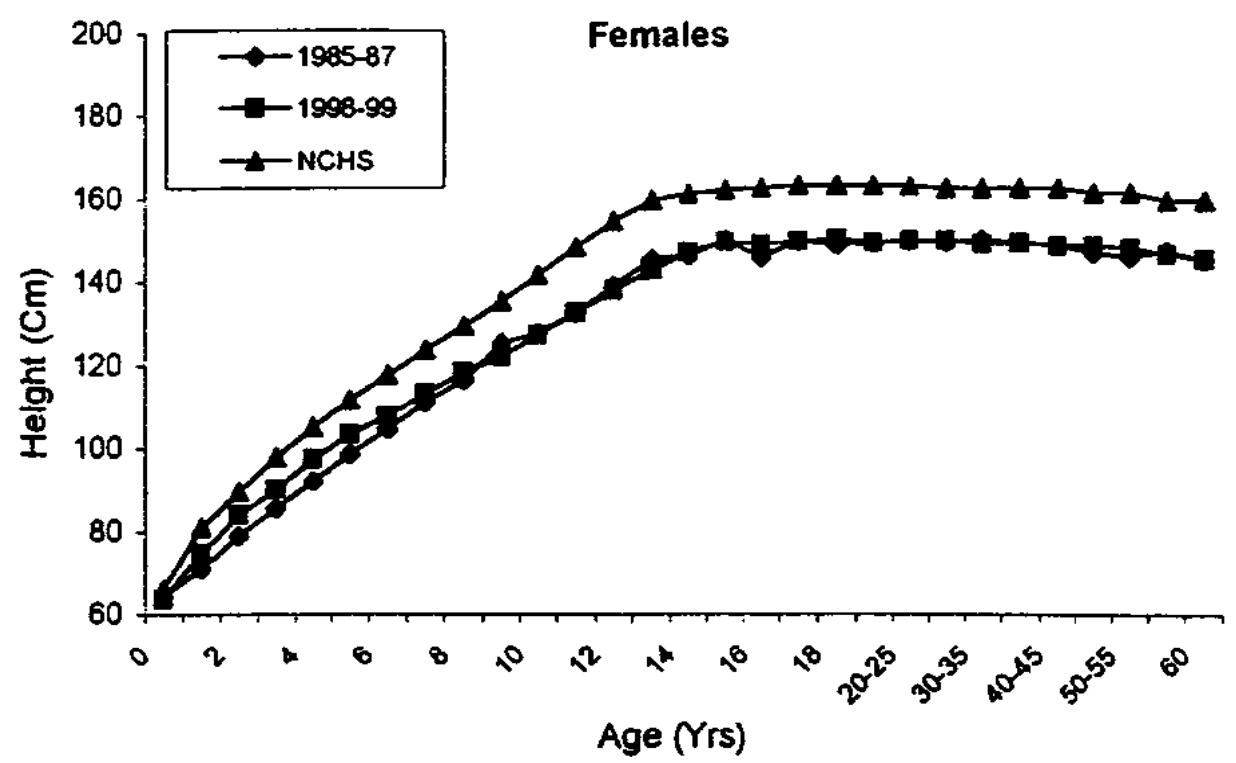
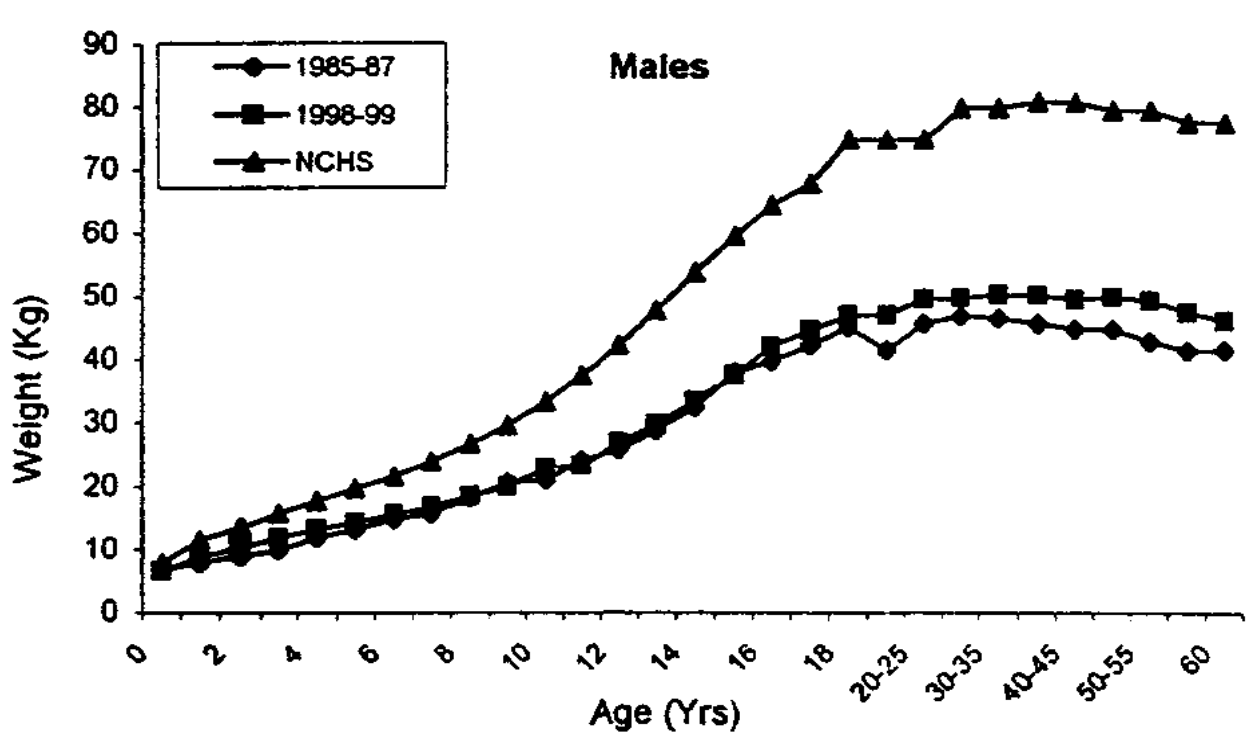


FIG. 16 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - KARNATAKA







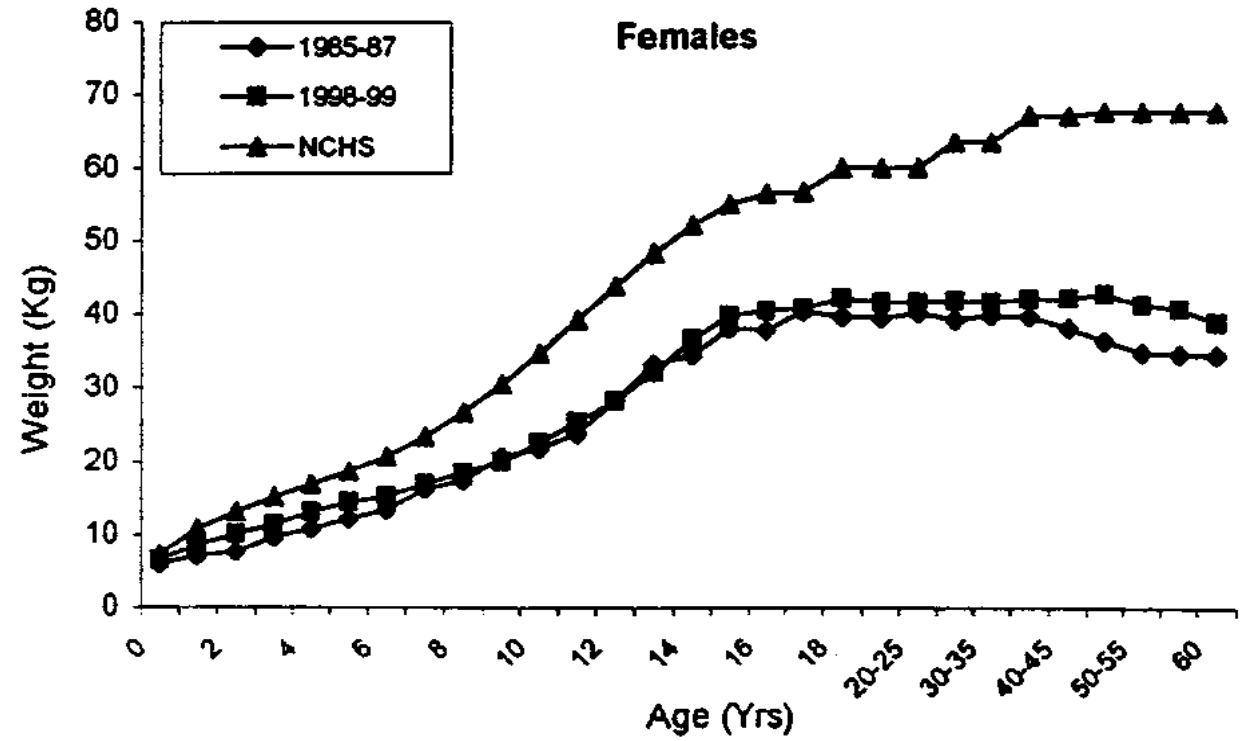
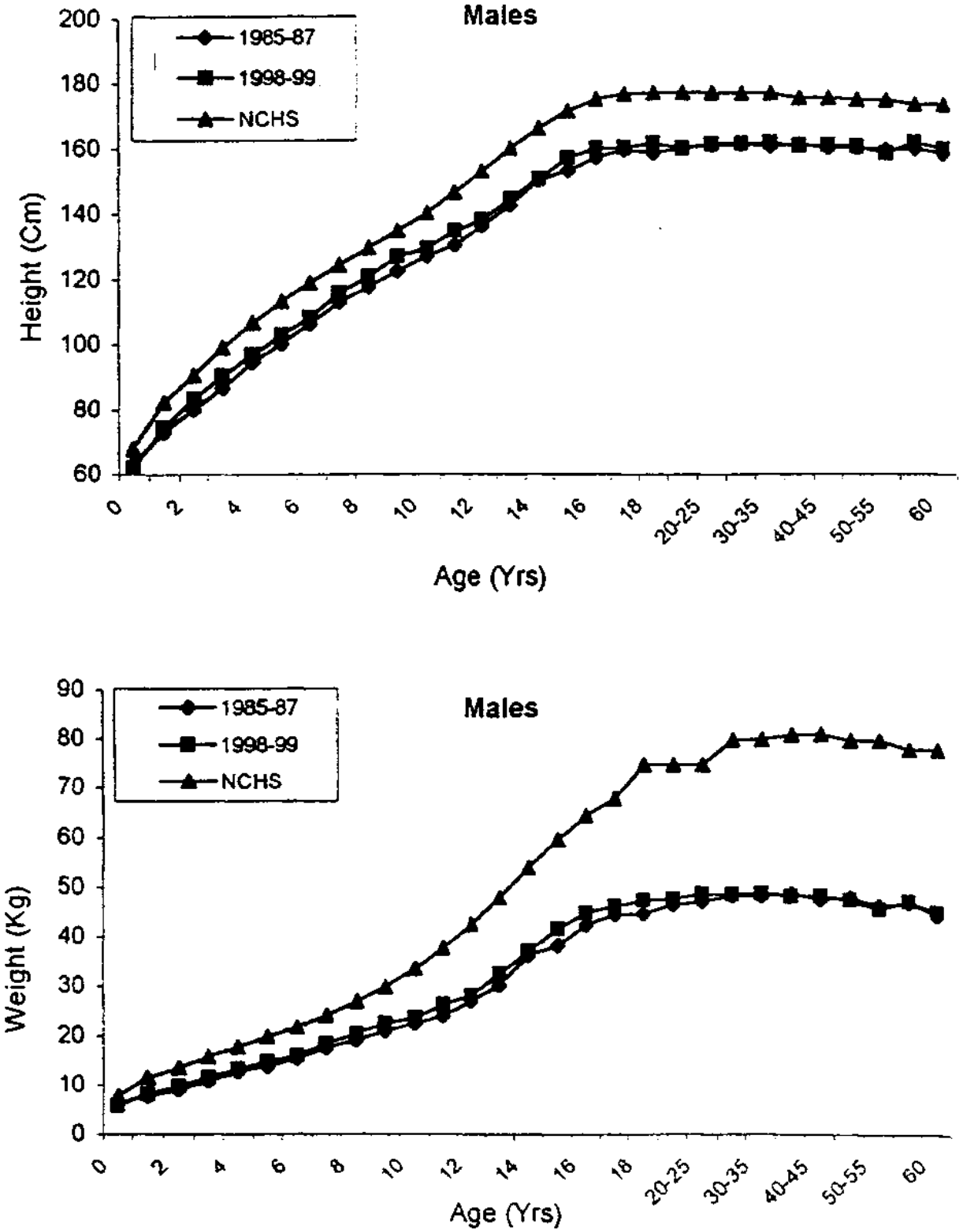


FIG. 17 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - ANDHRA PRADESH



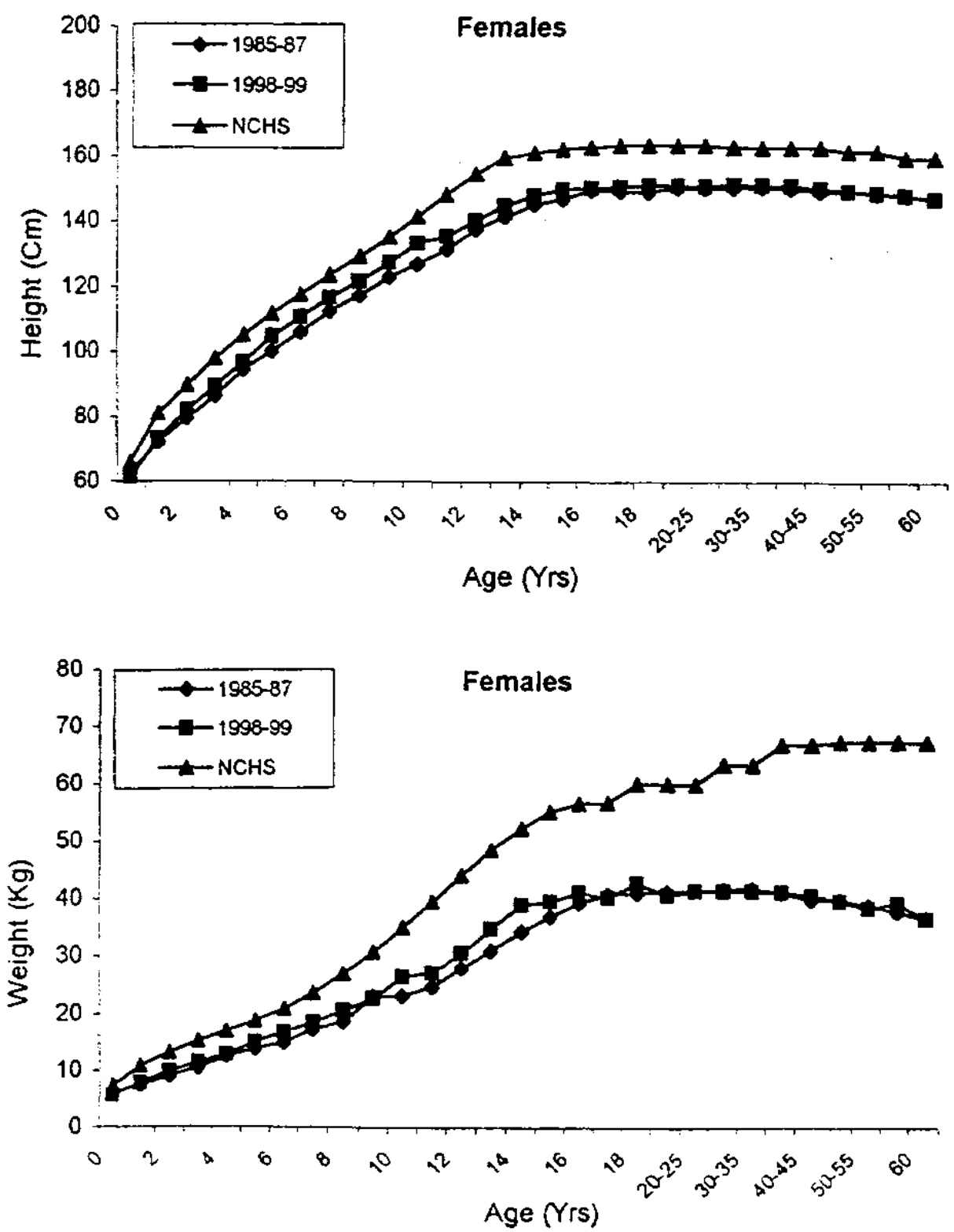
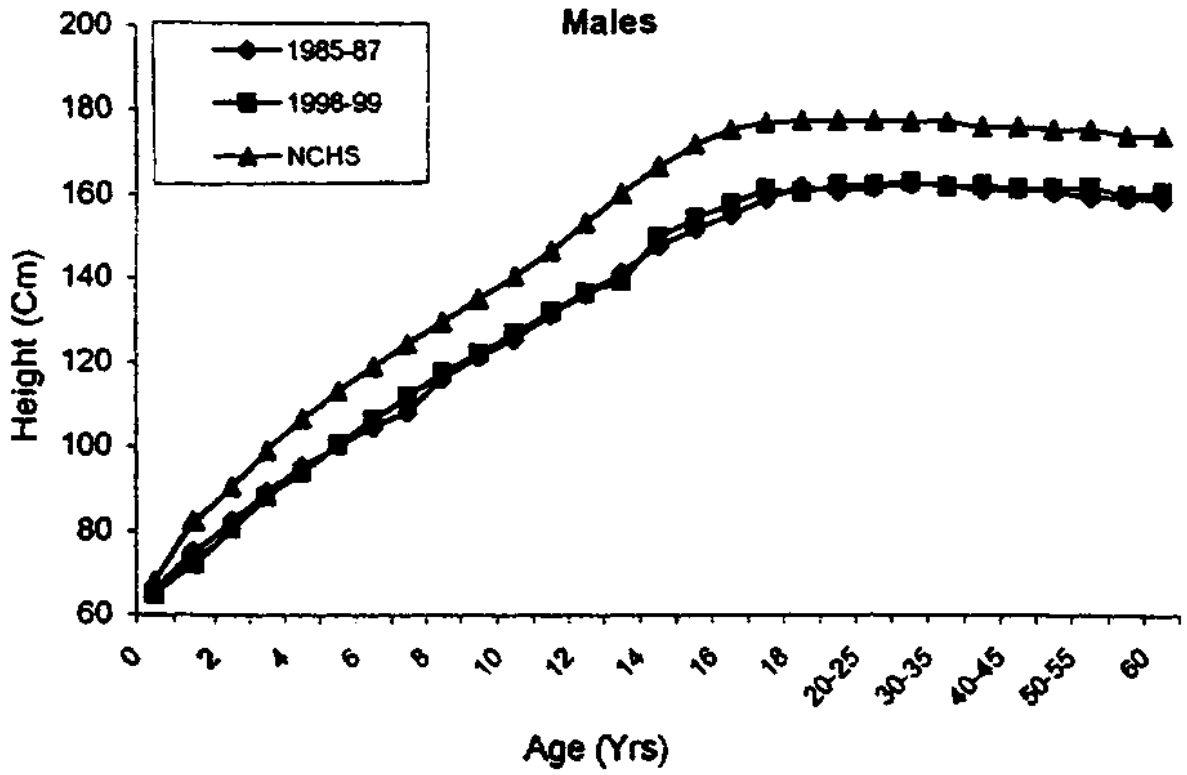
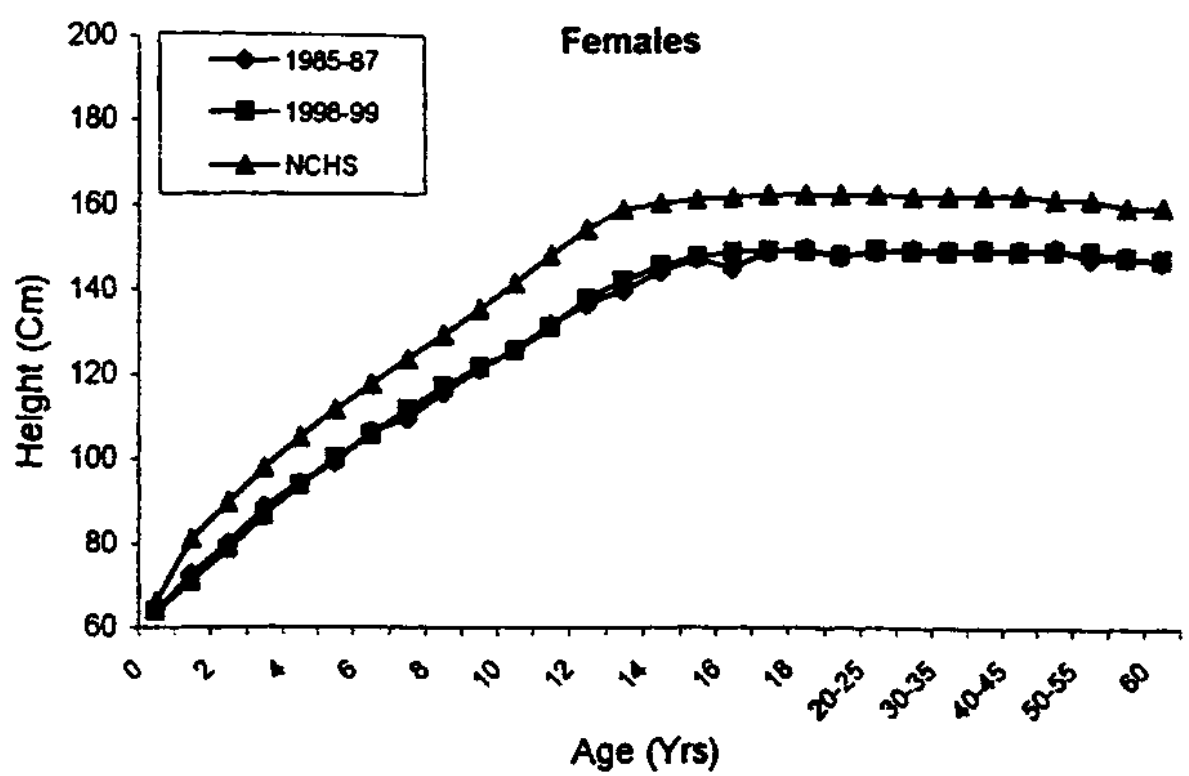
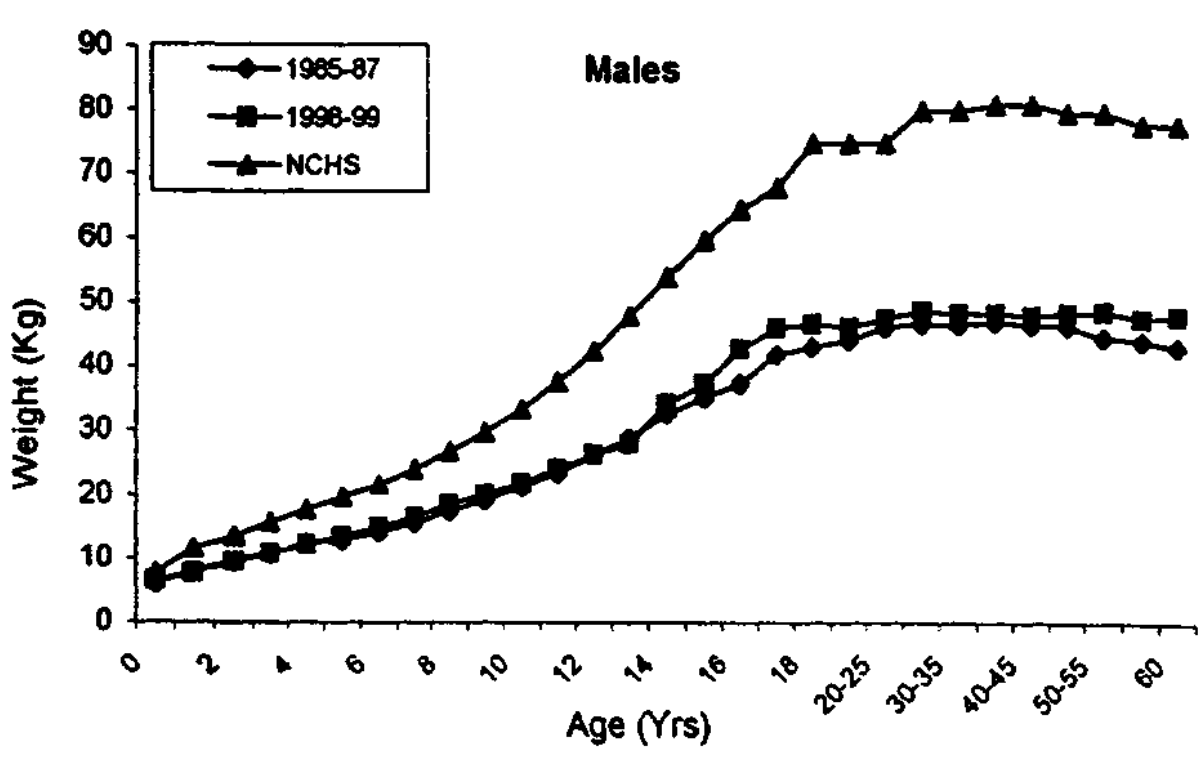


FIG. 18 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - MAHARASHTRA







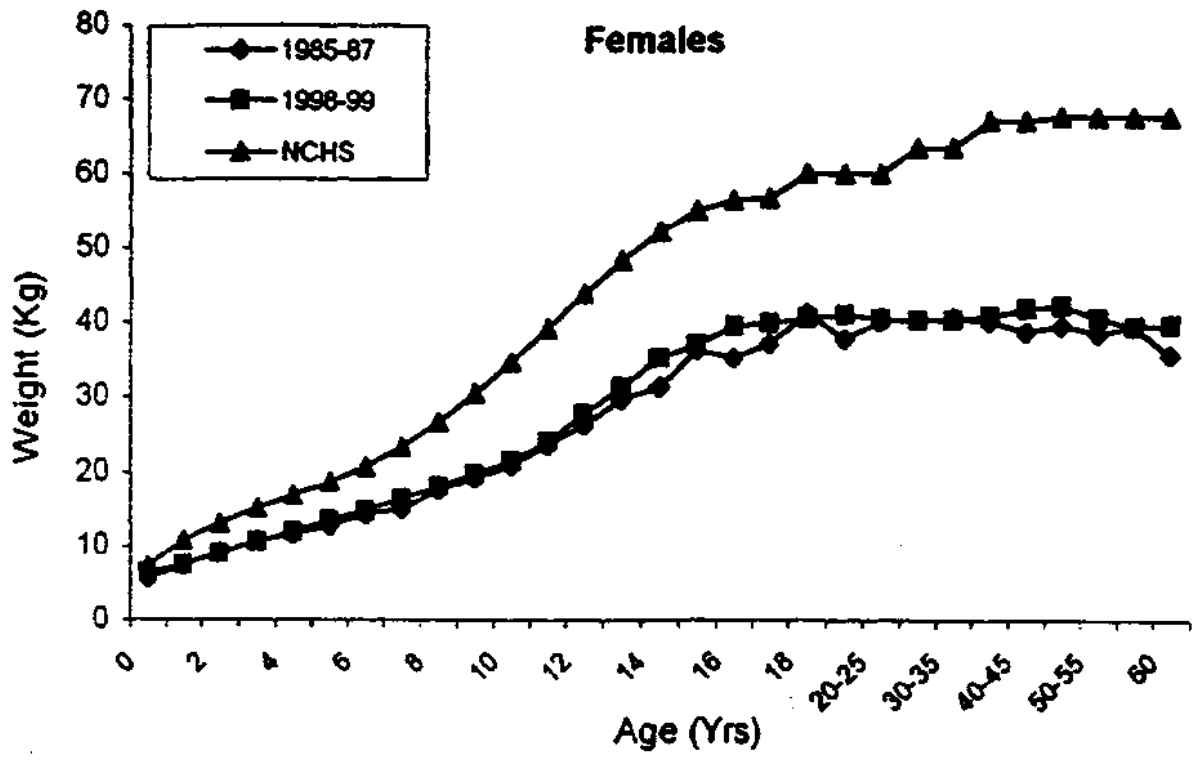
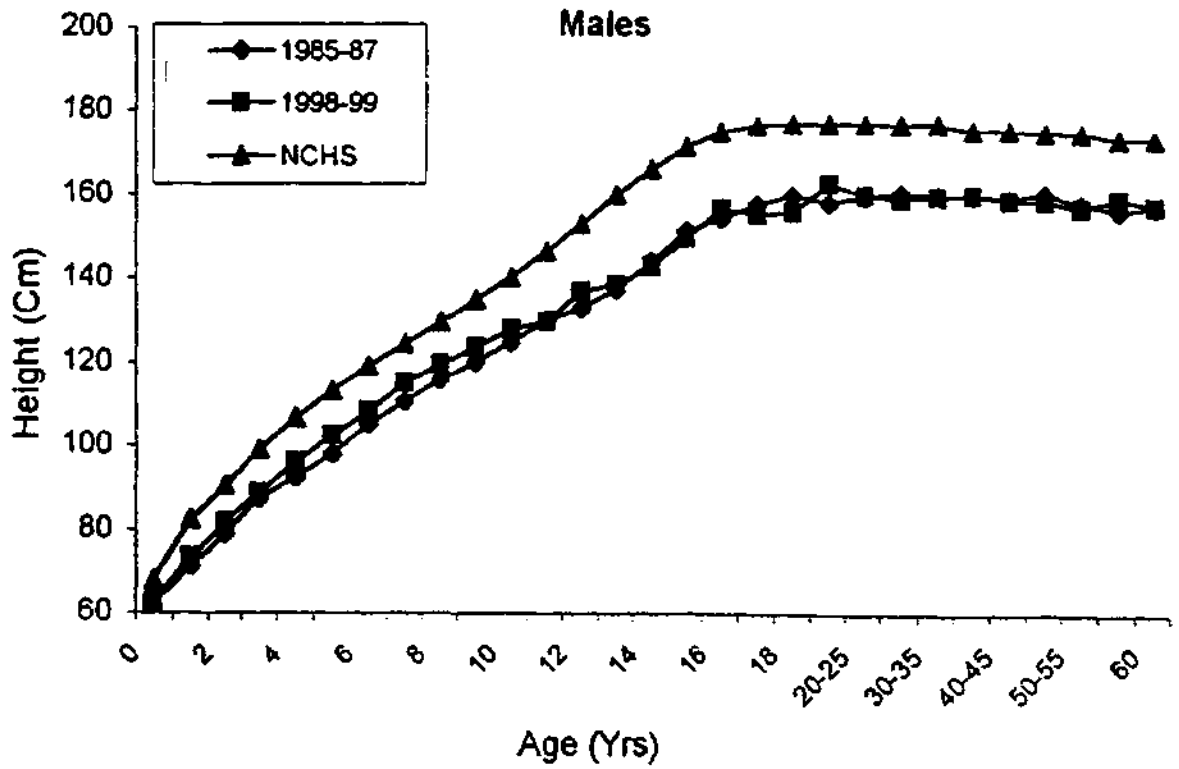
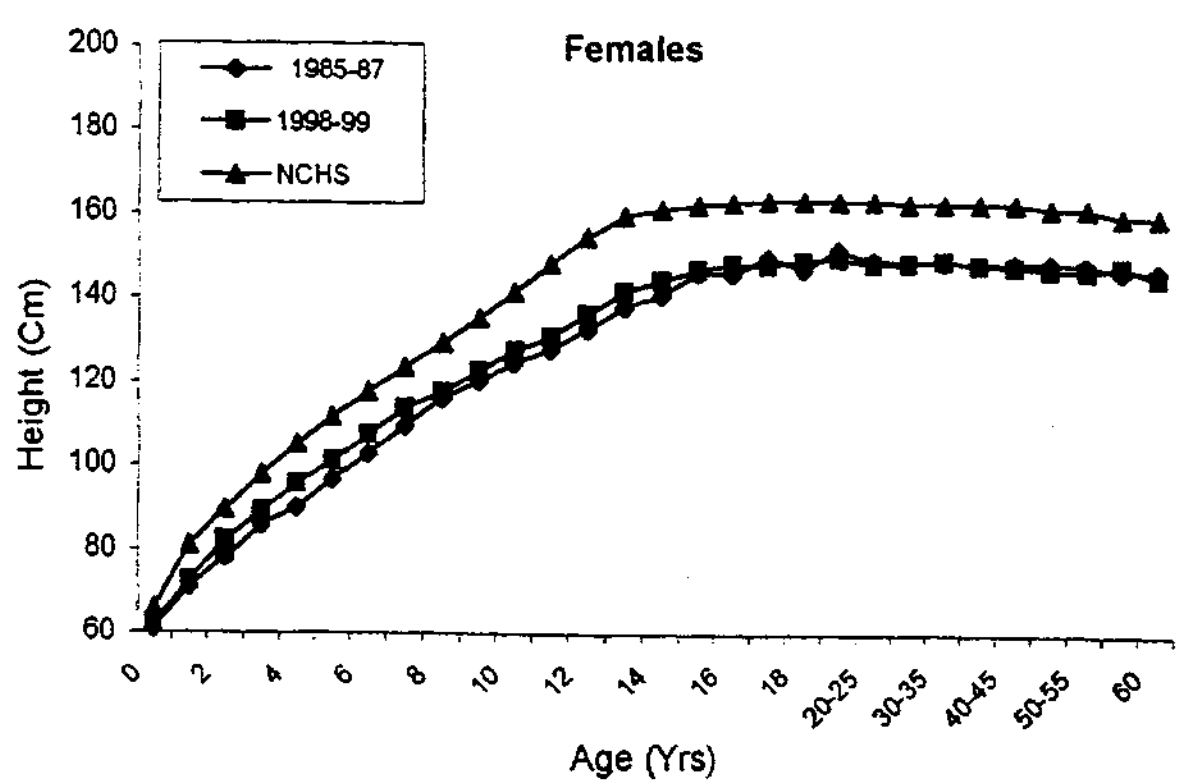
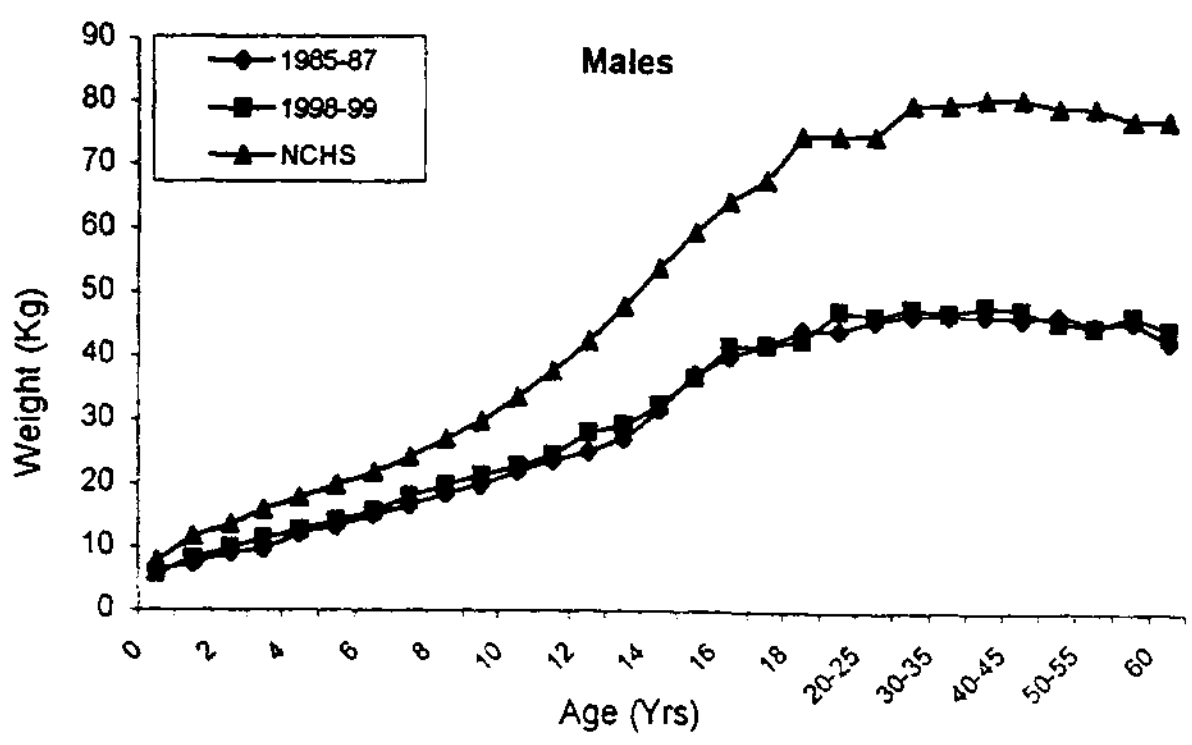


FIG.19 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - GUJARAT







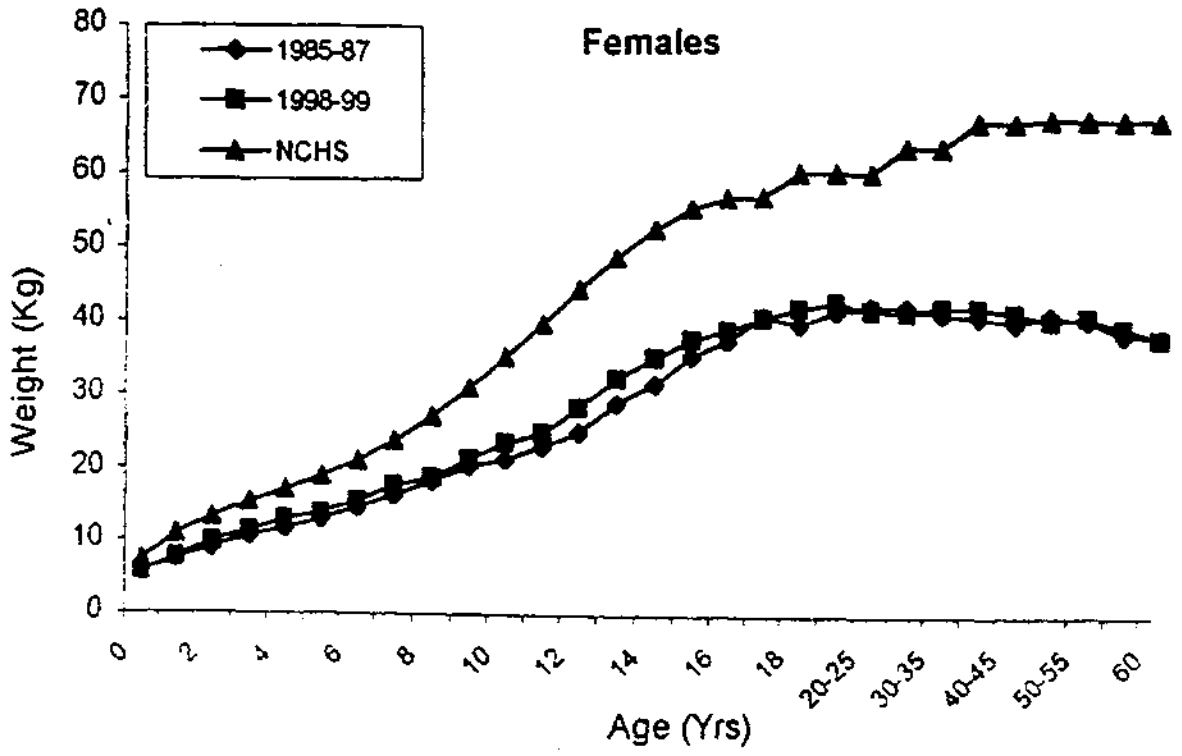
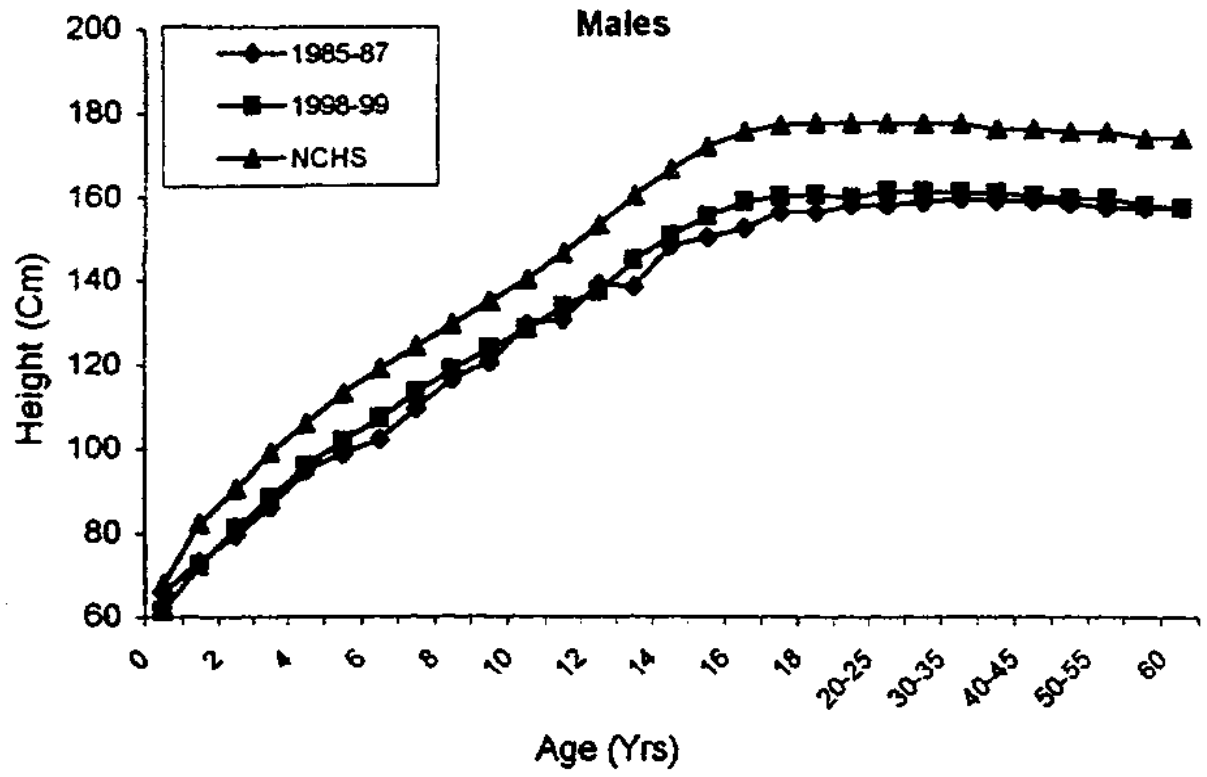
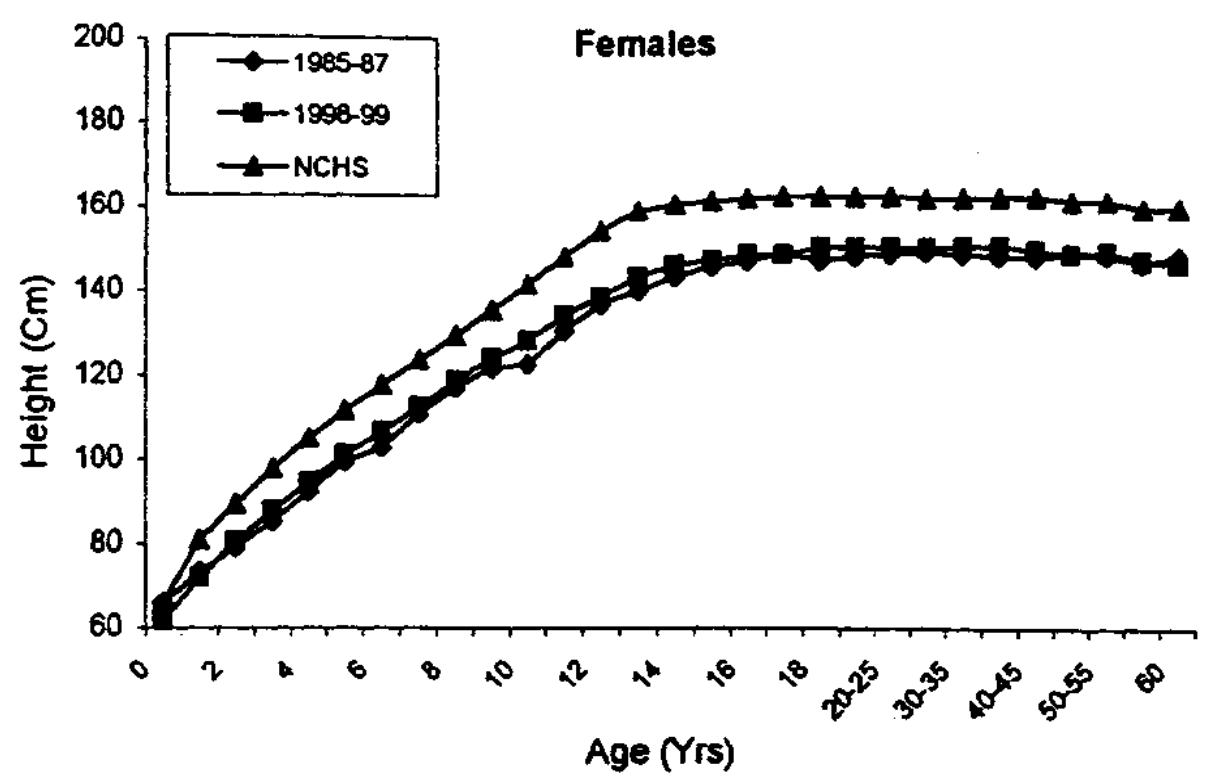
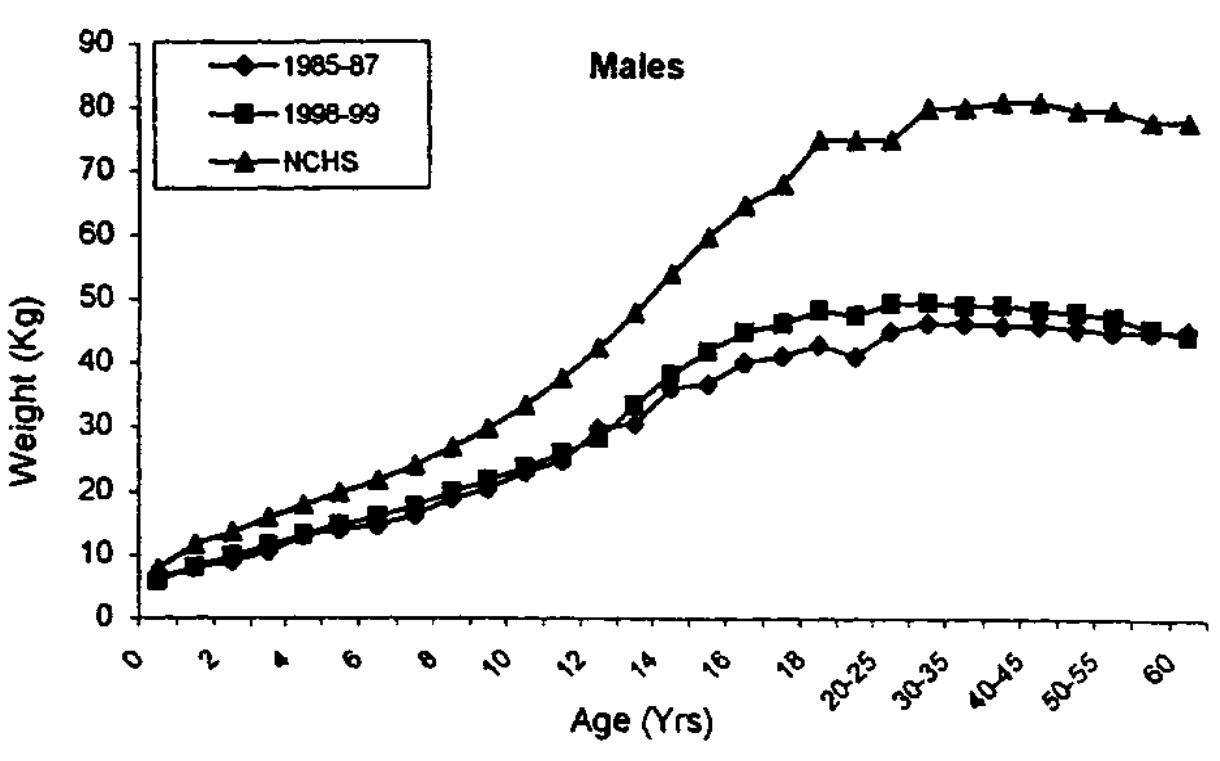


FIG. 20 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - ORISSA







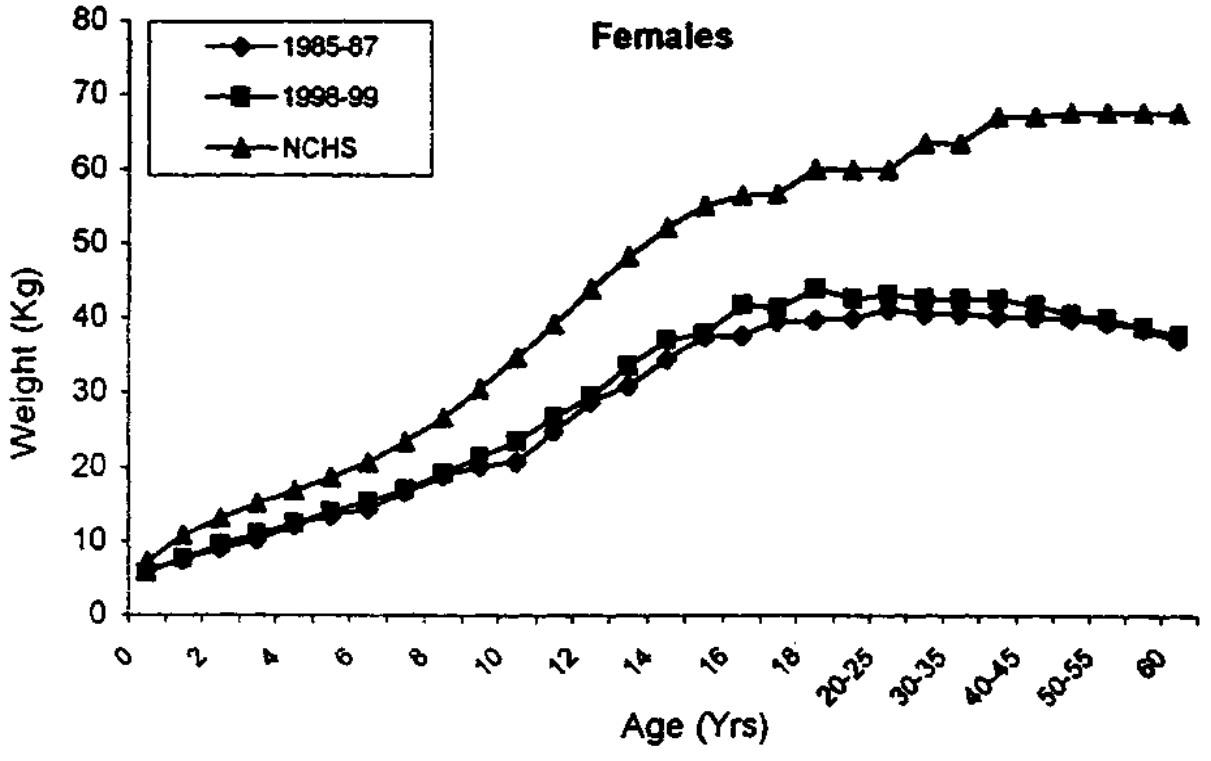
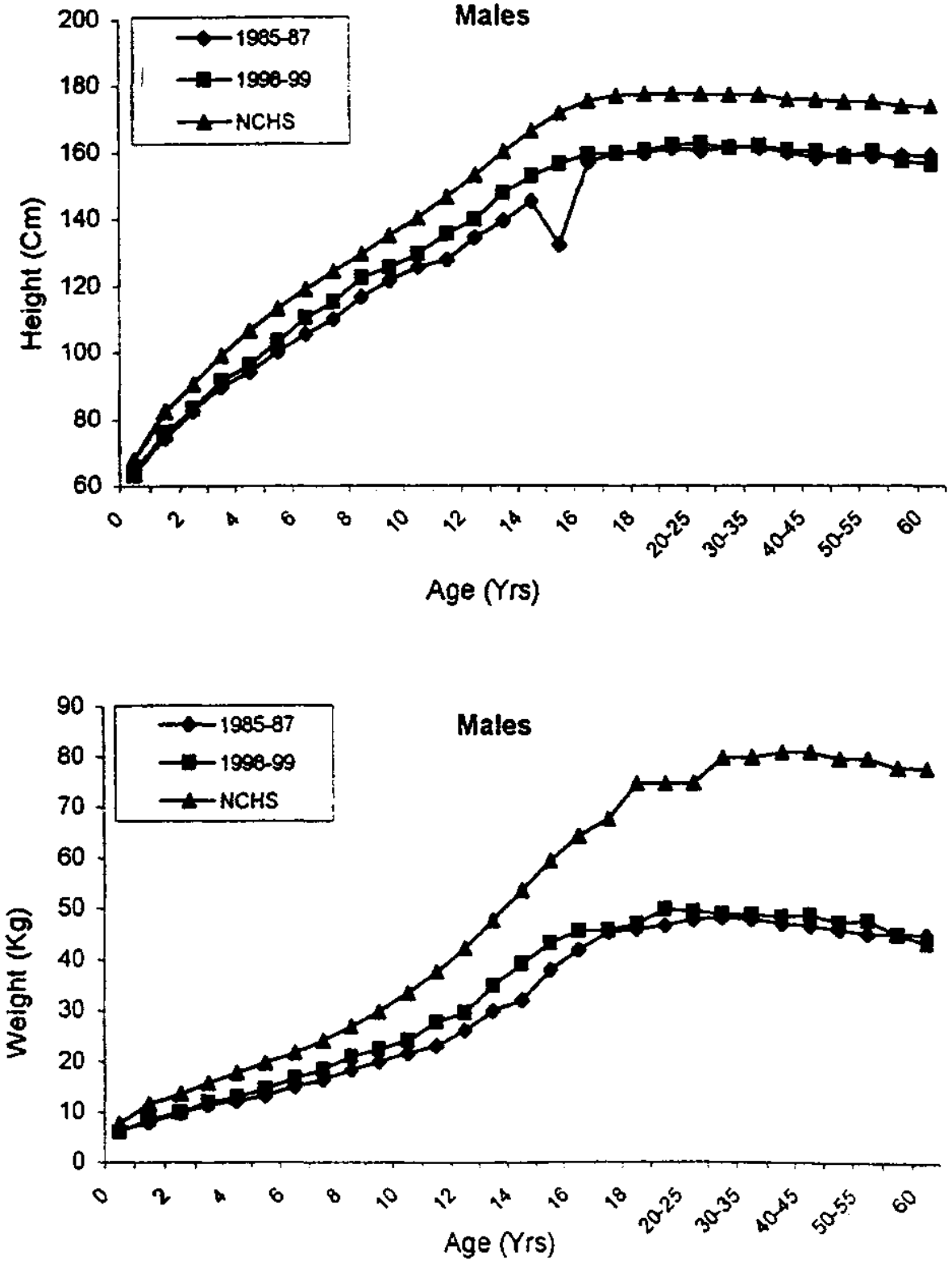


FIG. 21 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - WEST BENGAL



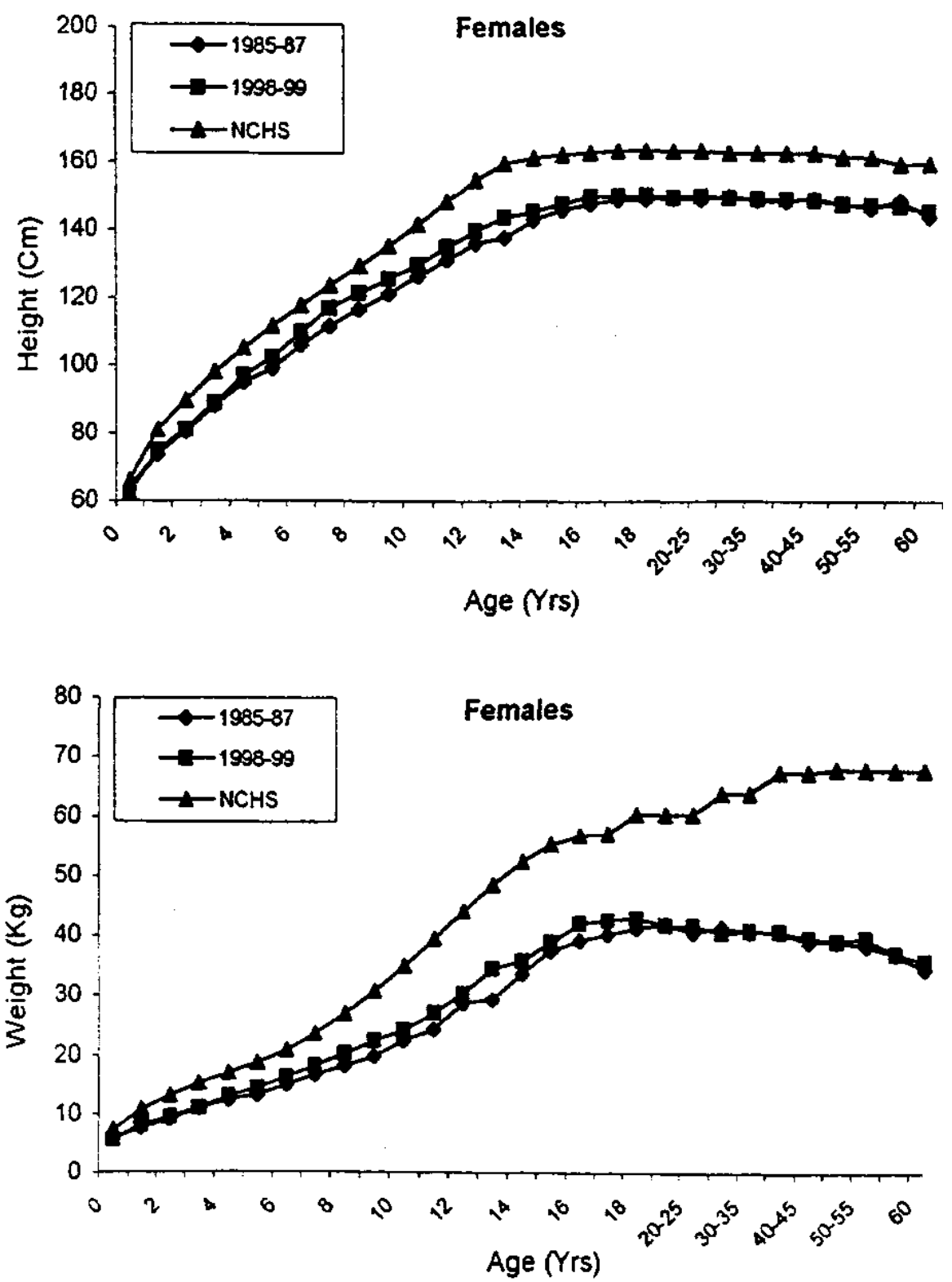
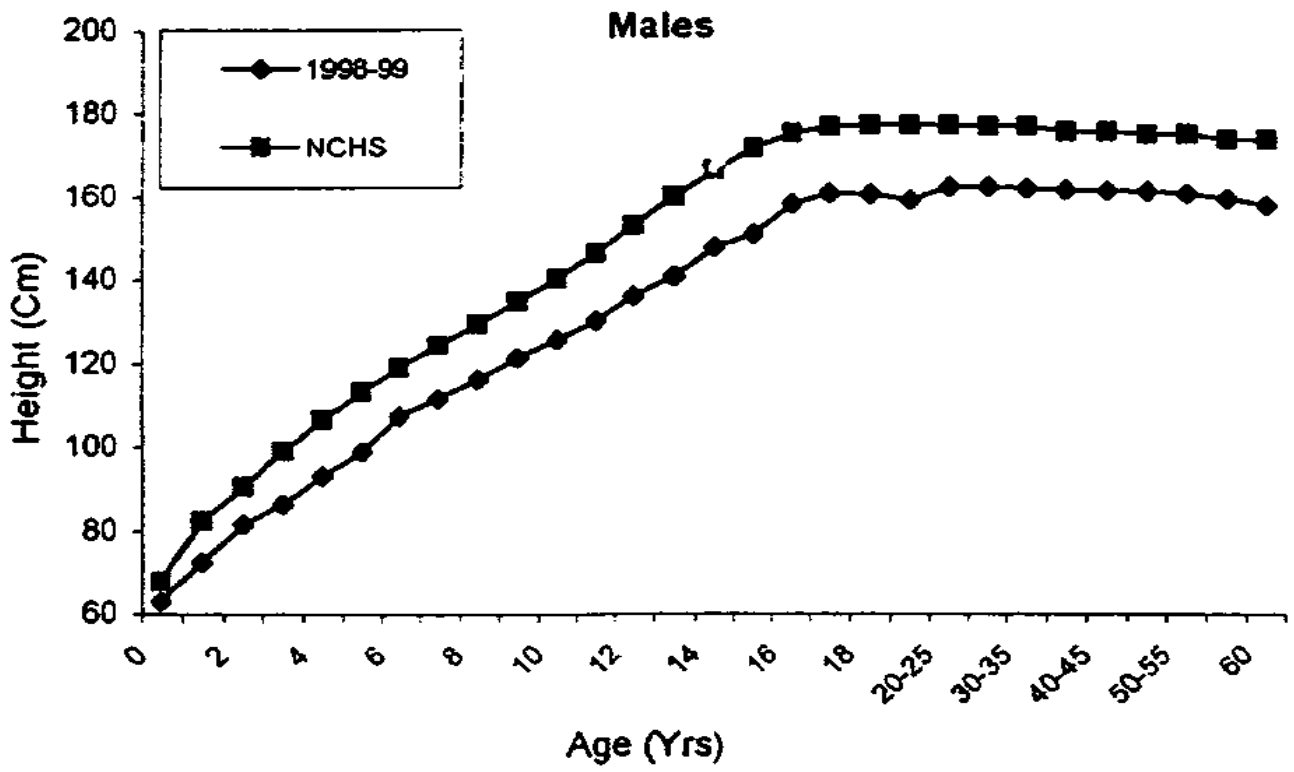
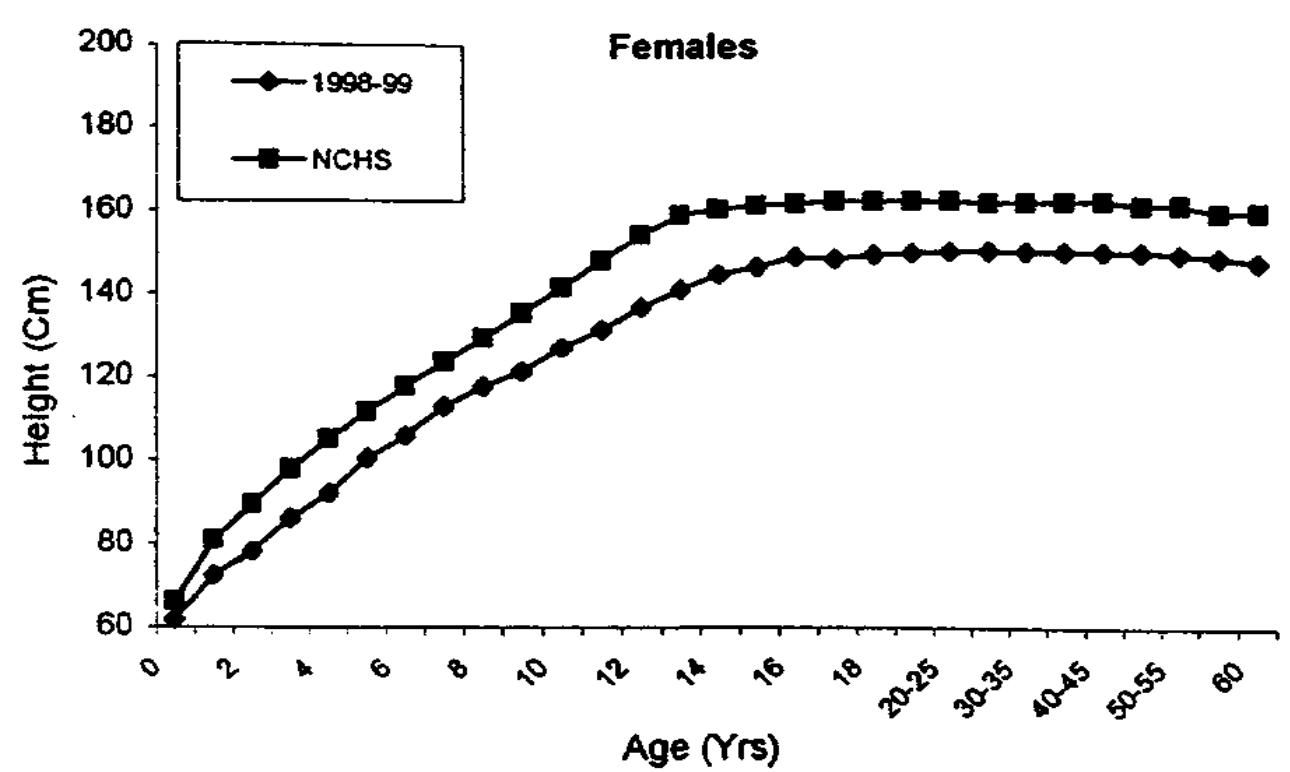
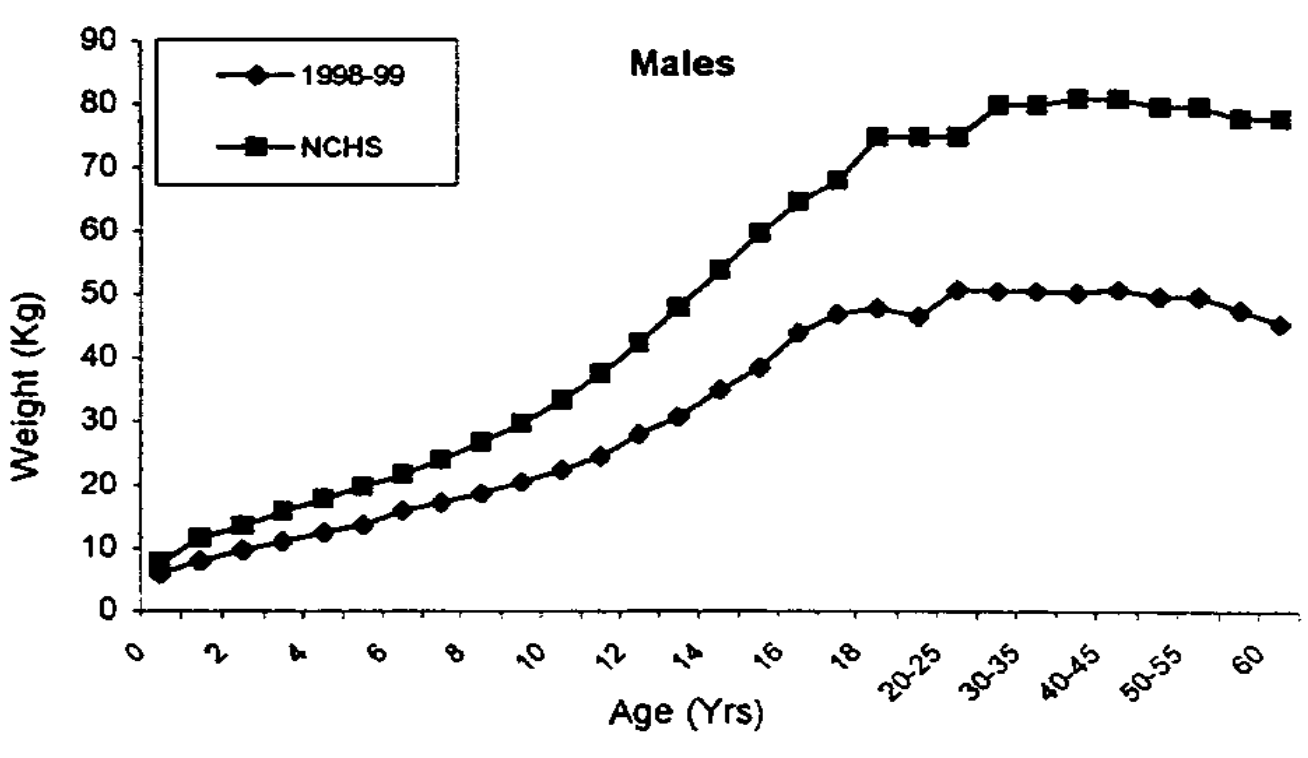


FIG. 22 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - MADHYA PRADESH







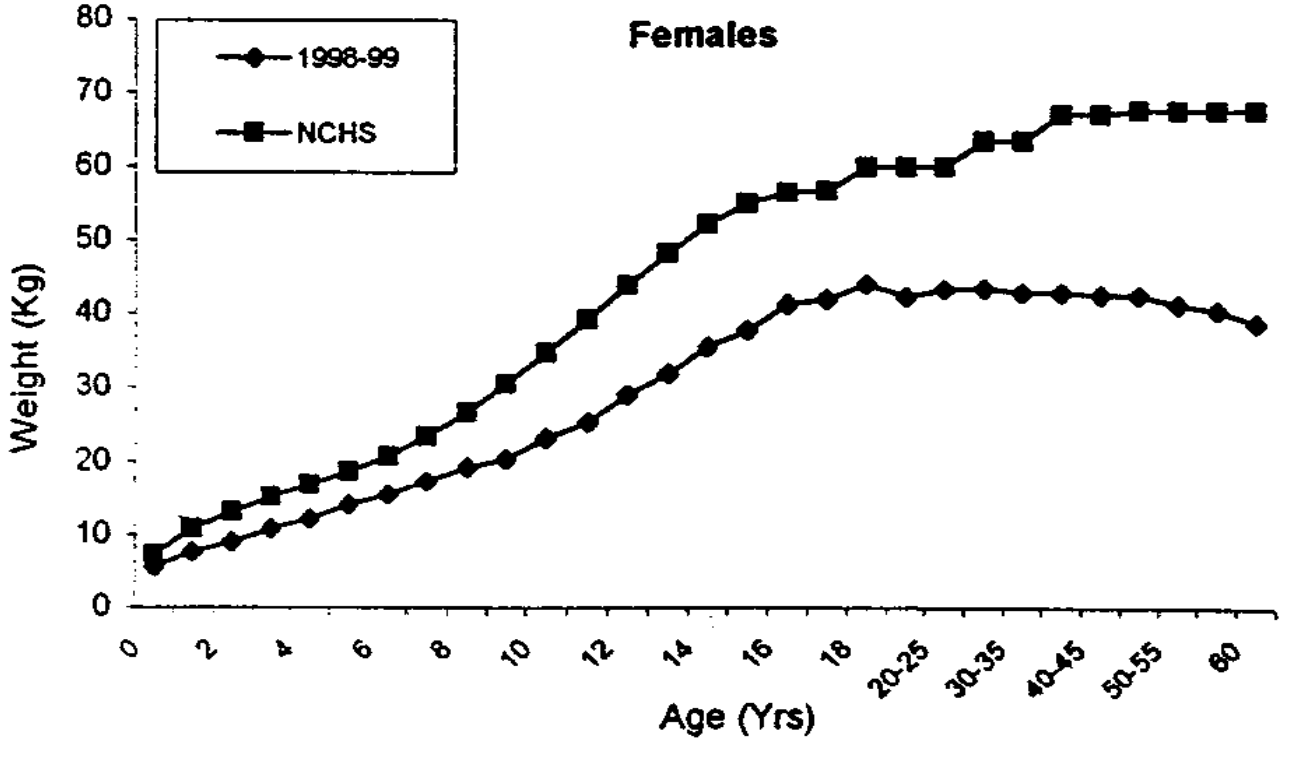
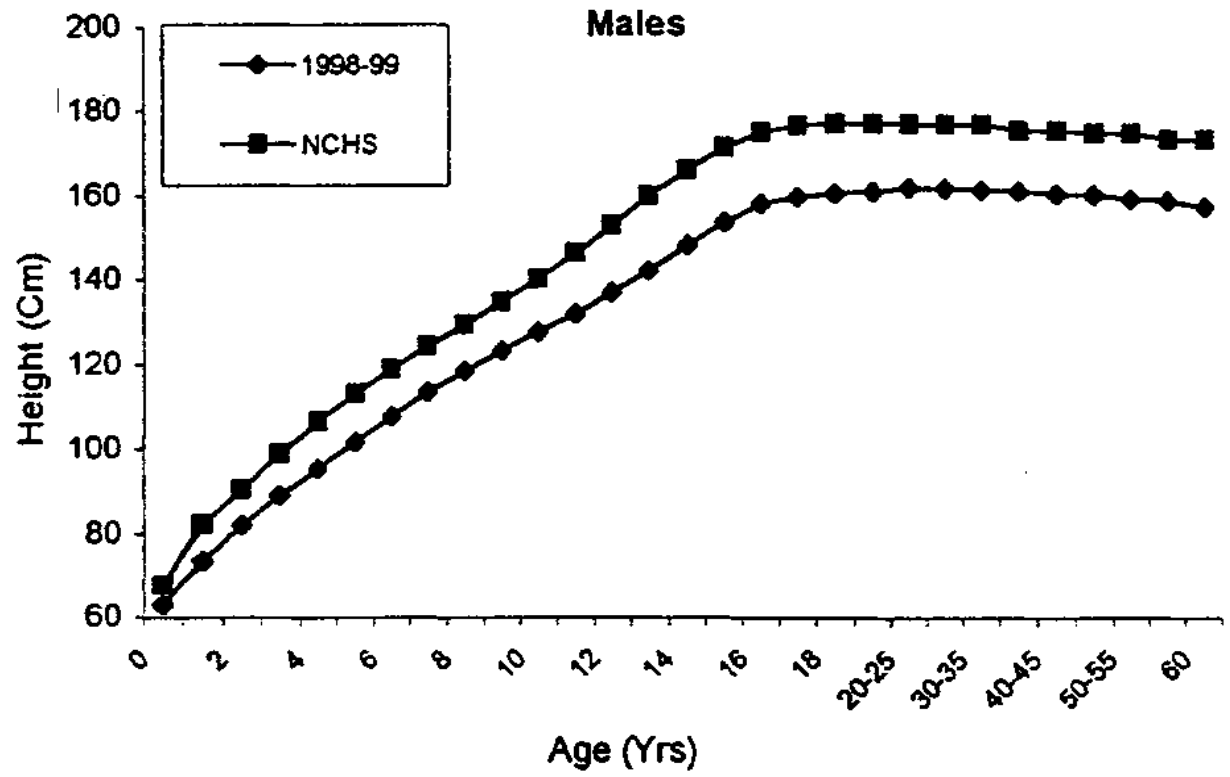
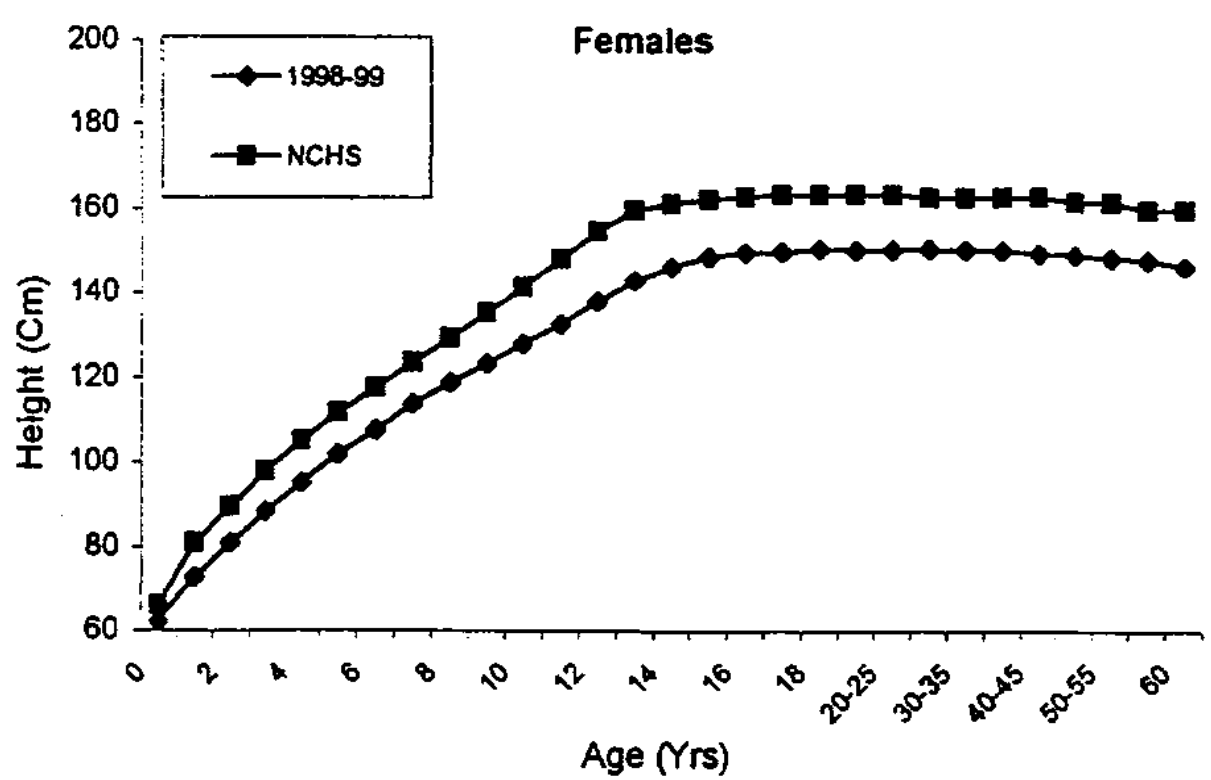
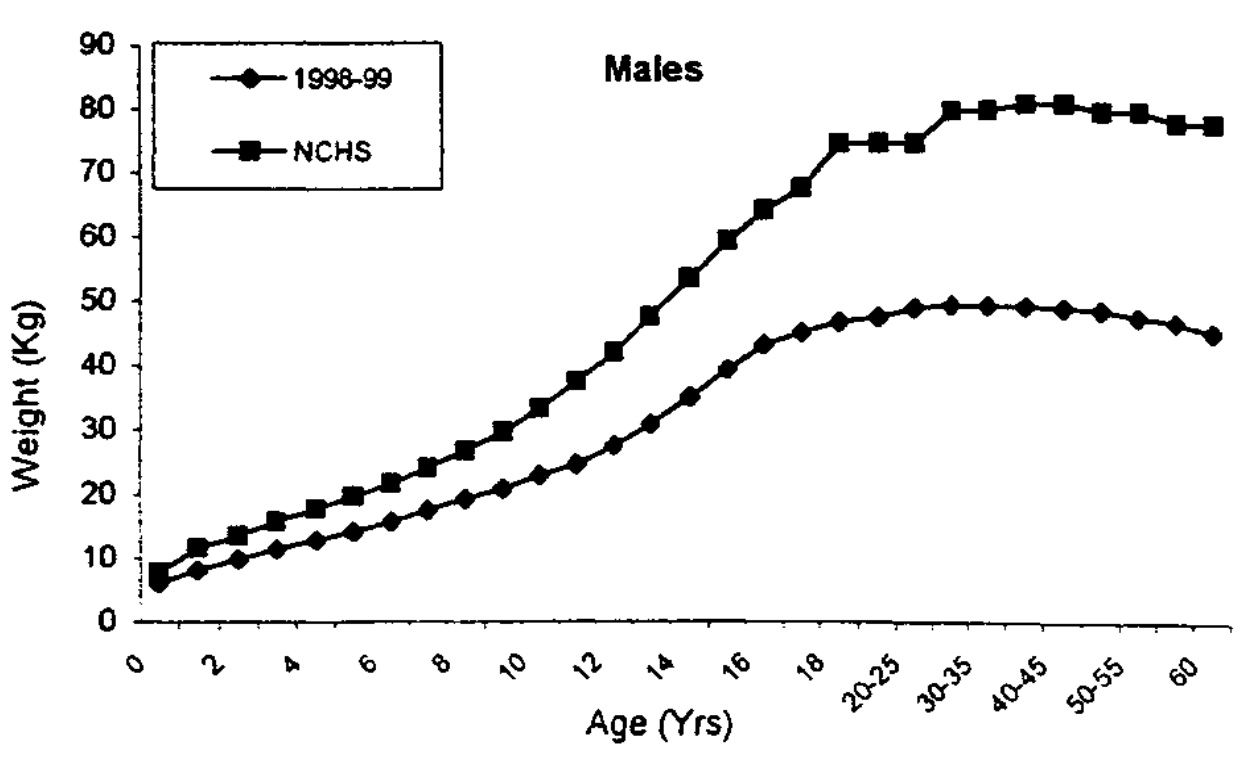


FIG.23 DISTANCE CHARTS FOR HEIGHTS AND WEIGHTS FOR MALES AND FEMALES - STATES POOLED







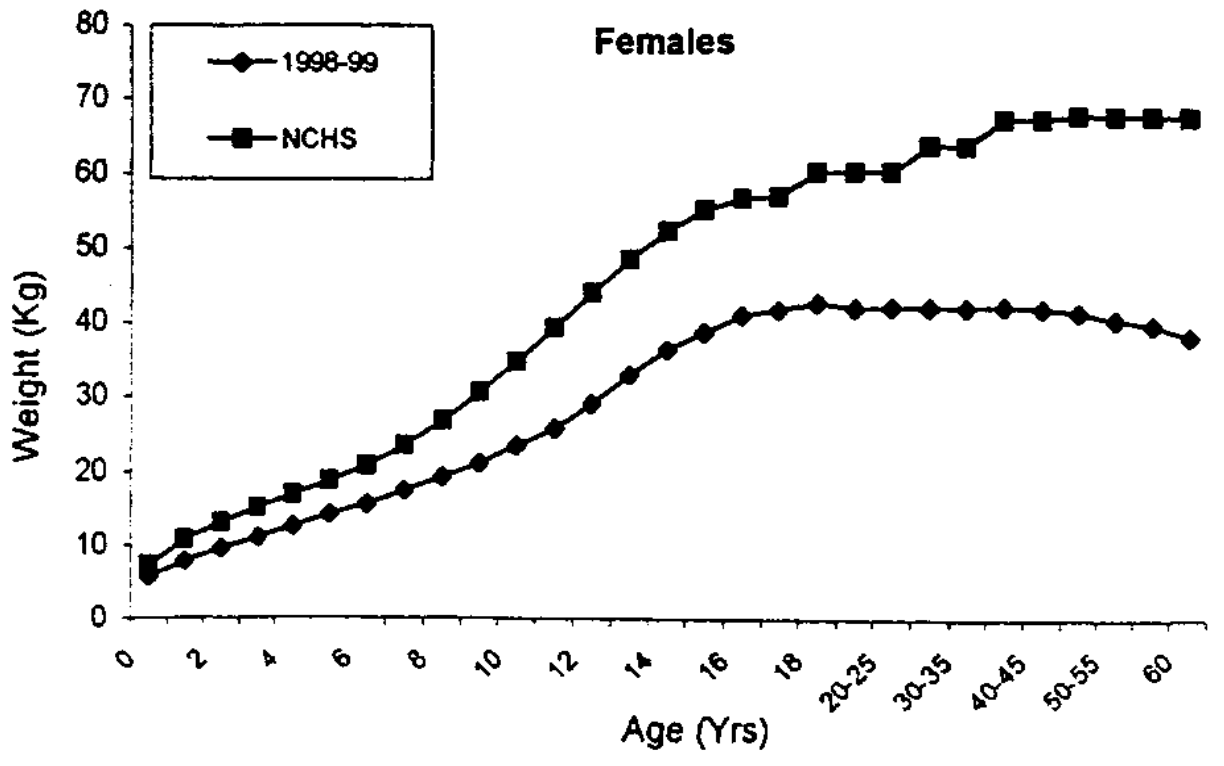
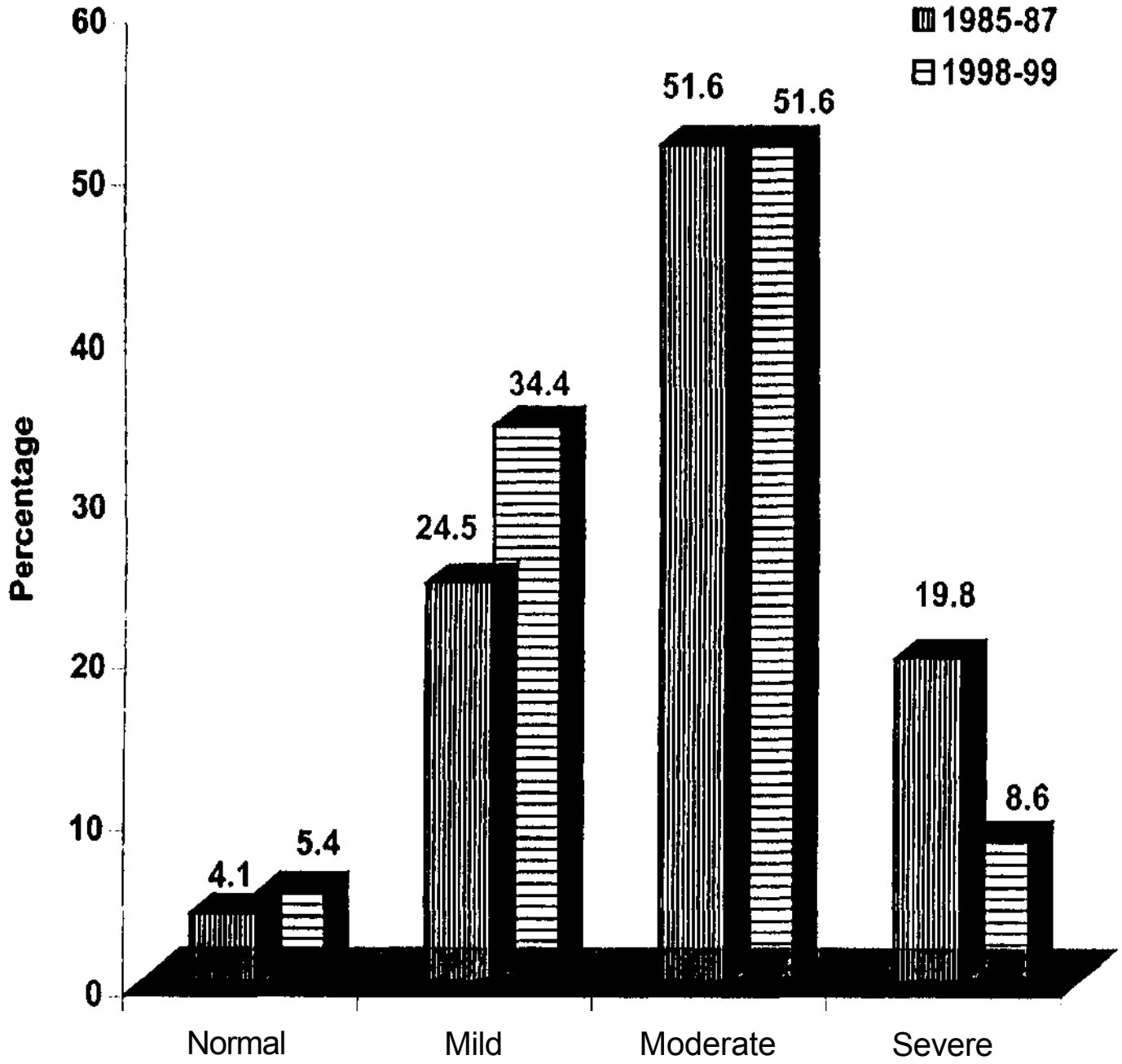


Fig.24
DISTRIBUTION (%) OF CHILDREN (1-5 Yrs) ACCORDING TO GOMEZ CLASSIFICATION



4. COMMENTS

The objective of the repeat survey was to assess the changes in the nutritional status and food consumption pattern among the different age groups of the tribal population in different states during the period 1985-87 and 1998-99. It was also aimed at assessing the current level of food and nutrient intakes and level of nutritional status.

The results of the survey indicated that, in general, the overall intake of various foods was less than RDA. The average intake of green leafy vegetables was more than RDA in Orissa and West Bengal. Similarly, the average intakes of all the nutrients, except for vitamin A and iron in Orissa and West Bengal, were less than RDA. The intake of calcium, iron and thiamin was more or equal to RDA in adult males and that of energy and thiamin was more than RDA in adult females. There was no perceptible difference between the tribal population and the rural communities with respect to the percentage of individuals consuming less than 70% of RDA with respect to cereals and millets, pulses except GLV **(Fig.25).** It was interesting to note that the consumption of milk was better in the tribal population **(Fig.26).**

The average intake of all nutrients, except vitamin A and iron in Orissa and West Bengal, declined from 1985-89 to 1998-99. The intake of most of the nutrients declined in Tamil Nadu and Gujarat and some of the nutrients like iron and vitamin A increased in Orissa and West Bengal.

A comparison with the data collected in rural areas indicates that the proportion of tribals of different age groups consuming less than 70% of protein and energy was higher than in the rural areas (Fig. 27). However, vitamin A consumption appeared to be either comparable or marginally better in the tribal groups (Fig. 28).

In about 30-58% of children in different age groups, the diets were adequate in protein and energy. However, the percentage of those with protein-calorie adequacy increased to 74-83% among the adult males and females indicating improper distribution of food among the members of different age groups within the family.

The percent prevalence of protein-energy malnutrition and the different nutritional deficiency signs like Bitot spots, angular stomatitis had declined over the period, e tribal population was shorter and lighter than the NCHS standards for different age and sex groups.

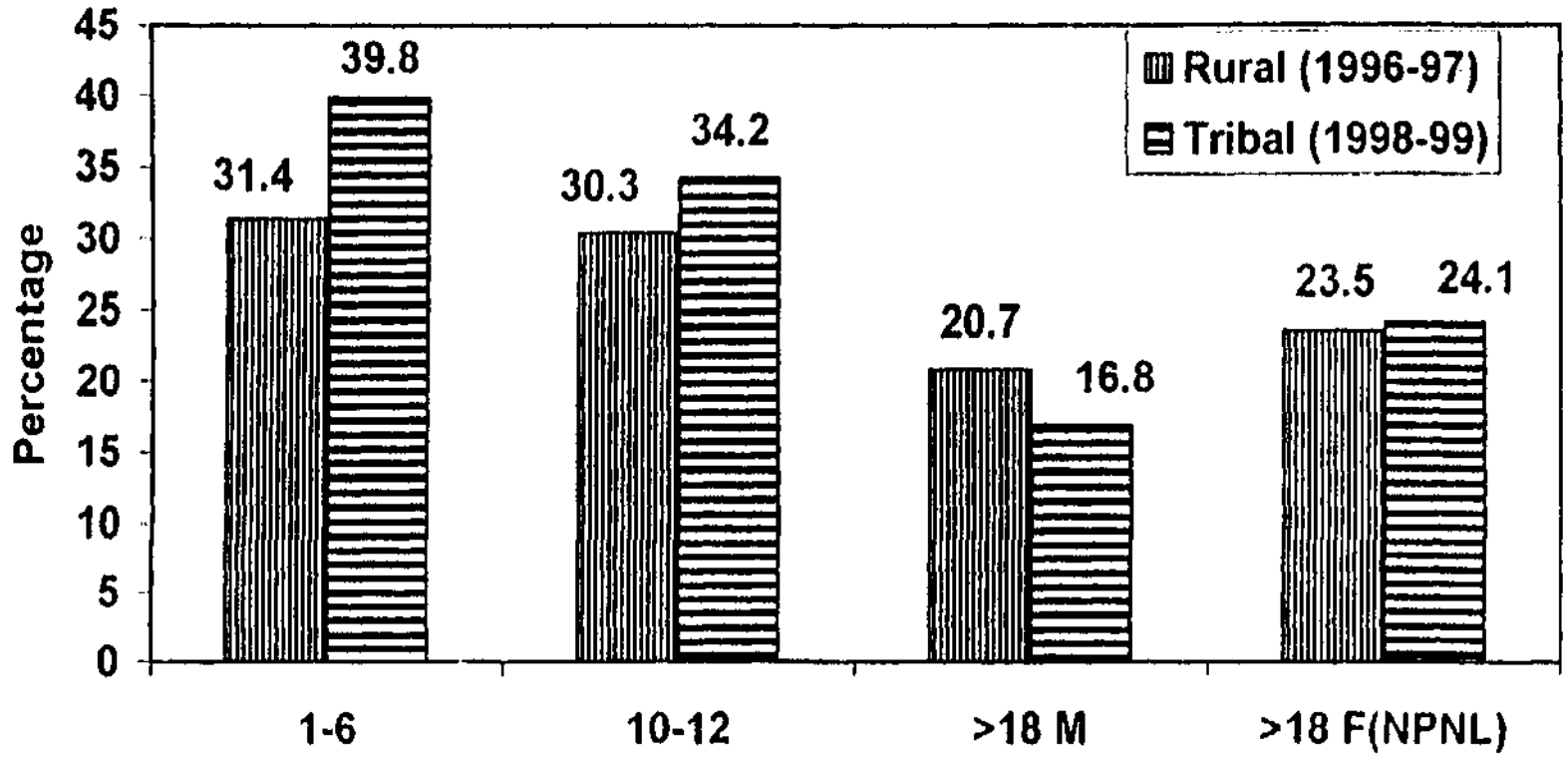
The overall extent of severe undernutrition, as judged by weight for age of less than 60% of NCHS standards, decreased from 19.8% in 1985-87 to 9.6% in 1998-99, indicating a substantial reduction. However, in the States of Tamil Nadu and Maharashtra there was no reduction in the prevalence of undernutrition. The reasons for the same need exploration. In Tamil Nadu, there was decrease in the intake of all foods, in general. The prevalence of undernutrition as measured by weight for age was higher in tribal than in the rural preschool children **(Fig.** 29). The extent of moderate and severe undernutrition (<75% weight for age) was 61% in tribal preschool children as compared to 50.5% in rural areas. Nevertheless, the differences in BMI distribution were smaller between the two groups. The females, however, appeared to be worse off than their rural counterparts **(Fig.**30).

The improvement in the nutritional status of preschool children and general increase in height and weight, despite a general decline in the food and nutritional intake could be attributed to the role played by non-nutritional factors like improvement in the housing conditions, safe drinking water and better out-reach of health care services coupled with improvement in socio-economic conditions.

Fig. 25

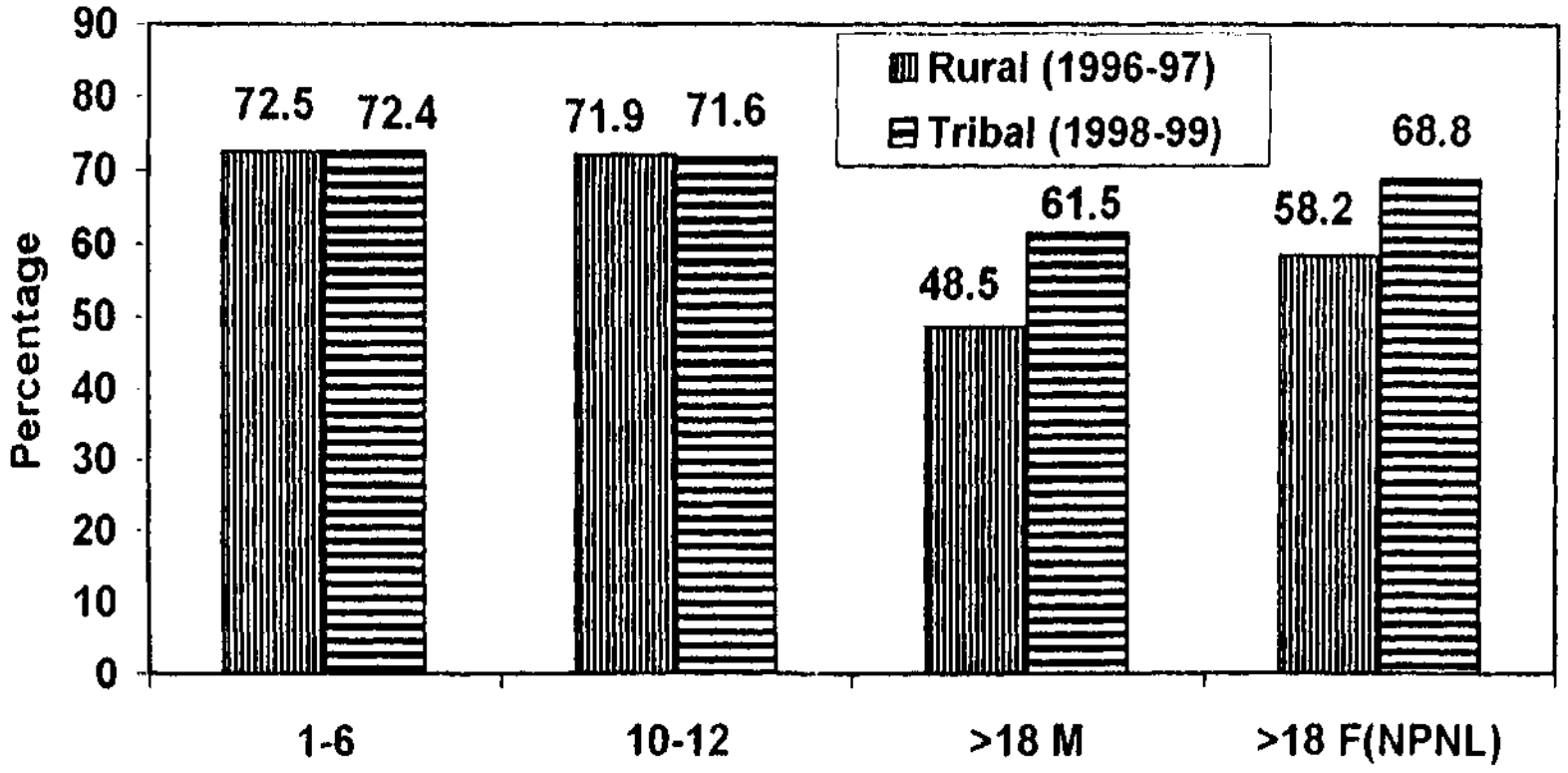
DISTRIBUTION (%) OF INDIVIDUALS ACCORDING TO CONSUMPTION OF FOOD STUFFS BELOW THE LEVEL OF RDA (<70%)

CEREALS AND MILLETS



AGE GROUP (YEARS)

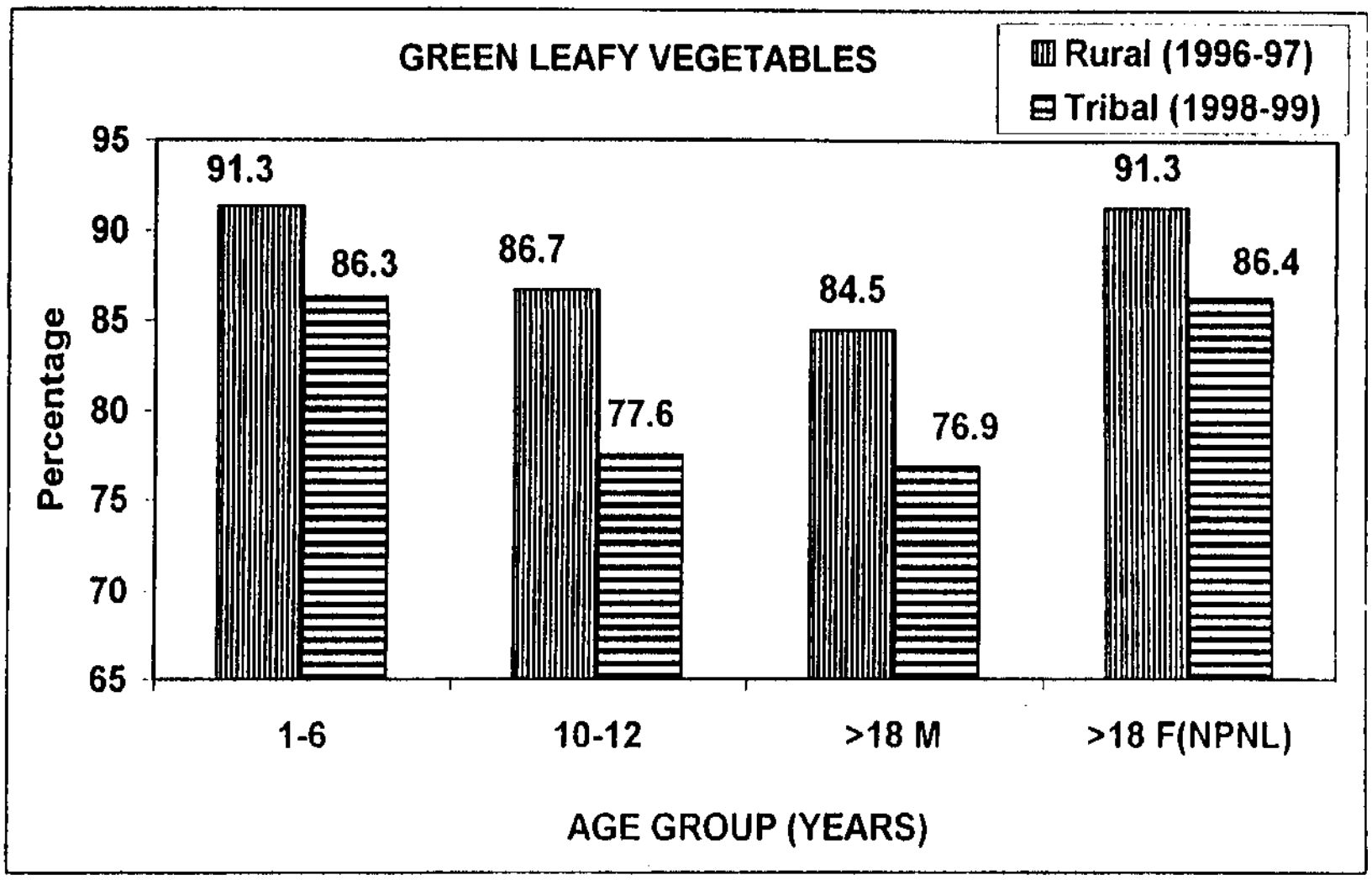
PULSES



AGE GROUP (YEARS)

Fig. 26

DISTRIBUTION (%) OF INDIVIDUALS ACCORDING TO CONSUMPTION OF FOOD STUFFS BELOW THE LEVEL OF RDA (<70%)



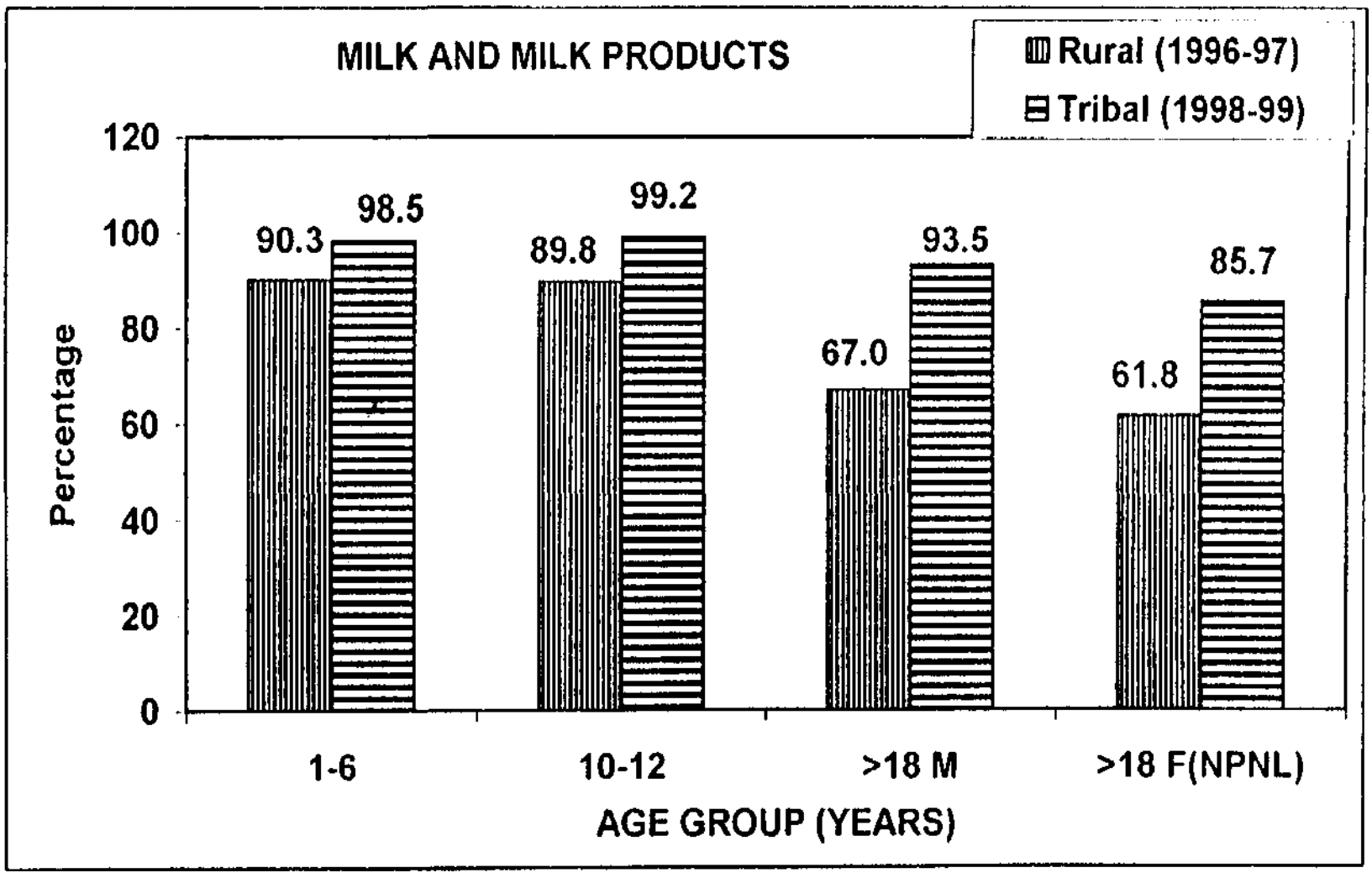
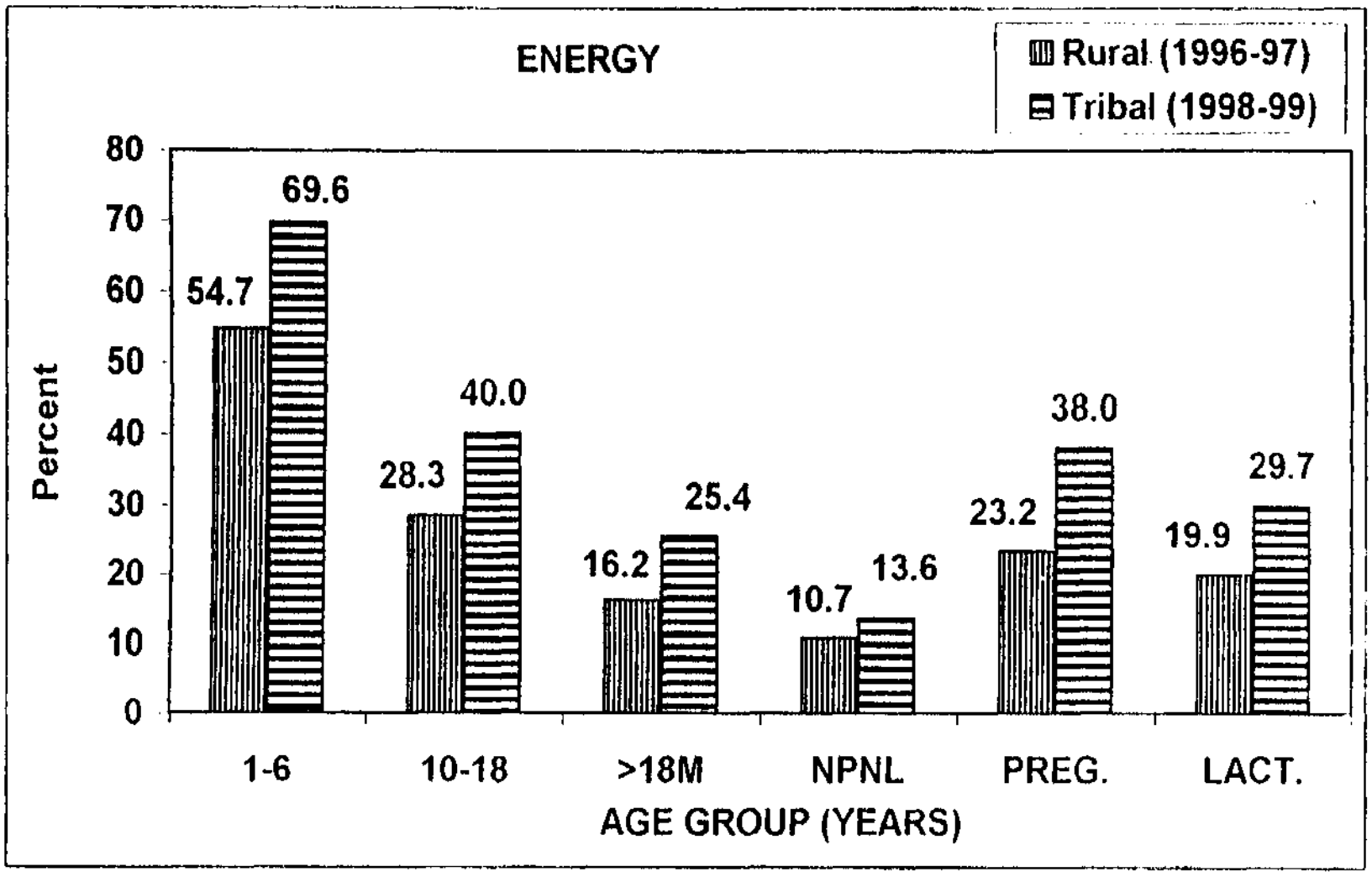
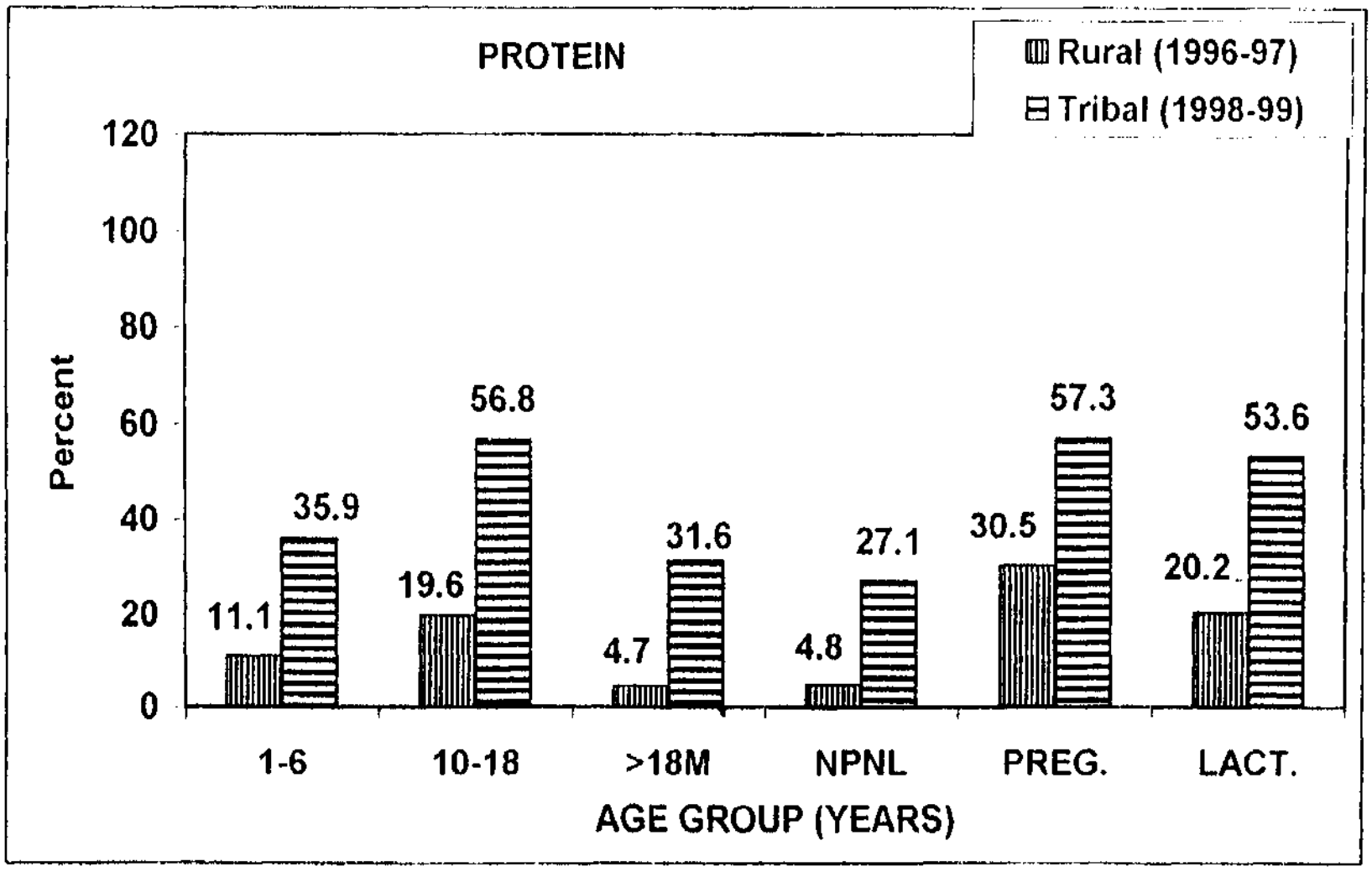


Fig. 27

DISTRIBUTION (%) OF INDIVIDUALS ACCORDING TO CONSUMPTION OF FOOD STUFFS BELOW THE LEVEL OF RDA (<70%)





Fjg.28

DISTRIBUTION (%) OF INDIVIDUALS ACCORDING TO VITAMIN-A CONSUMPTION BELOW THE LEVEL OF RDA (<70%)

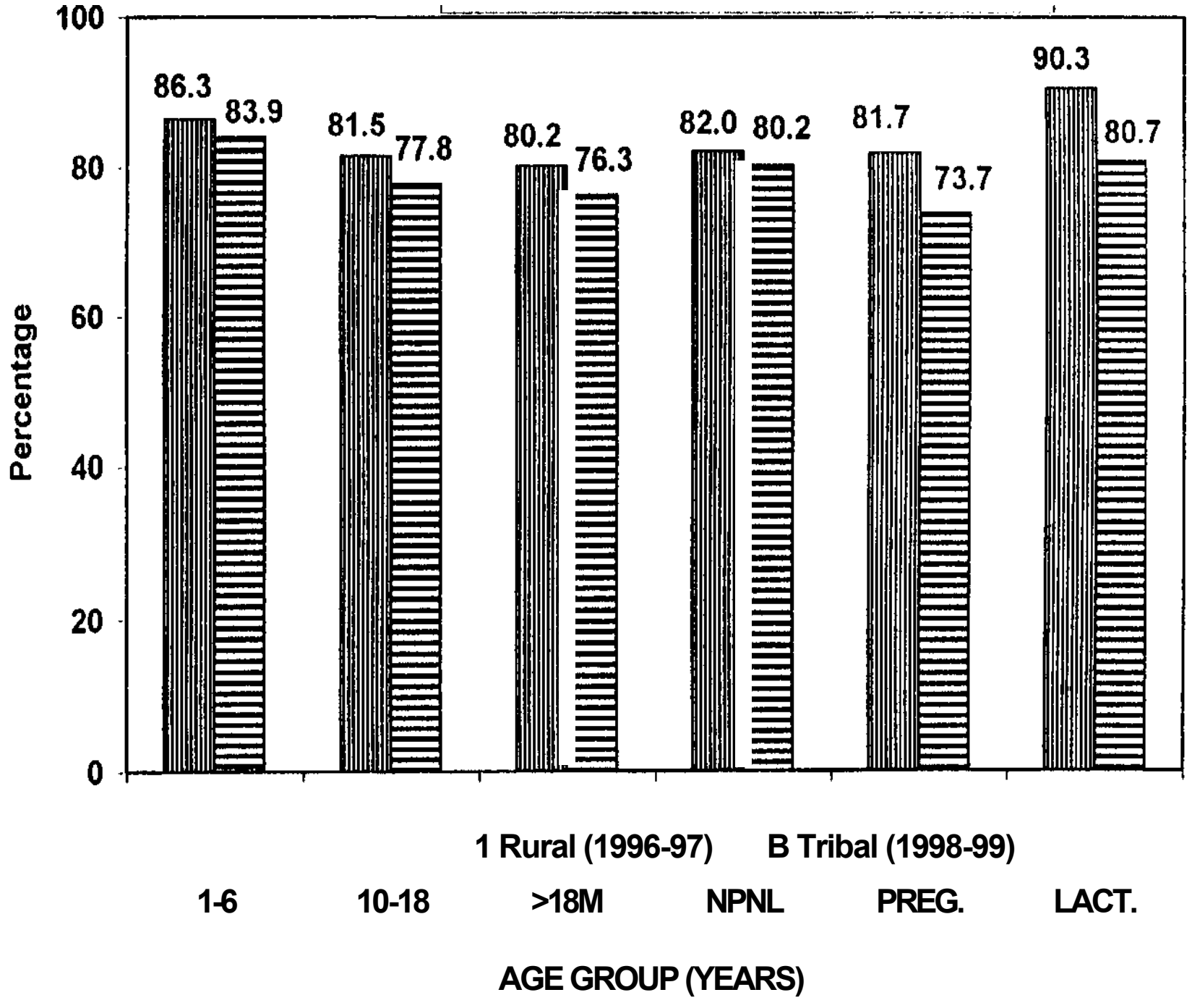


FIG.29
WEIGHT FOR AGE IN PRESCHOOL CHILDREN

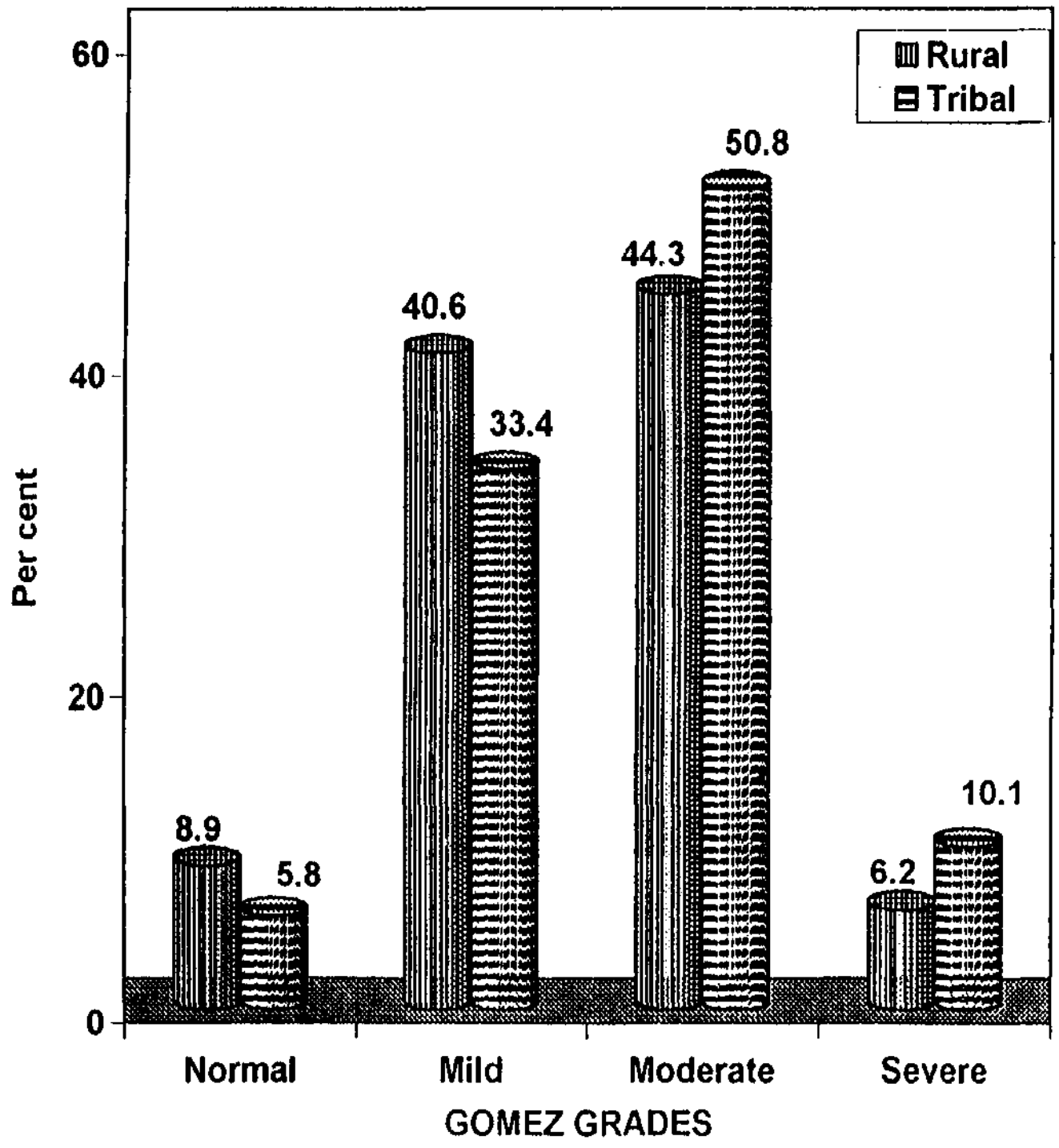
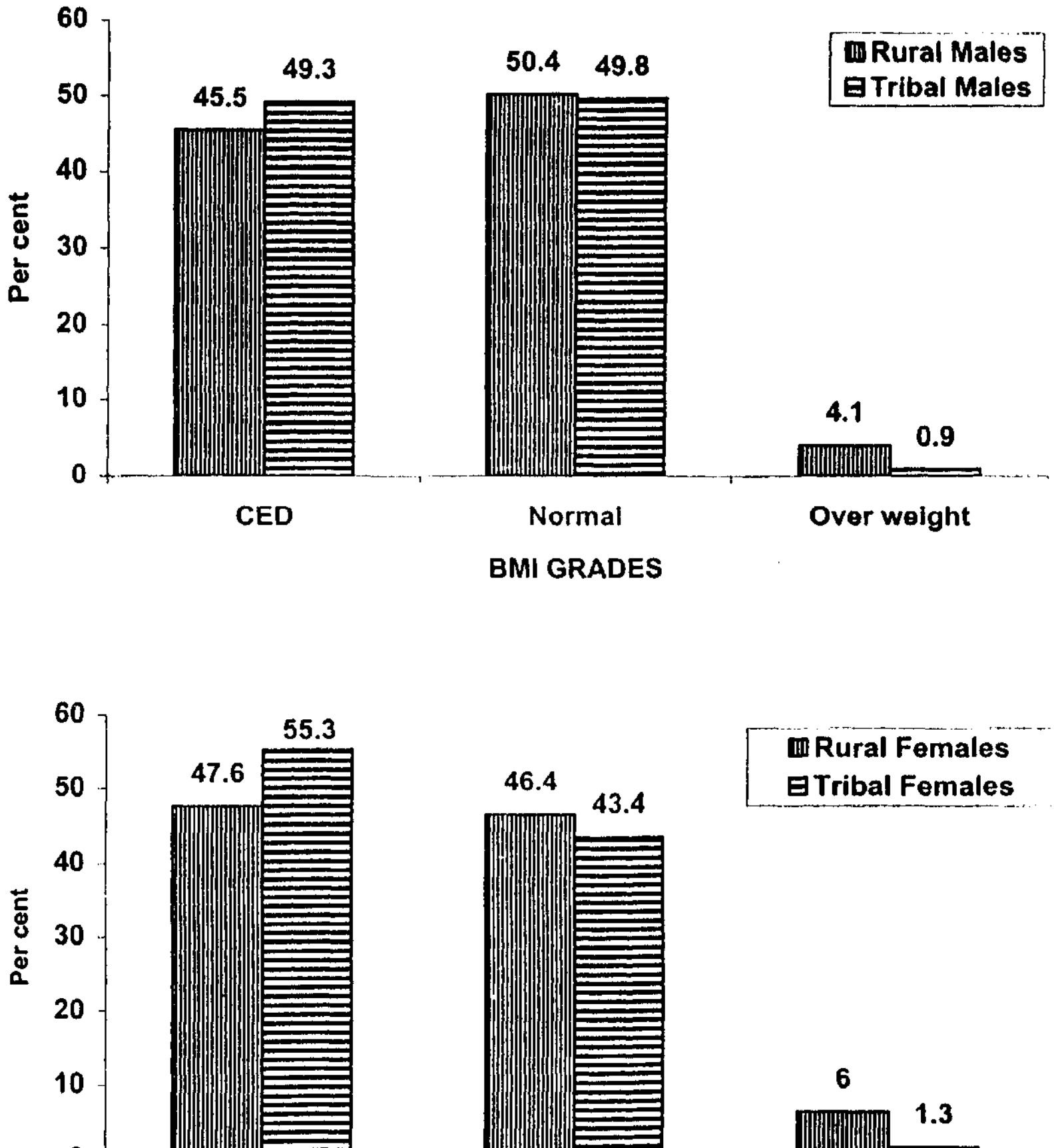


Fig.30
BMI IN ADULTS



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ANNEXURE

An. 1

MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : KERALA **SEX : MALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	16	102	64.3	63.5	6.4	6.6	12.4	13.5	5.9	9.7
1+	31	146	73.3	73.8	8.3	8.5	13.3	14.0	5.9	9.4
2+	37	127	80.1	81.8	9.7	9.9	13.7	14.3	6.3	9.1
3+	29	124	86.0	89.4	10.8	11.6	13.9	14.6	6.2	9.1
4+	28	72	94.6	96.1	12.2	13.0	14.2	15.0	5.6	8.8
5+	39	84	100.8	102.2	13.9	14.5	14.2	14.9	5.3	7.8
6+	23	50	109.3	107.8	16.2	15.9	14.4	15.2	4.5	7.5
7+	28	45	109.2	112.8	16.2	17.6	14.7	15.5	4.4	6.8
8+	28	77	115.8	117.1	17.9	18.8	15.4	15.8	4.6	6.6
9+	18	37	121.5	121.8	20.2	20.4	16.4	16.4	4.5	6.5
10+	22	63	123.7	128.4	21.4	24.1	16.1	17.0	4.1	7.0
11+	7	33	126.5	131.1	22.1	24.2	16.3	17.3	4.5	6.5
12+	28	77	131.1	137.0	24.1	28.7	16.7	18.7	4.7	7.1
13+	13	45	137.8	141.9	28.3	31.7	18.3	19.5	3.9	7.4
14+	15	40	138.4	148.2	29.0	35.8	18.9	20.2	4.3	6.9
15+	11	51	144.6	155.9	33.1	41.8	19.1	21.8	4.5	6.7
16+	11	45	154.5	155.5	37.6	42.9	19.1	22.4	5.0	7.1
17+	5	33	156.5	158.7	41.6	46.0	22.4	23.3	4.8	6.7
18+	14	48	156.5	159.3	42.1	47.3	21.6	23.7	4.9	6.8
19+	11	52	158.3	160.7	45.2	49.5	22.7	24.4	4.7	6.7
20-25	58	286	158.3	161.5	45.1	50.3	22.8	25.1	4.4	6.5
25-30	81	378	157.2	161.1	45.5	49.8	23.1	25.2	4.4	6.1
30-35	66	260	157.4	160.0	46.3	49.8	23.1	25.1	4.7	6.5
35-40	66	271	157.2	158.9	46.5	48.7	23.6	25.0	4.6	6.3
40-45	47	186	156.5	159.7	45.1	48.9	23.1	24.7	4.6	6.5
45-50	50	249	154.8	158.5	44.2	48.2	23.3	24.5	4.8	6.7
50-55	23	154	152.9	157.4	41.1	47.2	22.3	24.4	4.7	6.5
55-60	29	151	152.6	156.5	42.0	46.5	22.3	23.7	4.2	6.9
>60	71	256	152.3	154.7	41.1	45.2	21.8	23.3	4.9	7.3

An. 2
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : KERALA **SEX : FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	998-99	1985-87	1998-99	1985-87	1998-99
0+	19	106	60.7	61.2	5.9	6.0	12.8	13.5	6.0	9.9
1 +	37	132	70.8	72.4	7.8	7.9	12.9	13.8	6.4	9.7
2+	44	97	79.1	81.7	8.9	9.9	13.4	14.2	6.7	9.7
3+	47	97	85.8	89.8	10.7	11.5	14.0	14.7	6.0	9.6
4+	34	73	93.1	95.0	11.5	12.8	13.8	14.8	5.8	9.2
5+	31	70	101.0	12.6	13.8	14.4	14.8	15.0	5.2	8.7
6+	20	63	104.7	108.5	14.9	16.1	14.4	15.4	5.2	8.3
7+	30	50	108.7	114.5	15.9	17.7	14.9	15.7	5.3	7.5
8+	29	49	113.9	120.9	17.6	20.1	15.5	16.3	5.1	7.3
9+	26	32	119.4	119.7	19.1	20.0	15.4	16.1	4.8	8.5
10+	20	50	122.6	127.6	20.9	23.6	15.8	17.2	5.0	8.8
11 +	19	33	130.4	132.5	23.4	26.4	16.4	18.0	6.3	8.9
12+	24	75	132.7	138.2	25.5	30.2	17.6	19.0	5.6	9.4
13+	17	51	135.4	140.2	25.9	32.3	17.1	19.5	5.4	9.7
14+	17	60	142.5	145.2	33.5	36.3	19.5	20.9	5.8	10.6
15+	15	54	143.9	148.9	35.2	39.1	20.2	21.7	7.3	11.0
16+	22	62	144.8	148.2	37.2	39.6	20.5	21.7	7.4	11.0
17+	19	69	147.4	148.9	40.8	42.9	21.8	23.1	8.9	11.7
18+	30	113	144.7	148.6	38.7	41.2	21.2	22.4	7.4	11.2
19+	19	87	146.2	148.7	37.9	41.2	20.9	22.2	7.2	11.3
20-25	160	774	148.1	149.5	40.1	41.6	21.6	22.4	6.6	10.3
25-30	155	649	147.1	149.1	39.4	41.8	21.9	22.7	6.8	10.3
30-35	124	430	146.7	148.5	38.4	41.5	21.7	22.9	6.4	10.5
35-40	120	408	146.9	148.6	38.2	41.6	21.5	23.1	6.1	10.5
40-45	47	304	145.6	147.5	37.3	42.1	21.7	23.3	6.0	11.1
45-50	69	347	145.2	147.4	37.5	41.4	21.3	23.1	6.2	11.2
50-55	39	200	143.2	146.7	36.4	40.6	21.1	22.9	6.8	10.7
55-60	31	165	143.0	146.5	36.2	40.6	20.8	22.8	6.7	10.4
>60	75	356	143.8	143.9	34.4	38.3	21.2	22.3	5.6	10.3

An. 3
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : TAMILNADU **SEX : MALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	14	213	65.1	64.0	7.0	6.1	11.8	12.4	8.0	6.8
1+	35	195	74.4	74.8	8.3	8.2	12.0	12.9	7.2	6.5
2+	35	170	83.0	83.4	9.9	9.9	12.9	13.3	7.9	6.6
3+	28	179	88.9	90.4	11.4	11.4	13.6	13.7	8.3	6.7
4+	36	171	95.6	96.3	12.7	12.8	13.8	14.0	7.5	6.5
5+	38	154	100.9	102.7	13.9	14.4	13.6	14.2	6.9	6.1
6+	14	154	106.9	108.0	15.3	15.4	14.3	14.0	6.4	5.6
7+	24	126	111.4	113.7	16.5	17.1	14.1	14.4	5.8	5.3
8+	26	124	118.2	118.2	18.7	18.6	14.7	14.8	4.8	5.3
9+	17	111	121.8	122.5	19.7	20.1	14.7	15.2	4.9	5.2
10+	24	104	126.1	128.0	21.3	22.4	15.3	15.8	5.3	5.2
11+	20	73	130.7	133.7	23.2	24.5	16.0	16.2	5.5	5.3
12+	17	111	134.0	135.9	24.9	25.9	16.2	16.7	5.2	5.0
13+	22	85	140.8	142.9	27.1	29.9	16.8	17.8	5.4	5.4
14+	7	67	148.1	145.6	32.1	31.9	17.6	18.0	5.4	5.3
15+	21	89	148.6	153.5	34.3	37.5	18.6	19.5	5.2	5.4
16+	20	50	154.7	157.9	39.7	40.9	20.4	20.5	6.2	5.5
17+	12	65	156.2	161.8	42.2	44.7	20.5	21.8	5.3	5.6
18+	18	63	160.7	162.7	44.6	45.5	21.6	22.2	5.4	5.3
19+	11	48	163.4	162.7	46.3	46.3	21.7	22.4	5.9	5.3
20-25	64	276	164.3	164.2	48.3	48.9	22.7	23.4	5.4	5.1
25-30	79	373	162.8	164.6	48.5	50.0	23.4	24.0	4.7	5.4
30-35	49	310	164.2	163.9	50.4	50.1	23.9	24.0	5.6	5.4
3540	80	372	161.9	165.0	48.0	50.3	23.1	23.7	5.0	5.3
40-45	49	214	161.7	163.9	47.4	50.7	22.9	24.1	5.1	5.7
45-50	41	247	159.1	163.2	45.8	49.7	22.3	23.6	5.2	5.7
50-55	30	106	158.3	162.4	45.7	47.7	22.2	22.8	6.1	5.7
55-60	44	142	159.3	162.3	45.5	47.5	21.9	22.7	5.6	5.5
>60	47	230	158.4	159.1	45.2	45.3	21.5	21.9	6.2	5.8

An. 4

MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : TAMILNADU **SEX : FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	15	1822	64.1	62.8	6.6	5.6	12.1	12.2	8.3	6.7
1+	26	167	73.2	74.0	8.0	8.2	12.2	12.6	8.4	6.4
2+	34	178	80.3	82.2	9.3	9.4	12.4	13.2	8.1	6.8
3+	39	160	87.8	89.2	10.9	11.1	13.3	13.7	8.6	7.1
4+	29	144	93.7	96.0	11.9	12.5	13.4	13.8	7.5	6.6
5+	32	140	99.6	102.4	13.0	14.4	13.7	14.2	7.3	6.5
6+	31	155	105.2	107.7	15.1	15.1	13.9	14.2	6.9	6.0
7+	38	160	110.9	113.7	16.4	17.0	14.4	14.6	6.4	5.8
8+	28	143	116.3	119.0	17.9	18.7	14.8	15.1	5.7	5.8
9+	24	118	120.3	124.4	19.7	20.7	15.4	15.5	6.3	5.8
10+	29	145	127.9	128.8	21.8	22.9	15.7	16.2	5.4	5.9
11 +	29	94	131.5	132.9	23.7	24.7	16.5	16.6	5.6	6.1
12+	27	115	135.6	137.1	27.0	27.2	17.5	17.5	6.9	6.2
13+	25	101	141.5	143.8	30.5	31.9	18.0	18.7	7.3	6.5
14+	14	88	143.2	146.7	32.3	34.2	18.6	19.3	8.1	6.8
15+	23	77	146.6	150.7	35.8	39.1	19.4	20.6	9.1	7.7
16+	18	76	148.8	152.8	39.6	41.4	20.6	21.5	9.7	7.9
17+	19	69	151.6	152.5	42.2	42.9	21.7	21.5	9.2	8.1
18+	16	124	152.2	153.1	42.3	42.0	21.7	21.2	9.3	7.7
19+	15	99	152.5	151.6	42.3	41.5	21.2	21.2	10.3	7.2
20-25	99	694	152.3	152.4	43.8	42.0	21.6	21.3	9.6	7.2
25-30	137	745	151.6	153.0	42.7	42.4	21.8	21.4	9.0	6.9
30-35	79	476	152.0	153.1	43.0	42.4	21.7	21.7	9.0	7.2
35-40	84	447	151.8	153.0	42.1	43.6	21.7	22.1	8.3	7.8
40-45	37	280	150.7	152.4	41.8	43.6	21.5	22.2	9.8	8.1
45-50	47	249	149.1	151.9	41.5	43.4	21.9	22.3	9.9	8.1
50-55	24	178	147.9	150.2	40.1	41.7	22.0	22.0	8.9	8.2
55-60	44	160	147.6	150.3	39.8	41.4	21.8	22.0	10.0	7.9
>60	63	257	148.5	148.9	38.9	40.0	21.0	21.2	8.7	7.5

An. 5

MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : KARNATAKA **SEX : MALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	25	114	64.3	63.5	6.7	6.6	12.6	13.4	8.4	7.0
1+	44	133	73.7	75.4	7.9	8.7	12.9	13.5	7.0	6.9
2+	76	148	79.9	84.4	8.9	10.4	13.2	14.1	7.5	7.2
3+	70	139	87.2	91.3	9.9	11.9	13.2	14.2	6.6	7.1
4+	74	126	94.2	97.3	11.9	13.3	13.8	14.4	6.9	6.9
5+	73	111	99.9	103.2	13.3	14.3	14.4	14.4	6.4	6.5
6+	64	105	107.1	108.4	14.8	15.6	14.5	14.5	5.1	6.3
7+	59	128	111.6	113.6	15.8	16.8	14.6	14.6	5.2	6.2
8+	71	127	118.6	118.4	18.3	18.5	15.2	15.0	4.8	6.1
9+	37	120	122.6	121.8	20.6	19.9	15.5	15.4	5.1	6.3
10+	51	127	125.9	128.5	21.0	22.9	16.0	16.0	5.0	6.3
11 +	24	125	132.8	129.7	24.2	23.4	16.9	16.3	4.9	6.3
12+	52	151	135.9	137.0	25.9	26.9	17.4	17.4	5.4	6.5
13+	23	117	142.4	141.3	28.9	29.8	18.3	18.2	5.0	6.8
14+	20	134	147.1	148.1	32.5	33.4	19.1	19.1	5.1	6.6
15+	16	97	155.0	153.1	38.0	37.7	20.5	20.3	4.8	7.2
16+	14	112	154.4	158.5	39.7	42.1	21.1	21.5	6.2	6.8
17+	9	90	160.0	159.7	42.3	44.6	22.4	22.5	5.6	6.6
18+	21	134	158.6	161.8	45.1	47.0	22.5	23.4	5.1	6.8
19+	4	61	161.7	161.4	41.5	47.0	23.3	23.4	3.5	6.5
20-25	80	375	159.9	162.8	45.6	49.6	23.2	24.5	4.9	6.8
25-30	128	370	161.2	161.7	46.9	49.7	23.8	25.0	4.3	7.0
30-35	124	317	161.5	161.5	46.4	50.3	23.8	25.0	4.2	7.1
35-40	112	369	160.2	161.3	45.7	50.1	24.5	24.9	4.8	6.7
40-45	69	252	159.7	160.5	44.7	49.5	23.2	24.8	4.2	7.2
45-50	82	292	159.0	160.4	44.7	49.9	23.5	24.8	4.7	7.0
50-55	64	146	156.0	160.2	42.9	49.3	22.4	24.5	4.8	7.1
55-60	46	158	156.0	159.5	41.5	47.5	23.0	24.2	4.4	7.0
>60	70	354	155.5	157.9	41.6	46.2	21.0	23.3	6.3	7.1

An. 6
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE:KARNATAKA **SEX :FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	42	113	64.2	63.6	5.9	6.5	11.8	13.1	7.6	7.2
1 +	54	114	71.0	74.7	7.0	8.5	12.3	13.5	6.8	7.3
2+	51	148	78.9	83.8	7.6	10.1	13.0	13.9	7.8	7.4
3+	79	134	85.4	90.0	9.6	11.3	13.4	14.1	7.5	7.5
4+	54	117	92.0	97.5	10.8	13.0	13.7	14.4	7.0	7.4
5+	59	122	98.7	103.5	12.1	14.4	13.9	14.6	6.8	7.1
6+	56	94	104.7	107.8	13.4	15.2	14.4	14.5	6.1	6.8
7+	53	109	111.0	113.2	16.2	16.9	15.8	14.8	5.6	7.0
8+	52	123	116.4	118.2	17.3	18.5	15.0	15.3	6.0	6.8
9+	34	131	125.1	121.9	20.6	20.0	16.5	15.7	5.8	7.0
10+	44	136	127.6	127.2	21.7	22.6	16.7	16.3	6.0	7.4
11 +	28	128	132.4	132.4	23.8	25.4	17.6	17.2	6.0	7.8
12+	45	159	138.8	137.8	28.3	28.2	18.3	17.9	6.9	8.3
13+	29	149	145.2	142.6	33.2	32.2	19.5	19.1	7.3	8.8
14+	22	144	146.2	147.0	34.4	36.6	20.2	20.4	7.5	9.6
15+	20	118	150.0	149.6	38.1	39.8	22.2	21.3	8.4	11.0
16+	22	177	145.8	149.1	37.9	40.4	21.1	21.9	9.4	11.3
17+	19	116	149.8	149.8	40.3	40.8	21.8	22.2	8.2	11.1
18+	43	205	149.1	150.4	39.7	42.1	21.4	22.5	8.6	11.3
19+	15	100	149.5	149.7	39.4	41.6	21.5	22.2	8.3	11.0
20-25	190	653	150.1	150.3	40.1	41.6	22.0	22.2	7.6	10.1
25-30	208	647	149.8	150.2	39.2	41.8	21.5	22.5	7.7	9.6
30-35	128	477	150.4	149.5	39.8	41.6	22.1	22.7	8.0	9.7
35-40	117	501	149.9	149.6	39.7	42.0	22.1	23.0	7.6	9.9
40-45	74	266	149.1	148.9	38.1	42.2	21.5	23.1	6.6	10.3
45-50	79	311	147.0	148.8	36.4	42.7	21.4	23.4	7.8	10.6
50-55	46	194	146.0	148.3	34.8	41.3	20.5	23.0	6.9	10.2
55-60	30	200	147.4	146.7	34.6	40.7	20.2	23.1	6.9	10.2
>60	48	365	145.2	145.5	34.4	38.9	20.4	22.3	7.1	9.4

An. 7
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : ANDHRA PRADESH **SEX : MALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	109	166	63.2	61.9	6.3	5.8	12.4	12.4	9.2	9.2
1+	213	184	72.9	74.3	7.8	8.1	12.7	13.0	8.3	8.4
2+	195	154	79.9	83.3	9.0	9.9	13.1	13.5	8.5	8.8
3+	227	187	86.7	90.3	10.8	11.6	13.6	13.7	8.1	8.4
4+	220	150	94.5	96.8	12.7	13.2	14.0	13.8	7.5	7.5
5+	218	170	100.3	102.9	13.8	14.7	13.9	13.9	6.6	7.2
6+	185	149	106.5	108.2	15.3	15.9	14.6	14.2	6.1	7.1
7+	157	147	112.9	115.7	17.4	18.2	14.8	14.6	5.7	6.7
8+	155	92	117.6	120.8	18.9	20.2	15.3	15.2	5.6	6.9
9+	119	102	122.5	127.0	20.7	22.3	15.4	15.5	5.2	6.8
10+	150	84	126.9	129.4	22.3	23.5	16.5	16.0	5.8	6.8
11+	94	64	130.2	134.7	23.9	26.1	17.1	16.5	6.0	7.1
12+	132	108	126.3	138.1	26.9	27.9	17.6	17.4	5.5	6.8
13+	93	45	142.2	144.5	30.0	32.3	18.7	18.2	5.4	7.3
14+	105	70	150.3	150.7	36.1	36.9	20.2	19.9	5.7	7.6
15+	58	57	153.2	157.2	38.2	41.5	20.9	21.0	6.5	7.6
16+	81	79	157.2	159.9	42.3	44.7	22.3	22.2	6.0	7.6
17+	36	33	159.6	160.1	44.3	46.0	22.7	22.5	6.2	8.0
18+	91	71	158.5	161.5	44.6	47.4	23.0	23.0	6.2	7.9
19+	23	34	159.9	159.9	46.4	47.6	24.0	23.5	6.1	8.0
20-25	340	253	160.9	161.4	47.1	48.7	24.3	23.8	6.8	7.7
25-30	493	382	161.2	161.4	48.3	48.6	24.7	23.9	6.4	7.6
30-35	397	379	160.6	161.5	48.1	48.7	24.9	24.0	6.7	7.6
35-40	418	295	161.1	160.7	48.6	48.0	24.9	23.9	6.4	7.6
40-45	314	275	160.1	160.9	47.3	48.0	24.6	23.7	6.1	7.3
45-50	321	205	161.1	160.6	47.6	47.1	24.4	23.4	6.9	7.4
50-55	201	131	159.5	158.6	46.0	45.3	24.0	22.9	6.6	7.5
55-60	124	84	159.9	161.7	46.6	46.8	24.0	22.8	6.7	7.2
>60	312	127	158.4	159.8	44.1	44.7	23.0	22.3	6.9	7.5

An. 8

MEAN ANTHROPOMETRIC MEASUREMENTS

STATE:ANDHRA PRADESH **SEX :FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	119	156	62.8	61.4	6.1	5.5	12.2	11.9	9.3	9.2
1 +	212	146	72.1	73.0	7.4	7.8	12.6	12.7	8.4	8.5
2+	200	151	79.4	82.0	9.0	9.7	13.0	13.3	8.7	9.1
3+	216	192	86.2	89.3	10.4	11.3	13.5	13.6	8.7	8.8
4+	217	148	94.2	96.6	12.4	12.7	14.2	13.8	8.5	8.1
5+	217	157	100.0	104.7	13.6	14.7	14.2	14.1	7.8	7.6
6+	172	144	106.2	110.6	14.7	16.5	14.4	14.5	6.9	7.6
7+	205	156	112.4	116.6	17.0	18.2	14.8	14.8	6.3	7.1
8+	184	146	117.4	121.8	18.4	20.3	15.7	15.5	6.5	7.3
9+	115	97	123.2	127.6	20.8	22.4	16.4	16.0	6.4	7.4
10+	140	103	127.0	133.3	22.9	26.2	16.7	17.1	6.6	7.8
11 +	96	68	131.4	135.4	24.5	26.8	17.2	17.5	6.4	7.9
12+	128	88	137.6	140.2	27.8	30.4	18.2	18.3	6.8	8.3
13+	88	73	141.4	144.8	30.8	34.6	18.7	19.6	8.0	9.8
14+	86	104	145.2	148.0	34.2	38.9	20.6	21.2	9.6	10.8
15+	77	56	146.8	149.9	36.8	39.4	21.3	21.4	9.3	10.7
16+	74	88	149.6	150.3	39.2	41.0	22.3	22.0	9.6	10.9
17+	51	42	149.2	150.6	40.8	40.2	22.9	21.9	10.4	10.3
18+	114	125	149.1	151.1	41.0	42.7	22.9	22.3	10.9	10.7
19+	26	52	150.5	151.1	41.3	40.7	22.7	21.9	10.4	9.8
20-25	563	607	150.3	150.8	41.6	41.5	22.7	22.0	10.3	9.6
25-30	645	609	150.4	151.4	41.7	41.5	22.7	22.0	9.5	9.5
30-35	480	416	150.7	151.2	41.9	41.5	22.8	22.2	9.8	9.3
35-40	462	336	150.2	151.1	41.2	41.4	23.1	22.2	9.8	9.5
40-45	301	226	149.3	150.2	40.0	40.8	22.8	22.3	9.3	9.3
45-50	273	213	149.4	149.5	40.1	39.9	22.8	22.0	10.0	9.4
50-55	210	192	148.7	148.9	39.1	38.6	22.6	21.4	9.9	8.5
55-60	174	68	148.1	148.1	38.0	39.5	21.9	22.1	8.9	9.1
>60	381	135	147.2	147.1	36.8	36.7	21.7	20.9	8.6	8.4

An.9
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : GUJARAT **SEX : MALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	47	177	61.9	62.6	6.2	5.6	12.0	13.3	-	10.0
1+	88	219	71.1	73.4	7.3	8.1	12.0	13.8	-	9.1
2+	92	196	78.9	81.8	9.1	9.8	12.5	14.4	-	9.6
3+	111	175	87.2	88.7	9.6	11.3	12.7	14.8	-	9.4
4+	112	138	92.4	96.1	12.1	12.6	13.6	14.9	-	9.1
5+	127	209	98.1	102.4	13.2	14.1	13.9	15.1	-	8.3
6+	139	140	105.2	108.1	14.9	15.5	14.2	15.2	-	7.5
7+	200	133	110.5	115.0	16.4	17.9	14.9	15.9	-	7,1
8+	172	103	115.8	119.4	18.2	19.5	15.2	16.2	-	6.7
9+	113	94	119.9	123.5	19.7	21.1	15.9	16.9	-	6.7
10+	175	115	124.8	127.8	21.8	22.6	16.6	17.0	-	6.7
11 +	135	74	130.0	129.8	23.5	24.3	16.8	17.9	-	6.8
12+	94	95	132.8	136.9	24.9	28.0	17.5	18.8	-	6.9
13+	100	80	137.5	138.5	27.0	29.1	18.1	19.2	-	7.0
14+	116	56	144.0	142.9	31.6	32.3	18.9	19.0	-	7.0
15+	88	88	151.4	149.8	37.2	36.8	20.4	21.2	-	7.0
16+	55	28	154.6	156.7	40.1	41.6	21.3	22,4	-	7.3
17+	44	46	157.8	155.3	41.8	41.8	21.8	23.2	-	6,9
18+	35	46	159.9	156.0	44.2	42.7	23.0	23.2	-	7.3
19+	15	17	158.1	162.8	44.2	47.2	22.5	23.5	-	6.8
20-25	217	259	159.8	160.0	45.8	46.5	23.6	24.3	-	6.4
25-30	238	217	160.4	159.0	46.7	47.7	23.6	24.6	-	6.8
30-35	183	261	159.8	159.5	46.7	47.1	23.6	24.9	-	6.7
35-40	182	202	159.8	160.0	46.7	48.3	23.2	25.0	-	7.1
40-45	137	201	159.1	158.7	46.2	47.6	22.8	24.7	-	7.0
45-50	96	85	160.4	158.6	46.8	45.7	23.8	24.1	-	7,3
50-55	91	154	158.0	156.9	45.2	45.0	22.9	23.9	-	6.9
55-60	86	55	156.4	159.2	45.9	46.8	22.9	24.2	-	7.4
>60	163	87	157.2	157.4	42.9	44.6	21.7	22.8	-	6.8

• *No Information Is available*

An. 10

MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : GUJARAT **SEX : FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	36	196	60.9	62.2	5.5	5.6	11.6	13.1	-	9.9
1 +	89	174	70.9	72.3	7.4	7.6	11.9	13.6	-	9.3
2+	105	173	78.0	82.1	8.8	9.8	12.2	14.2	-	9.9
3+	124	189	85.7	89.1	10.5	11.2	13.0	14.8	-	9.9
4+	97	157	89.8	95.7	11.5	12.7	13.8	14.7	-	9.1
5+	119	162	96.7	101.0	12.7	13.6	13.8	15.0	-	8.9
6+	136	157	102.9	107.4	14.3	15.2	14.0	15.2	-	7.9
7+	155	140	109.5	113.8	16.0	17.3	14.8	15.9	-	8.0
8+	138	123	116.2	117.6	17.9	18.4	15.2	16.1	-	7.5
9+	112	89	120.4	122.8	19.9	20.8	16.2	16.8	-	7.8
10+	102	124	124.8	127.6	20.8	23.1	16.1	17.6	-	8.2
11 +	89	81	128.0	130.8	22.7	24.5	17.0	18.2	-	8.5
12+	79	84	132.6	136.3	24.6	27.9	17.6	18.9	-	8.7
13+	87	76	138.0	141.7	28.6	31.8	18.3	20.1	-	9.1
14+	82	66	140.8	144.2	31.2	34.7	18.9	21.2	-	10.0
15+	48	91	146.2	146.9	35.0	37.2	20.1	22.1	-	10.7
16+	50	42	146.0	148.2	37.2	38.5	21.6	22.7	-	11.7
17+	30	48	149.8	148.1	40.5	40.2	22.6	22.9	-	11.2
18+	44	86	147.3	149.0	39.4	41.6	22.0	23.5	-	11.5
19+	12	53	151.8	149.8	41.2	42.4	22.8	23.2	-	11.0
20-25	280	647	149.2	148.5	41.9	41.5	22.1	23.3	-	10.2
25-30	306	569	148.9	148.7	41.9	41.1	22.4	23.5	-	10.4
30-35	268	554	149.1	149.2	41.0	41.9	22.0	23.9	-	10.9
35-40	207	327	148.4	148.3	40.7	41.9	22.6	24.0	-	11.3
40-45	121	263	148.7	147.8	40.0	41.4	21.9	24.0	-	10.9
45-50	113	140	148.7	147.0	41.0	40.3	22.2	23.4	-	10.6
50-55	132	261	148.0	146.9	40.5	40.9	22.0	23.8	-	10.6
55-60	90	57	146.9	147.9	38.6	39.5	21.3	22.7	-	10.0
>60	145	151	146.6	145.3	38.2	38.1	21.0	22.2	-	9.4

- No information Is available

An. 11

MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : MADHYA PRADESH **SEX : MALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	-	163	-	63.0	-	5.9	-	12.8	-	6.4
1 +	-	189	-	72.3	-	8.0	-	13.3	-	6.2
2+	-	139	-	81.5	-	9.7	-	13.6	-	6.2
3+	-	209	-	86.2	-	11.0	-	14.2	-	6.5
4+	.	204	-	93.0	-	12.4	.	14.3	-	6.0
5+	-	241	-	98.9	-	13.7	-	14.6	-	6.0
6+	-	186	-	107.3	-	15.9	-	14.8	-	5.1
7+	-	144	-	111.5	-	17.2	-	15.2	-	5.0
8+	-	163	-	116.2	-	18.6	-	15.5	-	5.0
9+	-	100	-	121.3	-	20.5	-	16.0	-	4.9
10+	-	182	-	125.8	-	22.5	-	16.4	-	5.0
11 +	-	95	-	130.3	-	24.5	-	16.7	-	5.1
12+	-	167	-	136.0	-	27.9	-	17.8	-	5.4
13+	-	89	-	140.8	-	30.6	-	18.5	-	5.0
14+	-	90	-	147.8	-	34.9	-	19.5	-	5.2
15+	-	85	-	151.0	-	38.5	-	20.7	-	5.3
16+	-	75	-	158.1	-	43.8	-	22.3	-	5.5
17+	-	32	-	160.7	-	46.9	-	23.3	-	5.6
18+	-	89	-	160.5	-	47.7	-	23.0	-	5.7
19+	-	43	-	159.2	-	46.5	-	23.7	-	6.3
20-25	-	296	-	162.3	-	50.6	-	24.1	-	5.7
25-30	-	412	-	162.4	-	50.4	-	24.5	-	5.4
30-35	-	430	-	161.9	-	50.4	-	24.6	-	5.3
35-40	-	374	-	161.5	-	50.1	-	24.6	-	5.3
40-45	-	236	-	161.4	-	50.7	-	24.5	-	5.7
45-50	-	283	-	161.2	-	49.4	-	24.2	-	5.4
50-55	-	144	-	160.6	-	49.4	-	24.2	-	5.3
55-60	-	182	-	159.4	-	47.4	-	23.6	-	4.9
>60	-	299	-	157.8	-	45.2	-	22.9	-	4.8

- No information is available

An. 12
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : MADHYA PRADESH **SEX : FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	-	165	-	61.7	-	5.5	-	12.6	-	6.5
1 +	-	188	-	72.4	-	7.6	-	13.1	-	6.3
2+	-	159	-	78.2	-	9.0	-	13.5	-	6.4
3+	-	226	-	86.1	-	10.8	-	14.0	-	6.6
4+	-	200	-	92.2	-	12.1	-	14.5	-	6.4
5+	-	208	-	100.4	-	14.1	-	14.8	-	5.8
6+	-	199	-	105.8	-	15.4	-	14.8	-	5.7
7+	-	161	-	112.9	-	17.2	-	15.2	-	5.2
8+	-	190	-	117.6	-	19.2	-	15.7	-	5.2
9+	-	106	-	121.2	-	20.3	-	16.1	-	5.3
10+	-	198	-	127.0	-	23.1	-	16.8	-	5.5
11 +	-	77	-	131.4	-	25.3	-	17.3	-	5.2
12+	-	149	-	136.9	-	29.0	-	18.6	-	5.6
13+	-	84	-	141.4	-	32.0	-	19.4	-	6.0
14+	-	104	-	145.1	-	35.5	-	20.4	-	6.5
15+	-	78	-	147.2	-	37.7	-	21.2	-	6.5
16+	-	88	-	149.8	-	41.2	-	22.0	-	7.3
17+	-	44	-	149.3	-	41.9	-	22.4	-	7.6
18+	-	107	-	150.3	-	44.0	-	22.6	-	7.5
19+	-	64	-	150.8	-	42.3	-	22.5	-	7.3
20-25	-	419	-	151.2	-	43.3	-	22.5	-	6.9
25-30	-	534	-	151.2	.	43.4	-	22.8	-	6.6
30-35	-	537	-	150.9	-	42.8	-	22.8	-	6.7
35-40	-	357	-	150.8	-	42.8	-	22.9	-	7.1
40-45	-	263	-	150.5	-	42.5	-	22.8	-	6.7
45-50	-	259	-	150.3	-	42.5	-	22.9	-	7.2
50-55	-	173	-	149.7	-	41.3	-	22.4	-	6.5
55-60	-	158	-	148.8	-	40.4	-	22.4	-	6.5
>60	-	338	-	147.5	-	38.7	-	21.7	-	5.8

No information is available

An. 13
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : MAHARASHTRA **SEX : MALE**

Age Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	58	85	65.6	65.0	6.0	6.6	11.2	12.2	7.5	7.5
1 +	108	200	75.0	72.2	8.0	7.8	11.6	12.7	7.0	7.7
2+	89	180	82.4	80.6	9.6	9.6	12.1	13.0	7.5	8.3
3+	101	207	89.1	88.0	10.8	10.9	12.4	13.4	7.4	7.8
4+	43	177	95.3	93.8	12.4	12.2	12.8	13.5	7.1	7 1
5+	50	186	100.2	100.4	13.0	13.5	12.8	13.6	6.4	6 5
6+	58	194	104.7	106.5	14.0	15.0	12.8	13.7	5.7	5.8
7+	63	160	108.1	111.7	15.6	16.5	13.2	14.1	56	5.3
8+	82	166	116.2	117.4	17.4	18.5	13.4	14.4	5.0	4.9
9+	71	137	121.2	122.0	19.2	20.1	13.8	15.0	5.4	5.0
10+	89	155	125.6	126.7	21.2	21.8	14.5	15.5	5.1	5.1
11	76	117	131.3	131.9	23.3	24.0	15.0	16.1	5.2	53
12+	89	111	136.3	136.4	26.2	26.3	15.7	16.7	5.5	5.0
13+	55	63	141.2	139.2	28.7	27.9	16.4	17.0	5.4	5.0
14+	48	69	147.6	149.7	32.6	34.1	17.6	18.4	5.0	4.9
15+	47	56	151.6	154.2	35.1	37.2	18.5	19.0	5.3	4.7
16+	29	69	155.0	157.6	37.3	42.7	19.1	21.0	4.9	4.8
17+	40	60	158.8	160.9	41.9	45.9	20.0	22.0	5.2	5.1
18+	25	83	161.5	160.2	43.0	46.6	21.0	22.4	5.1	5.1
19+	20	38	160.4	161.8	44.1	46.0	21.6	22.4	5.4	4.8
3-25	236	242	161.4	161.7	46.1	47.3	22.1	22.8	5.0	4.4
5-30	217	284	162.4	162.5	46.6	48.6	22.7	23.4	4.9	4.5
3-35	112	318	161.7	161.3	46.5	48.1	22.4	23.5	5.1	4.6
5-40	132	313	160.6	161.8	46.8	48.2	22.7	23.2	5.1	4.6
3-45	65	235	160.7	160.9	46.4	47.7	22.7	23.3	5.9	4.7
5-50	163	154	160.2	160.9	46.2	48.2	22.3	23.4	5.5	4.8
0-55	80	59	159.0	161.2	44.5	48.4	21.5	22.7	52	45
5-60	93	73	158.8	159.4	44.0	47.4	21.3	22.9	5.8	4.9
•60	123	74	158.2	160.1	43.0	47.8	20.6	22.4	5.5	5.2

An. 14

MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : MAHARASHTRA **SEX : FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	44	86	63.9	63.7	5.6	6.3	11.1	12.1	7.5	8.0
1 +	79	165	72.6	70.9	7.4	7.5	11.3	12.2	7.0	7.8
2+	84	164	79.7	78.5	9.1	8.9	11.9	12.7	7.9	7.8
3+	118	179	88.5	86.5	10.6	10.5	12.4	13.2	8.0	8.3
4+	62	186	94.1	93.6	11.6	11.9	12.5	13.4	1.5	7.7
5+	53	164	99.2	100.0	12.7	13.5	12.7	13.8	6.7	7.0
6+	51	172	106.6	105.7	14.3	14.7	12.7	13.9	6.0	6.3
7+	63	152	109.4	111.6	15.0	16.3	13.1	14.3	6.1	5.9
8+	63	211	115.8	116.9	17.6	18.0	13.9	14.5	6.0	5.6
9+	71	155	121.2	121.5	19.1	19.7	14.1	15.1	5.9	5.8
10+	70	136	125.7	125.5	20.9	21.4	14.8	15.7	6.2	6.0
11 +	74	113	131.6	131.0	23.6	24.0	15.4	16.4	6.0	6.2
12+	38	127	136.6	137.8	26.3	27.8	16.4	17.3	6.2	6.4
13+	41	92	140.1	142.4	29.7	31.3	17.0	18.4	6.8	6.8
14+	33	101	144.9	146.2	31.4	35.2	17.6	19.6	6.8	7.6
15+	36	82	148.1	148.5	36.3	37.0	18.7	20.4	7.4	7.9
16+	39	86	145.9	149.6	35.3	39.6	19.4	21.0	8.6	8.5
17+	44	39	149.9	150.0	37.2	39.9	19.2	21.1	8.3	8.7
18+	26	67	150.6	150.1	41.1	40.6	21.2	21.0	11.3	8.0
19+	16	42	148.9	149.0	37.8	41.0	19.8	21.2	8.6	8.3
20-25	320	559	149.8	150.2	40.1	40.4	20.4	21.1	8.8	7.4
25-30	200	564	150.4	149.9	40.3	40.3	20.5	21.4	8.0	7.5
30-35	130	562	150.0	149.7	40.6	40.3	20.8	21.6	8.7	7.9
3540	135	318	150.0	149.9	40.1	40.8	20.7	21.9	8.5	8.2
40-45	92	178	149.7	149.5	38.7	41.8	21.7	22.4	8.7	8.9
45-50	122	135	150.0	149.4	39.5	42.2	20.7	22.4	8.6	8.9
50-55	90	75	147.7	149.2	38.5	40.6	20.3	22.0	8.3	8.9
55-60	79	78	147.9	147.8	39.4	39.4	21.1	21.8	10.1	8.9
>60	107	69	146.9	147.2	35.7	39.7	19.7	21.4	8.1	7.9

An. 15
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE :ORISSA **SEX : MALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	38	215	65.9	61.3	6.4	5.8	12.6	12.2	7.1	3.4
1+	68	246	73.2	72.3	7.9	8.0	12.4	12.9	6.7	3.6
2+	72	251	79.6	81.1	9.1	9.8	12.5	13.3	6.6	3.9
3+	69	265	86.3	88.2	10.5	11.4	13.3	13.5	6.5	4.1
4+	65	244	94.8	95.8	13.0	13.1	13.7	13.8	6.9	4.1
5+	78	224	98.9	101.8	13.9	14.5	13.9	13.9	6.5	4.2
6+	70	214	102.2	107.2	14.5	15.9	13.9	14.2	6.9	4.1
7+	59	230	109.5	113.4	16.1	17.6	14.0	14.6	6.4	4.1
8+	80	230	116.5	118.7	18.7	19.8	14.9	15.1	5.9	4.4
9+	57	174	120.5	123.7	20.3	21.6	15.2	15.5	7.4	4.3
10+	96	208	129.5	128.3	22.9	23.6	16.4	16.1	6.3	4.4
11 +	57	100	130.6	133.7	24.7	25.9	16.3	16.7	5.9	4.5
12+	45	159	139.0	137.3	29.6	28.2	17.8	17.3	6.6	4.6
13+	48	125	138.4	144.6	30.5	33.3	17.9	18.6	6.6	4.8
14+	50	118	148.0	150.5	36.0	38.0	19.9	20.1	6.7	5.4
15+	59	127	150.0	154.9	36.6	41.7	19.9	21.0	6.9	5.3
16+	46	84	152.2	158.5	40.0	44.7	21.5	21.8	7.2	5.5
17+	15	62	155.9	159.8	40.9	46.0	21.0	22.5	6.1	5.6
18+	76	99	156.0	160.1	42.8	48.2	21.6	23.4	6.9	5.8
19+	16	41	157.6	159.3	40.9	47.4	20.7	23.0	7.1	5.6
20-25	218	406	157.6	161.0	44.9	49.2	22.5	23.8	8.0	5.8
25-30	185	472	158.4	160.8	46.2	49.3	23.2	24.0	7.1	5.8
30-35	174	605	158.9	160.5	46.0	48.8	22.9	23.8	7.9	5.7
35-40	191	461	158.7	160.3	45.8	48.9	23.1	23.9	7.1	5.8
40-45	144	341	158.5	159.7	45.8	48.1	23.1	23.6	7.2	5.7
45-50	173	245	157.9	159.2	45.3	47.8	22.8	23.4	7.1	5.7
50-55	154	281	156.9	159.1	44.7	47.0	22.5	23.1	7.0	5.7
55-60	82	208	156.9	157.6	44.7	45.2	22.4	22.4	7.6	5.6
>60	93	178	157.0	157.0	45.0	44.1	22.1	21.9	7.3	5.5

An. 16
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : ORISSA **SEX : FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumferenco (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	35	223	65.7	61.5	6.1	5.7	12.4	12.1	6.5	3.3
1 +	54	212	73.4	71.9	7.5	7.7	12.7	12.7	6.6	3.5
2+	69	228	79.2	80.5	9.0	9.5	12.6	13.2	6.4	3.8
3+	84	264	85.2	87.8	10.2	11.0	13.3	13.5	6.9	4.1
4+	69	236	92.5	94.7	12.1	12.4	13.4	13.7	6.9	4.2
5+	59	257	99.5	101.0	13.4	13.9	13.6	13.9	6.7	4.2
6+	61	197	102.8	106.6	14.3	15.3	13.5	14.2	6.7	4.1
7+	64	243	111.0	112.4	16.5	17.0	14.2	14.6	5.9	4.2
8+	56	220	116.9	118.5	18.8	19.2	15.4	15.1	5.7	4.3
9+	47	185	121.5	123.9	20.1	21.3	15.5	15.9	6.1	4.4
10+	66	165	122.6	128.2	20.7	23.4	15.5	16.4	6.4	4.6
11 +	38	133	130.5	134.1	24.8	26.7	16.3	17.2	6.6	4.7
12+	48	185	136.8	138.7	28.8	29.5	17.9	18.0	7.2	5.1
13+	42	136	140.3	143.7	30.9	33.5	18.2	19.2	6.7	5.5
14+	35	105	143.9	146.7	34.5	37.0	19.7	20.1	7.7	5.9
15+	46	99	146.5	147.9	37.5	37.9	20.4	20.6	7.4	6.2
16+	50	106	147.9	149.6	37.6	41.7	20.4	21.8	7.4	6.6
17+	28	68	149.8	149.5	39.6	41.2	21.0	21.9	8.5	6.8
18+	58	114	148.0	151.3	39.7	43.8	21.2	22.5	7.7	6.8
19+	21	67	149.2	151.3	40.0	42.6	21.8	21.5	7.9	6.6
20-25	285	758	149.6	151.2	41.1	43.1	21.6	22.0	8.2	6.5
25-30	206	757	150.0	151.1	40.6	42.6	20.8	22.0	8.1	6.4
30-35	239	694	149.4	151.3	40.6	42.5	21.5	22.0	7.8	6.3
35-40	194	426	148.8	151.3	40.2	42.5	21.4	22.1	7.8	6.4
40-45	150	316	149.5	150.0	40.1	41.7	21.3	22.1	7.7	6.5
45-50	140	366	149.0	149.0	39.9	40.5	21.8	21.8	7.4	6.2
50-55	98	235	148.6	149.5	39.4	39.9	21.1	21.3	7.0	5.9
55-60	76	179	146.9	147.3	38.6	38.7	21.1	21.1	7.7	5.8
>60	132	220	148.1	146.5	37.0	37.7	20.1	20.5	7.2	5.6

An. 17
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : WESTBENGAL **SEX : MALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	48	85	64.9	63.2	6.4	6.0	12.8	12.8	7.1	7.7
1 +	90	82	74.3	75.9	8.0	8.5	13.1	13.1	6.6	6.9
2+	84	123	82.5	83.1	9.8	10.0	13.9	13.5	7.5	7.3
3+	89	125	89.7	91.4	11.4	12.0	14.1	14.1	6.8	7.3
4+	75	102	94.2	96.3	12.2	13.0	14.1	14.1	6.3	6.9
5+	65	154	100.2	103.4	13.3	14.6	14.2	14.3	6.0	5.7
6+	82	110	105.7	110.4	15.1	16.6	14.7	14.6	5.2	5.3
7+	71	91	109.9	115.1	16.3	18.3	14.7	15.1	5.1	5.0
8+	83	130	116.6	122.4	18.2	20.8	15.3	15.7	5.0	4.7
9+	34	88	121.4	125.3	19.8	22.3	15.3	16.2	4.6	4.8
10+	81	85	125.6	129.6	21.5	24.0	16.1	16.7	4.7	5.0
11 +	60	41	127.7	135.5	23.1	27.7	16.7	17.7	5.0	5.1
12+	90	104	134.2	139.7	26.1	29.5	17.6	18.1	4.7	5.0
13+	27	53	139.3	147.6	29.9	34.9	18.0	19.5	4.9	5.1
14+	47	39	145.3	152.8	32.1	39.3	19.3	21.0	5.2	5.2
15+	36	72	132.0	156.4	38.2	43.4	20.8	22.1	5.2	5.8
16+	50	60	156.8	159.0	42.1	45.8	21.7	22.7	4.9	5.5
17+	21	30	159.4	159.4	45.5	45.9	22.9	22.5	5.3	5.2
18+	59	82	159.4	160.2	46.1	47.1	22.9	23.3	5.3	5.7
19+	9	36	161.0	161.7	46.7	49.9	23.5	23.9	5.1	5.9
20-25	164	250	159.9	162.1	47.8	49.3	23.9	24.2	5.1	5.5
25-30	206	288	161.2	160.9	48.2	48.8	24.1	24.3	4.9	5.6
30-35	157	254	160.9	161.5	47.8	48.7	24.2	24.3	4.9	5.4
35-40	172	263	159.5	160.2	46.9	48.2	24.3	24.4	4.9	5.7
40-45	85	181	157.9	160.0	46.4	48.5	23.8	24.4	5.2	5.6
45-50	89	198	159.2	158.4	45.6	47.1	23.7	24.2	4.9	5.9
50-55	70	133	158.6	159.9	44.9	47.5	23.4	23.9	5.2	6.1
55-60	44	118	158.8	157.1	44.9	44.7	23.8	23.1	5.2	5.9
>60	139	213	158.9	156.2	44.9	43.1	23.0	22.2	5.8	5.9

An. 18
MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : WESTBENGAL **SEX : FEMALE**

Age (Yrs)	Number		Height (cm)		Weight (kg)		Arm circumference (cm)		Fatfold at Triceps (mm)	
	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99	1985-87	1998-99
0+	46	104	63.7	62.1	5.8	5.5	12.4	12.2	8.9	7.8
1 +	78	125	73.7	72.8	7.6	7.8	12.6	13.0	6.5	6.9
2+	73	100	80.3	81.0	9.1	9.5	13.3	13.5	7.2	7.2
3+	85	136	88.1	88.3	10.9	11.0	14.1	13.9	7.3	7.9
4+	76	95	94.9	95.1	12.2	12.5	14.2	14.1	6.6	6.8
5+	75	135	99.0	101.8	13.0	14.1	14.4	14.3	6.2	6.3
6+	91	123	106.0	107.5	14.7	15.4	14.3	14.5	5.6	5.5
7+	51	108	111.5	113.7	16.3	17.2	14.9	14.9	5.3	5.4
8+	94	104	116.6	118.7	17.9	19.0	15.5	15.3	5.3	5.4
9+	42	80	121.1	123.3	19.5	20.8	15.7	15.8	5.2	5.5
10+	79	99	126.4	128.1	22.1	23.2	16.6	16.6	5.2	5.7
11 +	29	55	131.1	132.7	23.9	25.5	17.7	17.2	5.6	6.0
12+	67	101	136.0	138.0	28.3	28.8	18.5	18.2	5.9	6.9
13+	29	51	137.7	142.8	28.9	32.6	18.7	19.2	6.4	8.0
14+	54	67	142.9	146.3	33.3	36.1	19.8	20.4	6.9	8.5
15+	41	56	145.8	148.6	37.1	38.4	21.3	21.2	7.9	9.6
16+	58	58	147.6	149.7	38.8	40.7	21.9	21.8	8.2	10.5
17+	23	39	148.9	149.9	39.8	41.4	21.8	22.2	8.3	10.2
18+	68	74	149.1	150.6	40.8	42.4	22.1	22.3	8.3	9.9
19+	5	41	149.4	150.2	41.5	41.7	22.6	21.9	8.7	8.7
20-25	274	354	149.3	150.5	40.2.	41.8	22.0	22.1	7.6	8.8
25-30	234	387	149.8	150.6	41.0	41.8	22.5	22.2	7.5	8.6
30-35	155	257	148.9	150.4	40.3	41.8	22.4	22.4	7.2	8.5
35-40	126	234	148.7	150.3	40.3	42.0	22.5	22.6	7.8	8.7
40-45	93	202	149.4	149.5	38.9	41.8	22.1	22.7	7.4	8.1
45-50	86	209	147.6	149.0	38.9	41.4	22.3	22.6	7.3	8.1
50-55	98	126	146.7	148.4	38.3	40.5	22.2	22.4	7.8	8.7
55-60	55	117	148.8	147.8	36.9	39.8	21.5	22.2	6.9	7.3
>60	108	223	144.1	146.2	34.6	38.3	20.8	21.6	6.8	7.4