NATIONAL NUTRITION MONITORING BUREAU

R-13

REPORT OF REPEAT SURVEYS
(1988-90)

NATIONAL INSTITUTE OF NUTRITION
Indian Council of Medical Research
Hyderabad-500 007

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FOREWORD

The National Nutrition Monitoring Bureau (NNMB) has been the major authentic source of information regarding dietary intakes and nutritional status of population in different parts of India. The periodic reports of the Bureau, which provide a situational analysis at the State level, are of immense help to the planner and administrator. The present report in particular, provides a mine of useful information as it includes indepth analysis of the data and a comparison between two survey periods, indicating the nutrition trends over time. The data shows that, during the last 15 years, the situation has remained static with respect to food consumption at the household level. However, the diet and nutritional status of preschool children has shown a significant improvement.

I do hope that this database lends itself for monitoring not only the directional change that the community is making, but also provide an opportunity to the planner to look for alternate strategies of developmental programmes which result in faster rate of progress on the nutritional front.

Dr. Vinodini Reddy
Director

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SUMMARY

The National Nutrition Monitoring Bureau (NNMB) has been conducting diet and nutrition surveys on a continuous basis in ten states, since 1972. The latest survey(1988-90)acquires special significance as it covered the same areas which were surveyed earlier during 1975-79. The main objective was to find out whether there are any changes in the diet and nutritional status of the rural population during the last fifteen years. Information was obtained on dietary consumption of families and anthropometric and clinical status of individuals in 8 states. When the consumption pattern observed in 1988-90 is compared with the data collected earlier there is not much change at household level. The mean intake of cereals showed a marginal decrease from 504 g to 490 g/CU and that of pulses from 36 g to 32 g/CU. The mean energy intake was 2340 Kcal/CU in seventies and 2283 Kcal/CU per day during 1988-90. However, in case of landless agricultural labourers the intake showed an increase of 136 kcal/CU/day during the period. In case of preschool children also there was an increase of about 100 Kcal per day.

Thus these data indicate that during the last 10-15 years there has been no significant change in the consumption pattern of the households despite an impressive increase in food production in the country. Poor access to food and low purchasing capacity appear to be the major constraints. Food and nutrition policies should address these issues and aim at household food security (rather than national food security), to ensure adequate dietary intakes by all members of the family.

Mean heights and weights (all states pooled) showed changes for the better but their magnitude is small. However, the nutritional status of preschool children in terms of weight-for-age profile showed a significant improvement during this period. The proportion of 'normal' children showed an increase, while the percentage of 'severely' malnourished showed a decline. Similar trends are noticed in case of stunting (low height for age) and 'wasting' (low weight for height) profiles of children. So also, decline in the prevalence of overt cases of clinical malnutrition like kwashiorkor, marasmus, and vitamin 'A' deficiency observed during the period suggest an improvement in the overall nutritional status of rural children. This improvement may be due to a variety of factors like better health care, educational efforts and nutrition support provided through various national programmes targetted for vulnerable segments. The ongoing programmes must be strengthened not only to eliminate the severe forms but also reduce milder grades of malnutrition in children.

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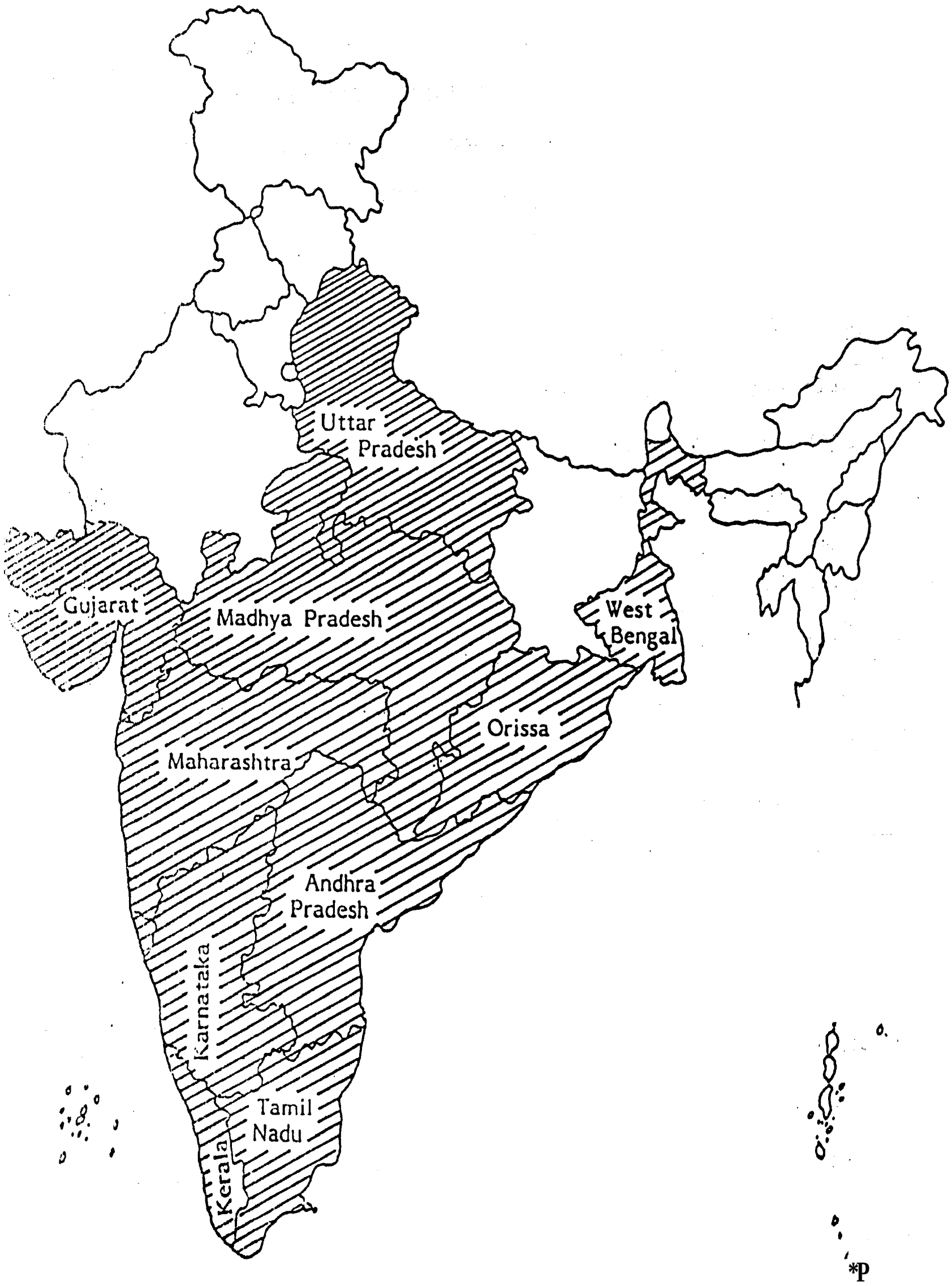
1. INTRODUCTION

The National Nutrition Monitoring Bureau which was established in 1972 by the Indian Council of Medical Research (ICMR) at the National Institute of Nutrition, Hyderabad, has been collecting data on diet and nutritional status (clinical and anthropometric) of representative population groups on a continuous basis. The data are collected by a team of trained medical officers and nutritionists using a standard protocol prepared by the Central Reference Laboratory (CRL).

The NNMB units are located in the States of Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa and Tamil Nadu, Uttar Pradesh and West Bengal (Fig. 1). In each state, every year 500 rural households are covered for diet and nutrition survey. In 80% of these households food consumption levels are assessed by one-day weighment method of diet survey, wherein the investigator weighs all the raw foods used in cooking by the family for the day. The total amounts of nutrients such as energy, protein, vitamins and minerals are derived by referring to the Food Composition Tables of Indian Foodstuffs. Data on nutrient intakes are expressed on per consumption unit (CU) basis by converting the number of individuals

Figure. 1

NATIONAL NUTRITION MONITORING BUREAU - AREA OF OPERATION



partaking meals into consumption units using the calorie coefficients recommended by the ICMR for Indian population. In the remaining 20% of the households, 24 hour recall method of diet survey (oral questionnaire method) is carried out. The amount of cooked food consumed by each member in the household is assessed in terms of volume (using standardized cups) and then converted into raw amounts by using appropriate conversion factors derived for each food item in each household. The nutrients derived from these foods are calculated using the Food Composition Tables of Indian Foods.

Results of the surveys conducted every year have been published as Annual Reports of NNMB (1974 to 1982, 1984 and 1988-89). Based on the yearly results, the following observations were made earlier:

(A) The prevalence of severe and moderate degrees of malnutrition among children (based on Gomez classification) declined over over the period consistently. This has resulted in a corresponding increase in the proportion of children who are 'mildly' malnourished and those having 'normal' weight status.

(B) The average calorie consumption of rural population showed an increase of 110 kcal per Cu per day at the household level during the period 1975 to 1980. The increase in the households belonging to lowest income group being more than those belonging to higher income brackets suggesting a certain degree of reduction in inequality of consumption.

These observations were made at aggregate level by pooling the data of all the States surveyed (on a cross-sectional basis). Since NNMB sampling procedure adopted selection of districts (first stage units) on without replacement basis', the areas surveyed in each State during the successive years were not the same. The estimates of consumption would also have been affected by incomplete or non coverage of sampled districts in some States, from time to time, due to unavoidable logistic/administrative reasons. These factors might have vitiated the results of diet and nutrition surveys. Hence, it was considered necessary to carry out repeat surveys in the same districts and villages, which were covered during 1975 to 1979 so that the exact levels of change, if any, in the food consumption and nutritional status over the period could be assessed. With this objective in mind and also

to find out whether the changes reported earlier still hold good during the years 1988 and 1989, repeat surveys were carried out in the same districts which were covered during 1975-79.

2. METHODOLOGY

The repeat surveys were conducted in two phases. In the Phases. in each State all the villages covered in 1975-76 were re-surveyed during 1988-89. In the Phase - II, the sample consisted of 50% of the villages surveyed earlier (1976-79) and the remaining 50% formed new set of villages selected from the same districts adopting the same sampling selection strategy. The details of sampling design are given in Annexure - I. The areas of operation are presented in Figures 1.1-1.9. The district level estimates of consumption observed during 1975-79 were pooled and compared with the pooled estimates obtained in the repeat surveys of 1988-90.

As a part of the quality control checks, the Central Reference Laboratorty (CRL) has undertaken on-the-spot checks through observation and also repeated surveys in a sub sample of villages. It was found that excepting in the state of Orissa, the dietary consumption data collected by the NNMB State units was

Figure. 1.1

KERALA

Districts covered

Phase - I

1. Kozhikode
2. Trichur
3. Alleppy

Phase - II

4. Cannanore
5. Ernakulam
6. Trivandrum
7. Quilon

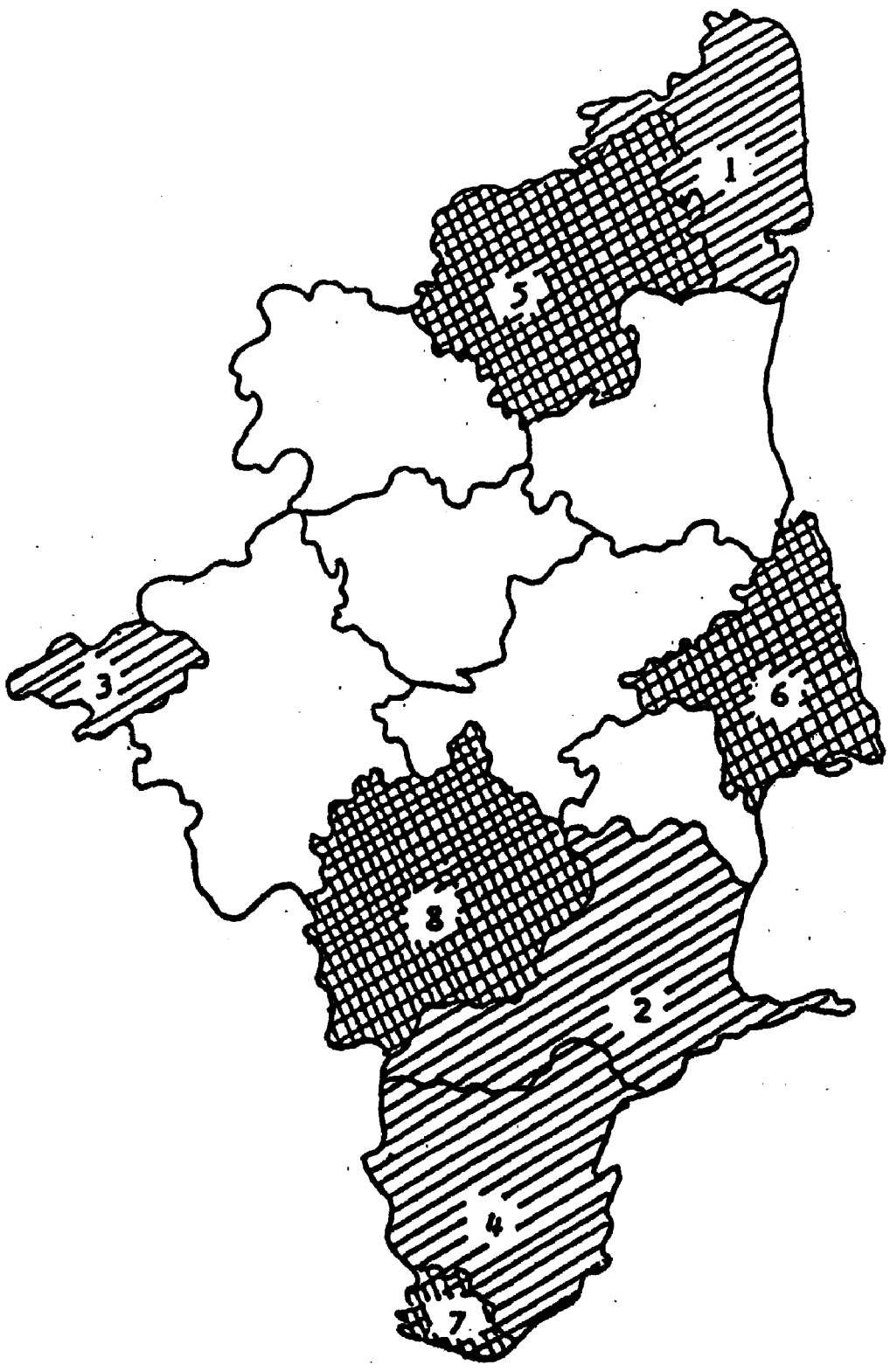


Figure. 1.2

TAMIL NADU

Districts covered

Phase - I

1. Chingleput
2. Ramnad
3. Nilgiris
4. Tirunelveli

Phase - II

5. North Arcot
6. Thanjavur
7. Kanyakumari
8. Madurai

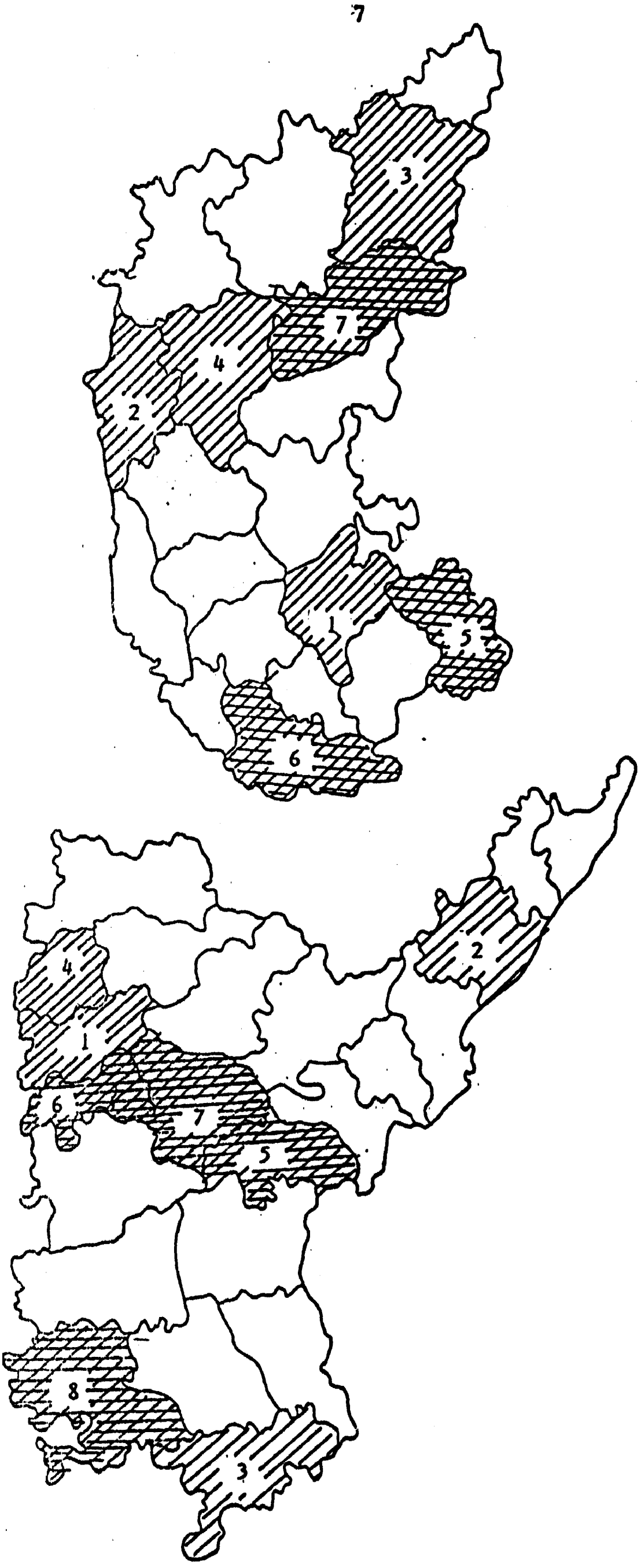


Figure. 1.3

KARNATAKA

Districts covered

Phase - I

1. Tumkur
2. North Kanara
3. Gulbarga
4. Dharwar

Phase - II

5. Kolar
6. Mysore
7. Raichur

Figure. 1.4

ANDHRA PRADESH

Districts covered

Phase - I

1. Medak
2. Visakhapatnam
3. Chittoor
4. Nizamabad

Phase - II

5. Guntur
6. Rangareddy
7. Naigonda
8. Anantapur

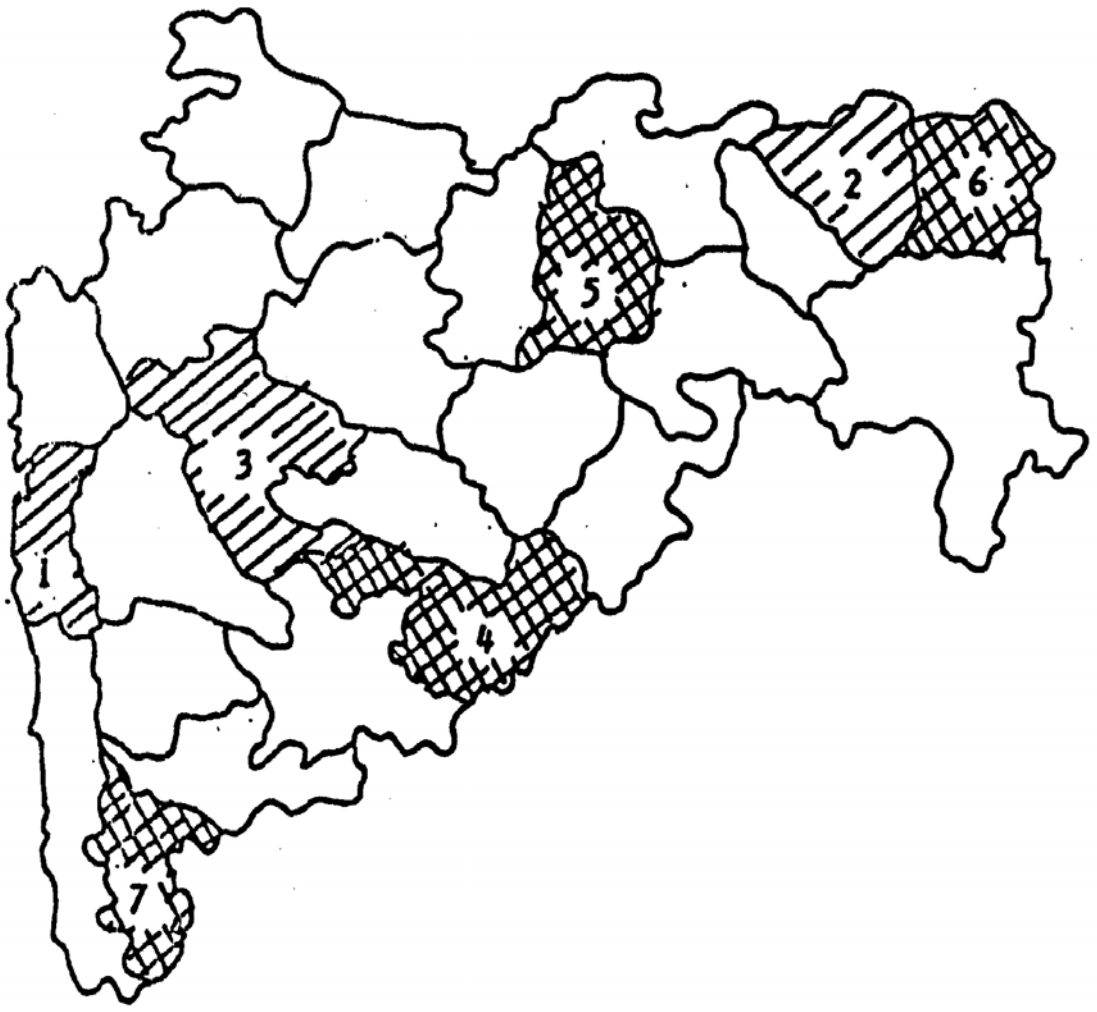


Figure. 1.5

MAHARASHTRA

Districts covered

Phase - I

1. Kolaba (Raigad)
2. Nagpur
3. Ahmednagar

Phase - II

4. Osmanabad
5. Akola
6. Bhandara
7. Kolhapur

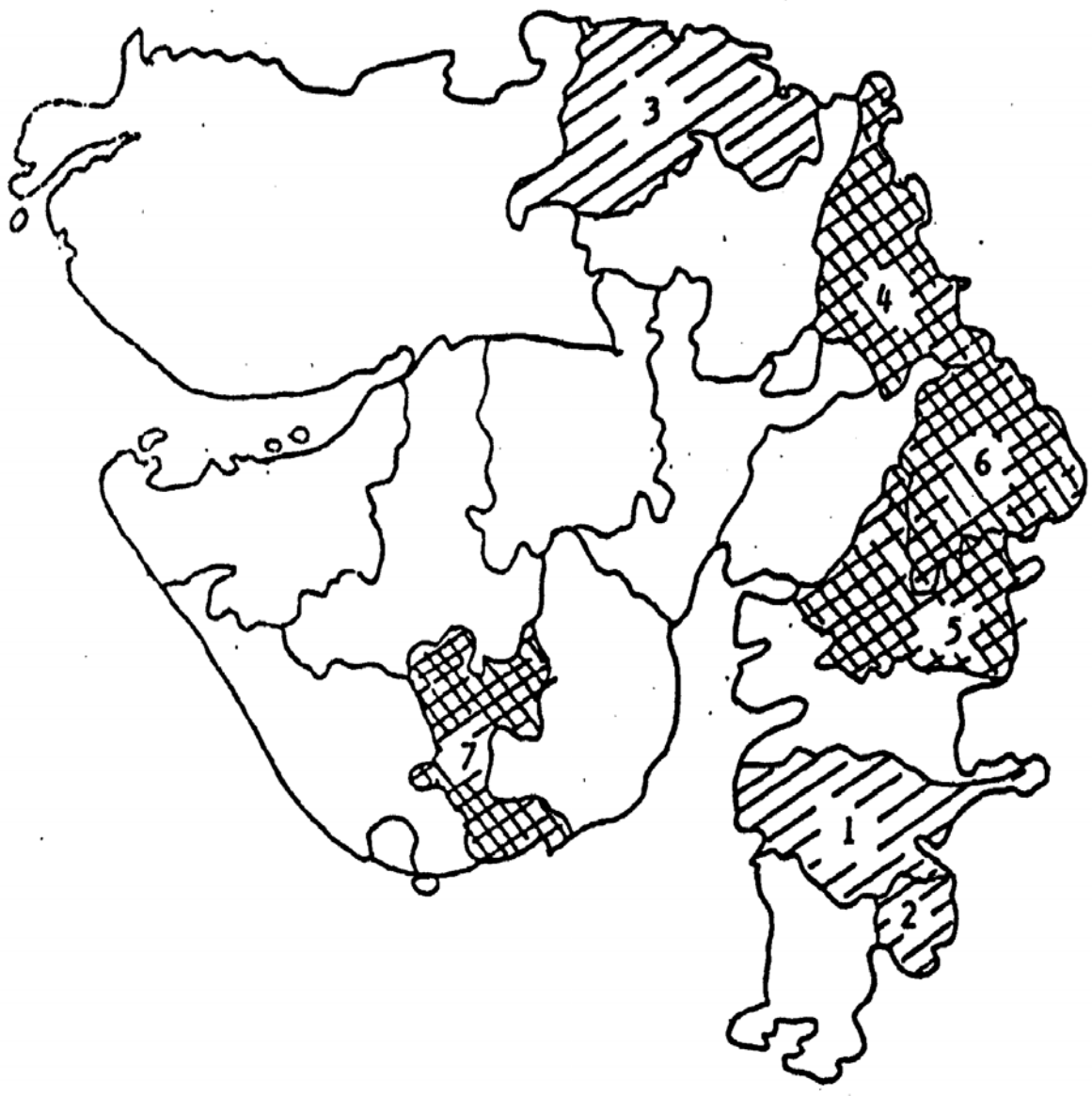


Figure. 1.6

GUJARAT

Districts covered

Phase - I

1. Surat
2. Dangs
3. Banaskantha

Phase - II

4. Sabarkantha
5. Vadodara
6. Panchmahal
7. Amreli

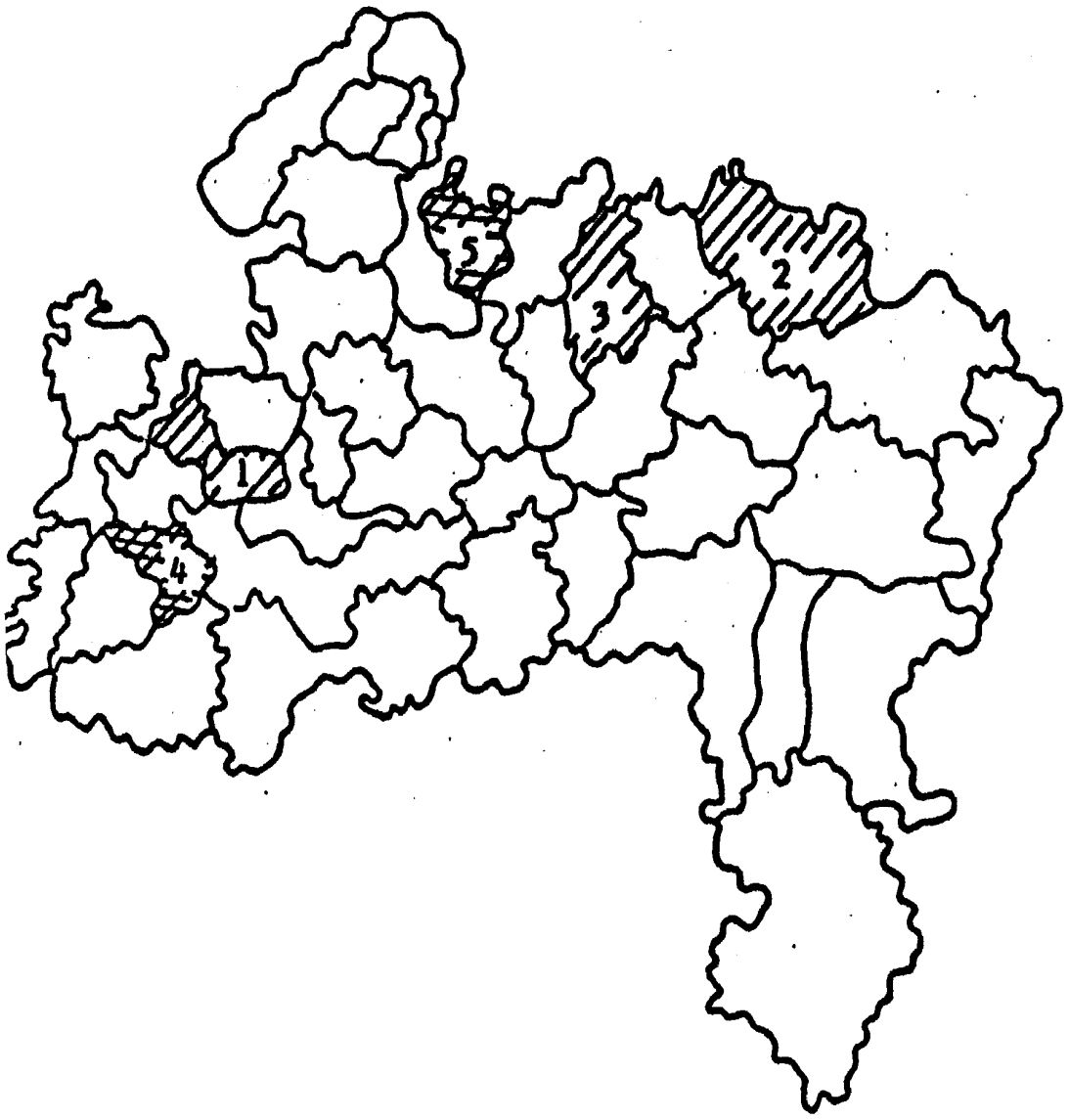


Figure. 1.7

MADHYA PRADESH

Districts covered

Phase - I

1. Shajpur
2. Rewa
3. Panna

Phase - II

4. Indore
5. Tikamgarh

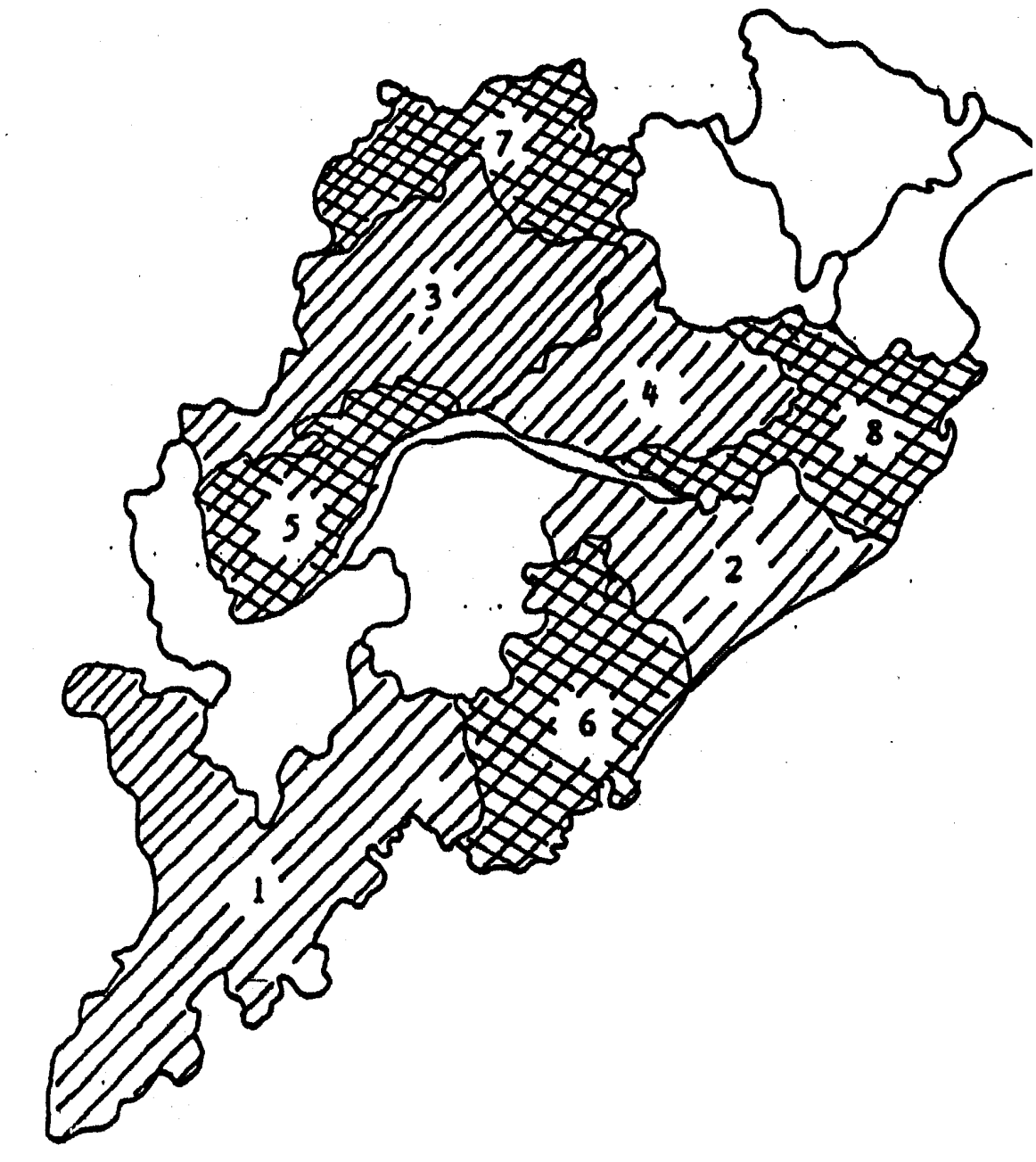


Figure. 1.8

ORISSA

Districts covered

Phase - 1

1. Koraput
2. Puri
3. Sambalpur
4. Dhenkenal

Phase - II

5. Bolangir
6. Ganjam
7. Sundargarh
8. Cuttack

within the expected variations of 5-10%. Hence, the data of dietary consumption from the State of Orissa was not included in the present analysis. However, the data on nutritional status - Clinical and anthropometric, for Orissa was also included in this report.

3. RESULTS

3.1 Sample Covered

Particulars regarding the sample covered in each state during 1975-79 and 1988-90 are presented in Table - 1. During 1975-79, a total of about 6050 households from 918 villages spread over 57 districts from eight states, were covered. (The States of Uttar Pradesh and West Bengal could not be covered for the repeat surveys). In some districts, all villages covered during seventies could not be resurveyed in the eighties due to practical difficulties. However, 96% of the targetted number of villages could be covered during the repeat surveys.

3.2 Income Status

The proportion of households covered from different income groups during the two periods viz., 1975-79 and 1988-90 are given in Table 2. It is seen that the wide differences in the households with different PCI between the periods get considerably narrowed when

adjustments are made for inflation and consequent erosion of rupee value over the time. The average monthly per capita income, at aggregate level was about RS. 70 in 1975-79 and. Rs. 150 in 1988-90 (unadjusted). This apparent difference almost disappears when adjusted for rupee value taking 1977 as base (1977 = 100), suggesting very little change in average income status of the population studied then and now.

3.3 Food Consumption

To ascertain that the samples of villages covered in Phase II, which consisted of old villages covered during the 70s and new villages covered now# are not different, the average intakes of nutrients from the two sets of villages are compared in Table 3. The nutrients are protein, energy and vitamin 'A' . It is evident that there are no major differences in the nutrient intakes between these two sets of villages, in all the states. This proved that with respect to food consumption, there was no selection bias in the villages covered earlier. Hence, for the subsequent presentation, results of the data of Phase I and Phase II are pooled and compared with the consumption figures of the same districts observed earlier.

The results of food consumption based on weighment diet survey at both points of time are presented in Tables 3.1. These figures are compared with those suggested in the Balanced Diet recommended by the ICMR (1981). The nutrient intakes, however, are compared with the levels recommended by the Expert Committee of ICMR (1990).

3.3.1 Cereals

The overall consumption of cereals showed a marginal decline from 504 g in 1975-79 to 490 g in 1988-90. Increase in the mean cereal consumption was noticed in Kerala (28 g), Gujarat (43 g) and Madhya Pradesh (118 g), while a decrease was noticed in Karnataka (134 g), Tamil Nadu (84 g), Maharashtra (39 g) and Andhra Pradesh (34 g). During 1988-90, the mean consumption levels were above the suggested level of 460 g in all the States except Tamil Nadu (406 g) and Kerala (369 g).

3.3.2 Pulses

The mean consumption of pulses showed a marginal change from 36 g in 1975-79 to 32 g in 1988-90. The decline in pulse consumption was high in Madhya Pradesh (15 g) followed by Karnataka (10 g) and Tamil Nadu (5 g). During the repeat survey, the intake of pulses was less than the recommended intake of pulses adequate in all the states except Karnataka.

3.3.3 Green Leafy Vegetables

In none of the States, either in 1975-79 or in 1988-90, the mean intakes were closer to the ICMR suggested levels. However, a marginal increase in the consumption level of green leafy vegetables was observed in the states of Kerala, Tamil Nadu, Karnataka and Madhya Pradesh during 1988-90 as compared to 1975-79.

3.3.4 Other Vegetables

There was a marginal decline in the consumption of other vegetables between two survey periods. During 1988-90, the intakes were close to the ICMR suggested level of 60 g in the states of Gujarat and Kerala and low in all the others.

3.3.5 Roots and Tubers

The overall consumption of roots and tubers showed a decline from 48 g in seventies to 40 g in 1988-90. The highest reduction of 72 g was recorded in Kerala.

3.3.6 Milk and Milk Products

The overall consumption of milk did not show much change between 1975-79 and 1988-90. The average consumption of milk in Gujarat showed a decline from 180 ml to 139 ml but it was still higher than in other states.

3.3.7 Fats and Oils

There was no change in the consumption of fats and oils between the two periods. Except Gujarat, none of the States was consuming the suggested level of 20 g of visible fat.

3.3.8 Sugar and Jaggery

An increase of 6 g/CU of sugar and jaggery consumption was seen at overall level between the two surveys. The intake was close to the ICMR suggested level of 30 g in the states of Kerala, Karnataka, Maharashtra, Gujarat and Madhya Pradesh, while the rest showed lower intake.

3.4 Nutrient Intake

The average intake of nutrients observed during two survey periods are presented in Table 4. The RDI values suggested by ICMR (1990) are used for comparison.

3.4.1 Protein

The average protein intake showed no change between 1975-79 (62.9 g) and 1988-90 (61.8 g). The intakes during 1988 90 were above the RDI level of 60.0 g in all the states except in Kerala (52.9 g), Tamil Nadu (45.6 g) and Andhra Pradesh (55.7 g).

3.4.2 Energy

The average calorie intake showed a marginal decline from 2340 Kcal in 1975-79 to 2283 Kcal in 1988-90. The decline was noticed in the States of Karnataka (501 Kcal), Tamil Nadu (404 Kcal), Andhra Pradesh (107 Kcal) and Maharahstra (89 Kcal). Increase in calorie intake was noticed in the States of Madhya Pradesh (331 Kcal) and Kerala (162 Kcal). During 1988-90, the calorie intakes were below the RDI of 2350 Kcal in the states of Kerala, Tamil Nadu and Maharashtra.

3.4.3 Calcium

Calcium intake declined from 590 mg/CU in 1975-79 to 556 mg in 1988-90. The decline was seen in four out of seven States. However, in all the states, the mean calcium intakes were above the RDI level of 400 mg at both the periods of survey.

3.4.4 Iron

A marginal decline of 1.8 mg/CU, in the mean iron intake at over all level, was observed between the two survey periods. During 1988-90, the intakes were above the RDI level in the States of Karnataka (35.6 mg), Maharahstra (29.6 mg), Gujarat (29.0 mg) and Madhya Pradesh (35.2 mg).

3.4.5 Vitamin A

An overall increase of 37 /ug/CU was noticed during the period. In Kerala, a substantial improvement in the intake, of the order of 121 /ug, was observed. However, in none of the States, the average intake was comparable to the recommended level of 600 /ug.

3.4.6 Vitamin C

There was no change in the average intake of vitamin C during the two surveys. The mean intake levels were close to the RDI level of 40 mg in most of the states.

3.4.7 B-complex vitamins

The average intakes of thiamine, riboflavin and niacin were similar in both the surveys. The intakes of thiamine and niacin were close to RDI in all the states except Kerala and Tamil Nadu. While the riboflavin intake was low in all the states.

3.5 Food Consumption by Income

Table 5.1 shows that with increasing income, consumption of cereals declined while that of other foods like pulses, milk, fish, vegetables, fats and oils increased. Protein and energy content of diets also show an increase with increasing income (Table-5.2).

3.6 Energy Intake by Occupation

Precise assessment of household income is fraught with methodological errors. Occupation of head of the household was considered as a reasonably good proxy for economic status and hence was used to categorise the households into the following four occupation groups:

1. Landless agricultural labourers
2. Other labourers
3. Cultivators
4. "Others" which includes artisans, traders and salaried group.

Information on mean energy intakes in different occupation groups, at the aggregate level, for the two periods of survey is presented in Table 6.

The energy intake of landless agricultural labourers belonging to lowest income bracket, showed an increase of 136 kcal/CU from 2043 Kcal in 1975-79 to 2179 Kcal in 1988-90. The intakes of other labourers remained more or less unaltered. In case of cultivators and "others" with better income status, a reduction in intakes was observed. The extent of reduction was more in cultivator group (156 Kcal/cu) than the "others" (74 kcal/cu).

3.7 Protein Energy Adequacy status of households

The following procedure was adopted to determine the adequacy or otherwise of intake of protein and energy (at the household level). The protein and energy requirements were not considered as fixed values but were assumed to follow a Gaussian distribution. The requirement level of 55 g for protein was taken to represent the allowance of Mean + 2 SE while 2400 kcal of energy was considered to represent the Mean value of the distribution. These two distributions were considered to possess standard deviation of the order of 15% of the mean. As the consumption of these nutrients was estimated as average at the household level, the number of CU in each household was considered to represent the sample size for that household and Mean - 2SE was estimated. The consumption figures were compared with these cutoff levels so derived. Each household is categorised into energy adequate (E+) and protein adequate (P+) groups (Table 7).

Results of the analysis show that overall percentage of the households with adequate energy and proteins are 58.0 and 88.2 respectively during the period 1975-79. The corresponding figures for late eighties are 53.3 and 83.5. The magnitude of energy

deficiency at both points of time is definitely more than that of proteins in all the states. Calorie deficiency during the period showed an increase in the states of Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu and a decline in Madhya Pradesh.

3.8 Food/Nutrient Intake of Preschool children

Average food/nutrient intakes of preschool children assessed by oral questionnaire method are given in Table 8.1 and 8.2.

The intake of cereals and to some extent fruits and sugar, showed an increase; and no remarkable changes were seen in the consumption of other foods.

The average intake of calories in 1-3 years during 1988-90 was 908 kcal as against 834 kcal in the seventies indicating an increase of 74 kcal per child per day. The corresponding figures for children of 4-6 years were 1260 kcal and 1118 kcal suggesting an increase of 142 kcal per child. The increase has been mainly due to increased consumption of cereals rather than the other foods. There was no significant difference between boys and girls.

3.9 Energy Intake by nutritional grade of children

The relationship between the energy intake and nutritional status of children is well known. Children with better body weights can be expected to have higher

energy intakes. Results of analysis of the data set out in Table 9 indicate this relationship. The mean intake of energy among 'normals' is about 1013 Kcal, while in severely malnourished children, it is 796 Kcal. The intakes of mild and moderately malnourished groups are 988, 928 Kcal per day respectively.

4. NUTRITIONAL STATUS

Assessment of nutritional status of the population was based on anthropometric measurements and clinical examination.

4.1 Anthropometry

The mean values of Height, Weight, Arm circumference and Fatfold are presented in Annexure II.

The distance charts for height and weight for each state are presented in Figures 3.1-3.4 to 10.1-10.4. In general, (all states pooled), the measurements of 1988-90 are better compared to those of 1975-79 in most of the age groups in both the sexes fig. 2.1 - 2.4). However, the magnitude of differences in both measurements was more visible during the period of active growth i.e. childhood, school age and adolescence.

The figures 3.1 - 3.4 to 10.1-10.4 drawn in respect of each states, indicate that the heights and weights improved in case of Kerala, Maharashtra, Gujarat, and Andhra Pradesh but not in other states.

Fig. 2.1

DISTANCE CHART - HEIGHT - MALE

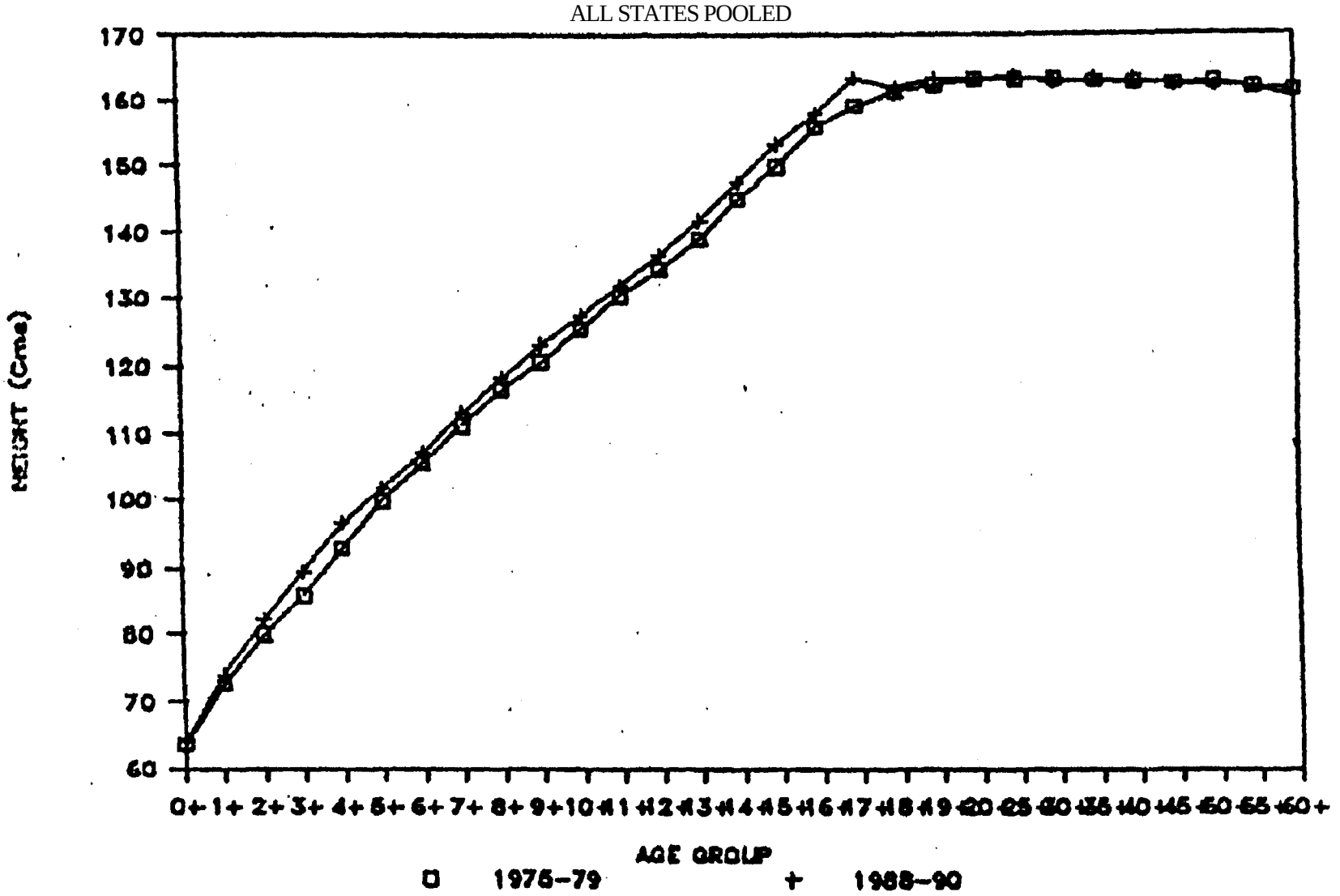


Fig. 2.2.

DISTANCE CHART - HEIGHT - FEMALE

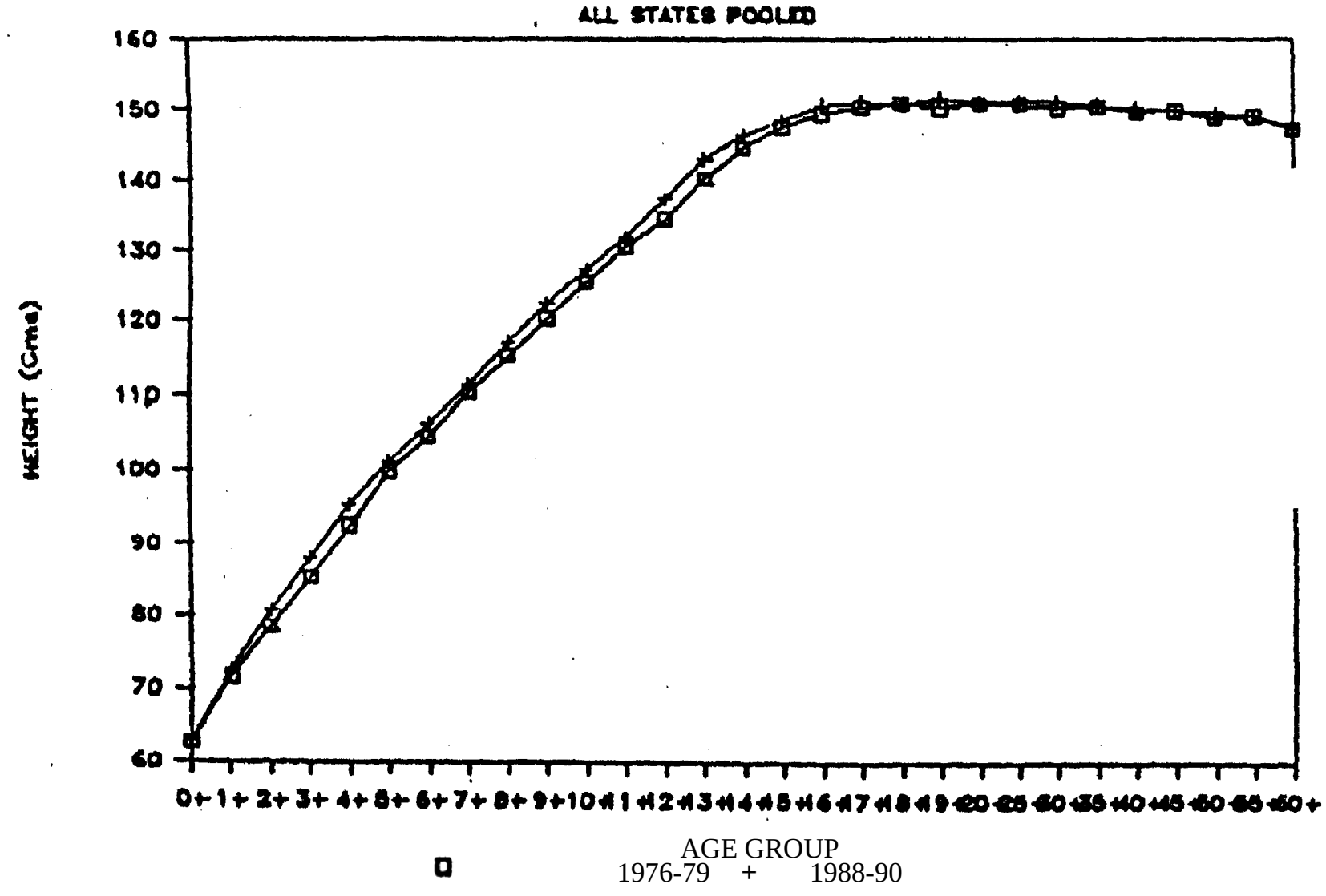


Fig. 2.3

DISTANCE CHART - WEIGHT - MALE

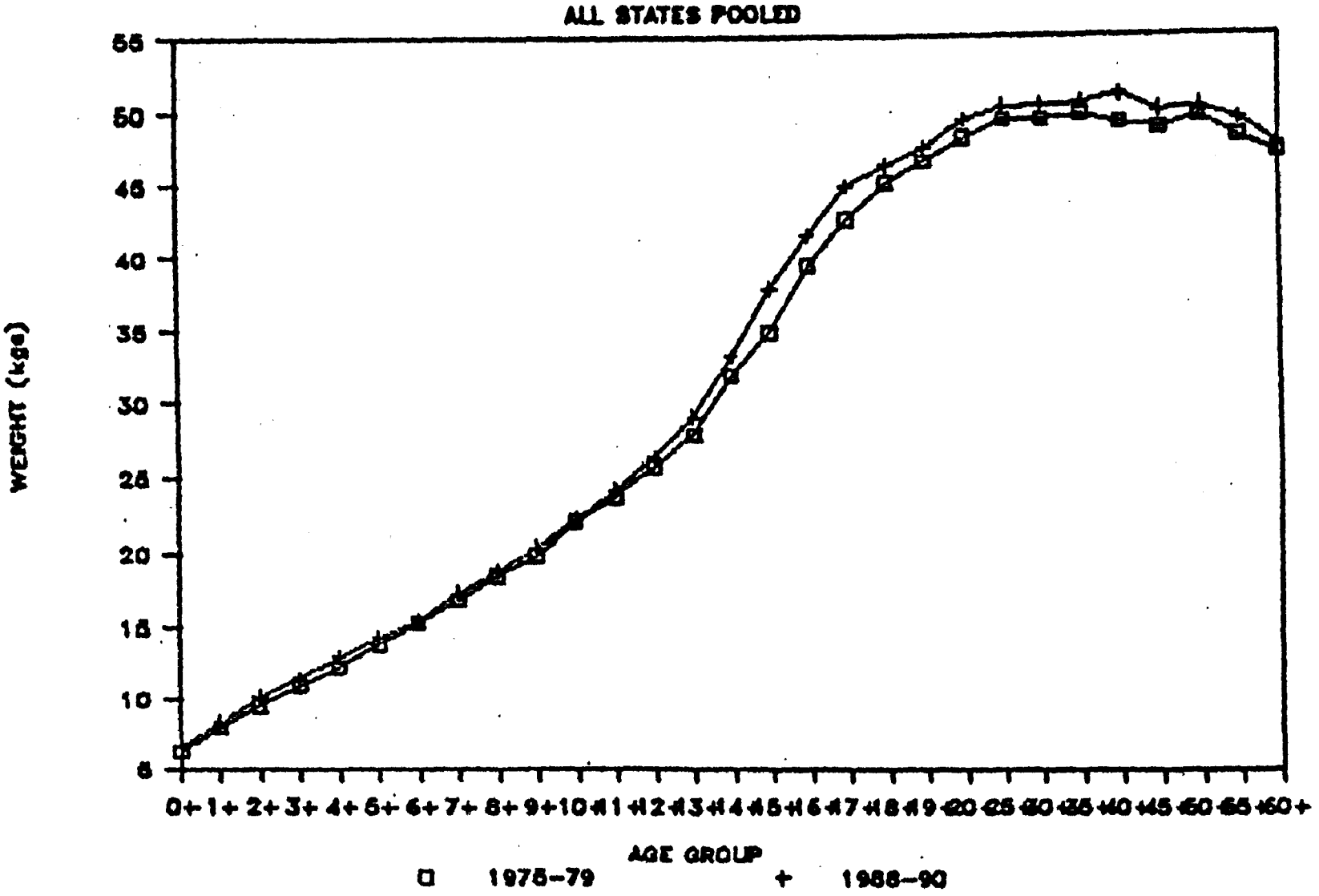


Fig.2.4

DISTANCE CHART - WEIGHT - FEMALE

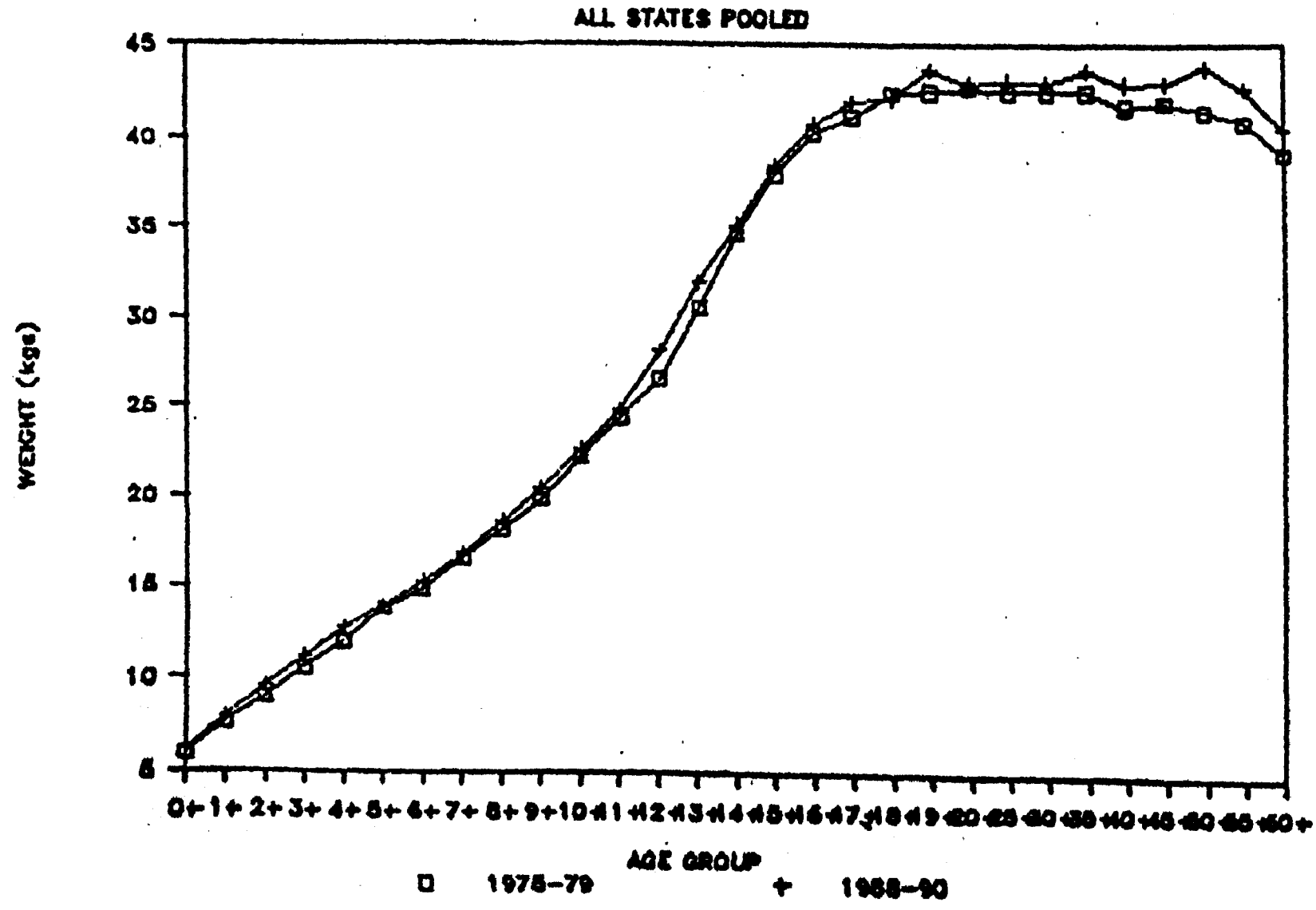


Fig. 3.1

DISTANCE CHART - HEIGHT - MALE

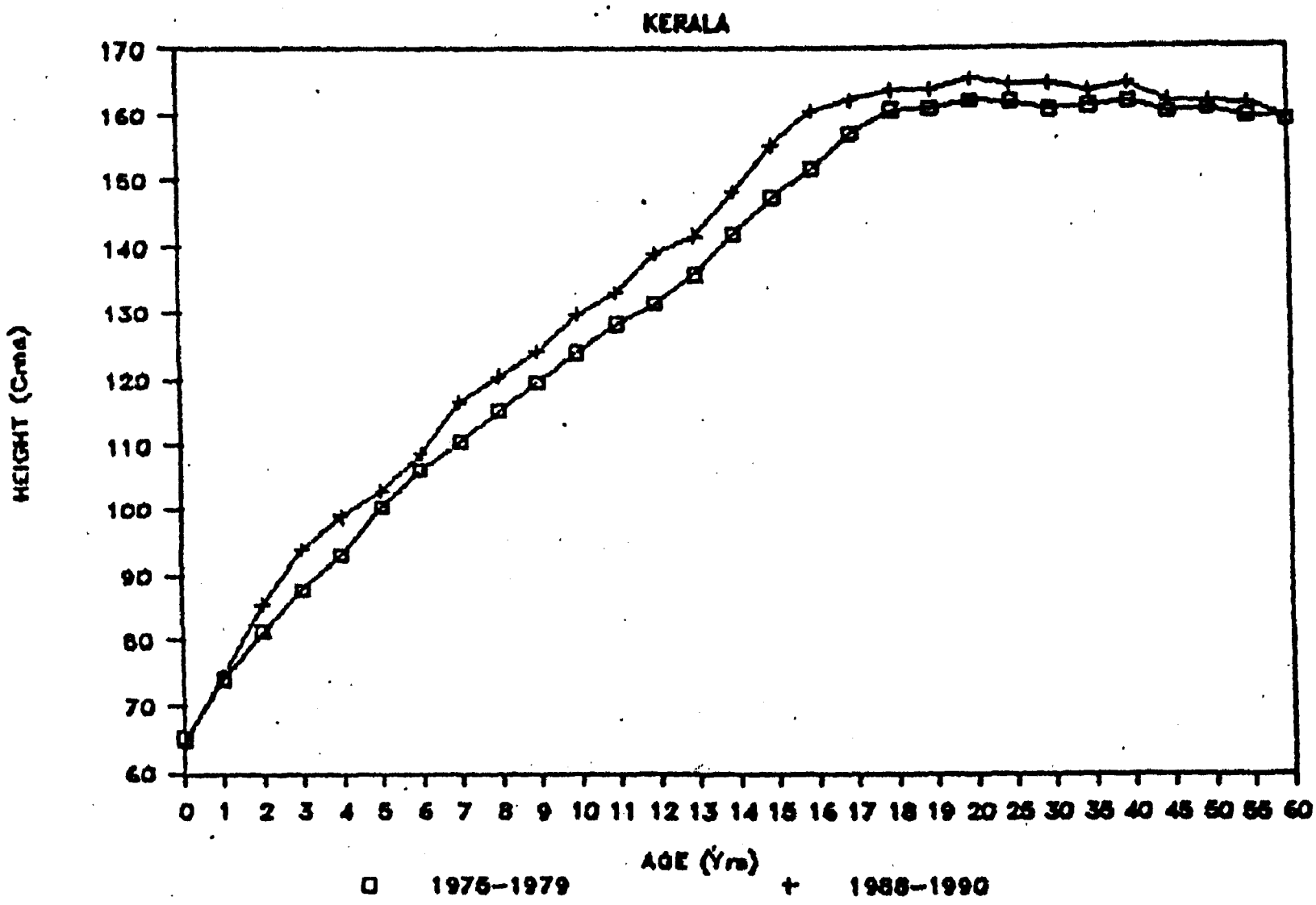


Fig. 3.2

DISTANCE CHART - HEIGHT - FEMALE

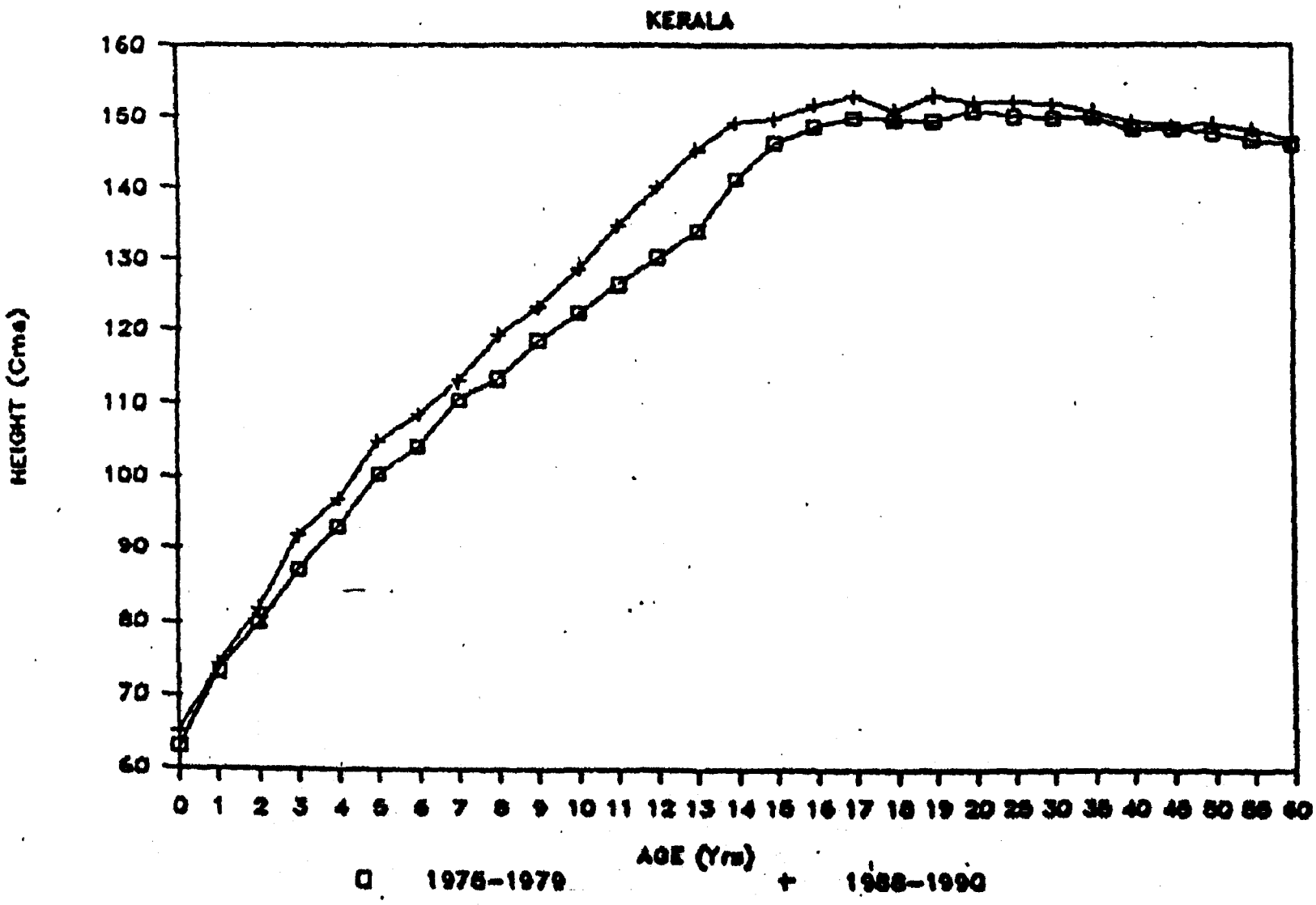


Fig.3.3

DISTANCE CHART - WEIGHT - MALE

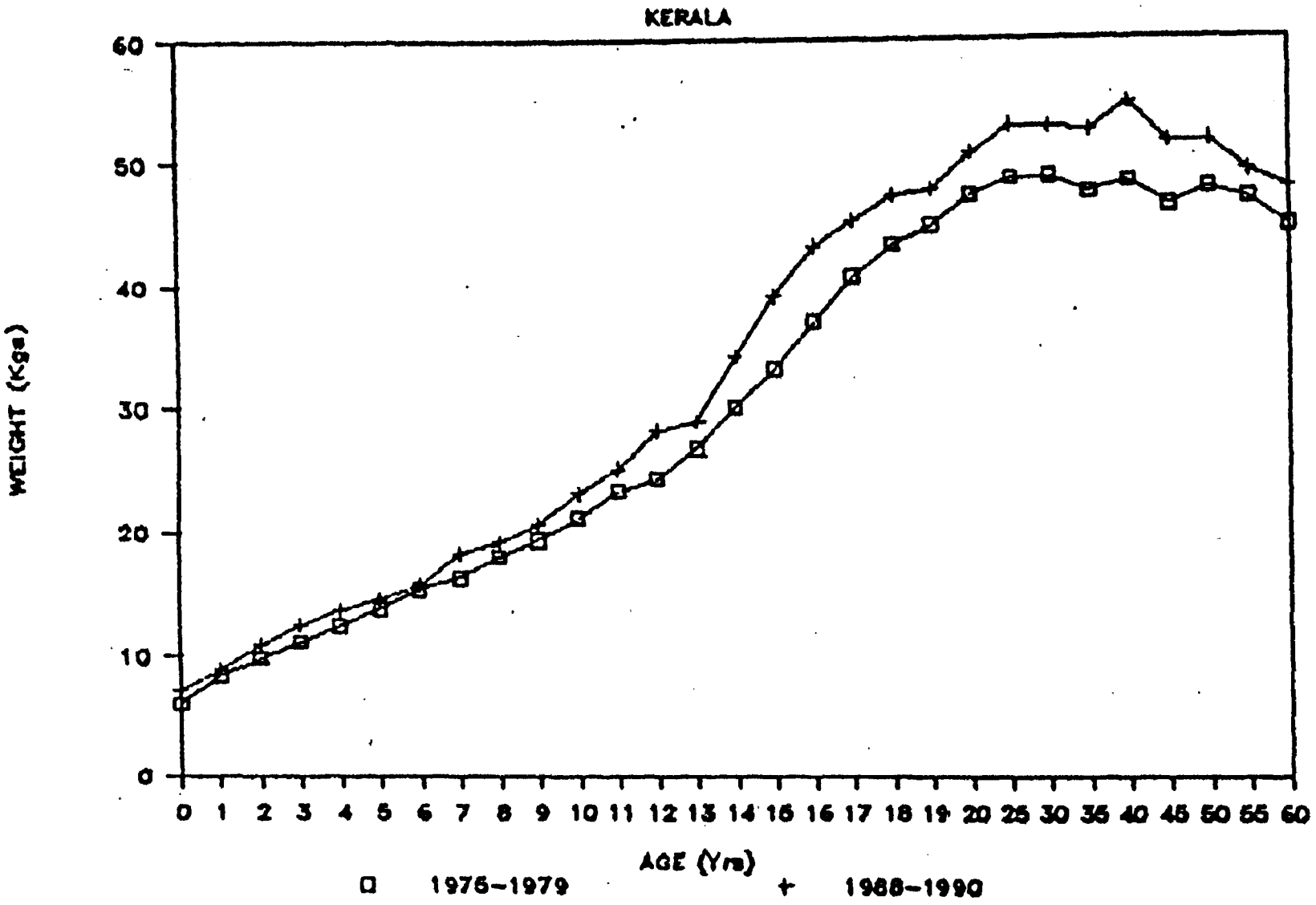


Fig. 3.4

DISTANCE CHART - WEIGHT - FEMALE

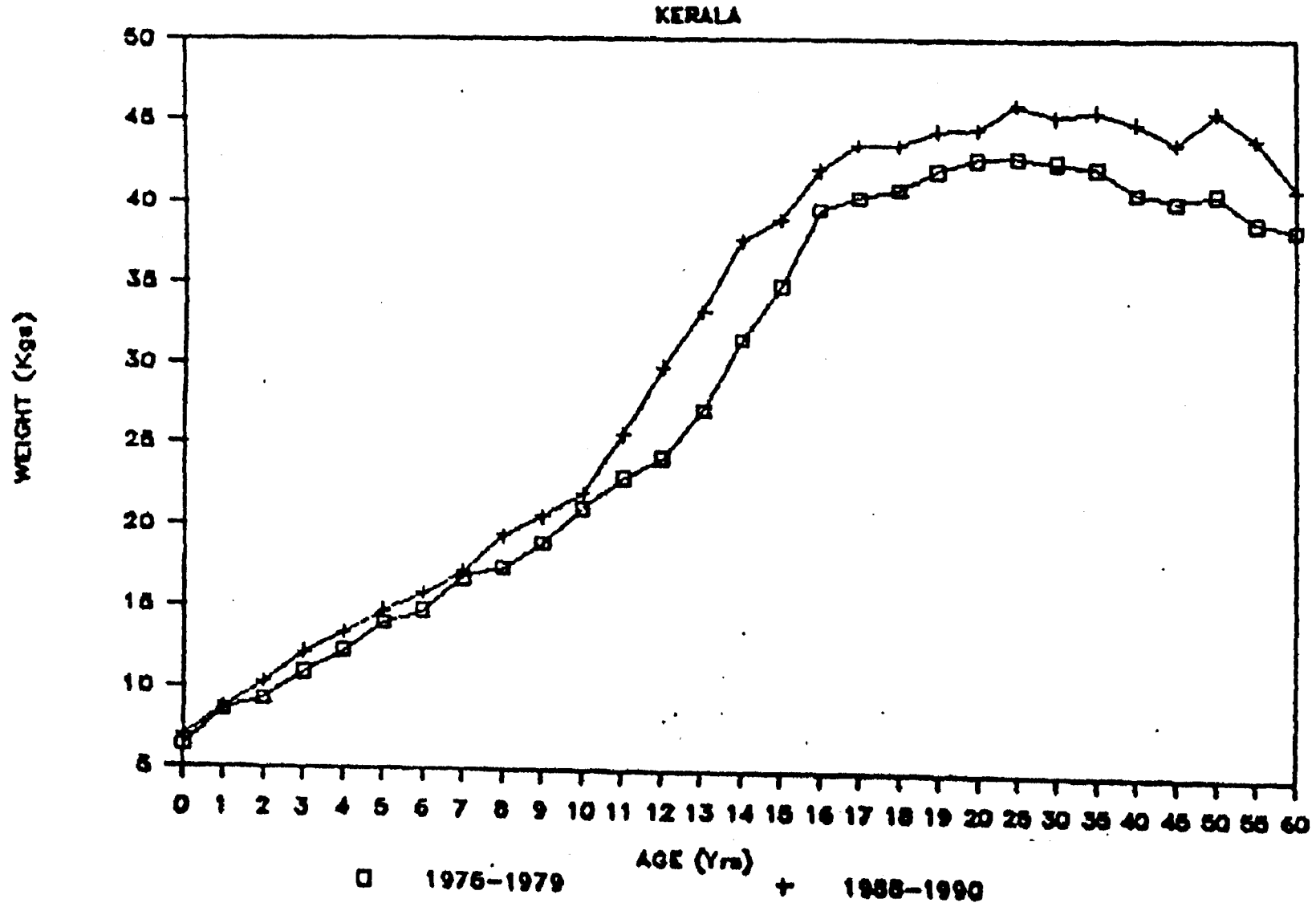
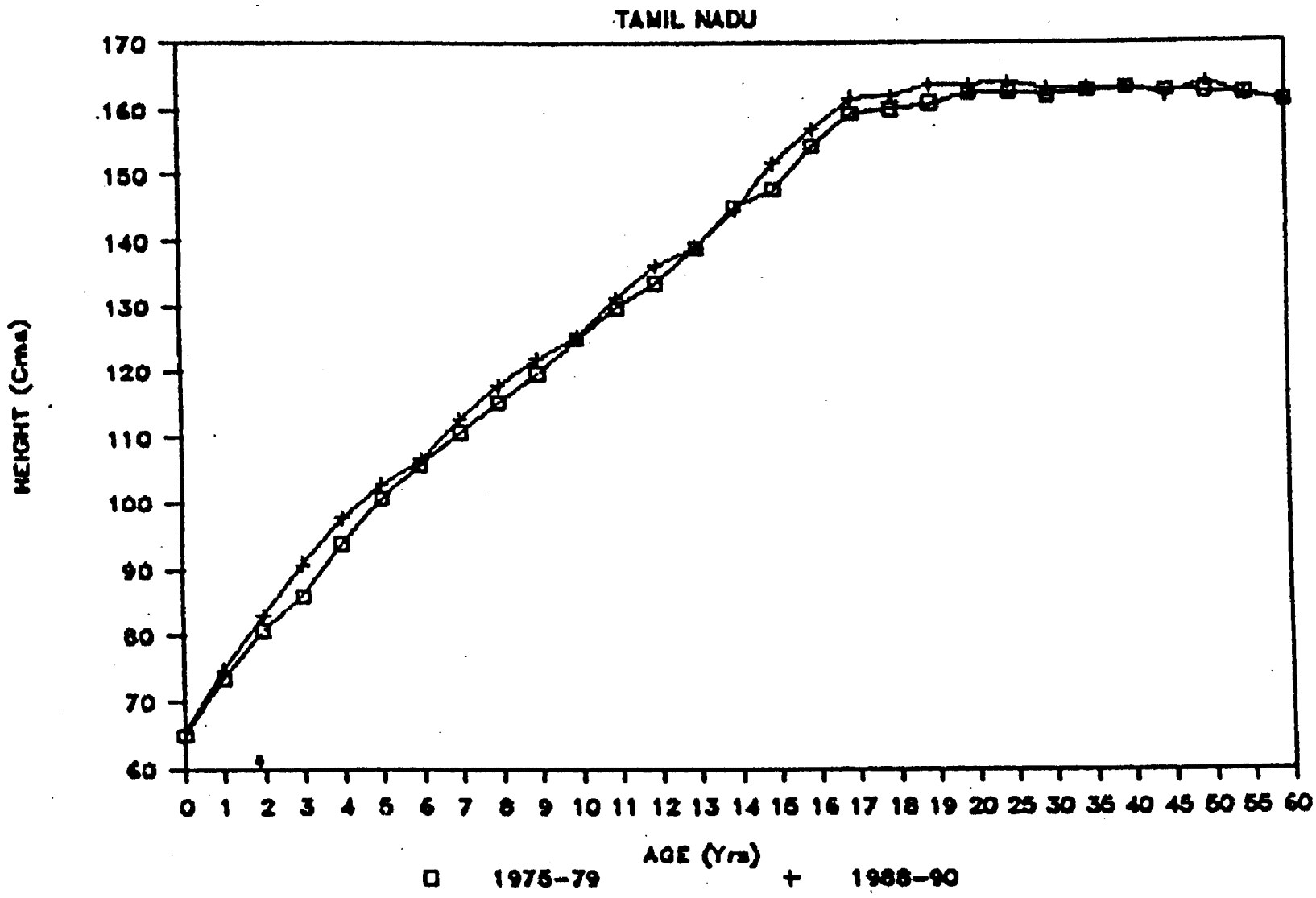


Fig. 4.1

DISTANCE CHART - HEIGHT - MALE



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DISTANCE CHART - HEIGHT - FEMALE

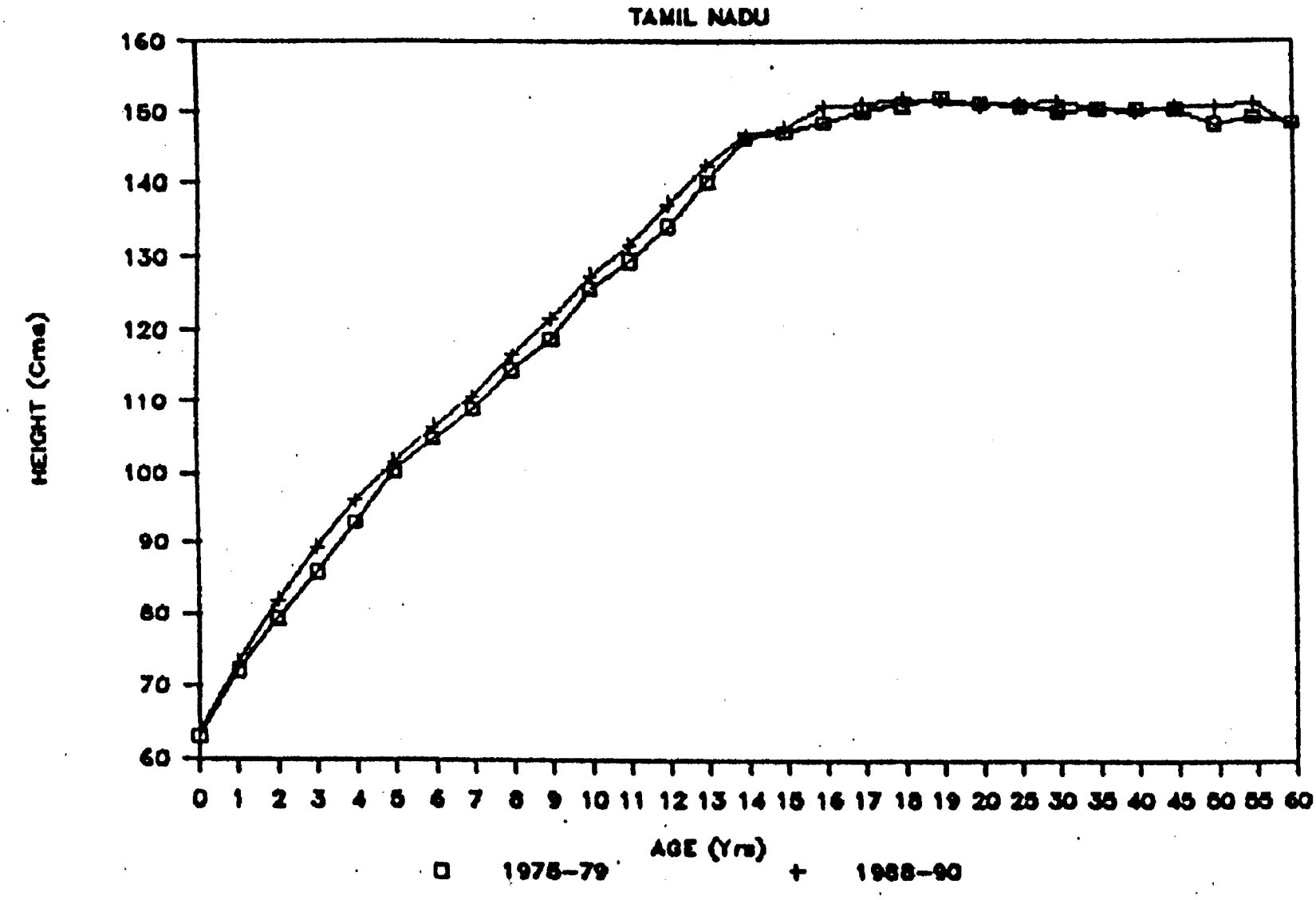

Fig. 4.3

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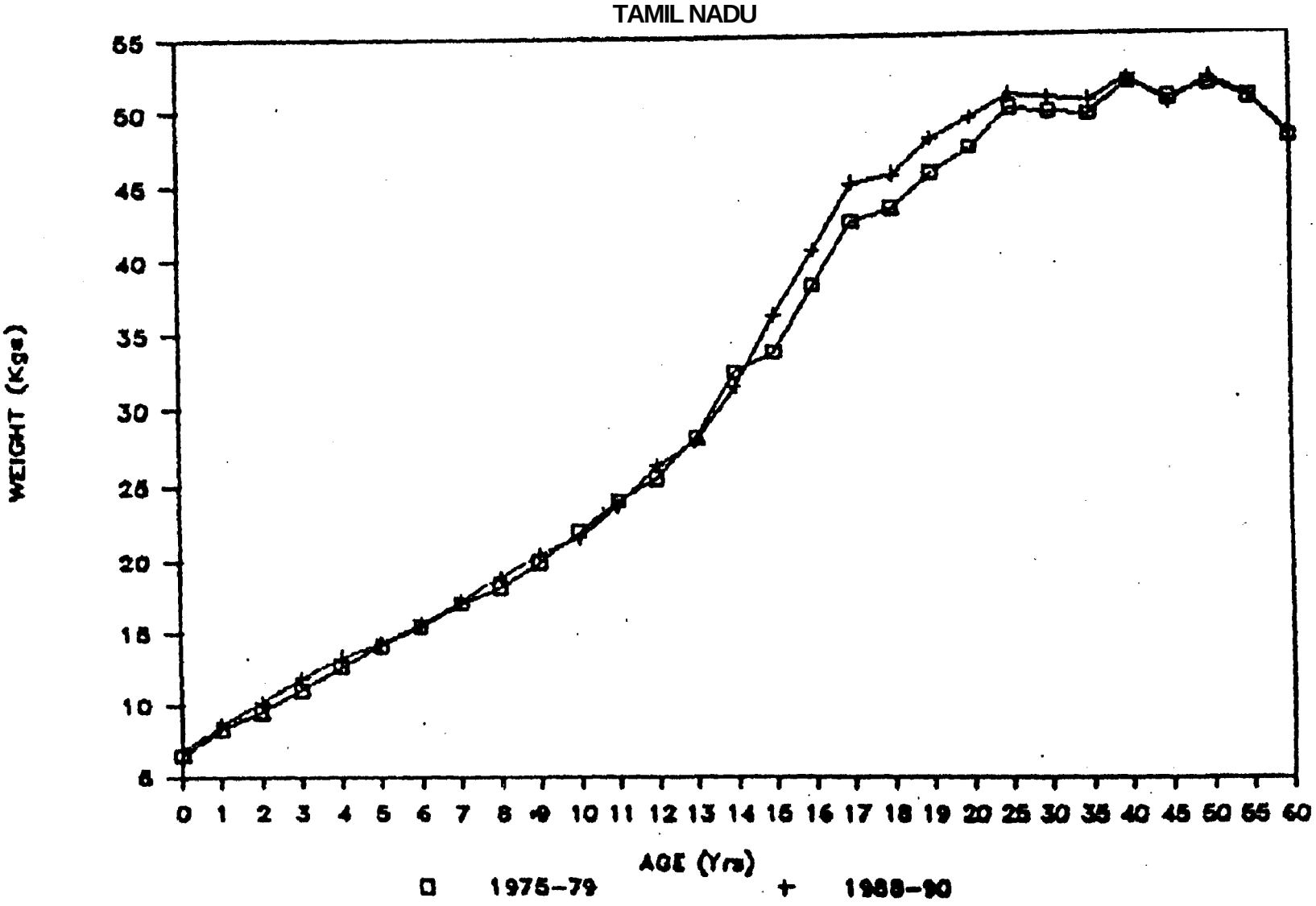

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DISTANCE CHART - WEIGHT - FEMALE

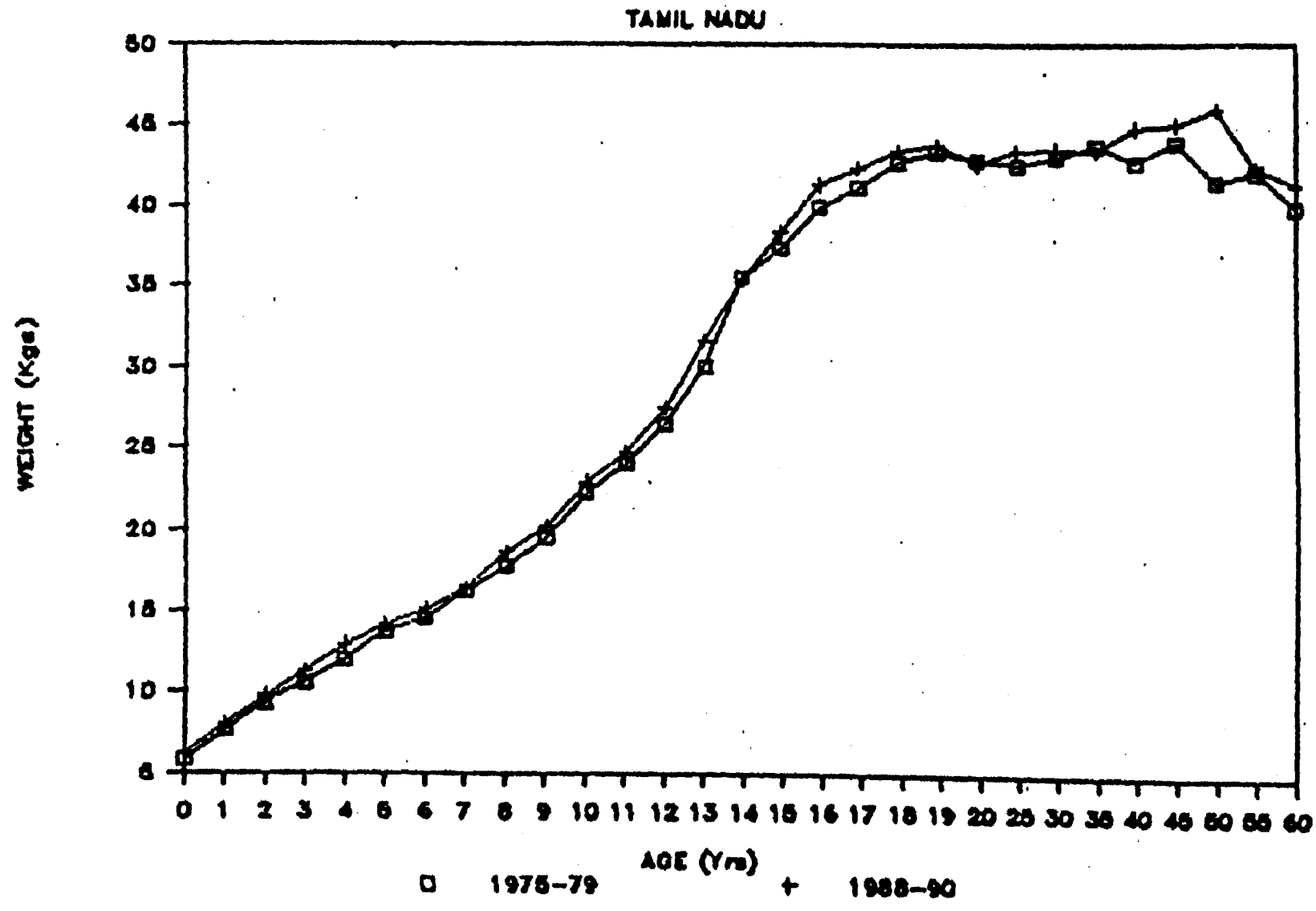

Fig.5.1

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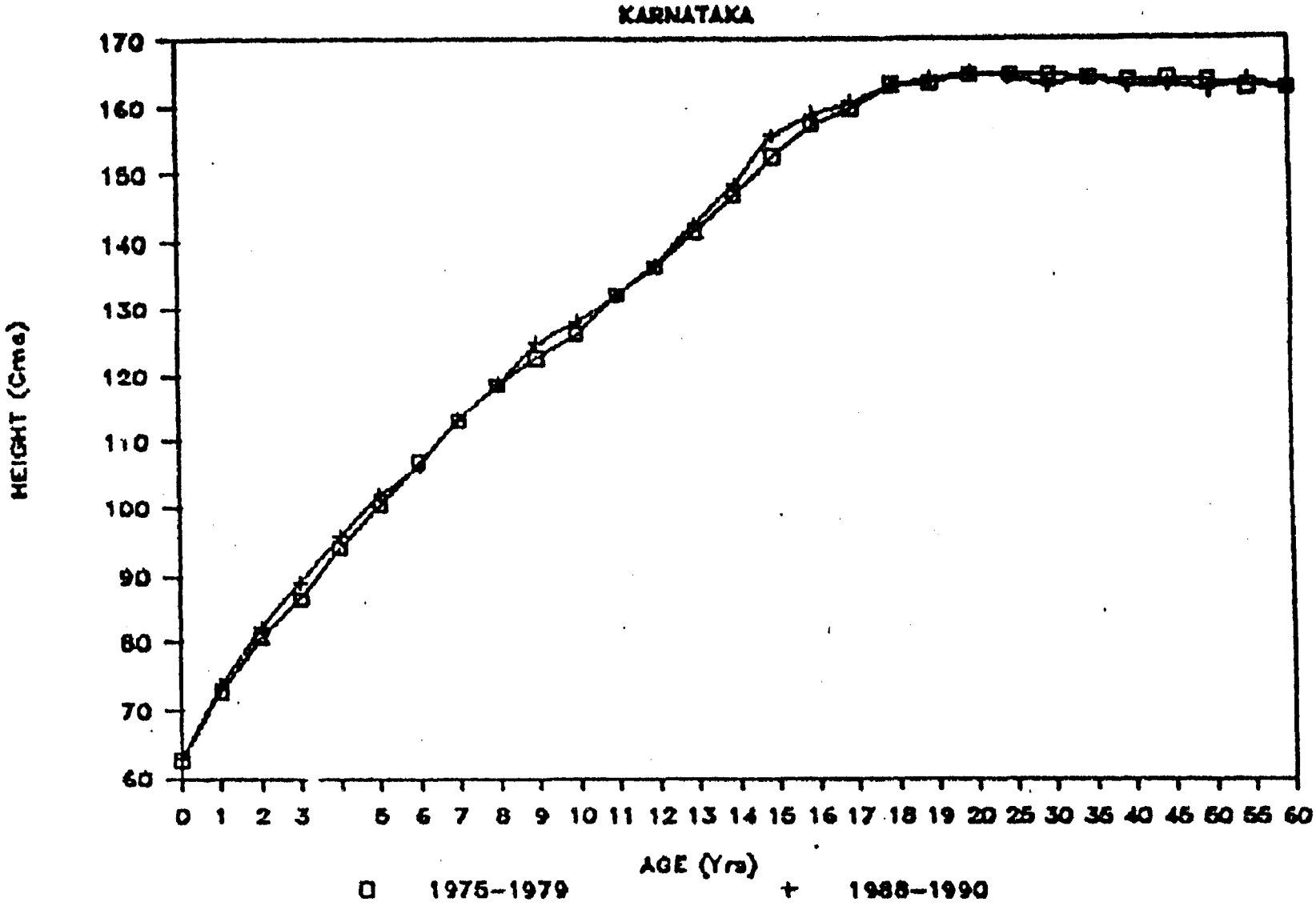
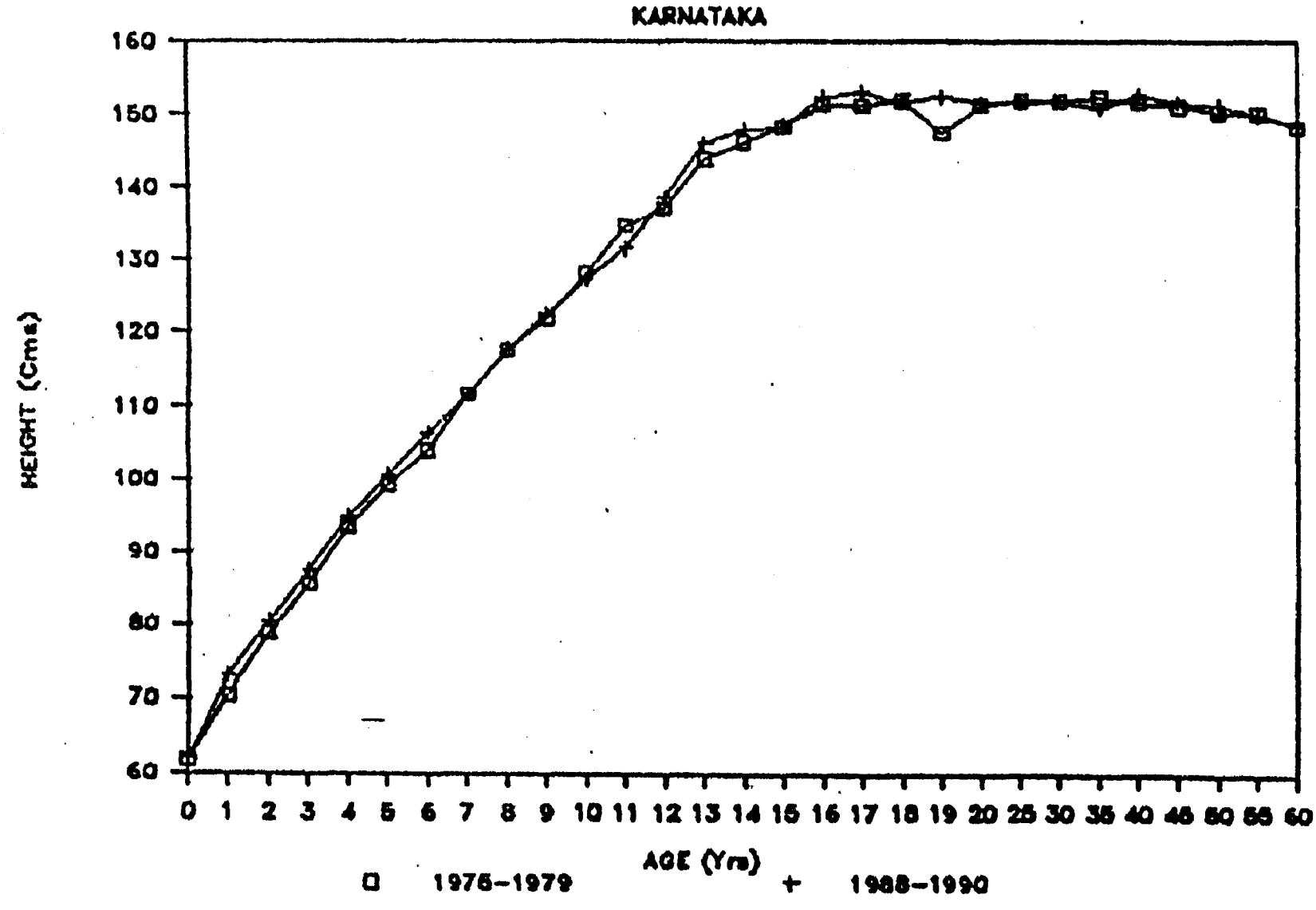


Fig. 5.2

DISTANCE CHART - HEIGHT - FEMALE



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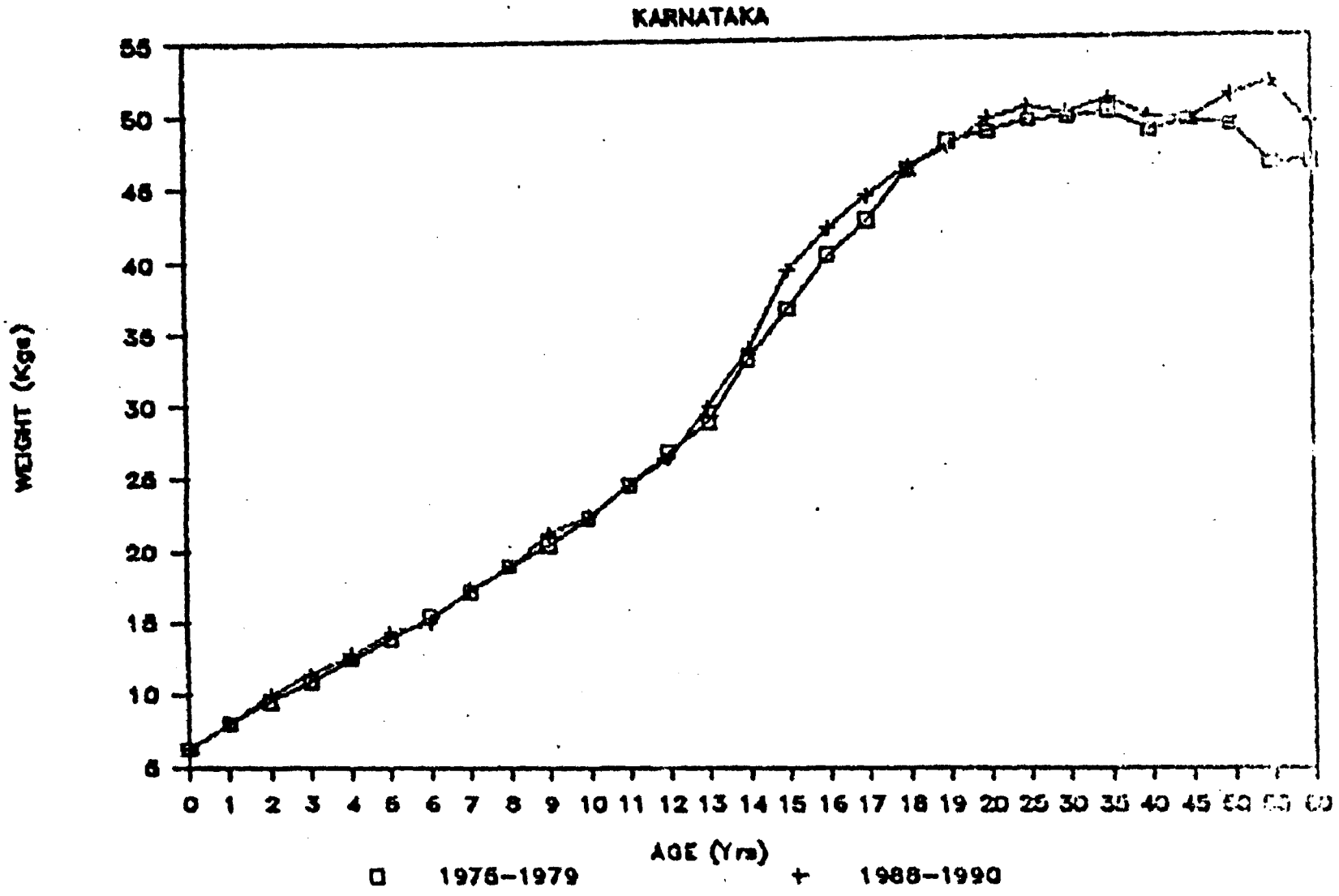

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DISTANCE CHART - WEIGHT - FEMALE

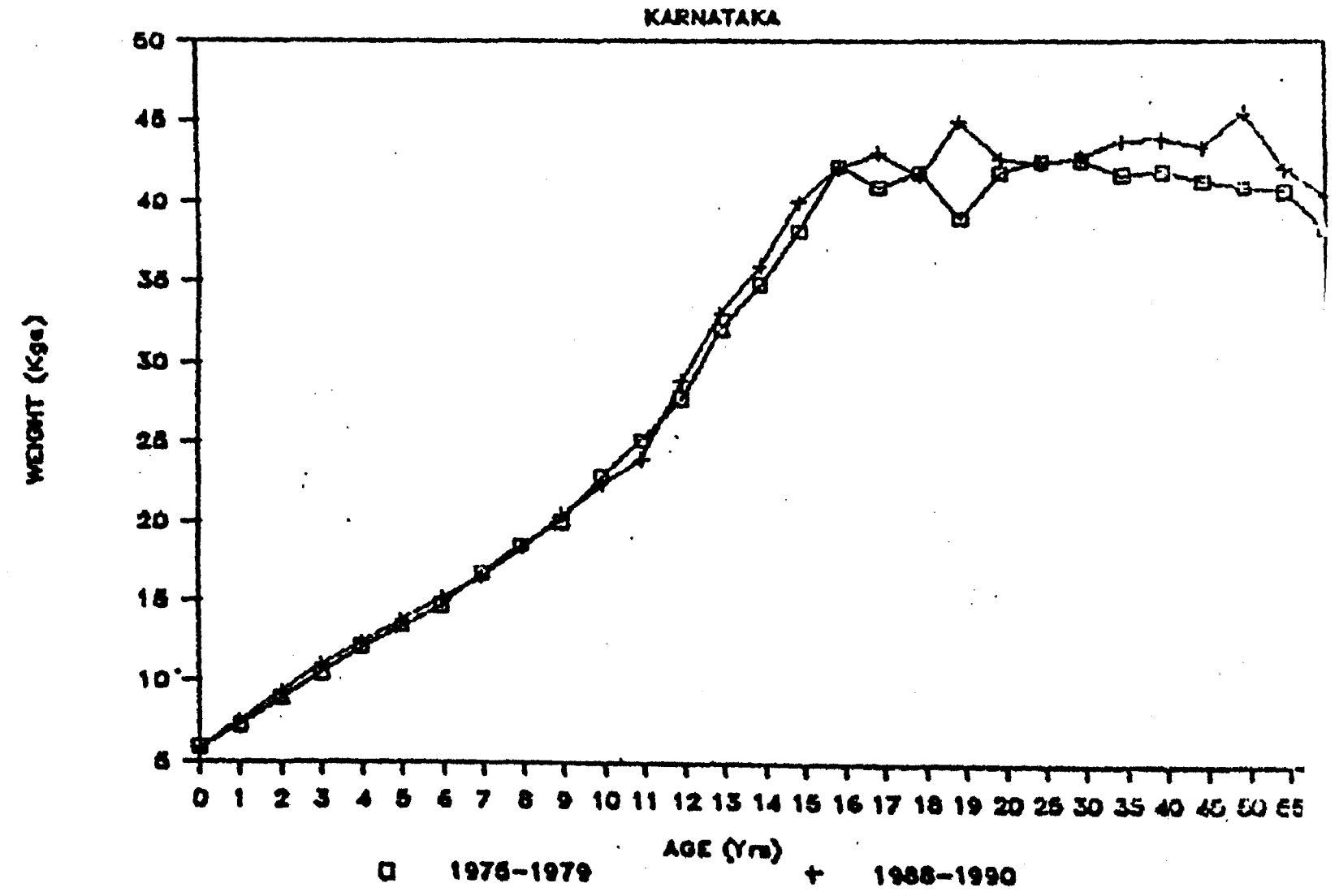


Fig. 6.1

DISTANCE CHART - HEIGHT - MALE

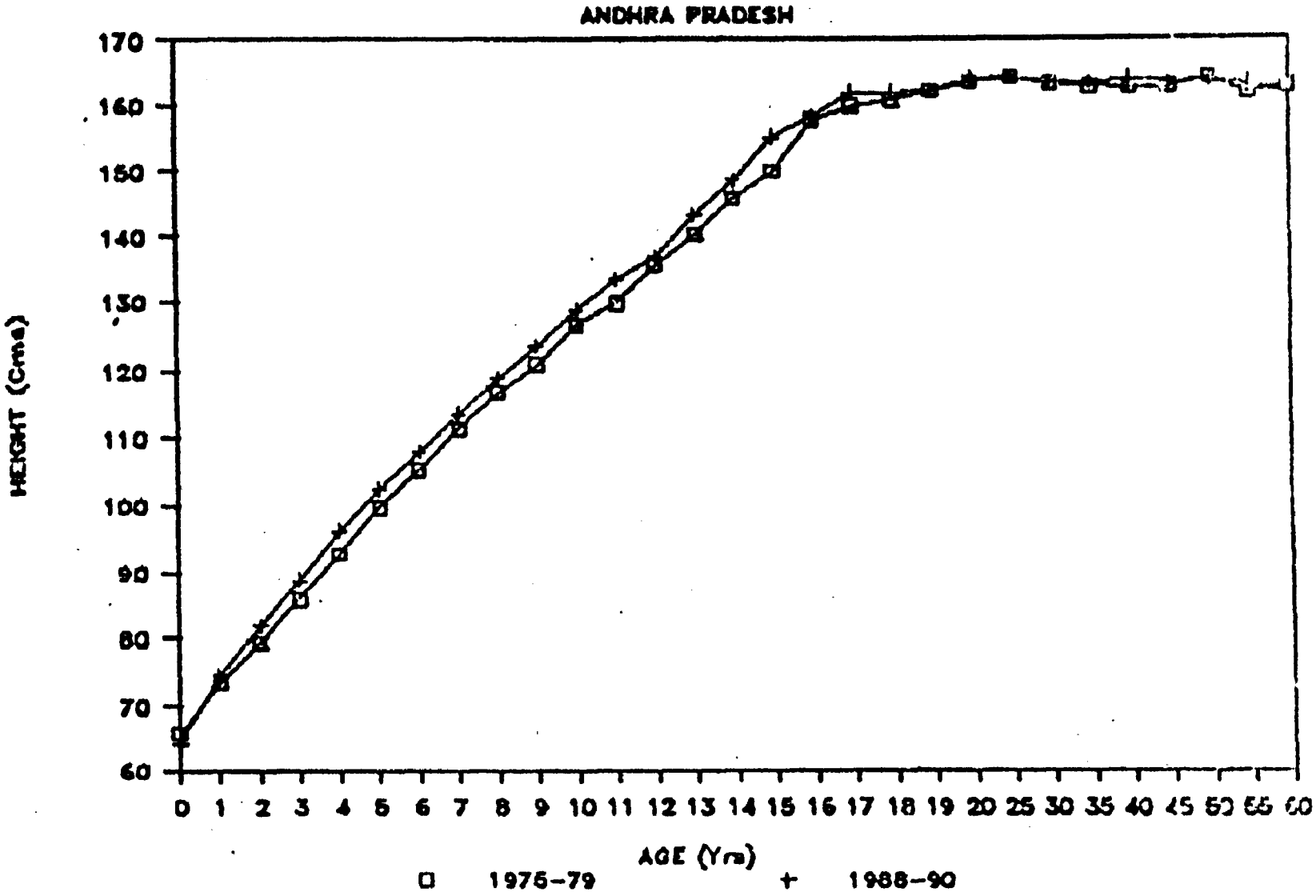


Fig. 6.2

DISTANCE CHART - HEIGHT - FEMALE

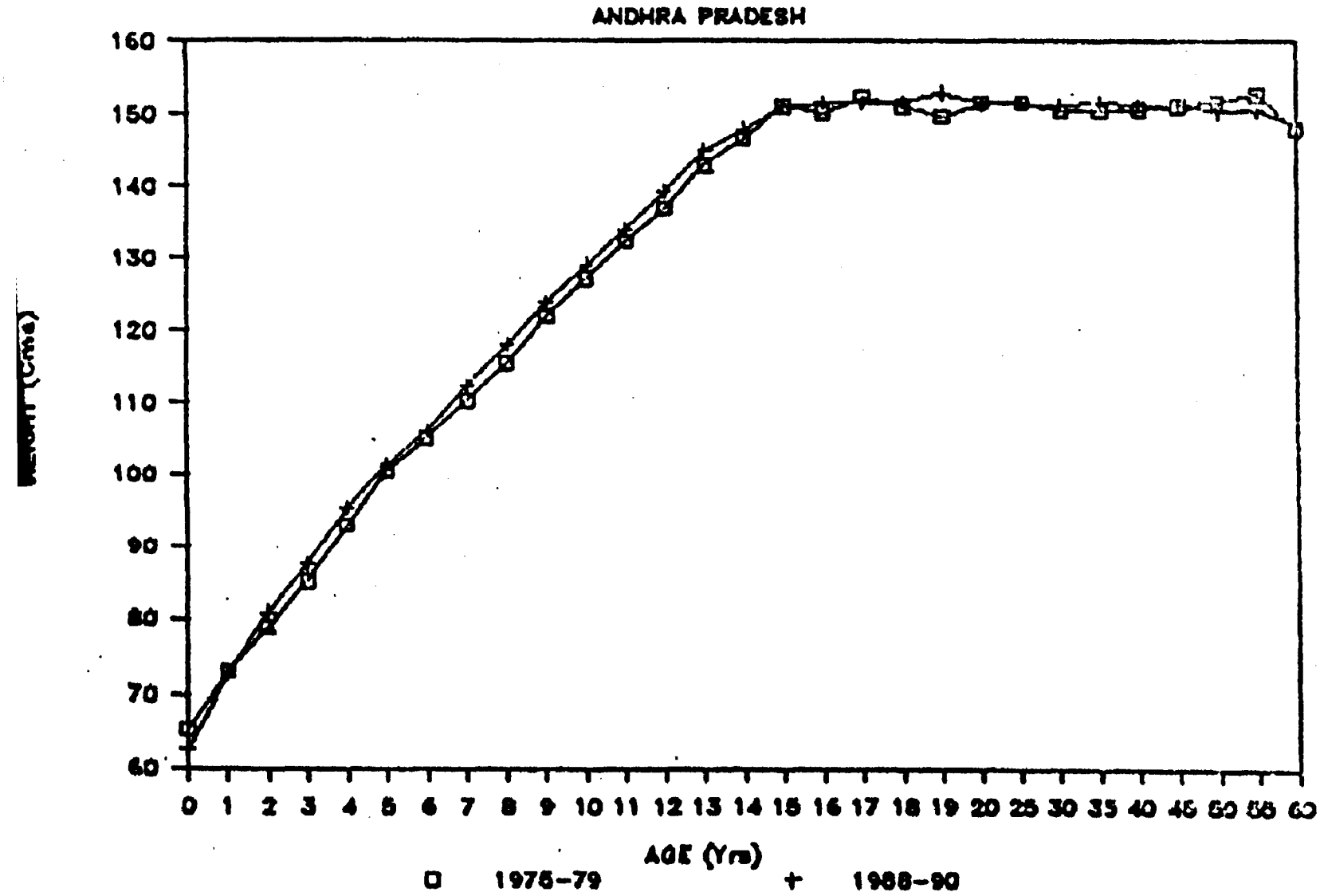


Fig. 6.3

DISTANCE CHART - WEIGHT - MALE

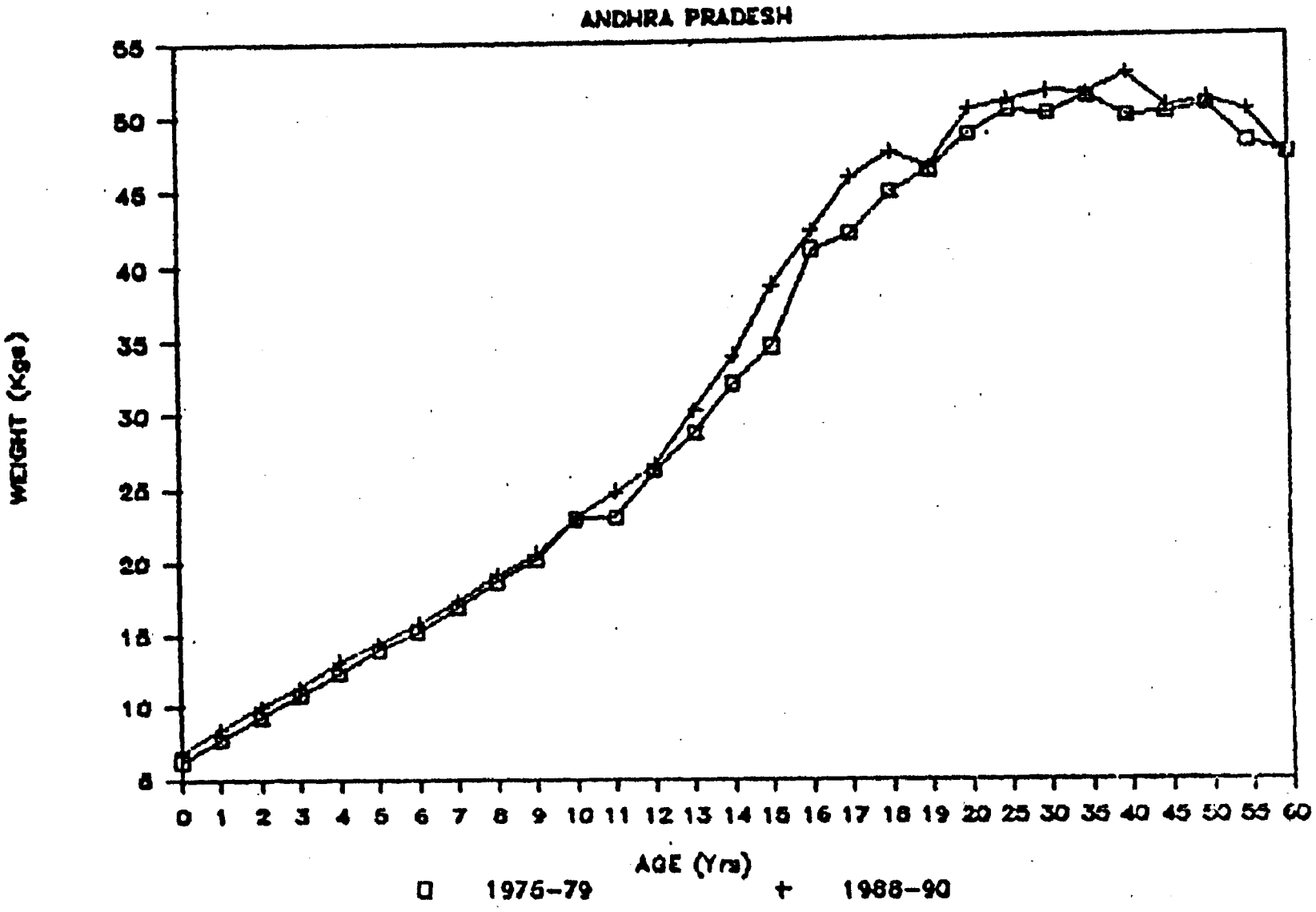


Fig. 6.4

DISTANCE CHART - WEIGHT - FEMALE

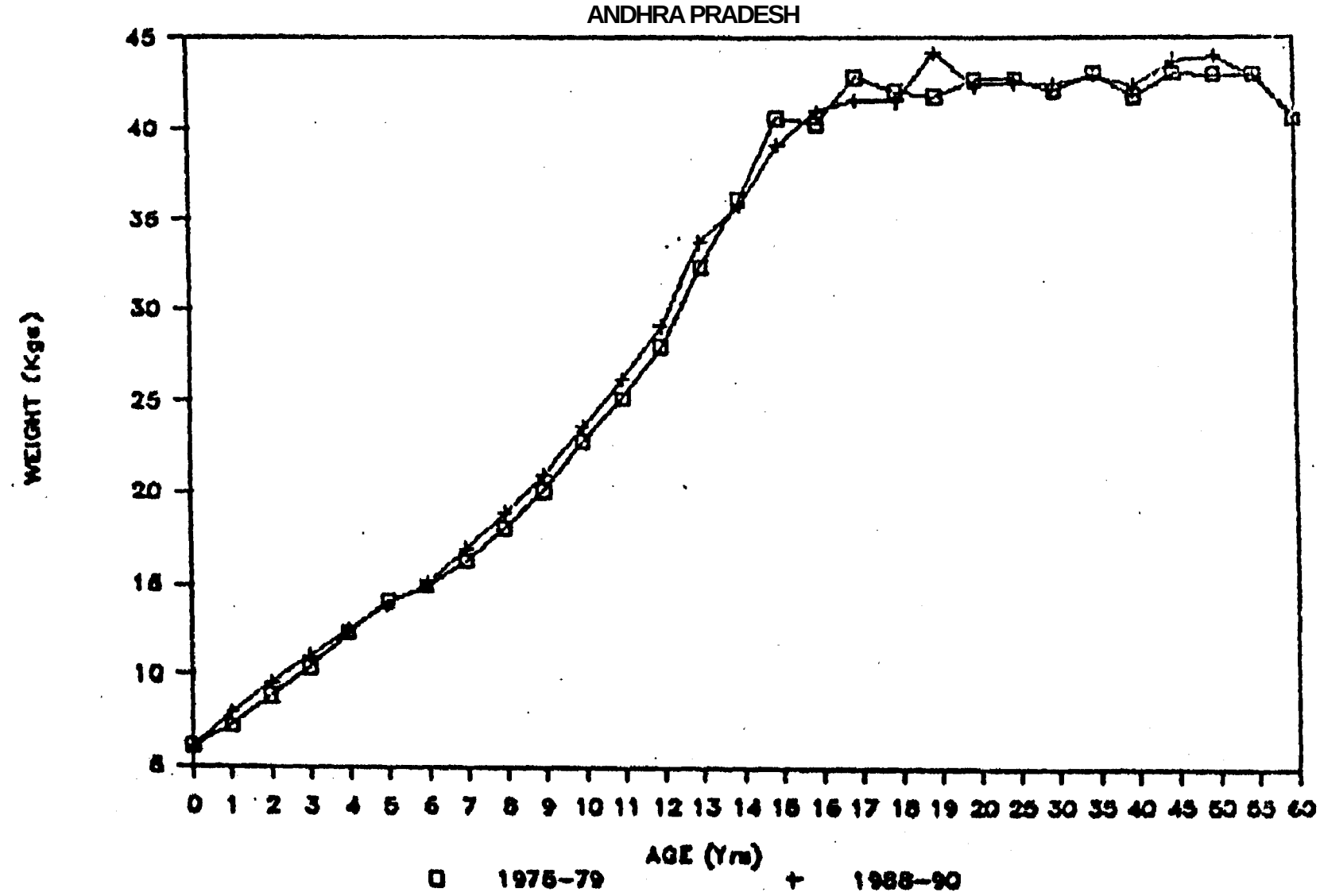


Fig. 7.1

DISTANCE CHART - HEIGHT - MALE

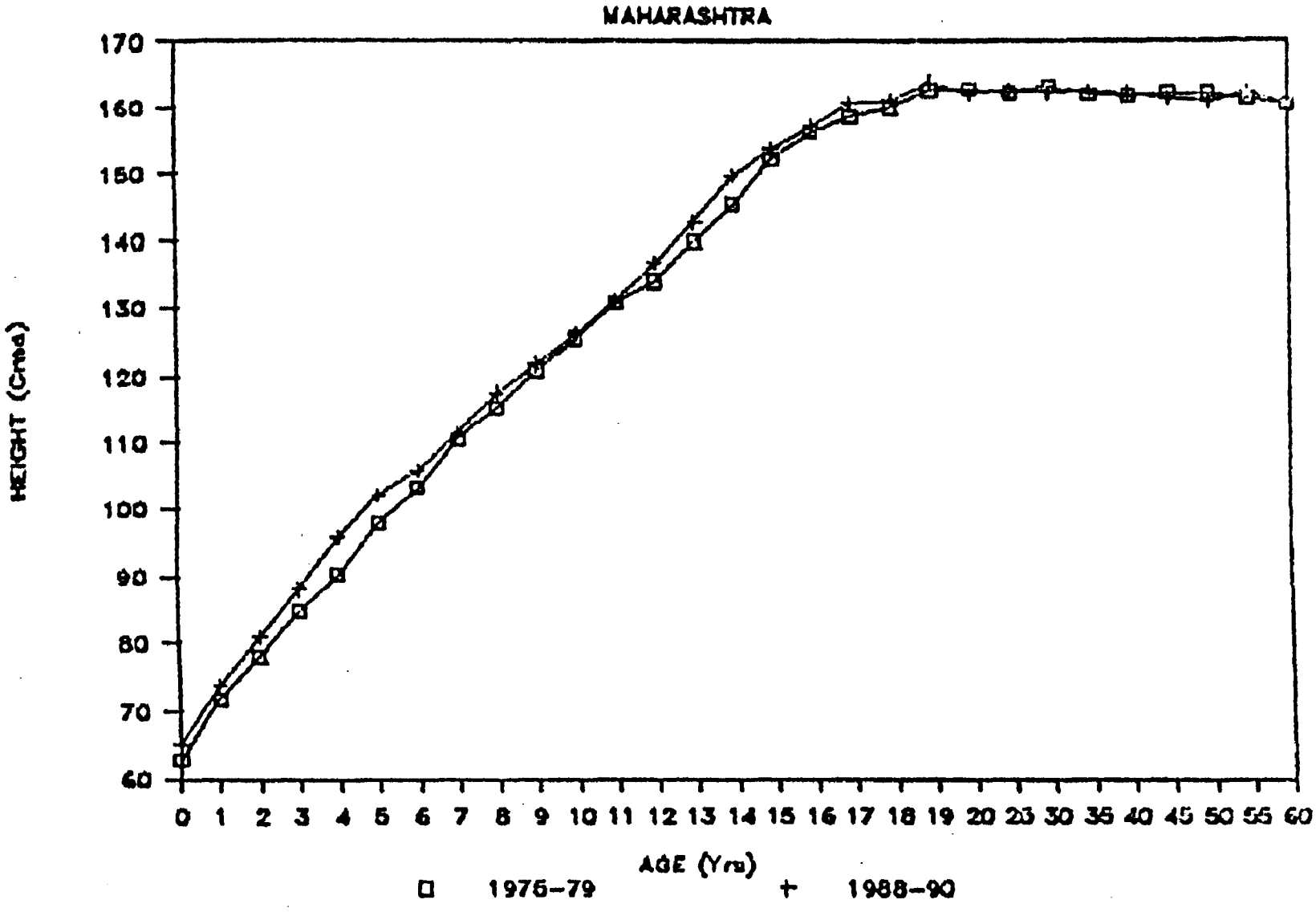


Fig 7.2

DISTANCE CHART - HEIGHT - FEMALE

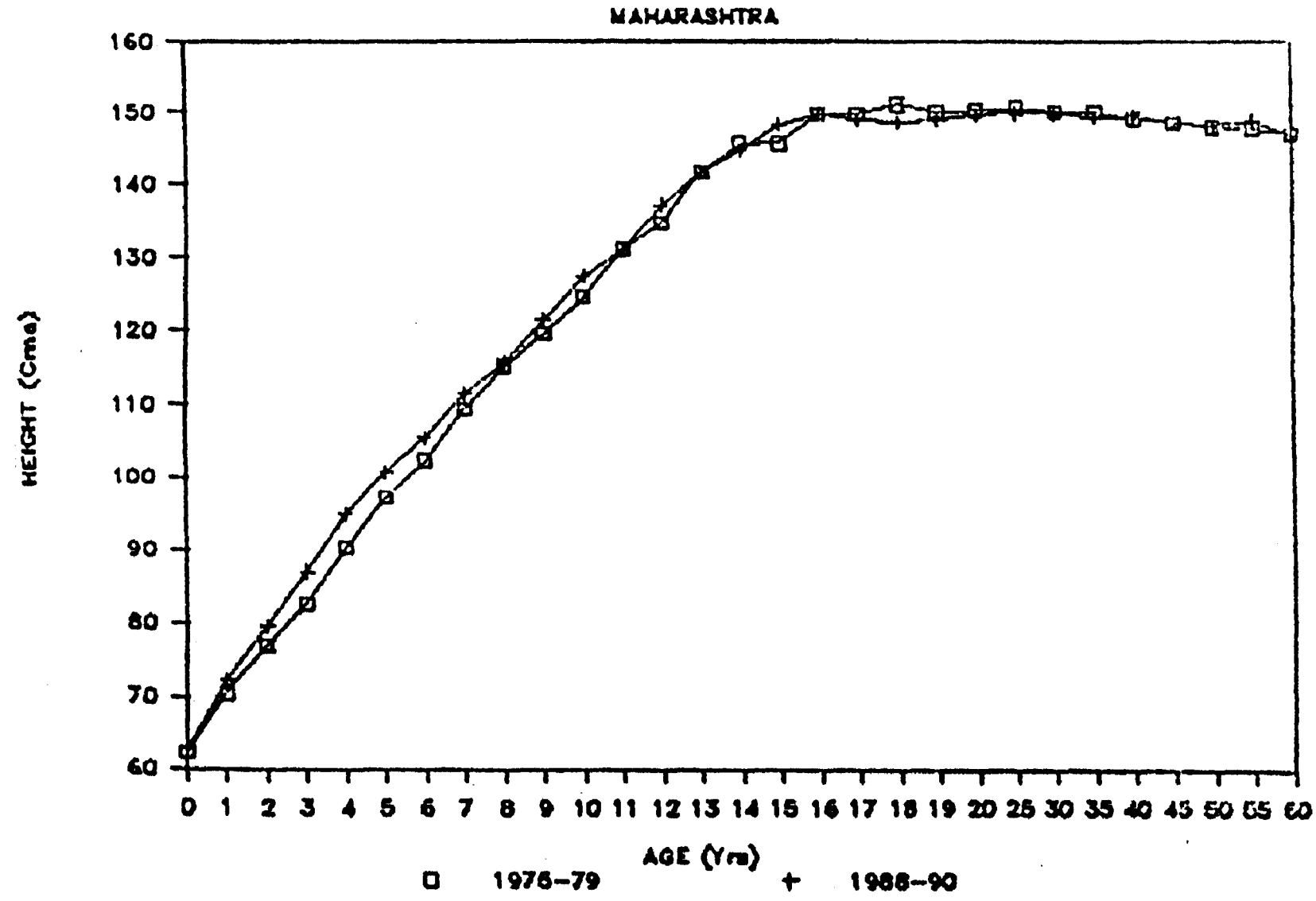


Fig. 7.3

DISTANCE CHART - WEIGHT - MALE

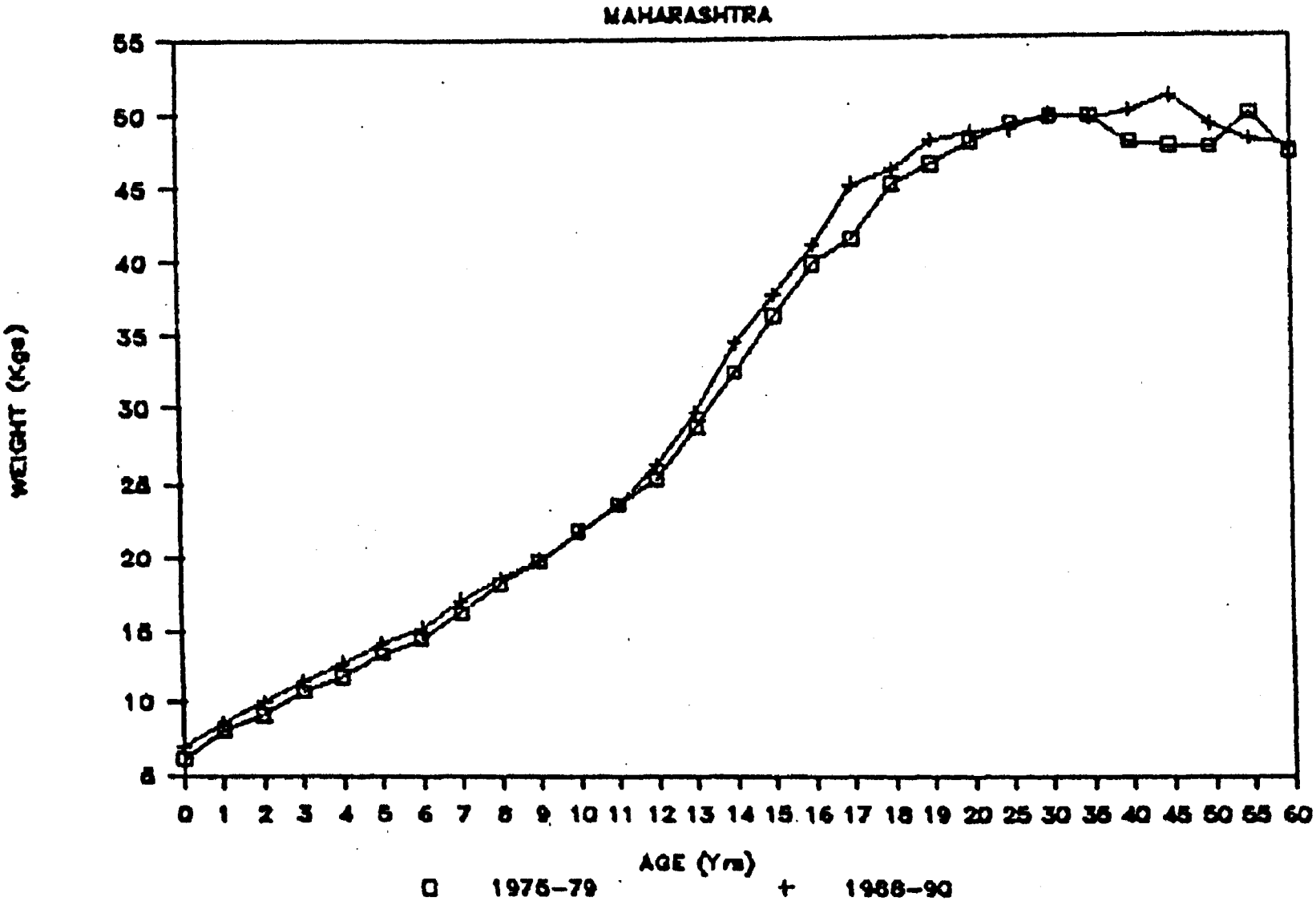


Fig. 7.4

DISTANCE CHART - WEIGHT - FEMALE

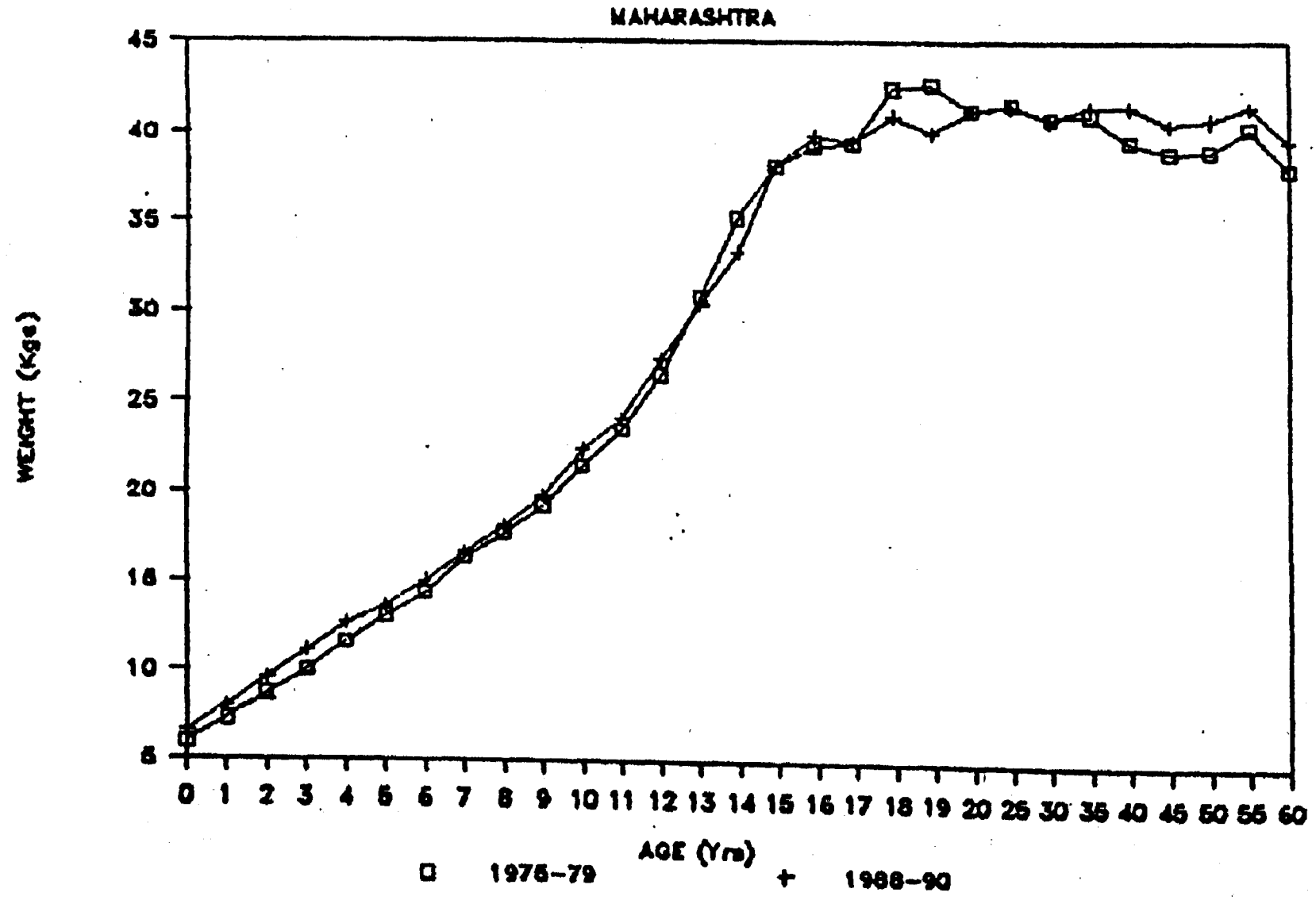
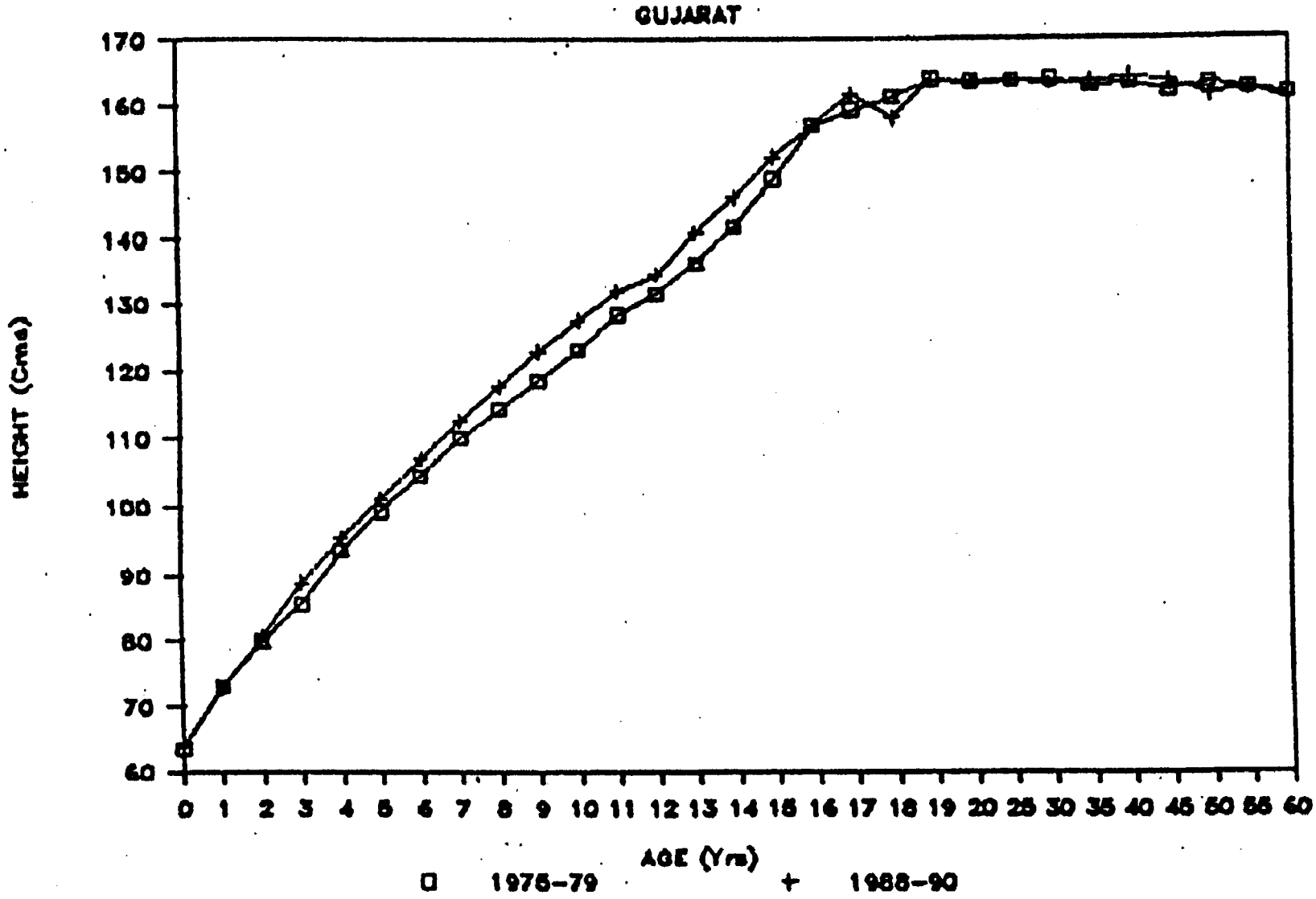


Fig. 8.1

DISTANCE CHART - HEIGHT - MALE



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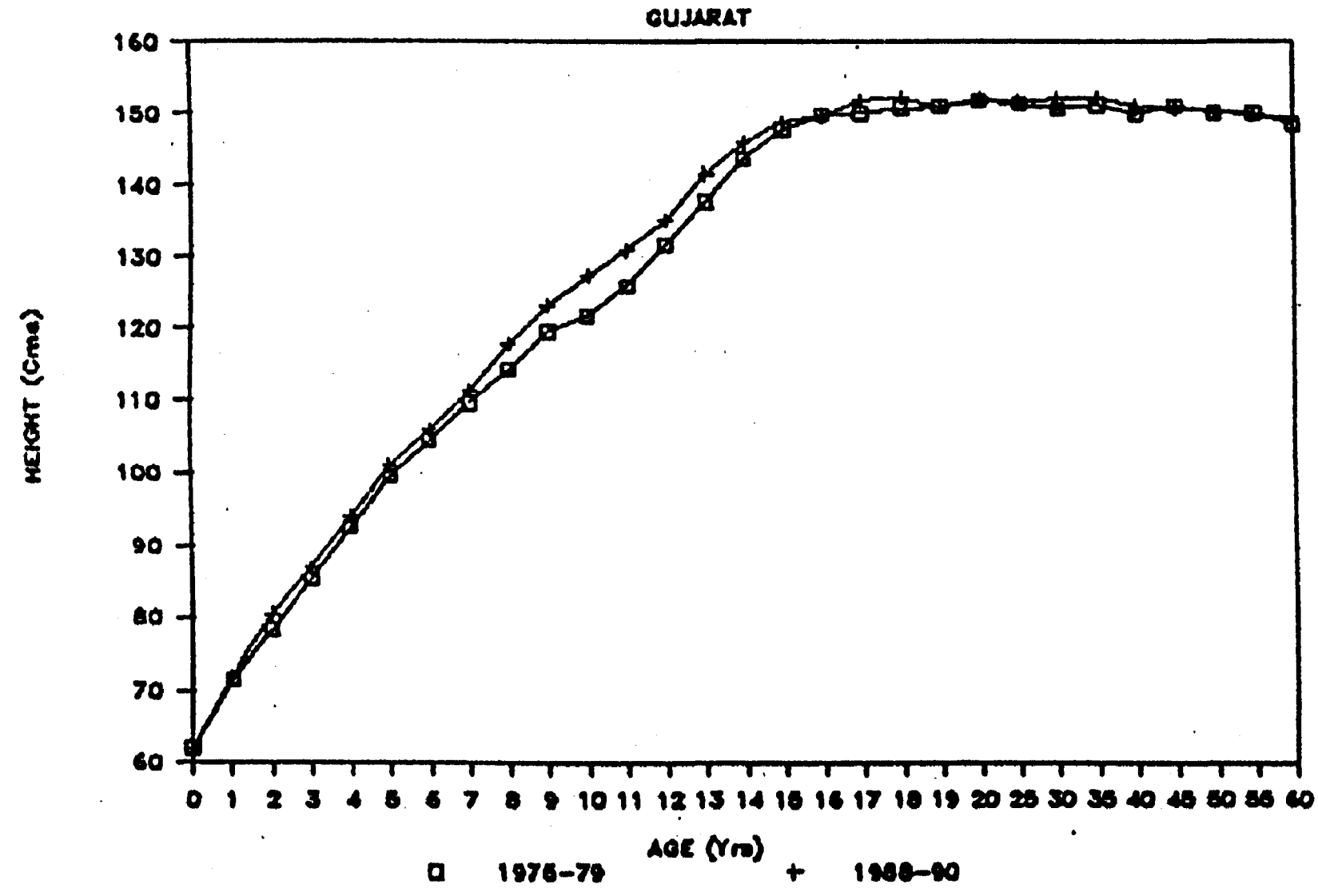

Fig. 8.3

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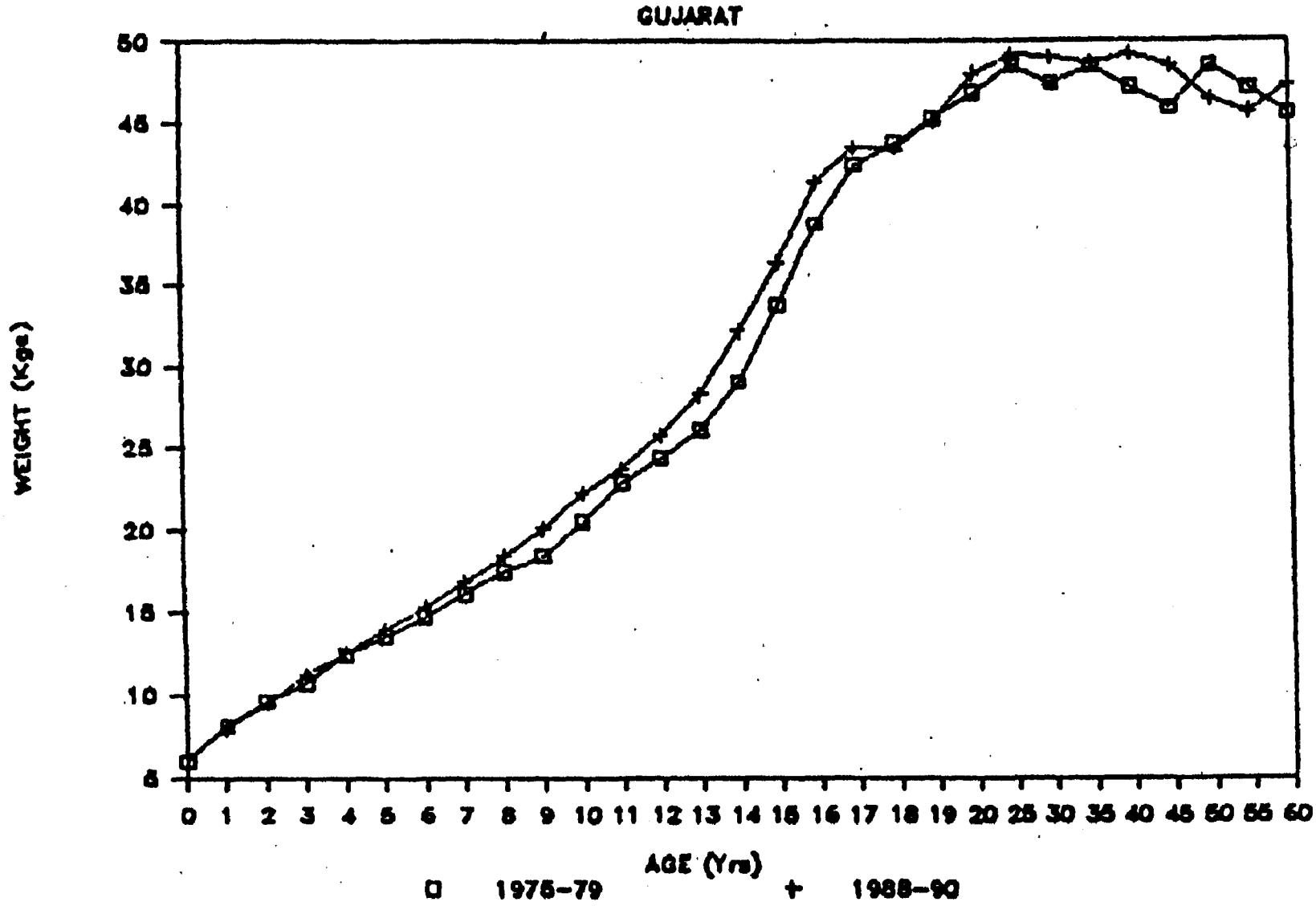


Fig. 8.4

DISTANCE CHART - WEIGHT - FEMALE

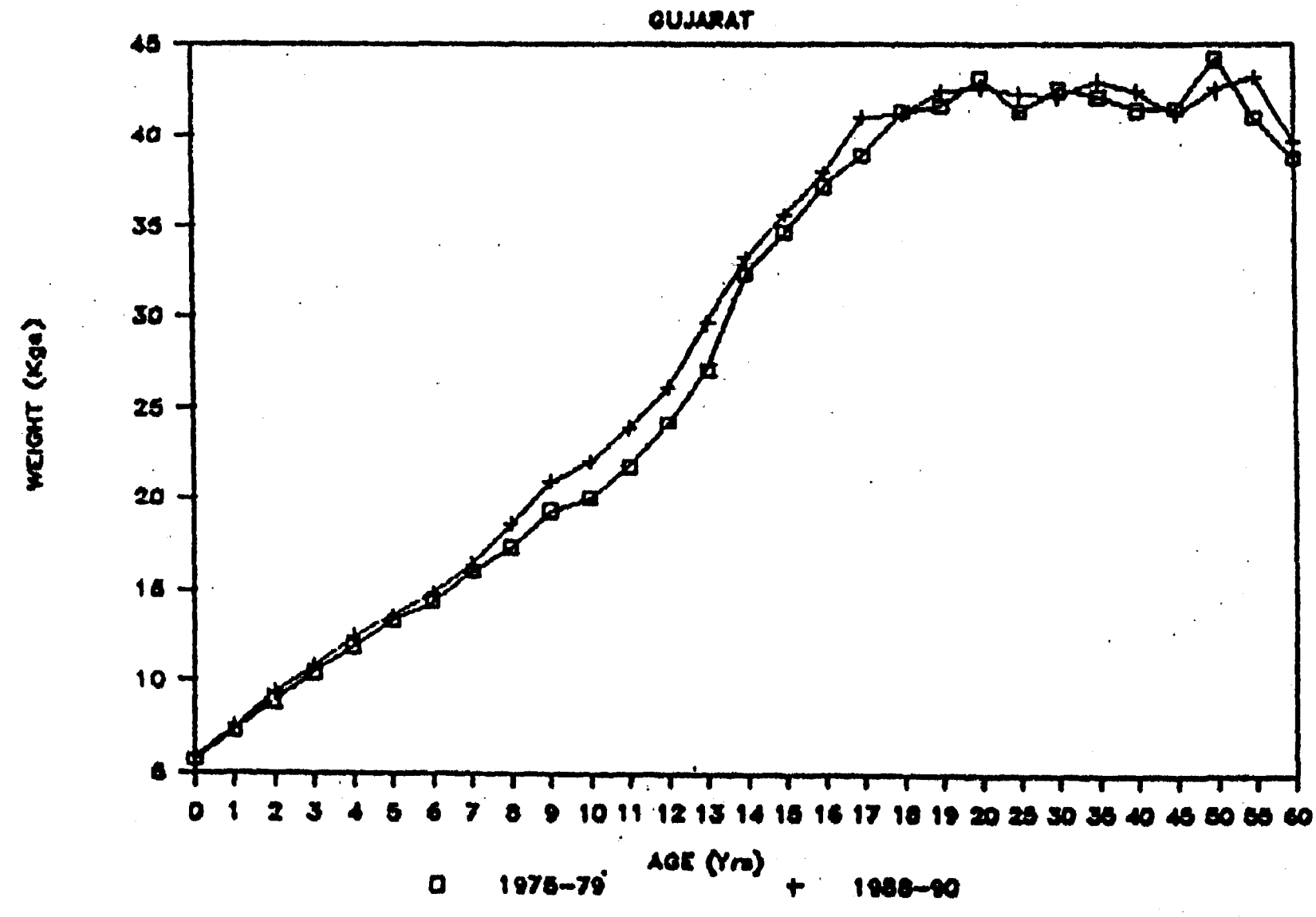
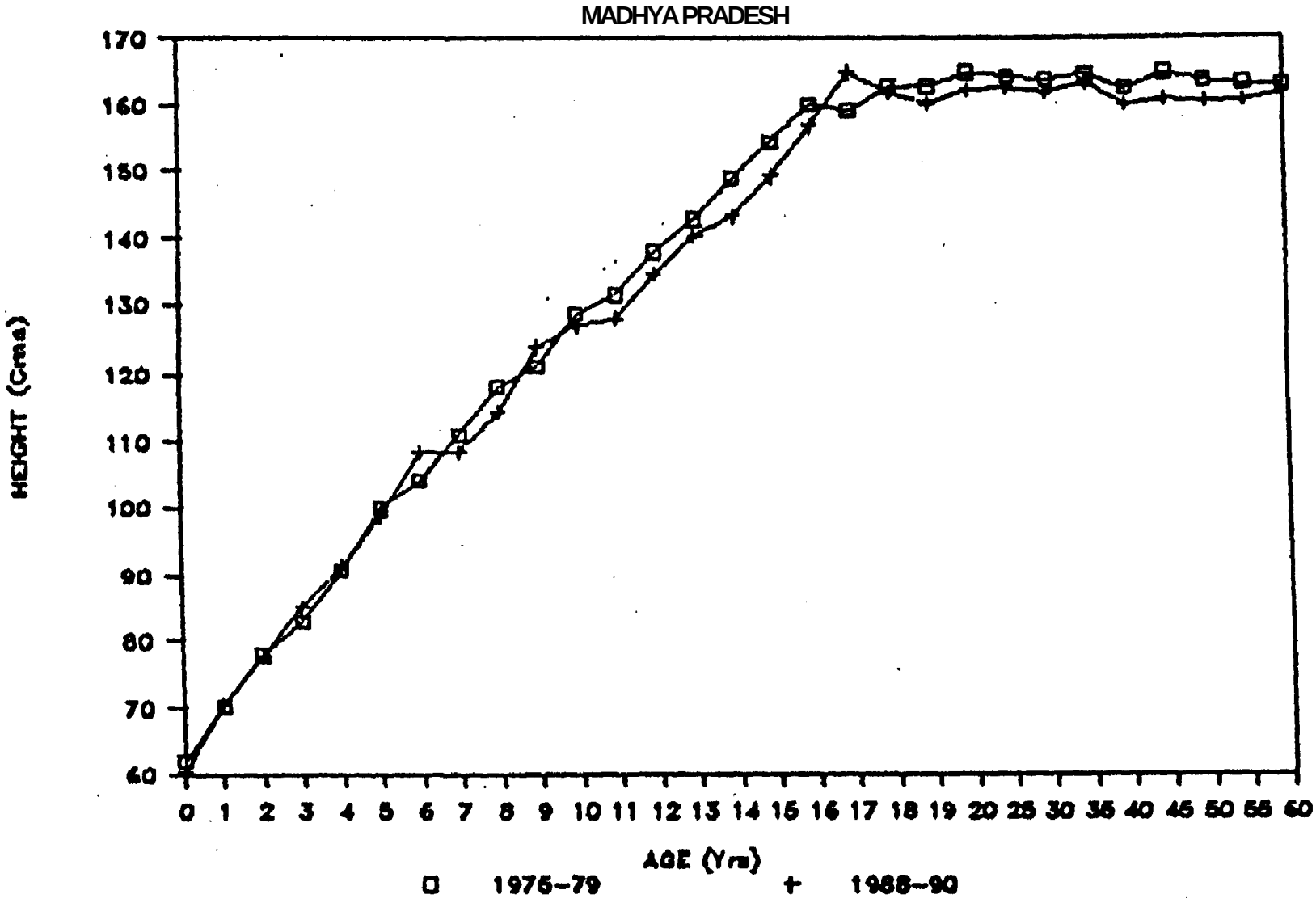


Fig. 9.1

DISTANCE CHART - HEIGHT - MALE



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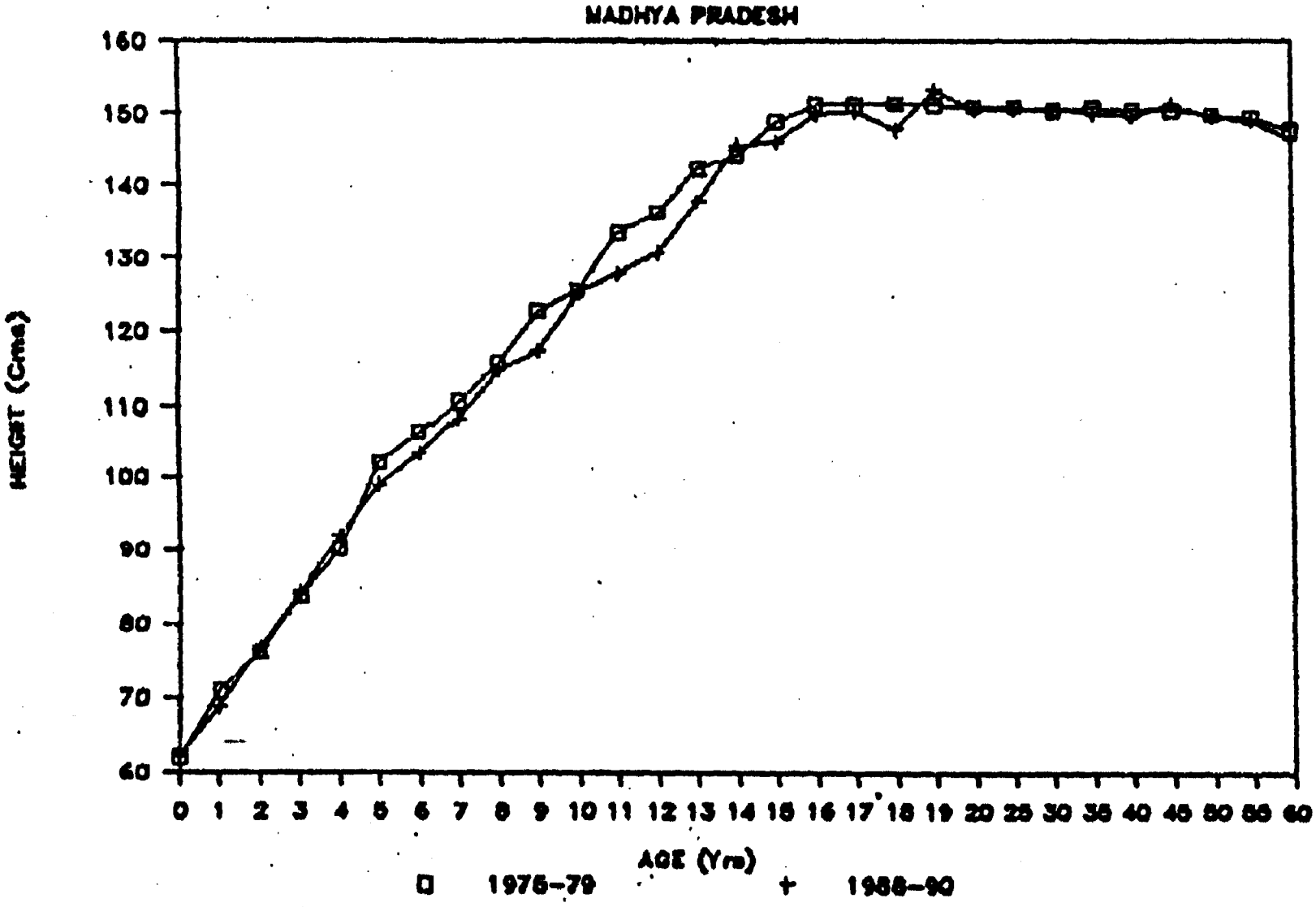


Fig. 9.3

DISTANCE CHART - WEIGHT - MALE

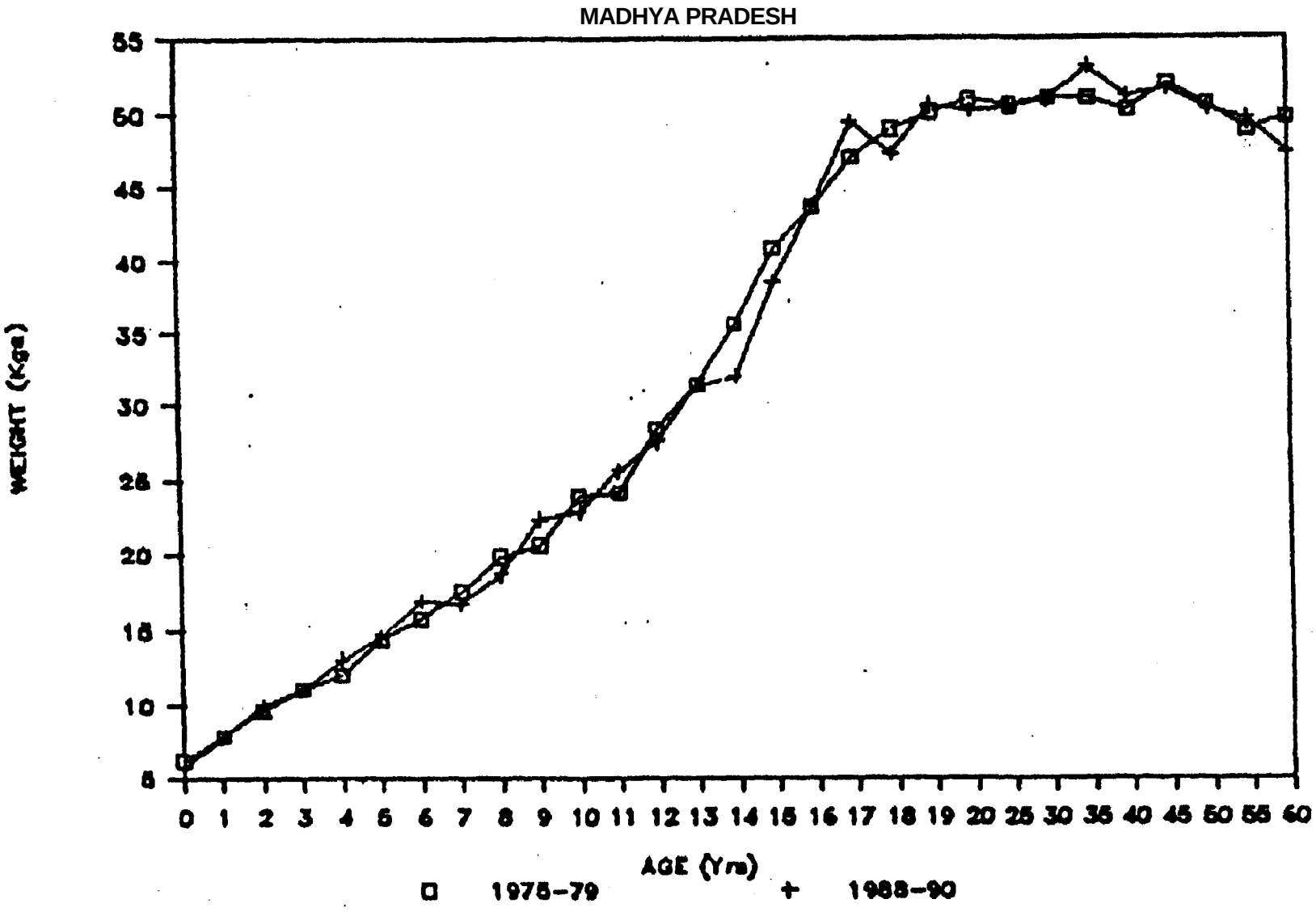


Fig. 9.4

DISTANCE CHART - WEIGHT - FEMALE

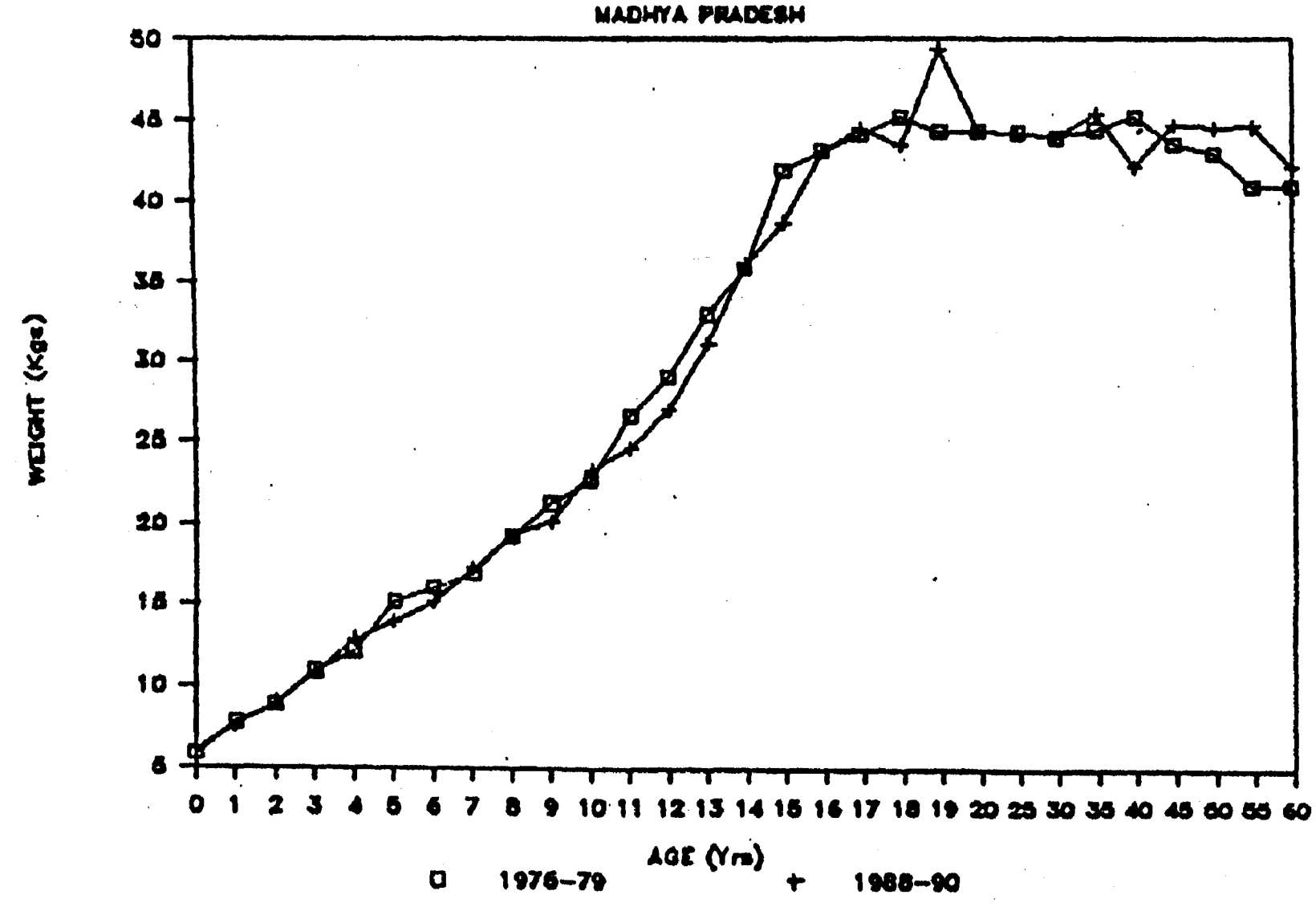


Fig. 10.1

DISTANCE CHART - HEIGHT - MALE

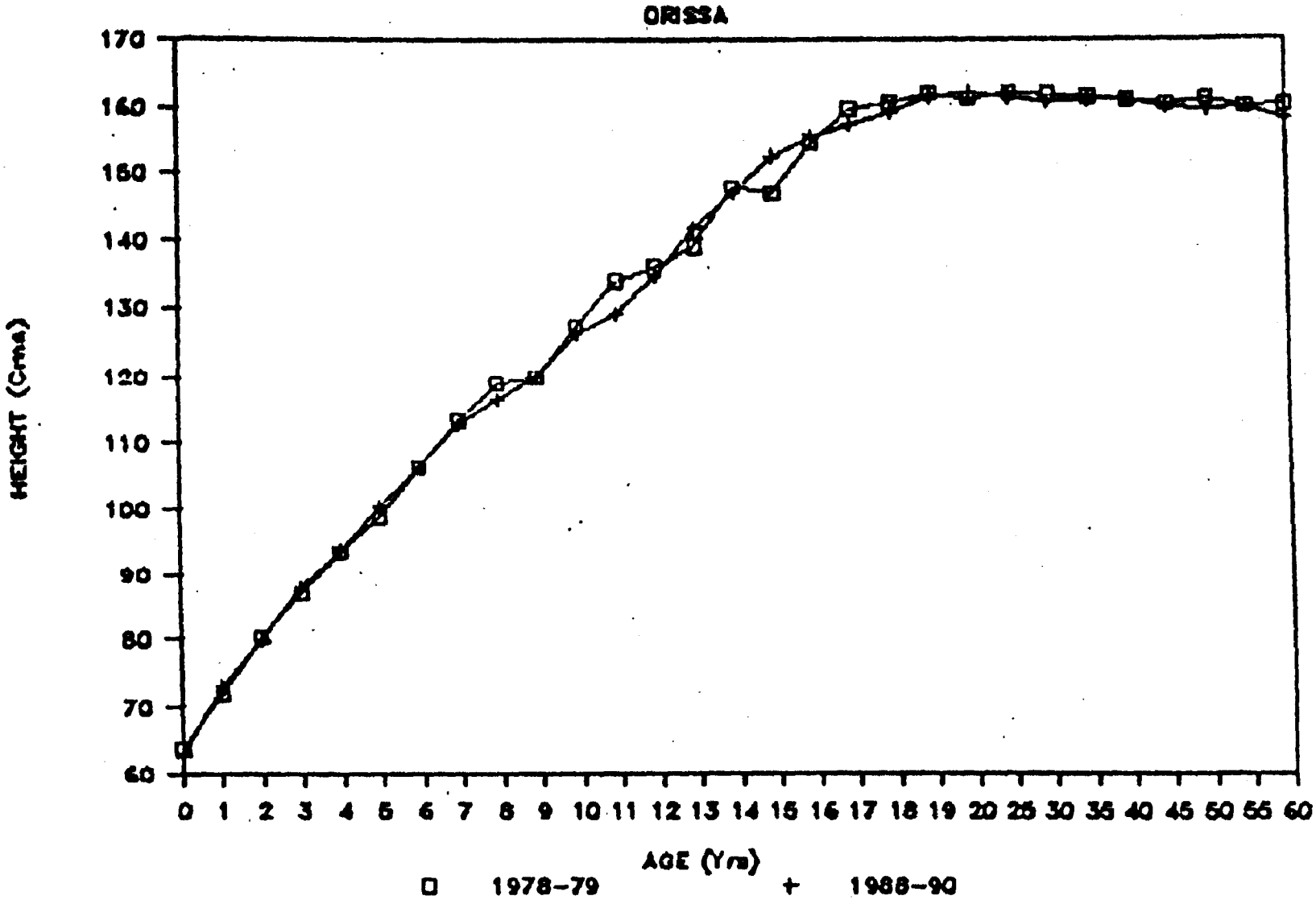


Fig. 10.2

DISTANCE CHART - HEIGHT - FEMALE

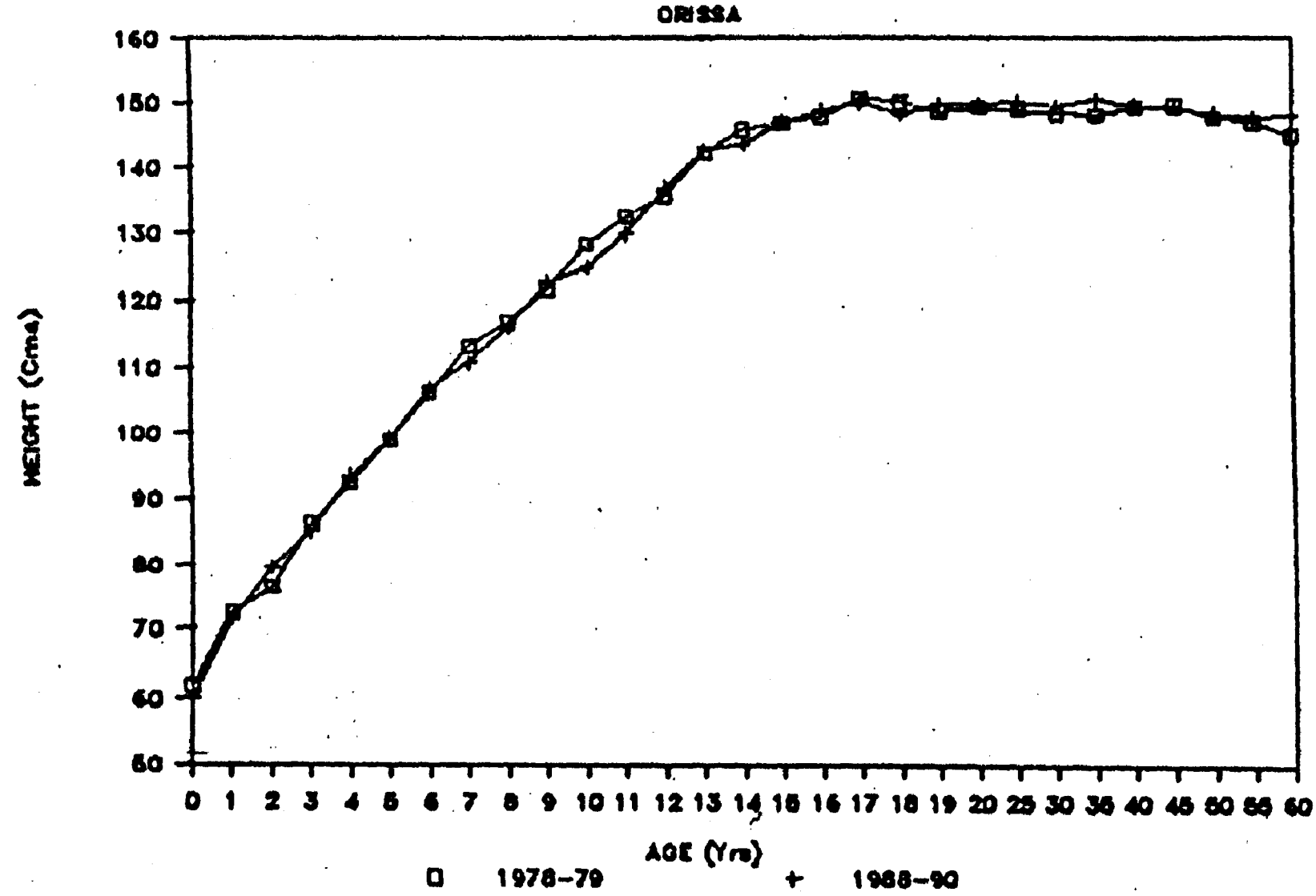


Fig. 10.3

DISTANCE CHART - WEIGHT - MALE

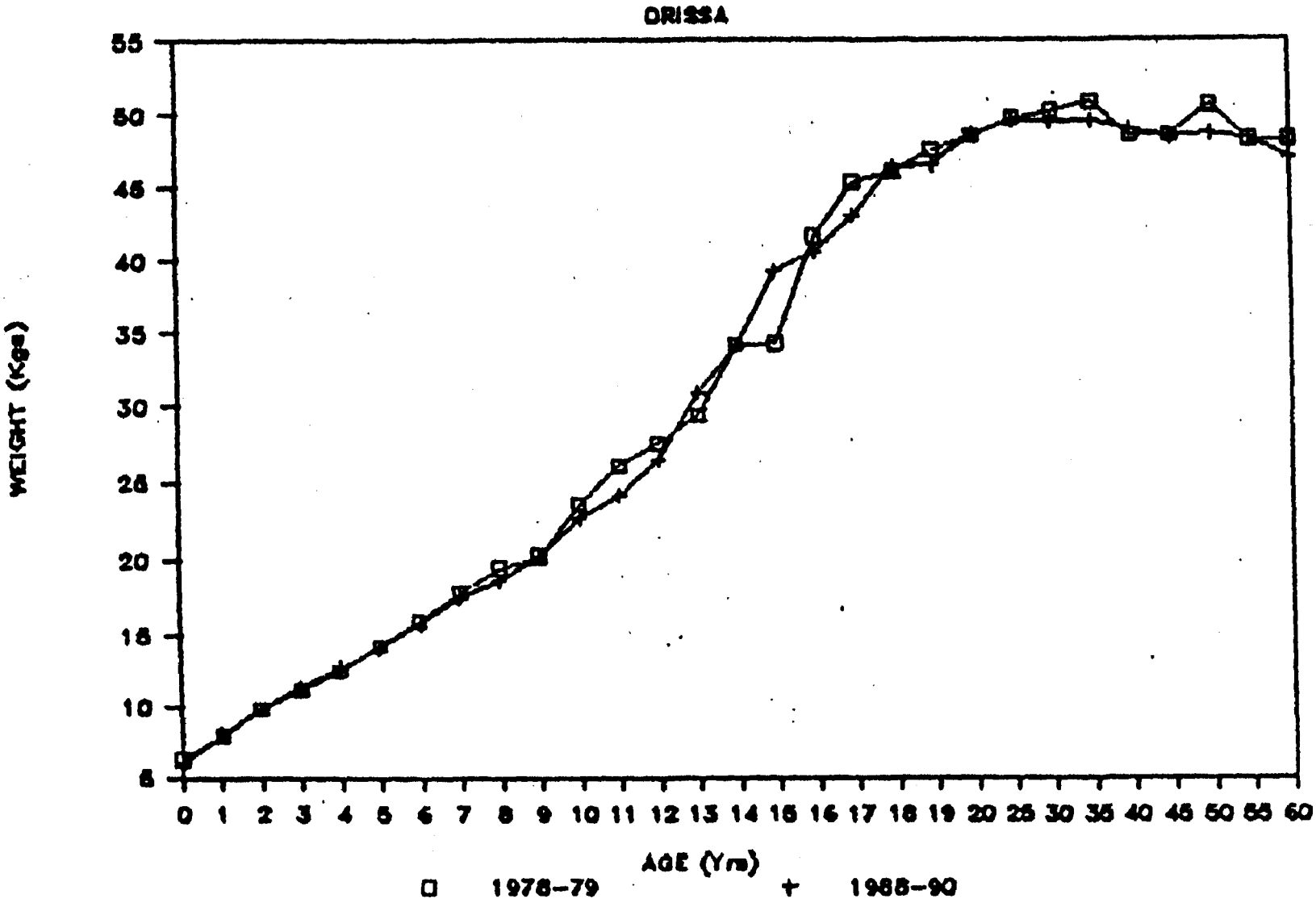
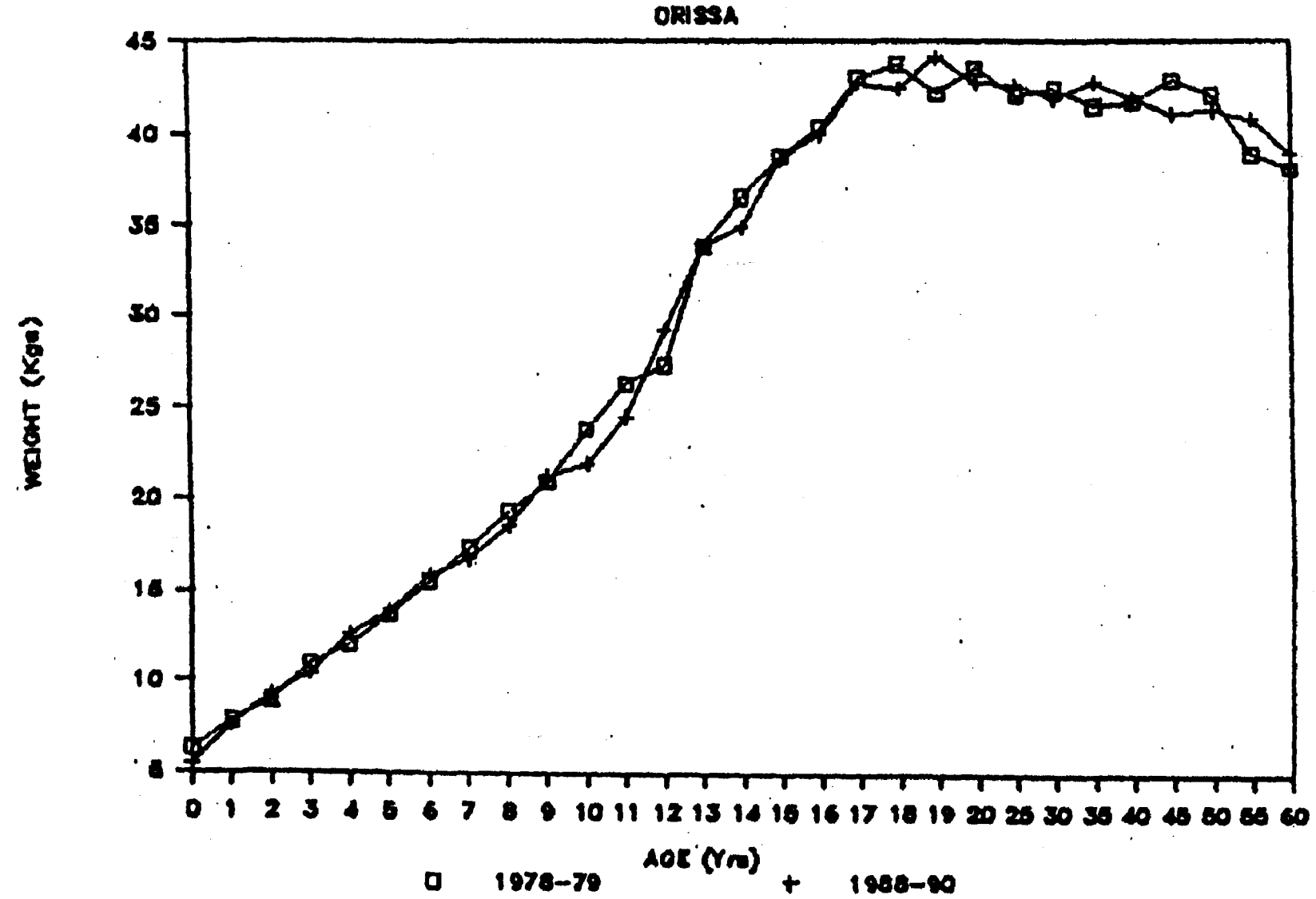


Fig. 10.4

DISTANCE CHART - WEIGHT - FEMALE



4.2 Growth status of preschool children

4.2.1 Weight for age status (Gomez classification)

Young children (1-5 years) were classified into different nutritional grades based on their weight for age. Normals (90% and above), Mild (75-89%), Moderate (60-74%) and Severe (below 60%). NCHS standards were used for the purpose. Results of distributional analysis are given in Tables 9.1-9.3.

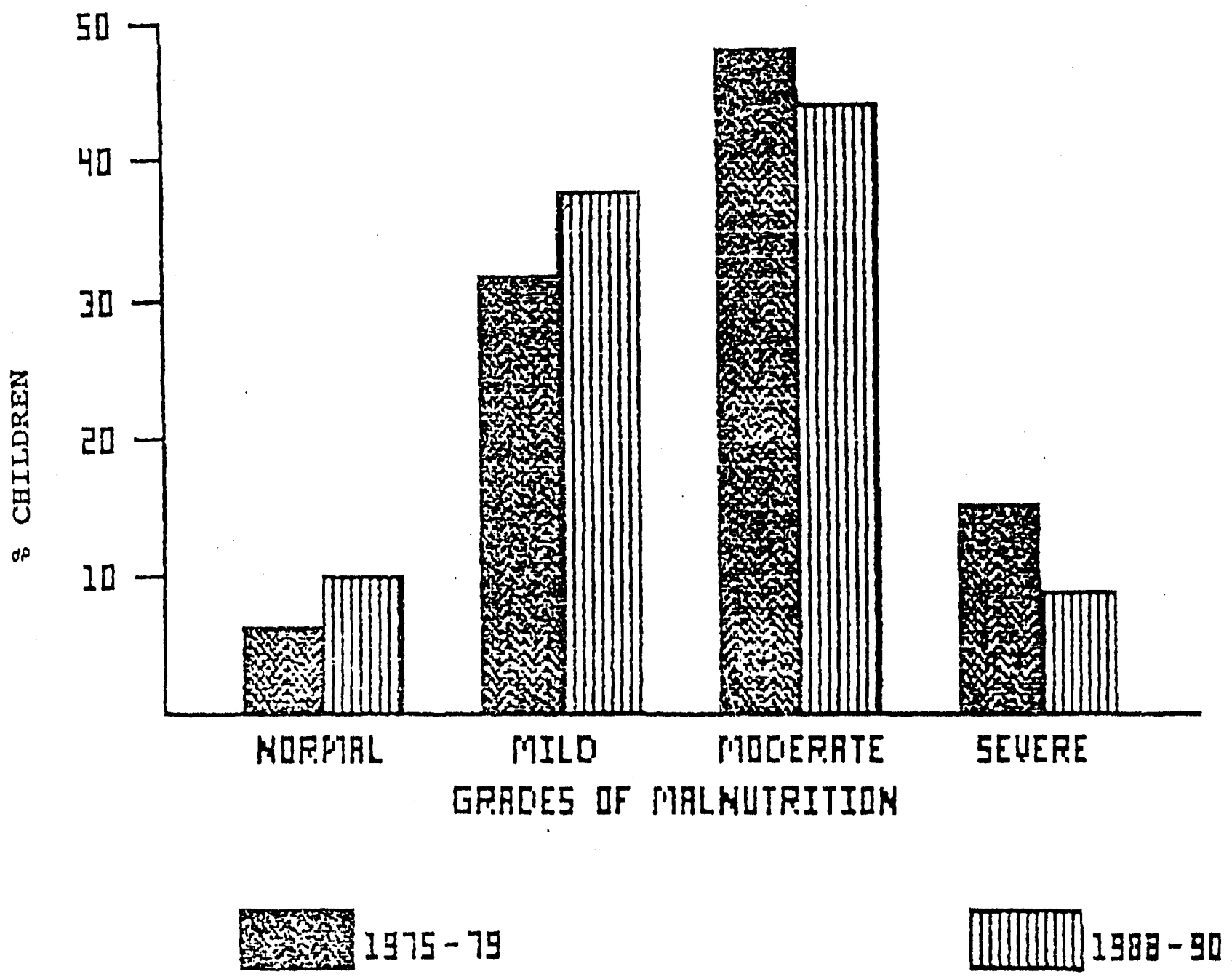
The percentage of normal children increased from 5.9 in 1975-79 to 9.9 in 1988-90. The prevalence of severe malnutrition has declined from 15% to 8.7% during the period (Fig. 11). In all the states the proportions of normals and mildly malnourished children increased while those of 'moderately' and severely malnourished decreased (except in Orissa where moderately malnourished showed an increase). The decline of severe grades was highest in Maharashtra while in the states of Gujarat and Madhya Pradesh, it was minimal. There is no difference in the prevalence of under nutrition between boys and girls.

4.2.2 Stunting, wasting and undernourished profile

Table 9.4 gives standard deviation classification for different types of malnutrition stunting (Height forage), wasting (weight-for-height) and undernourished (weight-for-age). Children falling

Fig. 11

PERCENTAGE DISTRIBUTION OF PRESCHOOL CHILDREN
ACCORDING TO WEIGHT FOR AGE



between Median - 2 SD and Median - 3 SD are considered as moderately malnourished while those below the Median - 3 SD are classified as severely malnourished. The NCHS values are used as reference for this purpose.

The results clearly show that there has been substantial reduction in percentage of children suffering from severe forms of 'underweight' 'stunting' as well as 'wasting' with corresponding increase in the milder forms over the period – a trend similar to that of gomez classification.

4.3 Clinical Malnutrition in Preschool Children

Out of the total 12,000 preschool children examined nearly a fifth suffered from clinical malnutrition of some kind or other (Table - 10). Major nutritional deficiency signs encountered were those of Protein Energy Malnutrition (PEM), Vitamin 'A' and B-complex deficiency.

Protein Energy Malnutrition: Prevalence of severe PEM was lower in 1988-90 surveys compared to 1975-80, Marasmus was reduced from 1.3 to 0.6% and kwashiorkor from 0.4to 0.1% overall level. State-wise, Gujarat showed highest prevalence of both the forms (1.1% kwashiorkor and 4.9% marasmus), while in the other states, their prevalence was less than 1%.

Vitamin deficiencies: In general, the prevalence of vitamin B-complex deficiency (Angular stomatitis) was more (5.7%) than vitamin 'A' deficiency (Bitot spots) (0.7%). The prevalence of vitamin 'A' deficiency was consistently low in 1988-90 survey at overall as well as individual state level (except in Kerala).

COMMENTS

Annual surveys conducted by the NNMB provide useful information on dietary and nutrition scenario in the country. Unfortunately, there is paucity of authentic information (based on large scale diet surveys) to assess nutrition trends prior to the inception of NNMB. The results of surveys carried out by the Nutrition Cells of different State Health Directorates for the period 1955-66 were consolidated and published by the National Institute of Nutrition in the form of Diet Atlas. Inspite of the limiations, this is the only published information that reflects the dietary situation during the sixties. The average calorie consumption of rural households during this period was around 2070 kcal/CU/day at aggregate level. The figures reported by NNMB for the seventies was 2350 kcal. This increase of 280 Kcal/CU/day is quite substantial. However, there was no further change during the subsequent period.

While the earlier surveys of NNMB showed an increase of 110 kcal between 1975 and 1980, the repeat surveys in 1988-90 showed a decrease of 57 kcal. These changes however are marginal and statistically not significant as the standard deviation for the difference of means was 175 kcal after correcting for family size. In other words it can be concluded that at the aggregate level, there has been little change in the average calorie intakes of rural households during the last 15 years. This stagnation in intakes is surprising considering the impressive increase of food production. The NNMB data show that in more than 40% of the households the diets continue to be deficient in calories. This may be due to low purchasing capacity of the rural population. Though the monthly per capita income of the households has shown an increase, inflation and the consequent decline in the rupee value over the time has offset the benefit. In fact. when adjustment was made for the rupee value. there was no significant change in the economic status of the rural families between the two periods. In 40% of the households the daily per capita income was less than Rs. 3. With this level of income, the families cannot afford adequate diet. in the context of current food prices.

The data also showed that with increasing income of the families, the consumption of cereals declined while that of protective foods like pulses, milk, fish, vegetables etc. increased. Hence, the overall improvement in dietary energy and protein seen in high income groups is attributable to increased consumption of protective foods.

Growth retardation particularly among preschool children (1-5 years) is often used to assess the extent of malnutrition among populations. All the states showed an increase in percentage of normal children and decline in the severe grade malnutrition on the basis of Gomez classification. Similar trends are noticed in case of stunting (low height for age) and 'wasting' (low weight for height) profiles of children. So also, decline in the prevalence of overt cases of clinical malnutrition like kwashiorkor, marasmus, and vitamin 'A' deficiency suggest an improvement in the nutritional status of rural children. Though there was no change in overall intakes at the household level in case of preschool children an increase in energy intake (74-142 calories) was observed. This could be due to the increased awareness and better child rearing practices and nutrition support provided through various national programmes. Apart from this changes

in non-nutritional factors, such as, improved water supply, reduction in infections and better health care could have also contributed to better nutritional status.

Dietary intakes of energy, disaggregated at State level, do not always go in hand in hand with the improvement in nutritional status of children in that State. In this context, the States of Tamil Nadu and Karnataka on one hand, and Gujarat and Madhya Pradesh on the other have shown divergent trends. Earlier reports also show that dietary intakes and nutritional status are not always strongly related. This may partly be due to the inherent limitation of the dietary assessment and partly due to the other environmental factors influencing the nutritional status.

The NNMB data fail to show a sex bias either in terms of nutrient intake or in terms of anthropometry. The dietary intakes and extent of severe malnutrition are similar in preschool boys and girls.

The database on NNMB can thus be used to assess the nutritional situation in the country and also monitor the changes over a period of time. However, this data does not allow us to assess the contribution of various factors influencing the nutritional situation. Collection of additional information to complement NNMB's efforts is needed for setting up a National Nutrition Surveillance System.

A C K N O W L E D G E M E N T S

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TABLES

Table - 1

STATEWISE PARTICULARS OF SAMPLE COVERAGE

State	No.of districts	No. of villages 1975-79	No. of villages 1988-90	Households* 1975-79	Households* 1988-90
Kerala	7	106	91	979	835
Tamil Nadu	8	110	96	978	865
Karnataka	7	167	126	999	783
Andhra Pradesh	8	136	119	1017	908
Maharashtra	7	126	128	615	837
Gujarat	7	120	116	697	711
Madhya Pradesh	5	55	50	234	255
Orissa	8	98	156	524	824
Total	57	918	882	6043	6018

* Covered for one day weighment method of diet survey

Table - 2

PERCENT DISTRIBUTION OF HOUSEHOLDS
BY PER CAPITA INCOME

PCI (Rs./ month)	1975-79	1988-90 (unadjusted)	1988-90 (adjusted)*
No. of HH	5518	5181	5181
<30	32.7	2.8	20.6
30-90	48.0	39.8	49.4
90-150	10.6	27.4	20.4
>150	8.7	30.0	9.6
AVERAGE	67.50	147.30	63.30

* Adjusted for change in Rupee value taking 1977 as base (1977 - 100)

Table - 3.0

MEAN NUTRIENT INTAKES (per CU/day) IN 'OLD' AND 'NEW' SETS OF VILLAGES (Phase II)

State	Old villages			New villages		
	Protein (g)	Energy (Kcal)	Vit. A (ug)	Protein (g)	Energy (Kcal)	Vit. A (ug)
Kerala	51.7	2071	258	53.8	2082	262
Tamil Nadu	46.4	1832	218	45.0	1830	195
Karnataka	60.5	2286	207	58.7	2256	214
Andhra Pradesh	52.8	2265	246	54.8	2290	264
Maharashtra	59.5	2132	268	62.3	2277	296
Gujarat	66.6	2223	351	60.7	2098	267
Madhya Pradesh	78.6	2481	594	77.4	2507	260
Pooled	59.4	2184	306	59.0	2191	251

Table 3.1

AVERAGE CONSUMPTION OF FOOD STUFFS (g/CU/day)

Foodstuffs	Year	Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Maha-rashtra	Gujarat	Madhya Pradesh	Pooled	RDI
Cereals and Millets	1975-79	341	490	682	568	502	452	496	504	460
	1988-90	369	406	548	534	463	493	614	490	
Pulses	1975-79	14	32	60	31	37	30	51	36	40
	1988-90	18	27	50	28	36	32	56	32	
Green leafy vegetables	1975-79	4	9	6	6	15	8	6	8	40
	1988-90	9	12	10	7	13	4	19	11	
Other vegetables	1975-79	81	63	33	39	50	58	34	51	60
	1988-90	65	53	22	40	55	60	49	49	
Roots and Tubers	1975-79	135	58	26	25	20	37	36	48	50
	1988-90	63	40	31	29	32	52	33	40	
Milk and Milk Products	1975-79	47	79	78	98	92	180	124	100	150
	1988-90	87	69	91	82	85	139	117	96	
Fats and Oils	1975-79	4	12	7	13	13	17	15	12	20
	1988-90	14	9	8	13	15	21	10	13	
Sugar and Jaggery	1975-79	19	20	31	9	31	29	21	23	30
	1988-90	32	24	30	21	33	35	28	29	

Table 4

AVERAGE CONSUMPTION OF NUTRIENTS (CU/day)

Nutrients	Year	Kerala	Tamil Nadu	Karna-	Andhra Pradesh	Maha- rashtra	Gujarat	Madhya Pradesh	Pooled	RDI
Protein (g)	1975-79	46.4	54.8	79.3	59.8	64.5	64.2	71.5	62.9	60.0
	1988-90	52.9	45.6	65.4	55.7	61.7	69.3	82.5	61.8	
Energy (Kcal)	1975-79	1978	2275	2932	2447	2300	2162	2283	2340	2350
	1988-90	2140	1871	2431	2340	2211	2375	2614	2283	
Calcium (mg)	1975-79	507	552	946	565	512	551	494	590	400
	1988-90	608	472	869	432	461	550	502	556	
Iron (mg)	1975-79	20.8	26.6	46.3	27.8	33.5	25.9	30.9	30.2	28.0
	1988-90	22.0	21.4	35.6	25.8	29.6	29.0	35.2	28.4	
Vitamin 'A' (/ug)	1975-79	176	211	242	264	313	272	324	257	600
	1988-90	297	240	269	286	311	286	374	294	
Vitamin 'C' (mg)	1975-79	67	42	23	29	36	35	27	37	40
	1988-90	47	39	26	36	37	36	38	37	
Thiamine (mg)	1975-79	0.72	0.89	2.42	1.06	1.77	1.90	2.44	1.60	1.20
	1988-90	0.72	0.70	1.86	0.98	1.67	2.08	2.68	1.53	
Riboflavin (mg)	1975-79	0.72	0.79	1.19	0.79	0.98	1.08	1.26	0.97	1.40
	1988-90	0.74	0.60	1.01	0.72	0.94	1.22	1.35	0.94	
Niacin (mg)	1975-79	11.5	12.5	17.8	14.5	16.8	15.3	21.3	15.7	16.0
	1988-90	11.8	10.5	14.6	14.,4	16.3	17.3	23.9	15.5	

Table - 5.1

AVERAGE CONSUMPTION OF FOODSTUFFS (G/CU/DAY) ACCORDING TO PER CAPITA INCOME (PCI) DURING 1988-90

PCI Rs./month	N	Cereals	Pulses	GLV	Other vegetables	Roots and Tubers	Nuts & Oil Seeds	Condiments & spices	Fruits	Fish	Other flesh foods	Milk & Milk products	Fats and Oils	Sugar and Jaggery
<30	143	475	25	10	34	36	7	14	16	6	3	42	9	16
30-45	372	509	33	9	34	27	6	18	23	5	2	45	7	20
45-60	550	490	29	9	44	31	8	17	23	6	1	51	8	22
60-90	1137	478	29	9	40	37	10	16	28	9	3	62	9	23
90-150	1424	479	29	9	48	41	14	16	26	14	4	86	11	17
150-300	1056	452	33	14	54	44	20	15	28	14	6	121	14	33
>300	499	454	43	14	67	56	29	19	43	20	12	230	25	39

TABLE - 5.2

PROTEIN AND ENERGY INTAKES BY PER CAPITA INCOME DURING 1988-90

Percapita Income (Rs./Month)	N	Protein (g)	Energy (Kcal)
<30	143	53.3	2026
30-45	372	56.5	2172
45-60	550	55.8	2131
60-90	1137	55.6	2130
90-150	1424	59.4	2213
150-300	1056	60.8	2254
>300	501	70.3	2595

Table - 6

MEAN ENERGY INTAKES (KCAL/CU/DAY) BY OCCUPATIONAL GROUPS

Period	Landless Agri-cultural labour		Other labour		Cultivators		Others*	
	n	Mean	n	Mean	n	Mean	n	Mean
1975-79	892	2043	1978	2123	4510	2514	3126	2244
1988-90	675	2179	619	2118	2116	2356	1756	2168

* Includes Artisans, Traders and Salaried group
n: Total number of households surveyed in seven states
Bean: Simple average of the consumption figures over seven states.

Table - 7

PERCENT DISTRIBUTION OF HOUSEHOLDS ACCORDING TO PROTEIN ENERGY ADEQUACY STATUS

State	1975-7*7		1988-90	
	P+	E+	P+	E+
Kerala	69.7	39.0	71.5	39.7
Tamil Nadu	83.0	54.8	62.1	32. 1
Karnataka	96.7	82.1	91.4	62. 1
Andhra Pradesh	88.5	67.7	82.6	58.5
Maharashtra	90.2	56.5	88.0	49.5
Gujarat	92.8	50.3	92.8	52.7
Madhya Pradesh	97.0	55.1	96.0	78.4
Pooled	88.2	58.0	83.5	53.3

p+ : Protein adequate
E+ : Energy adequate

Table - 8.1

AVERAGE CONSUMPTION OF FOODS IN

PRESCHOOL CHILDREN

Age (Years)	Year	N	Cereals	Pulses	vegetables	Nuts & Oilseeds	Condiments & spices	Fruits	Fish	Other flesh foods	Milk & Milk products	Fats and Oil	Sugar and Jaggery
1-3	1975-79	747	158	14	35	5	7	14	5	2	74	5	12
	1988-90	892	176	14	31	5	6	18	4	2	68	5	16
4-6	1975-79	776	228	20	52	7	10	14	6	2	57	6	14
	1988-90	922	263	20	51	5	8	23	4	3	62	7	18

Table 8.2

AVERAGE NUTRIENT INTAKES IN PRESCHOOL CHILDREN

Age (Years)	Year	N	Protein (g)	Total Fat (g)	Energy (Kcal)	Calcium (mg)	Iron (mg)	Vit.A (ug)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg)	Vit.C (mg)
1-3	1975-79	747	22.8	13.7	834	304	10.2	136	0.50	0.38	5.08	15
	1988-90	892	23.7	13.5	908	256	10.2	117	0.52	0.37	5.56	14
4-6	1975-79	776	30.2	16.0	1118	359	15.0	159	0.76	0.48	7.09	20
	1988-90	922	33.9	17.1	1260	147	15.3	153	0.83	0.52	8.40	23

Table 9.0

ENERGY INTAKE OF PRESCHOOL CHILDREN
BY NUTRITIONAL STATUS

Nutritional status Weight for age* (%)	Energy intake		% children	
	1975-79 N = 967	1988-90 N =1080	1975-79	1988-90
>90 (Normal)	1035	1013	3.6	4.6
90-75 (Mild)	995	988	29.3	33.6
75-60 (Moderate)	884	928	52.7	52.4
<60 (Severe)	812	796	14.4	9.4

* NCHS values were used as standards

Table -9.1

PERCENT DISTRIBUTION OF CHILDREN (1-5 YEARS) ACCORDING TO NUTRITIONAL GRADES*

State	Period	n	Normal	Mild	Moderate	Severe
Kerala	1975-79	737	7.5	35.7	46.5	10.3
	1988-90	882	17.7	47.4	32.9	2.0
Tamil Nadu	1975-79	1183	6.2	34.2	47.0	12.6
	1988-90	3337	8.0	42.0	45.8	4.2
Karnataka	1975-79	1065	4.6	31.1	50.0	14.3
	1988-90	2035	4.8	38.1	48.8	8.3
Andhra Pradesh	1975-79	809	6.1	32.4	46.1	15.4
	1988-90	2838	8.7	39.5	44.3	7.5
Maharashtra	1975-79	760	3.2	25.4	49.5	21.9
	1988-90	1666	6.7	38.0	47.5	7.8
Gujarat	1975-79	718	3.8	28.1	54.3	13.8
	1988-90	1262	7.3	33,9	45.8	13.0
Madhya Pradesh	1975-79	585	8.4	30.3	45.1	16.2
	1988-90	237	17.7	27.4	38.9	16.0
Orissa	1978-79	571	7.5	35.9	41.7	14.9
	1988-90	1175	8.1	34.6	46.6	10.7
Pooled	1975-79	6428	5.9	31.6	47.5	15.0
	1988-90	13432	9.9	37.6	43.8	8.7

* Based on NCHS standards

Table - 9.2

PERCENT DISTRIBUTION OF BOYS (1-5 YEARS) ACCORDING TO NUTRITIONAL GRADES*

State	Period	n	Normal	Mild	Moderate	Severe
Kerala	1975-79	373	7.5	32.4	49.9	10.2
	1988-90	451	16.6	47.7	33.3	2.4
Tamil Nadu	1975-79	589	6.6	34.5	46.2	12.7
	1988-90	1743	7.2	42.1	46.1	4.6
Karnataka	1975-79	561	3.7	30.3	52.1	13.9
	1988-90	1066	3.8	37.7	50.8	7.7
Andhra Pradesh	1975-79	427	4.4	29.7	49.1	16.8
	1988-90	1466	7.5	40.7	44.9	6.9
Maharashtra	1975-79	431	3.5	22.5	53.8	20.2
	1988-90	858	5.3	36.8	49.5	8.4
Gujarat	1975-79	373	3.0	26.8	57.6	12.6
	1988-90	639	6.0	30.5	48.8	14.7
Madhya Pradesh	1975-79	336	6.0	31.0	46.4	16.6
	1988-90	130	17.7	30.8	37.7	13.8
Orissa	1978-79	314	7.3	35.4	43.0	14.3
	1988-90	600	7.3	35.8	46.7	10.0
Pooled	1975-79	3404	5.3	30.3	49.8	14.6
	1988-90	6953	8.9	37.8	44.3	9.0

* Based on NCHS standards

Table - 9.3

PERCENT DISTRIBUTION OF 6IRLS (1-5 YEARS) ACCORDING TO NUTRITIONAL GRADES*

State	Period	n	Normal	Mild	Moderate	Severe
Kerala	1975-79	364	7.4	39.0	43.2	10.4
	1988-90	431	18.8	47.1	32.5	1.6
Tamil Nadu	1975-79	594	5.7	34.0	47.8	12.5
	1988-90	1594	8.8	42.1	45.4	3.7
Karnataka	1975-79	504	5.6	31.9	47.8	14.7
	1988-90	969	6.0	38.5	46.5	9.0
Andhra Pradesh	1975-79	382	7.9	35.3	42.7	14.1
	1988-90	1372	9.8	38.3	43.7	8.2
Maharashtra	1975-79	329	2.7	29.2	43.8	24.3
	1988-90	808	8.3	39.2	45.4	7.1
Sujarat	1975-79	345	4.6	29.6	50.7	15.1
	1988-90	623	8.7	37.4	42.7	11.2
Madhya Pradesh	1975-79	249	11.6	29.3	43.4	15.7
	1988-90	107	17.8	23.3	40.2	18.7
Orissa	1978-79	257	7.8	36.6	40.1	15.5
	1988-90	575	8.9	33.4	46.2	11.5
Pooled	1975-79	3024	6.7	33.1	44.9	15.3
	1988-90	6479	10.9	37.3	42.8	9.0

*Data on NCS Standards

Table - 9.4

PERCENT DISTRIBUTION OF PRESCHOOL CHILDREN ACCORDING TO STANDARD DEVIATION (SD) CLASSIFICATION

SD classif-ication according to	Period	N	< -3SD	-3SD to 2SD	-2SD to -ISD	-ISD to Median	> Median
Weight/Age	1975-79	6428	38.0	39.5	18.3	3.3	0.9
(under weight)	1988-90	13432	26.6	42.0	24.2	6.0	1.2
Height/Age	1975-79	642B	53.3	25.3	14.6	4.8	2.0
(Stunting)	1988-90	13432	36.8	28.3	21.0	9.9	4.0
Weight/Height	1975-79	6422	2.9	15.2	44.3	29.0	8.6
(Wasting)	1988-90	13422	2.4	17.5	44.0	27.6	8.5

Table - 10

PERCENT PREVALENCE OF NUTRITIONAL DEFICIENCY SIGNS IN PRESCHOOL CHILDREN

Nutritional deficiency Signs	Period of survey	State								
		Kerala	Tamil Nadu	Karna-taka	Andhra Pradesh	Mahara-shtra	Gujarat	Madhya Pradesh	Orissa	Pooled
Oedema	1975-79	-	-	0.4	0.9	0.5	0.3	-	-	0.4
	1988-90	-	-	0.2	-	0.1	1.1	-	-	0.1
Marasmus	1975-79	0.2	0.6	0.5	2.0	0.8	3.8	0.2	0.6	1.3
	1988-90	0.1	0.2	0.4	0.1	0.3	4.9	-	0.1	0.6
Two or more signs of PEM	1975-79	0.2	0.6	2.1	0.9	3.0	0.6	0.2	-	1.2
	1988-90	-	0.1	0.4	0.1	0.3	0.3	-	0.1	0.2
Bitot's spots	1975-79	0.1	2.9	2.3	3.1	0.4	0.9	0.4	1.5	1.8
	1988-90	0.5	0.6	1.1	1.0	0.3	0.5	-	1.1	0.7
Angular stomatitis	1975-79	1.6	5.0	11.8	7.9	1.0	1.5	0.6	5.9	5.7
	1988-90	-	6.3	13.9	9.0	1.3	0.5	-	-	5.7
NAD	1975-79	91.7	84.4	71.9	79.8	86.0	79.7	94.5	76.7	80.7
	1988-90	94.5	73.6	79.2	88.5	87.5	79.4	87.4	96.3	83.5
Number	1975-79	1034	1832	2941	2361	1580	1893	474	660	12775
	1988-90	748	2792	1715	2394	1488	1090	397	911	11535

ANNEXURE-I

SAMPLING DESIGN

Selection of Districts

A State cannot be considered to be homogenous group, and it has therefore, been decided to cover all districts within each State, There will be marked variations even between districts and the districts will, therefore, be stratified into four categories, based upon the following information at the district level:

a) Total food-grains produced per year (making corrections for rural to urban ratio, within each district).
b) Proportion of area under food crops to total irrigated area.
c) Proportion of agriculturists to the total number engaged in agriculture (i.e. agriculturists and agricultural labourers).

In each of these three criteria it is assumed that higher the value, higher is the district in the developmental scale. Hence, for each of the criteria, the district with the highest value, is given rank one while the district with the lowest value is given the last rank. After assigning ranks for these three criteria, for each district, the following procedure will be adopted:

a) The average rank for all three criteria put together for each district will be obtained;

b) The districts will be grouped into 4 categories: A,B,C and D based upon the average ranks.

The theoretically obtainable maximum average rank value will be divided into 4 equally spaced groups so that four quarters are obtained.

Sample

If the maximum average value is 20, the following four quarters are obtained:

1st Quarter - 1 to 5

2nd Quarter - 6 to 10

3rd Quarter - 11 to 15

4th Quarter - 16 and above

Those districts with ranks between 1 and 5 will be grouped as A, between 6 and 10 as B, between 11 and 15 as C and 16 and above as D.

In each of these four categories, one third to one sixth the number of districts, depending upon the size of the State, will be selected for study, every year by random sampling procedure. By this procedure, it is expected that all the districts in a State will be covered within 3 to 6 years depending upon the total number of districts in the State. Once all the districts are covered, the second round of survey will start.

Number of households in each district

This is determined by using the following information:

a) Percent population in each selected district to the total rural population of the State.

b) Contribution of each selected district to the total percentage of rural population as obtained in (a) .

Example

If district (A) has 1,00,000 rural population, and the State has 1,00,000 rural population, the district's contribution will be 10%. If three districts are selected, whose combined contribution comes to 25% of total rural population of the State, then in the district (A) 10/25 x 400 households will be covered ie., 160 (since it has been decided that 400 households will be covered in the three districts).

Selection of villages

These households will have to be selected from among the villages in the selected districts. For this purpose, all the villages in each district will be classified into the following three categories, using 1961 district census handbook.

Population below 1000

Population between 1000 - 3000

Population with 3000 and more

Having obtained this classification, the total population in each of the three categories or villages will be estimated. The total number of households to be covered in the district will be distributed among these categories of villages according to the proportion of their respective population. The villages will be selected using systematic sampling procedure within each category. The number of households in each of the three categories of villages has been fixed as 5, 10 and 20 respectively.

Example

Population in village	Below 1000 (A)	1000-3000 (B)	>3000 (C)
Number of villages	100	90	10
Average population per village	500	2000	5000
Total population in each category	50,000	1,80,000	50,000

The proportion of households to be covered in each category of village will, therefore, be 5 : 18 : 5. If in this particular district, calculations show that 420 households will have to be covered, then 75 households in A, 270 households in B and 75 households in C will have to be covered. Thus, the number of villages to be

selected in categories A, B and C will work out to 15, 27 and 4 villages respectively, out of 100, 90 and 10 villages in that district.

Having fixed 15 out of 100 villages in category A, the selection of villages will be done as follows:

a) Prepare a list of all these 100 villages (frame).

b) 15 out of 100 villages will be roughly 1 in 7.

c) Select a random number between 1 and 7 eg. 4.

d) Village number 4 has been selected.

e) Go on progressing adding 7 to 4 eg: 11, 18, 25 etc. Villages with these numbers will be selected.

The same procedure will be adopted for the other two categories of villages also.

Selection of households within a village

In the selection of the households within each village proper representation must be given to the different segments of the population (Harijans, Low Income Group, Middle Income Group and High Income Group) so that the pooled estimation based upon all the households surveyed gives us reliable information regarding the dietary status of village as a whole. The selection of households will be done by the team on the spot by random sampling after consultation with the village head.

ANNEXURE-II

NNMB: MEAN ANTHROPOMETRIC MEASUREMENTS

STATES POOLED SEX: MALES

Age (Years)	1975-1979 N	1988-1990 N	Height (cms) 1975-79 Mean	Height (cms) 1975-79 SD	Height (cms) 1988-90 Mean	Height (cms) 1988-90 SD	Weight (kgs) 1975-79 Mean	Weight (kgs) 1975-79 SD	Weight (kgs) 1988-90 Mean	Weight (kgs) 1988-90 SD
<1	624	904	63.7	6.32	64.2	6.48	6.3	1.54	6.6	1.60
1+	540	1140	72.5	5.30	73.9	5.09	8.0	1.40	8.3	1.44
2+	610	1381	79.9	5.45	82.1	5.68	9.5	1.55	10.1	1.50
3+	736	1467	85.9	6.24	89.5	5.79	10.9	1.72	11.5	1.51
4+	899	1987	92.9	6.15	96.5	6.03	12.3	1.70	13.0	1.64
5+	619	978	99.8	6.65	101.8	6.15	13.9	2.00	14.3	2.16
6+	659	1020	105.5	6.81	107.0	6.37	15.3	2.25	15.5	2.05
7+	726	955	111.3	7.57	113.0	6.66	16.8	2.60	17.3	2.95
8+	811	931	116.4	7.61	118.1	5.84	18.5	3.01	18.8	2.30
9+	587	745	120.4	6.74	122.9	6.00	19.8	2.85	20.4	2.56
10+	834	928	125.5	7.53	127.3	7.00	22.1	3.80	22.3	3.24
11+	546	739	130.2	7.56	131.7	6.88	23.8	3.43	24.2	3.60
12+	958	982	134.1	8.21	136.4	7.80	25.8	4.37	26.5	4.50
13+	670	789	138.7	8.05	141.5	7.27	28.0	4.50	29.2	4.61
14+	654	716	144.8	8.92	147.3	8.05	32.0	6.10	33.3	5.97
15+	469	579	149.6	8.96	153.0	8.13	35.0	6.41	38.0	6.20
16+	588	592	155.8	8.23	157.8	7.73	39.6	6.53	41.6	6.19
17+	469	471	159.0	6.83	163.3	7.44	42.6	5.93	44.9	5.85
18+	541	687	161.2	6.55	161.8	6.40	45.1	6.00	46.3	5.60
19+	364	420	162.2	6.79	163.4	6.51	46.6	5.37	47.5	5.61
20-24	1504	1498	163.1	6.86	163.4	6.77	48.2	6.17	49.5	6.06
25-29	1138	1371	163.1	6.50	163.5	6.30	49.5	6.60	50.3	6.70
30-34	985	1389	163.1	6.98	162.7	6.32	49.5	7.03	50.4	7.39
35-39	1258	1275	162.8	6.56	163.0	6.48	49.8	7.44	50.6	7.40
40-44	935	794	162.6	6.14	163.0	6.87	49.2	7.10	51.1	8.36
45-49	888	666	162.4	6.57	162.2	6.52	48.9	7.78	50.1	7.98
50-54	593	505	162.6	6.18	162.0	6.24	49.6	7.50	50.3	8.13
55-59	489	503	161.7	6.34	161.8	6.92	48.3	7.70	49.5	8.32
>60	956	1067	161.3	6.88	160.3	6.56	47.1	8.40	47.8	8.58

NNMB: MEAN ANTHROP0METRIC MEASUREMENTS

STATES POOLED **SEX: FEMALES**

Age (Year)	1975-1979 N	1988-1990 N	Height (cms.) 1975-79 Mean	Height (cms.) 1975-79 SD	Height (cms.) 1988-90 Mean	Height (cms.) 1988-90 SD	Weight (kgs) 1975-79 Mean	Weight (kgs) 1975-79 SD	Weight (kgs) 1988-90 Mean	Weight (kgs) 1988-90 SD
<1	540	849	62.7	6.26	62.8	6.40	5.9	1.62	6.2	1.52
1+	500	954	71.7	5.99	72.5	5.32	7.6	2.24	7.9	1.38
2+	548	1257	78.4	6.50	80.7	5.45	9.0	2.06	9.6	1.45
3+	710	1524	85.2	6.62	87.8	5.95	10.5	1.74	11.1	1.55
4+	732	1770	92.3	6.75	95.2	5.91	11.9	1.86	12.6	1.65
5+	534	874	99.6	6.57	100.9	6.10	13.7	2.39	13.9	1.85
6+	635	951	104.5	7.47	106.2	6.93	14.8	2.37	15.2	2.73
7+	839	991	110.5	7.32	111.5	6.38	16.5	2.50	16.7	2.24
8+	719	948	115.5	7.77	117.3	6.82	18.1	3.12	18.6	2.60
9+	525	771	120.5	6.99	122.5	6.71	19.8	3.05	20.5	2.97
10+	707	775	125.7	8.12	127.5	7.14	22.2	4.05	22.6	3.58
11+	414	562	130.6	8.35	139.1	7.69	24.3	4.24	24.8	4.07
12+	679	768	134.5	8.28	137.5	7.98	26.5	5.06	28.1	5.18
13+	450	558	140.4	8.73	143.2	7.31	30.5	6.14	31.9	5.37
14+	466	576	144.8	7.82	146.5	6.60	34.6	6.59	35.1	5.49
15+	392	416	147.6	6.79	148.6	5.59	37.9	6.26	38.4	5.30
16+	501	547	149.5	6.06	150.6	5.67	40.2	5.66	40.7	5.45
17+	291	337	150.4	6.26	151.2	6.17	41.1	5.36	41.9	5.71
18+	500	493	150.9	5.85	150.8	6.43	42.4	5.51	42.2	5.92
19+	230	298	150.3	6.12	151.6	6.21	42.5	5.49	43.6	6.16
20-24	1565	2367	150.9	6.21	151.0	5.94	42.7	5.60	42.9	6.12
25-29	1606	2442	150.8	5.71	152.2	5.57	42.5	5.92	43.1	6.29
30-34	1340	1683	150.3	5.79	151.0	5.74	42.5	6.24	43.0	6.70
35-39	1226	1236	150.5	5.67	150.8	5.36	42.5	6.66	43.6	7.21
40-44	872	738	149.8	6.01	150.2	6.02	41.7	6.71	42.9	7.79
45-49	772	711	149.9	5.82	149.9	5.72	41.9	7.14	43.0	7.57
50-54	501	654	148.9	5.61	149.5	5.93	41.4	7.33	43.8	8.34
55-59	429	517	149.1	6.22	149.2	6.02	40.8	7.19	42.7	7.85
>60	870	1046	147.3	6.43	147.7	6.28	39.0	7.34	40.4	7.75

NNMB: MEAN ANTHROPOMETRIC MEASUREMENTS

STATES POOLED SEX: MALES

Age (Years)	Number 75-79	Number 88-90	Arm circumference (cm) 1975-79 Mean	Arm circumference (cm) 1975-79 SD	Arm circumference (cm) 1988-90 Mean	Arm circumference (cm) 1988-90 SD	Fat fold at Triceps (mm) 1975-79 Mean	Fat fold at Triceps (mm) 1975-79 SD	Fat fold at Triceps (mm) 1988-90 Mean	Fat fold at Triceps (mm) 1988-90 SD
Under 1	624	904	12.3	1.48	12.8	1.66	8.39	2.41	8.5	2.83
1-	540	1140	12.7	1.47	13.2	1.31	8.00	2.50	7.8	2.56
2-	610	1381	13.3	1.46	13.7	1.30	8.12	2.20	8.3	2.54
3-	736	1467	13.6	1.23	14.2	1.23	8.3	2.26	8.4	2.49
4-	899	1987	13.8	1.19	14.3	1.11	7.9	2.26	7.9	2.25
5-	619	978	14.1	1.18	14.3	1.23	7.2	2.20	7.0	2.13
6-	659	1020	14.2	1.10	14.5	1.16	6.7	2.00	6.8	1.96
7-	726	955	14.5	1.14	14.8	1.21	6.3	2.15	6.3	1.75
8-	811	931	14.8	1.18	15.2	1.22	6.0	2.01	6.2	1.70
9-	587	745	15.2	1.39	15.6	1.26	5.8	1.91	6.2	1.90
10-	834	928	15.7	1.48	16.1	1.52	5.8	1.88	6.3	1.93
11-	546	739	16.2	1.73	16.6	1.64	6.1	2.10	6.4	2.01
12-	958	982	16.7	1.69	17.2	1.71	6.0	2.10	6.4	2.01
13-	670	789	17.2	1.75	17.9	1.66	6.0	2.06	6.5	2.01
14-	654	716	18.2	1.99	18.9	2.06	6.0	2.23	6.7	2.45
15-	469	579	19.0	1.97	20.2	2.06	6.0	2.11	6.5	2.32
16-	588	592	20.2	1.93	21.8	2.13	6.1	2.22	6.7	2.39
17-	469	471	21.2	2.06	22.4	2.13	6.1	2.17	6.8	2.74
18-	541	687	22.1	2.09	22.8	2.03	6.1	2.39	6.7	2.79
19-	364	420	22.6	1.95	23.4	1.98	6.2	2.23	6.2	2.03
20-	1504	1498	23.2	2.14	24.0	2.10	6.1	2.47	6.2	3.84
25-	1138	1371	23.7	2.20	24.3	2.29	6.4	3.18	6.9	3.28
30-	985	1389	23.8	2.27	24.5	2.50	6.4	3.30	7.1	3.53
35-	1058	1275	23.7	2.40	24.4	2.37	6.7	3.51	7.1	3.48
40-	935	794	23.7	2.32	24.5	2.63	6.5	3.25	7.4	3.66
45-	888	666	23.4	2.36	24.4	2.78	6.4	3.20	7.5	3.60
50-	593	505	23.5	2.45	24.3	2.68	7.2	3.59	7.8	3.51
55-	489	495	23.3	2.39	23.7	2.68	6.8	3.38	7.6	3.55
60 and above	956	1067	22.4	2.74	23.1	2.89	7.0	3.44	7.6	3.59

NNMB: MEAN ANTROPOMETRIC MEASUREMENTS

STATES POOLED — SEX: FEMALES

Age (Years)	Number 75--79	Number 88--90	Arm circumference (cm) 1975--79 Mean	Arm circumference (cm) 1975--79 SD	Arm circumference (cm) 1988--90 Mean	Arm circumference (cm) 1988--90 SD	Fat fold at Triceps (mm) 1975--79 Mean	Fat fold at Triceps (mm) 1975--79 SD	Fat fold at Triceps (mm) 1988--90 Mean	Fat fold at Triceps (mm) 1988--90 SD
Under 1	540	849	12.1	1.45	12.5	1.49	8.4	2.38	8.2	2.71
1	500	1054	12.5	1.50	12.9	1.37	7.8	2.32	8.0	2.61
2	548	1157	13.0	1.44	13.5	1.31	7.6	3.00	8.4	2.59
3	710	1524	13.5	1.26	14.1	1.35	8.6	2.50	8.8	2.70
4	732	1770	13.8	1.24	14.4	1.23	8.5	2.40	8.5	2.41
5	534	874	14.3	1.25	14.4	1.23	8.0	2.49	7.8	2.51
6	635	951	14.3	1.14	14.7	1.35	7.3	2.23	7.3	2.16
7	639	991	14.6	1.20	14.9	1.18	6.9	2.23	7.0	2.03
8	719	948	14.1	1.41	15.4	1.39	6.7	2.07	6.9	2.05
9	525	771	15.5	1.52	16.0	1.36	6.8	2.23	7.2	2.14
10	707	775	16.2	1.79	16.6	1.63	6.9	2.24	7.2	2.34
11	414	562	16.6	1.76	17.0	1.64	7.2	2.39	7.5	2.33
12	679	768	17.3	1.96	18.0	1.91	7.4	2.54	7.9	2.54
13	450	558	18.5	2.14	19.1	2.07	7.8	2.64	8.6	2.91
14	466	576	19.7	2.41	20.1	2.10	8.8	3.32	9.1	3.27
15	392	416	20.8	2.25	21.1	2.12	9.6	3.74	10.1	3.62
16	501	547	21.4	2.21	21.8	2.06	10.4	3.94	10.6	3.62
17	291	337	22.9	3.88	22.4	2.02	10.9	3.79	11.2	4.04
18	500	493	22.1	2.18	22.3	2.30	10.7	4.15	10.6	3.96
19	230	298	22.2	2.13	22.6	2.20	10.9	4.36	11.3	3.93
20	1565	2367	22.1	2.29	22.3	2.27	9.8	3.93	10.3	4.18
25	1606	2442	22.1	2.31	22.6	2.42	9.4	3.97	10.2	4.47
30	1340	1683	22.4	2.44	22.7	2.59	9.4	4.27	10.2	4.56
35	1222	1236	22.4	2.38	23.1	2.82	9.4	4.33	11.0	4.99
40	872	738	22.4	2.48	23.2	2.95	9.6	4.44	11.1	4.95
45	772	711	22.3	2.66	23.1	2.86	9.6	4.57	11.1	4.93
50	501	654	22.3	2.82	23.3	3.12	10.1	4.78	11.6	5.07
55	429	517	22.0	2.81	23.0	3.12	9.8	4.76	11.1	5.01
60 and above	870	1046	21.4	2.77	22.2	3.18	8.4	3.89	10.0	4.97

STATE : KERALA SEX : MALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			1975–79		1988–90		1975–79		1988–90	
	75–79	88–90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	39	95	65.1	4.34	64.5	8.98	6.6	1.39	7.1	2.00
1-	27	86	74.0	6.42	74.5	6.79	8.4	1.39	8.9	1.90
2-	82	116	81.4	4.99	85.6	6.46	9.8	1.36	10.9	1.54
3-	62	86	87.9	6.45	94.0	6.08	11.2	1.85	12.6	1.60
4-	103	95	93.3	5.92	99.0	7.10	12.5	1.73	13.8	1.84
5-	99	68	100.3	8.59	102.9	7.52	13.9	2.15	14.7	2.11
6-	90	73	106.2	6.99	108.8	6.10	15.5	2.44	15.8	2.05
7-	90	66	110.5	7.71	116.4	9.89	16.4	2.33	18.4	4.83
8-	121	68	115.1	7.62	120.4	6.12	18.2	2.82	19.2	2.48
9-	78	68	119.5	7.24	124.0	6.37	19.4	2.82	20.6	2.83
10-	137	89	123.9	7.19	129.5	6.16	21.1	3.18	23.1	3.15
11-	100	63	128.0	8.14	132.8	7.84	23.3	3.26	25.1	4.42
12-	195	87	131.1	7.88	138.9	9.44	24.3	4.03	28.2	6.83
13-	132	70	135.7	8.89	141.5	7.31	26.8	4.43	28.9	3.91
14-	138	49	141.8	8.74	148.0	8.20	30.1	4.93	34.2	6.04
15-	78	47	147.2	10.66	155.3	9.28	33.2	6.53	39.2	6.48
16-	91	42	151.7	9.97	160.4	9.50	37.1	7.49	43.3	7.84
17-	60	39	157.0	8.62	162.1	8.18	40.8	7.33	45.3	6.80
18-	55	65	160.5	7.36	163.5	6.10	43.4	6.16	47.3	6.13
19-	36	50	160.8	8.53	163.7	6.97	44.9	5.97	47.8	5.13
20-	193	224	161.9	6.99	165.4	7.18	47.4	5.97	50.8	6.02
25-	152	132	161.8	7.01	164.4	7.02	48.7	6.47	53.0	6.91
30-	91	131	160.6	6.73	164.6	6.41	48.8	6.96	52.9	8.27
35-	102	137	161.0	7.24	163.3	6.93	47.6	6.40	52.6	8.14
40-	107	82	161.6	6.25	164.5	7.40	48.5	7.19	54.8	8.28
45-	80	87	159.9	6.92	161.8	7.20	46.6	8.14	51.7	9.21
50-	66	70	160.4	6.05	161.5	5.82	47.9	7.80	51.8	8.50
55-	52	89	159.2	6.07	161.3	6.73	47.1	8.03	49.3	8.91
60 and above	116	274	158.7	6.88	159.2	6.58	44.9	8.40	48.0	8.95

NNMB : MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : KERALA SEX : MALES

AGE (Years)	Number		ARM CIRCUMFERENCE(cm)				FATFOLD AT TRICEPS (mm)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	39	95	12.7	1.52	14.1	1.33	9.1	2.94	10.9	1.95
1-	27	86	13.1	1.96	14.3	1.13	9.1	4.23	10.3	1.87
2-	82	116	13.3	1.43	14.8	0.98	8.1	2.59	10.4	1.97
3-	62	86	13.8	1.63	15.2	1.14	7.8	2.93	10.5	1.98
4-	103	95	14.2	1.45	15.3	1.08	7.8	2.57	10.5	1.97
5-	99	68	14.1	1.13	15.2	1.14	6.8	2.39	9.7	1.91
6-	90	73	14.5	1.26	15.3	1.09	6.5	2.21	9.1	1.81
7-	90	66	14.5	1.26	15.6	1.63	6.5	2.57	8.3	1.92
8-	121	68	15.1	1.20	15.7	1.00	6.1	2.31	8.2	1.83
9-	78	68	15.4	1.79	16.2	1.21	6.2	2.58	8.4	2.08
10-	137	89	15.5	1.58	16.7	1.20	5,5	2.05	8.3	2.05
11-	100	63	16.0	1.32	17.4	1.52	6.0	2.51	8.8	2.30
12-	195	87	16.6	1.83	17.9	2.35	6.0	2.56	8.3	2.26
13-	132	70	17.2	1.86	18.2	1.42	5.9	2.58	8.6	1.83
14-	138	49	17.9	1.94	19.7	2.20	6.3	2.48	9.2	2.27
15-	78	47	19.2	2.27	20.9	2.08	6.3	2.20	8.2	2.03
16-	91	42	20.0	2.18	21.7	2.31	6.1	2.17	9.1	2.99
17-	60	39	21.2	2.46	22.8	2.34	5.6	2.25	9.3	2.85
18-	55	65	22.1	2.06	23.4	1.82	6.7	3.34	8.0	2.27
19-	36	50	22.8	1.81	23.6	2.02	6.7	2.73	8.0	1.77
20-	193	224	23.3	2.14	24,8	1.87	6.2	2.78	8.0	2.68
25-	152	132	24.1	1.97	25.6	2.23	5.9	2.93	8.3	3.13
30-	91	131	24.7	1.97	25.7	2.53	6.3	2.88	8.2	3.17
35-	102	137	24.0	1.91	25.4	2.67	6.0	2.85	8.4	3.48
40-	107	82	24.3	2.18	26.2	2.52	6.2	2.88	9.1	3.69
45-	80	87	23.8	2.62	25.5	2.76	6.4	2.90	8.5	3.75
50-	66	70	23.6	2.76	25.4	2.43	7.0	3.42	9.1	3.29
55-	52	89	24.0	2.64	24.6	2.65	7.2	3.76	8.5	3.71
60 and above	116	274	22.2	3.06	24.1	2.72	6.6	3.09	8.8	3.49

STATE : KERALA SEX : FEMALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88 90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	45	93	63,0	5.92	65.0	8.33	6.4	1.23	7.0	1.69
1-	53	92	73.2	11.36	74.1	5.94	8.6	5.65	8.7	1.19
2-	70	75	79.8	6.76	81.9	5.53	9.3	1.53	10.3	1.23
3-	81	103	87.1	6.11	91.6	7.30	10.9	1.43	12.1	1.70
4-	87	96	92.9	6.60	96.8	7.64	12.2	1.65	13.3	1.93
5-	73	65	100.1	6.90	104.8	7.77	13.9	2.16	14.7	1.98
6-	73	64	104.0	7.97	108.6	6.25	14.7	2.44	15.8	1.86
7-	81	63	110.6	7.47	113.1	8.68	16.8	2.91	17.1	2.84
8-	103	70	113.5	8.46	119.3	7.24	17.4	3.14	19.4	2.81
9-	80	69	118.6	7.27	123.3	6.87	18.9	2.92	20.6	3.08
10-	91	73	122.4	8.71	128.7	6.53	21.1	4.05	22.1	2.95
11-	55	58	126.5	6.85	134.6	7.48	23.0	3.85	25.6	4.40
12-	110	84	130.3	9.25	140.0	9.08	24.2	4.89	29.9	6.60
13-	60	74	133.9	9.83	145.2	7.94	27.2	5.88	33.3	5.61
14-	79	65	141.1	10.25	149.0	6.37	31.6	7.53	37.7	5.81
15-	61	52	146.2	10.78	149.5	5.50	34.9	7.02	39.0	5.76
16-	72	69	148.5	6.48	151.5	6.58	39.6	6.10	42.0	5.62
17-	47	56	149.7	7.09	152.8	5.65	40.4	5.98	43.5	4.89
18-	61	75	149.4	7.09	150.7	7.26	40.9	6.14	43.5	5.92
19-	51	71	149.2	6.17	152.9	4.89	42.0	5.52	44.4	5.59
20-	298	475	150.7	6.09	151.9	6.29	42.7	5.36	44.5	6.60
25-	288	421	149.9	5.46	151.9	5.61	42.8	5.98	46.0	7.21
30-	203	319	149.7	5.67	151.7	6.44	42.5	6.17	45.3	7.41
35-	183	276	149.8	5.60	150.6	5.65	42.2	6.67	45.6	8.35
40-	146	184	148.1	6.62	149.1	6.48	40.7	6.90	44.9	8.69
45-	126	184	148.2	5.91	148.6	6.23	40.2	7.29	43.6	7.20
50-	83	159	147.6	5.86	148.9	6.34	40.6	7.84	45.5	8.87
55-	59	152	146.6	6.45	148.1	6.14	38.9	6.65	43.8	7.68
60 and above	147	348	146.0	5.90	146.6	5.88	38.5	7.02	40.9	7.99

STATE : KERALA SEX : FEMALES

AGE (Years) .	Number 75-79	Number 88-90	ARM CIRCUMFERENCE (cm) 1975-79 MEAN	1975-79 SD	1988-90 MEAN	1988-90 SD	FATFOLD AT TRICEPS (mm) 1975-79 MEAN	1975-79 SD	1988-90 MEAN	1988-90 SD
under 1	45	93	12.7	1.25	13.9	1.34	9.2	2.67	10.8	2.06
1-	53	92	13.1	2.09	14.4	1.13	8.1	2.78	10.4	1.73
2-	70	75	12.9	1.56	14.5	0.99	7.6	2.85	10.8	1.94
3-	81	103	13.7	1.10	15.2	0.99	8.4	2.95	11.4	2.08
4-	87	96	14.2	1.22	15.1	1.21	8.9	2.94	10.7	1.93
5-	73	65	14.4	1.31	15.2	0.94	7.6	2.60	10.2	1.91
6-	73	64	14.2	1.35	15.3	1.08	6.7	2.17	9.6	1.83
7-	81	63	14.5	1.16	15.5	1.12	6.5	2.45	9.2	2.09
8-	103	70	14.7	1.20	16.0	1.30	6.4	2.14	9.5	1.98
9-	80	69	14.9	1.41	16.5	1.34	6.4	2.80	9.8	1.95
10-	91	73	15.6	1.50	16.8	1.35	6.4	2.30	9.7	1.76
12-	55	58	16.5	1.60	17.4	1.64	7.7	2.86	9.8	2.04
13-	110	84	16.8	1.84	18.8	2.20	6.6	2.52	10.7	2.73
14-	60	74	17.7	1.92	19.9	2.19	7.3	2.52	11.5	2.67
15-	79	65	18.9	2.38	21.3	2.22	8.3	3.44	12.9	3.37
16-	61	52	19.9	2.11	21.5	2.39	9.1	3.95	12.7	3.08
17-	72	69	21.4	2.13	22.7	2.08	10.2	4.19	13.5	2.97
18-	47	56	22.1	2.17	23.4	1.88	11.4	4.48	14.6	3.32
19-	61	75	21.9	2.52	23.1	2.38	10.8	4.90	13.8	3.19
20-	51	71	22.3	2.29	23.4	2.06	10.0	4.54	13.6	3.11
25-	298	475	22.5	2.35	23.4	2.35	9.5	4.13	13.2	3.87
30-	288	421	22.4	2.35	24.4	2.70	8.7	4.08	14.2	4.40
35-	203	319	22.9	2.59	24.3	2.72	8.8	3.96	13.8	4.46
40-	183	276	22.9	2.64	24.7	3.26	8.8	4.33	14.2	5.20
45-	146	184	22.5	2.65	24.6	3.14	9.5	4.48	13.6	4.67
50-	126	184	21.9	2.77	24.1	2.66	8.7	4.96	13.3	4.52
55-	83	159	22.0	2.65	24.9	3.21	9.7	5.20	15.0	4.51
60 and	59	152	21.7	2.48	24.5	2.91	8.7	4.06	14.1	4.54
above	147	348	21.2	2.53	23.4	3.12	8.0	3.63	12.6	4.75

STATE : TAMILNADU SEX : MALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	121	166	64.9	8.49	65.7	5.85	6.5	2.00	6.8	1.53
1-	108	256	73.5	5.24	74.9	4.78	8.3	1.36	8.6	1.30
2-	105	339	80.8	5.50	83.2	5.03	9.5	1.69	10.2	1.44
3-	128	417	86.1	6.25	90.9	4.90	11.0	1.81	11.8	1.41
4-	146	631	93.9	5.42	97.7	5.38	12.6	1.64	13.3	1.64
5-	102	100	100.8	4.67	102.9	4.27	14.1	1.88	14.3	1.61
6-	98	204	105.9	6.86	106.7	5.31	15.4	2.19	15.6	1.93
7-	132	171	110.7	9.20	112.8	5.80	17.0	3.39	17.2	2.80
8-	120	168	115.2	6.52	117.8	5.22	18.1	2.34	18.8	2.29
9-	125	139	119.6	5.99	121.8	4.93	19.8	2.49	20.3	2.13
10-	140	146	124.8	6.74	125.2	6.15	21.9	3.13	21.5	2.64
11-	103	156	129.6	6.98	131.1	5.58	23.9	3.49	23.6	2.89
12-	168	191	133.6	6.36	136.3	6.87	25.4	3.47	26.2	3.76
13-	139	151	138.9	6.87	139.0	6.78	28.1	3.94	27.8	4.31
14-	81	123	145.1	8.37	144.5	7.63	32.4	6.82	31.4	5.86
15-	84	110	147.6	8.10	151.7	7.55	33.7	5.99	36.3	6.58
16-	110	135	154.4	7.46	157.0	7.66	38.3	5.67	40.6	6.05
17-	99	86	159.4	7.07	161.7	5.98	42.5	5.55	45.1	6.11
18-	77	129	160.2	6.48	162.0	5.94	43.4	5.99	45.7	5.43
19-	69	87	160.9	7.52	163.8	6.08	45.8	5.27	48.1	5.41
20-	296	289	162.5	6.82	163.8	6.66	47.5	6.16	49.5	6.26
25-	226	220	162.6	6.94	164.1	6.53	50.1	7.23	50.9	6.96
30-	174	180	162.0	7.74	163.1	6.04	49.8	8.03	50.7	7.41
35-	232	195	162.8	6.02	163.3	6.02	49.7	7.57	50.6	7.25
40-	161	125	163.2	5.74	163.4	6.64	51.7	7.82	52.0	8.63
45-	167	112	162.9	6.44	162.0	6.18	50.7	8.99	50.4	8.00
50-	102	75	162.6	4.94	164.1	6.68	51.6	8.41	52.0	9.02
55-	86	85	162.2	5.41	162.0	5.92	50.7	7.79	50.7	8.45
60 and above	152	151	161.2	6.71	161.0	6.19	48.1	8.63	48.4	8.70

STATE : TAMILNADU SEX : MALES

AGE (Years)	Number 75-79	Number 88-90	ARM CIRCUMFERENCE (can) 1975-79 MEAN	1975-79 SD	1988-90 MEAN	1988-90 SD	FATFOLD AT TRICEPS (mm) 1975-79 MEAN	1975-79 SD	1988-90 MEAN	1988-90 SD
under 1	121	166	11.7	1.33	12.6	1.47	8.9	2.23	7.7	2.02
1-	108	256	12.3	1.21	13.2	1.21	9.0	2.50	7.7	2.01
2-	105	339	12.6	1.39	13.7	1.28	8.5	2.21	8-3	1.97
3-	128	417	13.2	1.18	14.3	1.13	9.4	2.19	8.7	2.25
4-	146	631	13.4	1.12	14.4	1.10	9.0	2.39	8.1	2.11
5-	102	100	13.7	1.05	14.3	1.03	8.5	2.37	7.3	2.02
6-	98	204	13.9	1.19	14.7	1.05	7.8	2.05	7.3	1.97
7-	132	171	14.1	1.28	15.0	1.25	7.4	2.09	7.0	2.02
8-	120	168	14.1	1.15	15.2	1.07	7.2	2.02	6.6	1.81
9-	125	139	14.7	1.18	15.5	1.06	*6.6*	1.67	6.6	2.04
10-	140	146	15.2	1.39	15.9	1.20	6.7	1.87	6.2	1.73
11-	103	156	16.0	2.28	16.4	1.22	7.0	2.37	6.5	2.03
12-	168	191	16.2	1.72	17.1	1.37	6.9	2.42	6.7	2.02
13-	139	151	16.8	1.77	17.5	1.49	6.8	1.99	7.1	1.95
14-	81	123	17.8	2.49	18.6	2.00	7.2	2.37	7.3	2.47
15-	84	110	18.2	1.90	19.6	2.08	6.9	2.18	7.1	2.09
16-	110	135	19.3	1.88	20.8	2.00	7.1	2.01	7.0	1.92
17-	99	86	20.5	1.74	22.1	2.01	7.4	2.13	7.0	2.10
18-	77	129	21.1	1.92	22.5	2.19	8.0	2.44	6.8	1.97
19-	69	87	21.8	1.90	23.3	1.89	7.4	2.24	6.7	2.23
20-	296	289	22.3	1.94	24.0	1.92	6.9	2.21	6.7	2.27
25-	226	220	22.9	2.01	24.5	2.17	7.7	3.68	7.1	3.29
30-	174	180	23.0	2.46	24.8	2.35	7.9	3.90	7.1	3.06
35-	232	195	22.7	2.50	24.3	2.33	7.6	3.64	7.0	3.13
40-	161	125	23.2	2.30	24.8	2.45	8.2	4.31	7.5	3.18
45-	167	112	23.0	2.55	24.1	2.47	7.7	3.57	7.8	3.43
50-	102	75	23.5	2.52	24.7	2.85	8.6	4.59	7.5	2.88
55-	86	85	23.1	2.47	24.2	2.68	7.9	3.51	7.6	3.51
60 and above	152	151	21.9	2.59	23.2	2.93	8.1	3.61	7.4	3.49

STATE : TAMILNADU SEX : FEMALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	115	191	63.0	9.09	63.8	5.22	5.8	2.40	6.2	1.31
1-	97	209	72.1	4.36	73.1	4.09	7.7	1.12	8.1	1.26
2-	126	344	79.3	8.59	81.9	5.06	9.4	3.31	9.7	1.36
3-	142	379	85.8	5.93	89.2	4.63	10.5	1.56	11.2	1.39
4-	137	563	92.8	5.86	96.0	4.89	11.9	1.78	12.8	1.51
5-	92	99	100.2	5.42	101.5	5.33	13.6	1.77	14.1	1.90
6-	84	167	104.7	5.85	106.5	6.34	14.5	2.02	15.1	2.04
7-	108	160	109.0	6.15	110.8	4.94	16.2	2.13	16.4	1.83
8-	117	152	114.6	6.01	116.8	5.75	17.7	2.55	18.6	2.55
9-	87	147	118.9	5.48	121.7	6.05	19.5	2.78	20.2	3.06
10-	126	126	125.8	7.78	127.6	6.07	22.2	3.34	22.8	3.24
11-	92	108	129.5	6.93	131.6	7.23	23.9	3.42	24.6	3.96
12-	129	142	134.1	7.49	137.2	6.67	26.4	4.34	27.4	4.15
13-	88	103	140.1	780	142.3	6.96	30.0	5-39	31.6	4.88
14-	77	99	146.1	7.95	146.7	5.47	35.5	5.56	35.4	4.51
15-	59	65	147.1	6.10	147.7	5.75	37.4	5.15	38.4	5.17
16-	91	116	148.4	5.78	150.7	5.48	40.0	5.88	41.4	5.27
17-	64	69	150.2	4.93	151.1	5.44	41.2	4.02	42.4	5.33
18-	81	87	151.0	5.54	151.8	5.86	42.8	5.99	43.5	6.25
19-	57	57	151.9	5.96	151.6	5.10	43.4	5.01	43.8	5.48
20-	273	390	151.1	5.51	150.9	5.95	42.9	5.59	42.7	6.16
25-	302	363	150.9	5,62	151.3	5.71	42.6	6.02	43.5	6.41
30-	209	194	150.1	5.12	151.4	5.68	43.1	6.92	43.6	7.74
35-	232	183	150.4	5.31	150.5	5.16	43.8	7.78	43.5	7.90
40-	129	75	150.5	5.94	150.0	5.77	42.8	6.71	44.9	8.15
45-	127	83	150.4	5.35	150 8	5.24	44.0	7.87	45.1	8.85
50-	82	67	148.3	5.25	150.7	5.19	41.5	8.23	46.0	8.01
55-	76	58	149.4	5.73	151.3	5 83	42.2	7.37	42.4	9.33

STATE : TAMILNADU SEX : FEMALES

AGE (Years)	Number		ARM CIRCUMFERENCE (cm)				FATFOLD AT TRICEPS (mm)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	115	191	11.1	1.36	12.3	1.35	8.6	2.04	7.6	1.91
1-	97	209	11.9	1.16	12.7	1.23		2.15	7.6	2.09
2-	126	344	12.4	1.50	13.5	1.22	8.7	2.65	8.7	2.15
3-	142	379	12.9	1.24	14.1	1.18	9.4	2.60	9.0	2.17
4-	137	563	13.3	1.13	14.3	1.04	9.9	2.20	8.6	2.09
5-	92	99	13.7	1.08	14.7	1.16	9.3	2.30	8.1	2.19
6-	84	167	13.9	0.97	14.6	1.02	8.8	2.36	7.7	1.98
7-	108	160	14.2	1.04	14.9	1.07	8.2	2.45	7.4	1.92
8-	117	152	14.5	1.26	15.5	1.40	8.1	2.10	7.4	2.24
9-	87	147	14.9	1.33	15.8	1.20	7.6	2.30	7.5	2.21
10-	126	126	15.8	1.69	16.8	1.34	7.8	2.24	8.0	2.32
11-	92	108	16.0	1.33	17.0	1.37	8.1	2.27	7.6	2.14
12-	129	142	16.9	2.15	17.9	1.54	8.1	2.54	8.0	2.14
13-	88	103	17.8	2.11	18.8	1.86	8.6	2.59	9.0	2.58
14-	77	99	19.0	2.27	20.0	1.77	8.7	3.63	9.5	2.54
15-	59	65	19.9	2.30	21.2	1.95	10.2	4.08	11.0	3.76
16-	91	116	20.7	2.26	21.8	1.79	10.9	4.30	11.3	3.36
17-	64	69	21.3	2.02	22.3	1.74	12.2	3.56	11.4	3.79
18-	81	87	21.4	2.13	22.4	2.24	11.9	3.98	11.1	3.90
19-	57	57	22.0	2.24	22.5	1.60	12.3	4.14	11.8	3.65
20-	273	390	21.0	2.03	22.1	2.14	12.5	4.08	11.0	3.92
25-	302	363	21.1	2.16	22.5	2.23	11.5	4.42	11.0	3.99
30-	209	194	21.5	2.33	22.8	2.54	11.1	4.96	11.2	4.27
35-	232	183	21.8	2.53	22.8	2.89	11.4	4.98	11.4	4.74
40-	129	75	21.6	2.03	23.2	2.81	11.9	4.37	11.8	3.95
45-	127	83	22.2	2.64	23.4	3.05	11.5	4.62	12.5	5.23
50-	82	67	21.3	2.97	23.7	2.84	12.2	5.11	12.2	4.20
55-	76	58	21.3	2.30	22.6	3.25	11.8	4.71	10.6	5.11
50 and above	137	84	20 5	2 54	22 3	2 88	11.7 9.9	4.38	10.6	4.64

STATE : KARNATAKA SEX : MALES

AGE (Years)	Number 75-79	Number 88-90	HEIGHT(cm) 75-79 MEAN	HEIGHT(cm) 75-79 SD	HEIGHT(cm) 88-90 MEAN	HEIGHT(cm) 88-90 SD	WEIGHT (Kg) 75-79 MEAN	WEIGHT (Kg) 75-79 SD	WEIGHT (Kg) 88-90 MEAN	WEIGHT (Kg) 88-90 SD
under 1	114	121	62.7	5.39	63.0	6.10	6.3	1.38	6.3	1.55
1-	101	200	72.7	4.26	73.8	4.18	8.0	1.27	8.0	1.29
2-	84	225	80.7	5.50	82.2	5.45	9.5	1.56	9.9	1.35
3-	139	208	86.5	5.19	89.1	5.61	10.8	1.50	11.3	1.40
4-	152	264	94.1	5.77	95.8	5.37	12.4	1.59	12.7	1.38
5-	85	169	100.4	6.84	102.1	7.13	13.8	1.84	14.3	3.21
6-	126	128	106.9	6.82	106.4	5.51	15.4	2.25	15.0	1.76
7-	100	147	113.1	6.28	113.2	6.20	17.1	2.20	17.3	2.17
8-	128	144	118.6	8.75	118.7	5.59	18.9	2.82	18.9	2.16
9-	73	120	122.6	7.86	124.8	5.75	20.4	3.50	21.1	2.73
10-	129	141	126.1	7.34	128.0	7.47	22.1	3.45	22.3	2.97
11-	74	93	132.2	7.75	132.0	8.89	24.4	3.33	24.4	3.61
12-	155	183	136.4	7.50	136.8	6.81	26.8	4.03	26.3	3.85
13-	79	145	141.5	7.39	142.6	6.95	28.8	3.99	29.8	3.98
14-	88	129	146.8	9.92	148.4	8.15	33.1	6.79	33.8	5.98
15-	56	93	152.5	9.57	155.7	7.57	36.6	6.94	39.3	5.57
16-	95	110	157.3	7.82	158.8	8.34	40.3	6.62	42.1	5.81
17-	56	90	159.7	7.74	160.5	6.90	42.6	6.43	44.3	5.51
18-	110	177	163.0	6.15	163.1	6.06	46.1	5.42	46.3	5.24
19-	36	79	163.4	6.71	163.9	5.69	48.0	4.48	47.6	5.29
20-	204	178	164.6	6.54	164.9	6.82	48.7	5.99	49.6	5.43
25-	152	211	164.6	5.30	164.2	6.06	49.5	5.76	50.4	6.59
30-	152	251	164.5	6.48	163.0	6.21	49.6	6.88	50.0	6.71
35-	209	229	164.2	6.06	164.1	6.77	50.1	6.57	50.9	6.94
40-	163	124	163.7	5.97	162.8	8.46	48.7	5.98	49.7	7.63
45-	132	103	163.9	6.72	163.1	6.00	49.4	7.30	49.5	7.66
50-	92	64	163.7	6.19	162.3	6.40	49.1	7.63	51.1	7.58
55-	86	63	162.7	7.01	163.8	5.19	46.4	6.95	52.0	7.79
60 and above	166	146	162.5	6.23	162.3	6.43	46.5	8.69	49.2	8.78

NNMB : MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : KARNATAKA SEX : MALES

AGE (Years)	Number 75-79	Number 88-90	ARM CIRCUMFERENCE(cm) 75-79 MEAN	75-79 SD	88-90 MEAN	88-90 SD	FATFOLD AT TRICEPS(mm) 75-79 MEAN	75-79 SD	88-90 MEAN	88-90 SD
under 1	114	121	12.6	1.35	12.5	1.36	8.6	2.42	7.3	1.78
1-	101	200	13.1	1.34	12.9	1.14	7.7	2.38	6.7	1.48
2-	84	225	13.4	1.58	13.5	1.10	8.3	2.31	7.4	1.69
3-	139	208	13.9	1.15	13.9	0.90	8.6	2.02	7.3	1.47
4-	152	264	14.2	1.08	14.2	0.91	8.2	2.00	7.1	1.62
5-	85	169	14.2	1.22	14.3	1.25	7.2	2.05	6.4	1.44
6-	126	128	14.3	0.97	14.4	0.94	6.7	1.63	5.7	1.36
7-	100	147	14.7	1.01	14.9	1.05	5.9	1.89	5.4	1.17
8-	128	144	15.1	0.98	15.3	1.15	5.7	1.59	5.2	1.18
9-	73	120	15.6	1.39	15.8	1.15	5.5	1.63	4.8	1.36
10-	129	141	15.9	1.34	16.2	1.23	5.6	1.36	5.0	1.24
11-	74	93	16.7	1.24	16.6	1.29	5.7	1.83	5.0	1.36
12-	155	183	17.3	1.45	17.3	1.38	5.8	1.63	5.0	1.38
13-	79	145	17.8	1.73	18.2	1.50	5.2	1.41	5.1	1.47
14-	88	129	18.9	1.89	19.2	1.66	5.4	1.88	4.9	1.21
15-	56	93	19.5	2.07	20.8	1.66	5.2	1.44	4.8	1.12
16-	95	110	20.8	2.13	21.4	2.11	5.1	1.40	4.7	1.09
17-	56	90	21.5	2.18	22.4	1.88	5.1	1.34	4.7	1.32
18-	110	177	22.8	1.90	22.9	1.82	5.1	1.31	4.5	1.32
19-	36	79	23.6	1.45	23.6	1.83	5.8	2.35	4.6	1.19
20-	204	178	23.7	2.01	24.2	1.84	5.4	1.92	4.8	1.58
25-	152	211	24.3	1.88	24.8	2.07	5.5	2.51	4.9	1.98
30-	152	251	24.2	2.09	24.6	2.21	5.5	3.02	5.2	2.55
35-	209	229	24.4	2.10	24.8	1.94	5.7	2.98	5.1	2.12
40-	163	124	24.0	2.19	24.2	2.33	5.4	2.44	5.2	2.05
45-	132	103	23.9	2.41	24.2	2.53	6.1	3.63	5.3	2.17
50-	92	64	23.6	2.33	24.7	2.36	6.3	3.08	5.8	2.55
55-	86	63	22.9	2.38	24.5	2.43	5.6	2.52	5.7	2.33
60 and above	166	146	22.6	3.01	23.3	2.73	6.8	3.60	6.0	2.37

NNMB : MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : KARNATAKA SEX : FEMALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			75-79		88-90		75-79		88-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	101	120	61.9	4.77	62.2	5.83	5.9	1.18	5.9	1.35
1-	93	173	70.3	5.23	72.9	4.81	7.3	1.30	7.6	1.21
2-	92	203	78.7	4.84	80.4	4.57	8.9	1.30	9.3	1.29
3-	119	229	85.5	6.19	87.5	5.74	10.4	1.62	11.0	1.48
4-	108	221	93.4	6.55	94.8	5.41	12.1	1.79	12.4	1.41
5-	92	143	99.2	6.77	100.5	5.51	13.4	1.74	13.8	1.69
6-	118	146	103.9	7.41	106.3	7.25	14.7	2.20	15.2	3.83
7-	95	133	111.7	6.59	111.7	7.03	16.8	2.28	16.5	2.21
8-	106	152	117.5	7.44	117.6	7.36	18.6	2.91	18.4	2.36
9-	92	122	121.7	7.66	122.5	6.76	20.1	3.11	20.5	2.87
10-	122	118	128.0	7.91	127.0	8.64	22.9	4.32	22.4	3.59
11-	65	63	134.6	7.53	131.5	6.03	25.2	4.15	24.0	3.29
12-	114	97	137.1	8.69	138.4	9.21	27.8	5.48	28.9	5.84
13-	78	70	143.7	7.62	145.9	7.13	32.1	5.42	33.0	4.68
14-	70	77	146.0	6.59	147.7	5.94	34.9	5.84	36.1	5.21
15-	60	38	148.2	5.48	148.3	4.33	38.3	4.98	40.1	5.13
16-	79	64	151.2	5.70	152.3	5.47	42.3	5.70	42.2	6.26
17-	31	32	151.1	3.97	153.0	6.49	41.0	4.59	43.1	6.39
18-	87	76	151.8	5.99	151.6	6.12	41.9	4.96	41.7	5.75
19-	5	26	147.3	4.66	152.4	7.71	39.1	7.27	45.0	9.25
20-	215	306	151.2	7.66	151.4	6.82	41.9	5.77	42.8	6.39
25-	261	377	151.8	5.31	151.6	5.50	42.6	6.04	42.5	5.96
30-	204	195	151.8	5.31	151.7	5.33	42.7	6.02	42.9	6.16
35-	195	140	152.3	5.84	150.8	5.43	41.8	5.72	43.8	7.14
40-	103	83	151.6	6.26	152.6	5.95	42.0	7.06	43.9	7.10
45-	87	79	151.0	5.61	151.5	5.86	41.4	6.64	43.5	8.26
50-	85	71	150.2	5.20	151.2	5.54	41.0	6.29	45.6	8.79
55-	59	78	150.0	5.53	149.8	6.23	40.8	7.49	42.2	7.82
60 and above	134	132	148.2	6.41	148.4	5.78	38.4	6.98	40.6	8.38

NNMB : MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : KARNATAKA SEX : FEMALES

AGE (Years)	Number		ARM CIRCUMFERENCE (cm)				FATFOLD AT TRICEPS (mm)			
			75-79		88-90		75-79		88-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	101	120	12.3	1.24	12.2	1.25	8.6	2.49	7.1	1.68
1-	93	173	12.6	1.22	12.6	1.24	8.2	2.50	6.7	1.70
2-	92	203	13.3	1.34	13.2	1.18	8.8	2.32	7.7	1.77
3-	119	229	13.8	1.19	13.9	1.04	9.1	2.07	8.0	1.73
4-	108	221	14.2	1.10	14.2	0.91	8.8	2.14	7.7	1.68
5-	92	143	14.5	0.96	14.6	1.02	8.5	1.98	7.3	1.92
6-	118	146	14.6	1.19	14.7	1.32	7.9	2.14	6.5	1.50
7-	95	133	15.0	1.01	15.0	1.02	7.3	2.04	6.1	1.63
8-	106	152	15.4	1.41	15.5	1.12	7.2	2.08	5.8	1.32
9-	92	122	15.9	1.37	16.2	1.21	7.0	1.85	6.1	1.64
10-	122	118	16.7	1.60	16.6	1.33	6.8	2.10	5.6	1.39
11-	65	63	17.0	1.71	17.0	1.25	6.5	2.04	5.6	1.23
12-	114	97	17.9	1.77	18.5	1.84	7.1	2.21	6.2	1.65
13-	78	70	19.2	1.96	19.4	1.45	7.7	2.18	6.3	1.42
14-	70	77	20.3	2.16	20.4	1.90	8.5	2.65	6.9	2.15
15-	60	38	21.5	2.01	22.1	1.87	10.2	3.61	8.2	2.68
16-	79	64	22.6	2.28	22.1	2.02	11.3	4.23	8.1	2.74
17-	31	32	22.4	1.67	22.5	1.76	9.6	3.05	8.2	2.63
18-	87	76	22.4	1.90	22.5	2.19	9.5	3.91	7.3	2.50
19-	5	26	22.8	2.42	23.0	2.72	10.4	6.35	7.8	3.59
20-	215	306	22.2	2.28	22.3	2.04	8.9	3.42	6.8	2.59
25-	261	377	22.6	2.26	22.4	1.91	8.9	3.56	6.8	2.71
30-	204	195	22.9	2.38	22.7	2.09	8.9	3.83	6.8	3.15
35-	195	140	22.5	2.03	23.4	2.47	8.6	3.78	7.8	4.18
40-	103	83	22.7	2.55	23.0	2.61	8.9	4.12	7.2	3.94
45-	87	79	22.6	2.83	23.1	2.89	9.1	3.95	8.1	4.08
50-	85	71	22.4	2.84	24.0	3.15	9.2	4.56	9.2	4.65
55-	59	78	22.6	3.21	22.7	2.88	9.5	4.78	8.1	4.01
60 and above	134	132	21.4	2.98	22.0	3.29	7.8	3.85	6.7	3.34

STATE : ANDHRA PRADESH SEX : MALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	71	149	65.8	5.46	64.3	6.51	6.2	1.31	6.8	1.64
1-	61	213	73.4	5.24	74.5	4.65	7.7	1.54	8.4	1.39
2-	67	279	79.4	4.85	81.8	5.17	9.2	1.63	10.0	1.38
3-	98	310	85.9	5.55	88.8	5.80	10.8	1.59	11.3	1.59
4-	113	419	92.9	6.27	96.4	5.68	12.3	1.67	13.1	1.58
5-	88	245	99.8	7.00	102.5	5.59	13.9	2.31	14.4	1.72
0—	69	200	105.3	7.06	107.9	6.09	15.2	2.08	15.8	1.90
7-	104	191	111.4	7.48	113.7	5.79	16.9	2.50	17.4	2.19
9-	319	177	116.8	7.68	118.8	5.19	18.7	3.03	19.1	2.19
10-	94	143	120.8	6.81	123.5	5.32	20.1	2.63	20.6	2.26
11-	99	176	126.6	7.30	128.7	6.41	22.9	4.65	23.0	3.23
12-	64	161	129.8	7.49	133.2	6.35	23.0	3.13	24.8	3.51
13-	108	184	135.4	8.20	136.7	8.54	26.2	4.43	26.6	4.08
14-	75	126	140.0	6.14	143.0	7.80	28.7	3.65	30.3	5.24
15-	87	126	145.6	7.67	148.3	8.50	32.1	4.76	34.0	5.93
16-	69	98	149.7	8.27	155.0	8.82	34.6	5.83	38.8	6.39
17-	79	124	157.5	7.62	158.1	7.06	41.1	5.74	42.3	6.44
18-	55	56	159.6	5.69	161.7	5.77	42.1	4.61	45.8	6.23
19-	67	108	160.6	6.40	161.8	5.83	44.8	6.60	47.4	5.45
20-	48	62	161.9	6.49	162.1	8.95	46.2	5.22	46.4	6.98
25-	189	279	163.4	6.57	163.9	5.90	48.5	5.51	50.2	6.00
30-	154	258	164.0	6.51	164.0	5.79	50.1	6.94	50.8	5.99
35-	152	249	163.1	6.33	163.4	6.73	49.8	6.60	51.3	7.60
40-	160	205	162.7	7.05	163.1	6.30	51.0	8.58	51.2	7.98
45-	127	148	162.5	6.16	163.9	6.63	49.7	7.32	52.5	9.01
50-	107	126	162.6	5.67	163.3	6.33	49.8	7.11	50.3	7.73
55-	69	93	164.0	6.24	163.7	5.68	50.4	8.36	50.8	7.87
60 and above	55 101	69 166	161.8 162.9	5.75 7.60	163.0 161.5	9.98 6.65	47.9 47.2	7.91 7.95	50.0 46.7	9.39 8.46

NNMB : MEAN AOTHROPOMETRIC MEASUREMENTS

STATE : ANDHRA PRADESH SEX : MALES

AGE (Years)	Number		ARM CIRCUMFERENCE(cm)				FATFOLD AT TRICEPS (mm)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	71	149	12.6	1.66	12.6	1.31	6.5	1.65	10.4	2.38
1-	61	213	12.8	2.14	13.2	1.17	6.4	1.65	9.2	2.36
2-	67	279	13.5	1.72	13.7	1.11	7.0	1.50	9.9	2.59
3-	98	310	13.7	1.11	14.1	1.16	7.2	1.63	9.5	2.32
4-	113	419	13.8	1.16	14.3	0.94	6.8	1.64	8.5	2.12
5-	88	245	14.0	1.17	14.4	1.11	6.1	1.57	7.6	1.70
6-	69	200	14.4	1.01	14.4	1.03	6.2	1.86	7.2	1.88
7-	104	191	14.6	1.09	14.7	0,93	5.7	2.02	*6.6*	1.45
8-	119	177	14.9	1.13	15.1	1.07	5.1	1.47	6.5	1.49
9-	94	143	15.4	1.12	15.5	1.01	5.1	1.79	6.4	1.65
10-	99	176	16.3	1.68	16.3	1.49	5.1	1.43	6.8	1.95
11-	64	161	16.0	1.26	16.7	1.77	5.0	1.35	6.6	1.92
12- .	108	184	16.9	1.55	17.1	1.50	5.2	1.56	6.6	1.57
13-	75	126	17.6	1.72	18.1	1.99	5.7	1.87	6.8	1.91
14-	87	126	18.5	1.83	19.1	1.96	5.3	1.91	7.4	2.78
15-	69	98	19.3	1.79	20.4	2.03	5.7	1.70	6.7	2.01
16-	7*)	124	20.9	1.73	21.6	2.20	5.1	1.64	6.7	1.91
17-	55	56	21.4	1.78	22.7	2.46	5.1	1.42	7.8	2.84
18-	67	108	22.3	2.63	23.5	1.78	5.2	1.19	7.9	2.45
19-	48	62	22.8	2.27	23.3	2.19	5.4	1.46	6.9	1.93
20-	189	279	23.4	2.04	24.5	1.98	5.4	1.92	7.9	3.31
25-	154	258	24.0	2.44	24.8	1.92	5.5	2.14	7.8	3.66
30-	152	249	23.9	2.15	25.3	2.19	5.4	2.43	8.1	4.35
35-	160	205	24.2	2.46	25.0	2.30	5.9	2.94	8.0	3.90
40-	127	148	23.8	2.29	25.1	2.75	5.6	2.32	8.7	4.34
45-	107	126	23.5	2.17	24.5	2.76	5.5	2.25	8.1	3.90
50-	69	93	23.4	2.42	24.3	2.52	6.1	2.64	8.3	4.09
55-	55	69	22.7	2.22	23.7	2.95	5.6	2.36	8.2	3.72
60 and above	101	166	22.1	2.34	22.6	2.83	5.4	2.01	7.9	3.76

STATE : ANDHRA PRADESH SEX : FEMALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	56	129	65.4	3.85	62.6	5.55	6.1	1.05	6.1	1.42
1-	72	246	72.9	3.70	72.5	5.03	7.3	1.27	8.0	1.49
2-	56,	232	78.7	4.79	80.8	4.74	8.9	1.23	9.6	1.39
3-	85	323	85.1	6.09	87.4	5.39	10.4	1.89	11.0	1.64
4-	95	366	92.8	6.97	95.2	5.70	12.3	1.81	12.5	1.63
5-	74	205	100.3	5.85	101.3	4.88	14.1	1.65	13.9	1.81
6-	80	188	105.0	6.43	106.0	6.61	14.9	2.27	15.1	2.22
7-	99	203	110.4	6.93	112.5	6.51	16.3	2.26	17.0	2.32
8-	104	178	115.8	8.05	118.3	6.14	18.1	3.77	18.9	2.41
9-	80	144	122.1	6.84	124.0	6.98	20.1	2.78	20.9	3.03
10-	100	144	127.3	6.95	129.1	6.66	22.7	3.21	23.5	4.14
11-	43	113	132.3	10.70	134.0	7.05	25.1	5.43	26.1	4.27
12-	76	135	137.1	7.18	139.4	7.06	27.9	5.71	29.0	4.61
13-	50	83	143.0	6.89	145.0	7.13	32.2	5.42	33.6	4.83
14-	54	91	146.7	5.42	147.9	7.36	36.1	6.41	35.7	5.46
15-	40	68	151.0	5.74	151.2	5.51	40.5	5.51	39.0	4.45
16-	56	70	150.2	5.58	151.5	5.00	40.2	5.22	40.9	5.12
17-	20	44	152.3	4.99	151.6	7.30	42.8	5.03	41.5	6.32
18-	72	97	151.0	5.76	151.7	5.84	42.0	5.04	41.4	6.19
19-	20	43	149.6	5.66	152.9	6.98	41.7	6.04	44.1	5.25
20-	177	327	151.5	6.47	151.4	5.34	42.7	6.07	42.3	6.21
25-	203	428	151.6	6.25	151.6	5.68	42.7	6.14	42.5	5.95
30-	164	235	150.5	6.52	151.2	6.03	42.0	6.34	42.4	6.63
35-	152	217	150.5	5.81	151.7	5.44	43.0	7.37	42.9	6.26
40-	88	115	150.6	5.21	151.1	5.69	41.7	5.78	42.3	7.07
45-	99	123	151.0	5.78	151.1	5.78	43.0	7.22	43.7	7.55
50-	40	93	151.7	4.51	150.3	5.05	42.9	7.76	43.9	8.64
55-	58	68	152.6	5.62	150.5	5.49	42.9	8.46	42.9	7.06
60 and above	78	172	148.0	6.73	148.5	6.94	40.4	8.41	40.7	8.00

STATE : ANDHRA PRADESH SEX : FEMALES

AGE (Years)	Number		ARM CIRCUMFERENCE (cm)				FATFOLD AT TRICEPS (mm)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	56	129	12.6	1.27	12.2	1.16	7.1	2.04	10.1	2.41
1-	72	246	12.7	1.78	12.8	1.17	6.6	1.91	9.5	2.41
2-	56	232	13.3	1.17	13.4	1.05	7.2	1.50	10.1	2.31
3-	85	323	13.5	1.13	14.1	1.46	7.5	1.97	10.3	2.26
4-	95	366	14.2	1.25	14.3	1.31	7.5	2.01	9.6	2.26
5-	74	205	14.4	1.11	14.4	1.01	7.3	2.21	8.8	2.26
6-	80	188	14.5	1.09	14.5	1.11	6.4	1.86	8.2	2.11
7-	99	203	14.5	1.11	14.9	1.04	5.9	1.62	7.8	1.84
8-	104	178	15.3	1.29	15.4	1.03	5.7	1.66	7.4	1.88
9-	80	144	15.8	1.30	16.0	1.31	5.8	1.27	7.6	2.03
10-	100	144	16.5	1.66	16.9	1.86	6.5	1.96	8.1	2.53
11-	43	113	17.1	2.10	17.4	1.52	6.4	1.90	8.7	2.54
12-	76	135	18.3	2.15	18.2	1.60	6.9	2.40	8.5	2.53
13-	50	83	19.4	2.13	19.6	2.15	7.5	2.26	9.9	2.95
14-	54	91	20.5	2.60	20.2	1.96	8.0	2.89	10.6	3.47
15-	40	68	21.9	1.99	21.1	1.72	8.7	2.63	11.7	3.97
16-	56	70	21.8	2.37	22.0	1.60	9.1	3.19	13.1	3.72
17-	20	44	22.2	2,57	21.8	1.87	9.9	3.36	12.6	3.71
18-	72	97	22.0	2.46	21.9	2.27	8.9	3.27	11.8	3.57
19-	20	43	22.5	1.99	22.6	1.56	9.1	3.79	12.0	4.01
20-	177	327	22.3	2.23	22.3	1.97	8.3	3.18	11.6	4.15
25-	203	428	22.3	2.26	22.6	2.06	7.9	3.17	11.7	4.38
30-	164	235	22.4	2.49	22.7	2.21	7.9	3.58	11.7	4.84
35-	152	217	22.8	2.89	22.8	2.20	8.0	3.85	11.7	4.93
40-	88	115	22.4	2.54	23.0	2.87	7.5	3.30	12.0	5.33
45-	99	123	22.7	2.88	23.1	2.61	8.2	3.78	12.0	5.26
50-	40	93	22.6	2.93	23.5	2.94	8.3	4.10	12.9	5.47
55-	58	68	22.3	3.07	23.1	2.84	7.9	4.49	12.5	4.88
60 and above	78	172	21.7	2.96	22.0	2.98	6.6	3.20	10.6	5.00

STATE : MAHARASHTRA SEX : MALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	100	130	62.8	6.49	65.1	5.00	6.1	1.63	6.9	1.35
1-	63	129	71.8	4.70	73.7	3.93	8.0	1.22	8.5	1.22
2-	85	177	78.1	4.82	80.9	5.36	9.1	1.38	10.0	1.59
3-	87	179	84.8	6.36	88.0	5.25	10.7	1,67	11.4	1.28
4-	116	287	90 3	5 99	95.8	6.43	11.8	1.74	12.7	1.63
5-	80	86	97.9	5.24	102.2	5.14	13.4	1.71	14.2	1.64
6-	82	182	103.3	6.08	106.0	7.30	14.5	1.94	15.2	2.13
7-	97	134	110.6	7.20	111.5	7.95	16.3	1.74	17.1	4.34
8-	111	157	115.2	6.28	117.5	5.48	18.2	3 57	18.6	2.33
9-	76	123	120.8	5.83	121.8	6.48	19.7	2.54	19.8	2.66
10-	97	164	125.5	7.56	126.1	6.87	21.7	3.58	21.6	2.91
11-	69	109	130.7	6.26	131.1	6.81	23.5	2.87	23.5	3.11
12-	99	144	134.0	7.66	136.6	7.09	25.3	4.05	26.3	3.94
13-	87	113	139.8	9.00	142.6	7.23	28.7	4.74	29.6	4.71
14-	90	123	145.3	9.00	149.7	7.26	32.4	6.21	34.4	5.74
15-	55	107	152.3	7.51	153.9	6.86	36.3	4.93	37.7	5.64
16-	70	97	156.4	9.04	157.3	6.29	39.8	6.95	41.0	5.23
17-	78	113	158.7	5.79	160.6	6.87	41.4	5.45	45.1	5.57
18-	87	102	159.9	6.23	161.1	6.91	45.1	5.25	46.1	5.43
19-	67	93	162.7	6.86	163.9	5.00	46.5	5.03	48.1	4.99
20-	170	209	162.8	6.63	162.1	6.12	48.0	6.15	48.6	5.96
25-	126	205	162.3	6.70	162.7	5.86	49.2	7.04	48.8	6.63
30-	124	219	163.3	6.36	162.3	5.81	49.6	6.44	49.8	7.56
35-	179	165	162.0	6.73	162.5	6.16	49.7	7.67	49.5	7.43
40-	106	140	161.7	6.61	162.2	5.54	47.9	6.85	50.0	8.23
45-	112	79	162.2	6.75	161.4	6.51	47.6	7.49	51.0	8.36
50-	77	68	162.2	5.65	160.8	7.14	47.5	6.51	49.1	8.34
55-	54	57	161.3	5.63	162.3	5.79	49.9	7.48	48.1	7.73
60 and above	• 120	86	160.4	7.54	160.5	6.09	47.1	7.56	47.7	8.14

NNMB : MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : MAHARASHTRA SEX : MALES

AGE (Years)	Number		ARM CIRCUMFERENCE (cm)				FATFOLD AT TRICEPS (mm)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	100	130	12.5	1.57	13 6	1.98	9 4	2 35	8.2	1.65
1-	63	129	12.7	1 36	13.9	1.28	9.0	2.30	7 8	1.58
2-	85	177	13.3	1.17	14.1	1.23	9.1	2.07	7.7	1.55
3-	87	179	13.6	1.10	14.6	1.06	9.2	2.12	7.7	1.62
4-	116	287	13.8	1.03	14.7	1.04	8.4	2.59	7.3	1.33
5-	80	86	14.0	1.30	14.7	1.03	8.2	2.07	7 0	1.23
6-	82	182	13.8	1.08	14 7	0.99	7.1	2.42	6.6	1.25
7-	97	134	14.3	0.85	15.0	0.93	6.7	2.31	6.5	1.12
8-	111	157	14.5	1.14	15.5	1.11	6.0	2.12	6.5	1.13
9-	76	123	15.2	1.44	15.6	1.17	5.9	2.09	6.1	1.04
10-	97	164	15.6	1.34	16.2	1.57	6.2	2.13	6.3	1.10
11-	69	109	16.2	2.13	16 8	1.86	6.5	2.47	6.4	1.19
12-	99	144	16.6	1.68	17.5	1.61	5.7	1.98	6.3	1.71
13-	87	113	17.2	1.40	18.2	1.65	5.9	2.01	6.2	1.14
14-	90	123	18.2	2.33	19.6	1.96	6.0	2.37	6.2	1.32
15-	55	107	19.3	1.59	20.5	1.90	6.3	2.30	6.0	1.15
16-	70	97	20.2	2.09	21.6	1.96	6.3	2 54	6.0	1.09
17-	78	113	21.0	2.48	22.7	2.04	5.9	1.94	6.4	1.85
18-	87	102	22.1	2.39	23.3	1.96	5.7	2 06	6.4	1.38
19-	67	93	22.6	1.82	23.4	1.94	6.1	2.31	5.9	1.30
20-	170	209	23.3	2.16	24.4	2 07	6.3	2.54	6.2	1.60
25-	126	205	23.7	2.37	24.4	2.18	6 9	3.66	6.2	1.90
30-	124	219	23.5	2.34	24.9	2 59	7.1	3.47	6.6	2.22
35-	179	165	23.8	2.62	24.5	2.21	7.9	4.27	6.2	1.95
40-	106	140	23.3	3.08	24.6	2 33	7.0	3.51	6.4	1.84
45-	112	79	22.9	2.25	24.7	2.52	6.4	2.78	7.2	2.89
50-	77	68	23.1	1.88	24.6	2.39	7.2	3.52	7.0	2.10
55-	54	57	23.8	1.94	23.5	2.61	7.9	4.66	6.6	2.24
60 and above	120	86	22.4	2 63	23.1	2.83	7.2	3.59	6.5	2.45

STATE : MAHARASHTRA SEX : FEMALES

AGE (Years)	Number		HEIGHT (cm)				WEIGHT (Kg)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	88	112	62.3	5.06	63.0	5.13	5 9	1.37	6.5	1.63
1-	40	105	70.5	4.84	72.0	4.72	7.2	1.30	8.0	1.45
2-	55	161	76.9	5.61	79.5	5.30	8.7	1.64	9.6	1.48
3-	90	205	82.6	6.84	86.9	5.79	10.0	1.49	11.1	1.38
4-	91	257	90.2	6.66	94.9	6.42	11.6	2.00	12.6	1.75
5-	53	80	97.1	5.21	100.6	5.33	13.0	1.43	13.6	1.83
6-	79	156	102.3	6.63	105.4	6.11	14.3	1.98	15.0	1.98
7-	98	172	109.5	8.27	111.5	5.88	16.3	2.80	16.6	2.20
8-	86	154	115.3	8.58	115.8	6.07	17.7	2.67	18.1	2.58
9-	65	120	119.7	6.35	121.5	5.95	19.3	2.83	19.8	2.51
10-	90	126	124.7	7.47	127.4	6.94	21.5	3.98	22.4	3.33
11-	49	90	131.0	8.12	130.9	9.23	23.5	3.12	24.1	4.19
12-	88	125	134.8	7.48	137.2	7.31	26.5	4.27	27.4	4.66
13-	51	105	141.7	7.69	141.6	7.16	30.8	5.22	30.4	5.54
14-	60	107	145.6	7.79	144.8	6.07	35.3	6.52	33.4	5.19
15-	38	87	145.7	4.93	148.1	5.56	38.2	6.19	38.2	5.44
16-	65	96	149.6	6.01	149.8	5.01	39.3	4.43	39.9	4.24
17-	35	62	149.8	6.35	148.8	5.74	39.5	4.92	39.6	5.10
18-	57	60	151.0	6.15	148.6	5.61	42.5	5.61	41.0	4.95
19-	27	36	150.0	5.49	148.8	7.44	42.7	5.25	40.1	6.35
20-	172	315	150.3	5.82	149.7	5.94	41.3	5.15	41.3	5.50
25-	168	345	150.6	5.66	149.9	5.15	41.6	5.63	41.5	5.69
30-	185	242	150.1	6.64	149.9	5.16	40.9	6.28	40.8	5.87
35-	124	150	150.0	5.62	149.2	5.51	41.1	6.55	41.5	6.60
40-	114	84	149.1	6.07	149.5	5.96	39.6	5.38	41.5	8.04
45-	94	81	148.6	5.57	148.5	5 26	39.0	5.87	40.6	7.39
50-	73	93	148.0	5.55	148.2	5.95	39.1	5.82	40.8	7.97
55-	49	36	147.7	6.59	148.9	5,05	40.4	7.22	41.5	7.27
60 and above	113	57	147.1	5.64	146.9	6 26	38.1	6.94	39.7	6.65

NNMB : MEAN ANTHROPOMETRIC MEASUREMENTS 90

STATE : MAHARASHTRA SEX : FEMALES

AGE (Years)	Number		ARM CIRCUMFERENCE (an)				FATFOLD AT TRICEPS (mm)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	88	112	12.3	1 42	13 0	1.29	9 3	2.68	8.1	1.61
1-	40	105	12.5	1 41	13.4	1.25	8 8	2.48	7.7	1.38
2-	55	161	12 9	1.41	14 0	1.07	9.3	2.33	8.0	1.73
3-	90	205	13.3	1.33	14.6	1.11	9.3	2.62	7.9	1.90
4-	91	257	13 6	1.26	14.8	1.12	9.5	2.57	7.7	1.70
5-	53	80	14.4	1.38	14.7	1.09	9.3	2.10	7.4	1.36
6-	79	156	14 3	1.08	15 1	1.06	8.1	2.52	7.2	1.31
7-	98	172	14 8	1.53	15.1	0.99	7.7	2.35	6.8	1.10
8-	86	154	14 8	1.60	15.6	1,27	7 2	2.32	6.7	1.22
9-	65	120	15 5	2.00	16.0	1.19	7.2	2.47	6.9	1.18
10-	90	126	16.1	1.96	16.8	1.71	7.4	2.35	6.7	1.39
11-	49	90	16.7	2.33	17.3	1.94	6.8	2.21	7.1	1.38
12-	88	125	17.1	1.64	18.1	1.78	7.9	2.61	7.3	1.50
13-	51	105	18 5	1.46	19.1	2.21	8.2	2.85	7.6	2.02
14-	60	107	19.8	2.46	20.2	2.21	9.5	2.92	8.0	2.22
15-	38	87	20.9	2.17	21.7	2.01	10.8	4.41	8.6	2.47
16-	65	96	21.0	1.71	22.4	1.91	10.9	3.63	9.0	2.68
17-	35	62	21.8	1.88	22.4	1.94	11.6	4.18	9.1	3.51
18-	57	60	22.4	2.53	22.7	1.83	12.8	4.20	9.4	3.76
19-	27	36	22.3	2.10	21.6	2.51	13.0	4.21	8.8	2.80
20-	172	315	21.9	2.54	22.7	2.04	10.6	3.67	8.4	2.49
25-	168	345	22.1	2.48	22.8	2.12	10.5	3.94	8.7	2.74
30-	185	242	22.0	2.64	22.7	2.28	10.2	4.27	8.3	2.76
35-	124	150	22.2	2.23	23.0	2.54	10.4	4.16	8.7	3.18
40-	114	84	22.1	2.66	23.2	2.58	10.0	4.68	9.6	3.70
45-	94	81	21.8	2.83	23.2	3.20	9.8	4.77	9.1	3.55
50-	73	93	21.9	2.43	23.2	2.92	10.8	4.48	9.3	3.56
55-	49	36	22.3	3.70	22.6	2.65	12.3	5.98	8.5	3.51
60 and above	113	57	21.4	2.77	22.0	2.57	9.7	5.14	8.5	3.09

NNMB : MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : GUJARAT SEX : MALES

AGE (Years)	Number 75-79	Number 88-90	HEIGHT(cm) 75-79 MEAN	HEIGHT(cm) 75-79 SD	HEIGHT(cm) 88-90 MEAN	HEIGHT(cm) 88-90 SD	WEIGHT (Kg) 75-79 MEAN	WEIGHT (Kg) 75-79 SD	WEIGHT (Kg) 88 90 MEAN	WEIGHT (Kg) 88 90 SD
under 1	85	129	63.4	5.23	63.8	5.56	6 0	1 18	6.3	1.50
1-	65	134	73.0	5.10	72.6	5.25	8.1	1.55	7.9	1.54
2-	85	110	79.9	4.17	80.5	5.30	9.6	1.30	9.5	1.52
3-	71	129	85.5	5.12	88.8	5.99	10.7	1.45	112	1.43
4-	107	143	93.6	5.17	95.4	6.73	12 4	1 47	12.5	1.66
5-	45	123	99.4	5.35	101.2	5.28	13.5	1.72	13.9	1.86
6-	51	126	104.7	4.65	107.1	6.69	14 7	1 57	15.3	2.14
7-	80	131	110.1	5.43	112.5	4.94	16.1	1.68	16.8	2.00
8-	77	115	114.3	5.35	117.8	7.13	17 5	2.50	18.4	2.48
9-	53	87	118.6	6.46	123.0	6.10	18.4	2.32	20.1	2.63
10-	89	97	123.1	6.01	127.6	5 79	20 5	2.53	22.2	3.10
11-	48	95	128.4	6.15	132.0	6.12	22 8	3.02	23.6	3.37
12-	90	97	131.7	6.48	134.5	6.70	24 3	3 23	25.7	4.34
13-	86	130	136.4	5.82	140.9	5 88	26.0	3 37	28.2	4.00
14-	75	100	141.9	6.87	146.2	6.74	29 0	4 16	32.0	4.78
15-	56	68	149.1	7.42	152.5	7.45	33.6	5.45	36.2	5.28
16-	63	49	156.9	4.69	157.0	7.50	38.8	3.96	41 4	5.71
17-	52	54	159.2	6.49	161.6	6.32	42.4	5.51	43.5	4.75
18-	59	32	161.1	6.13	158.0	6.78	43.7	4.66	43.4	5.91
19-	47	27	163.9	5.44	163.8	4.43	45.3	5.03	45.1	4.88
20-	145	126	163.5	5.63	163.2	8.25	46.8	5 35	48.0	6.35
25-	133	121	163.6	5.91	163.6	5.55	48 5	5 95	49 1	6.68
30-	102	114	163.9	6.56	163.4	5.69	47.4	7.13	49.0	8.22
35-	153	119	162.9	5.80	163.7	6.30	48.4	7.60	48 6	7.50
40-	99	66	163.2	6.29	164.3	6.02	47.2	6.92	49.2	7.66
45-	113	58	162.0	6.62	163.6	6.39	45.9	6.55	48.5	7.96
50-	46	37	163.3	6.16	161.4	5.41	48.5	8.28	46.4	5.81
55-	49	30	162.4	5.76	162.3	6.90	47.1	6.83	45.6	7 59
60 and above	100	48	161.5	6.33	160.7	6.34	45.5	8.69	47.3	9.58

STATE : GUJARAT SEX : MALES

AGE (Years)	Number		ARM CIRCUMFERENCE(cm)				FATFOLD AT TRICEPS (mm)			
			75-79		88-90		75-79		88-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	85	129	12.5	1.17	12.8	1.46	8.2	2.33	10.1	2.42
1-	65	134	13.0	1.33	13.0	1.27	7.8	1.97	9.4	2.55
2-	85	110	13.6	1.18	13.3	1.14	8.2	1.67	9.2	2.06
3-	71	129	13.8	1.13	13.9	1.12	8.2	2.37	9.3	2.43
4-	107	143	14.1	0.96	14.0	0 97	7 9	1.92	8.8	2.30
5-	45	123	14.3	1.12	14.1	1 02	7.3	2.03	7.7	1.90
6-	51	126	14.3	0.81	14.1	0 98	6 4	1.65	6.7	1.84
7-	80	131	14.4	0.90	14.2	1.02	5 9	1.71	6.2	1.41
8-	77	115	14.5	0.92	14.6	1.07	5 5	1.46	6.0	1.58
9-	53	87	14.8	1.07	15.1	1.03	5.6	1.36	6.3	1.71
10-	89	97	15.4	1.08	15.6	1.40	5.5	1.57	6.2	1.85
11-	48	95	16.0	1.64	15.9	1.27	6 1	2.25	5.8	1.77
12-	90	97	16.1	1.25	16.5	1.54	5 6	1.50	6.5	1.70
13-	86	130	16.8	1.62	17.1	1.24	5 8	1.53	6.5	1.92
14-	75	100	17.4	1.45	18.0	1.67	5.9	1.75	6.5	2.02
15-	56	68	18.8	1.53	19.0	1.77	5.3	1.24	6.6	2.14
16-	63	49	19.8	1.49	20.8	1.92	6.1	1.76	6.2	1.48
17-	52	54	21.1	1.87	21.4	1 64	5.8	1.47	6.6	1.69
18-	59	32	21.6	1.59	21.3	2 14	5.8	2.18	6.4	2.09
19-	47	27	22.0	1.72	22.2	1.76	5.6	1.74	5.2	0.96
20-	145	126	22.7	1.71	23.1	1 89	5.6	1.85	6.1	2.39
25-	133	121	23.7	2.26	23.6	2.27	5.7	2.18	6.0	2.71
30-	102	114	23.3	2.31	23.6	2 57	5.6	2.52	6.1	2.85
35-	153	119	23.6	2.49	23.6	2 13	6.6	3.70	6.4	2.84
40-	99	66	23.3	2.07	23.5	2 11	6.1	2.45	6.2	3.24
45-	113	58	22.7	1.87	23.1	2.17	5.7	2.67	6.5	2.58
50-	46	37	23.4	2.66	22.7	2 97	7.1	3.71	6.3	2.66
55-	49	30	23.0	2.44	22.3	2.06	6.3	2.79	6.1	2.54
60 and above	100	48	22.4	2 78	22.9	2 76	7.1	3.60	6.5	2.71

MMB : MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : GUJARAT SEX : FEMALE5

AGE (Years)	Number		HEIGHT (cm)				WEIGHT (Kg)			
	75-79	88-90	75-79 MEAN	SD	88-90 MEAN	SD	75-79 MEAN	SD	88-90 MEAN	SD
under 1	69	91	62 0	6 02	62 0	7 23	5 7	1 38	5.9	1 67
1-	65	113	71 4	4 35	71.9	4 99	7.3	1 21	7.5	1 29
2-	72	118	78 1	4 91	80 4	5 85	8.9	1 38	9.4	1 65
3-	68	126	85 2	5 36	86 8	6 04	10.4	1 53	10.7	1.49
4-	89	123	92 4	5 93	94 0	6 35	11.8	1 77	12.4	1 81
5-	51	143	99 3	5 34	100 9	6.08	13.3	1 71	13.6	1.70
6-	72	103	104 4	5 56	105 8	5 25	14.3	1 88	14.8	2 15
7-	56	116	109 6	6.04	111.3	5 70	16.0	2.26	16.4	2.20
8-	64	116	114 4	5.75	117.9	6.51	17.3	2.10	18.6	2 51
9-	42	92	119 6	5.53	123.2	5 71	19.3	2 46	20.9	2 50
10-	59	75	121 7	5.09	127.4	5 92	20.0	2 65	22.0	2 86
11-	39	72	125 9	6.57	130.9	7.02	21.7	2.73	23.9	3 35
12-	65	88	131 7	5.80	135.0	6.27	24.1	2 98	26.1	4 22
13-	53	73	137 6	6.23	141.4	6.36	27.1	3 62	29.6	4 41
14-	46	73	143 6	6.21	145.7	6 08	32.4	5.58	33.3	5 13
15-	43	43	147 5	5.77	148.6	4 69	34.7	5.31	35.7	3 96
16-	58	68	149 6	4.89	149.5	5 65	37.2	4.10	37.9	5 14
17-	35	41	149 9	5.34	151.7	6.67	38.9	4.59	41.0	5 95
18-	56	45	150 6	5.16	152.1	5 61	41.3	4.61	41.2	5.20
19-	37	35	150 8	5.77	150.8	6.19	41.6	5.94	42.4	5.27
20-	173	199	151 7	5.70	151.8	5 09	43.1	4 86	42.6	5.60
25-	139	163	151 2	5.35	151.5	5 32	41.3	5 36	42.2	5.45
30-	137	184	150 5	5.69	151.8	5 03	42.5	5 88	43.1	6.20
35-	129	115	151 0	5.47	152.1	5 39	42.1	5 53	42.9	6.80
40-	108	83	149 7	5.45	150.9	5 20	41.4	6 38	42.4	7.24
45-	86	57	150 9	5.09	150.5	5.10	41.5	6 32	41.2	7.03
50-	38	47	149 9	5.10	150.1	4 60	44.2	7 56	42.5	6.69
55-	45	28	149 9	6.17	149.6	5 14	41.0	7.41	43.2	8.28
60 and above	85	49	148 2	5.51	149.1	4 73	38.7	7 41	39.7	6.98

NNMB : MEAN ANTHROPOMETRIC MEASUREMENTS

STATE : GUJARAT SEX : FEMALES

AGE (Years)	Number		ARM CIRCUMFERENCE(cm)				FATFOLD AT TRICEPS(mm)			
			75-79		88-90		75-79		88-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	69	91	12 1	1 45	12 3	1 23	7 9	1 93	9.7	2 09
1-	65	113	12 6	1 29	12.6	1.21	7.4	2.04	9.0	2 21
2-	72	118	13 4	1 14	13 2	1 26	8 6	2 08	9 7	2 28
3-	68	126	13 8	0 98	13.7	1 11	8.7	2.04	10.2	2.50
4-	89	123	14 1	1 12	14 1	1.08	7 8	2.03	9.4	2 31
5-	51	143	14.2	1.32	14.2	1.00	7.9	2 11	8.6	2.24
6-	72	103	14 3	1 02	14 3	1.01	7 2	2 22	7 5	1.99
7-	56	116	14.7	0 90	14 6	1.06	6.9	2.24	7.2	1.89
8-	64	116	14 8	1 11	15 1	1 19	6 2	1 62	7.1	1.85
9-	42	92	15 4	1 17	15 9	1 19	6.2	1.73	7 1	1.72
10-	59	75	15 7	1 29	16 1	1.25	6 5	1.88	7.1	1 75
11-	39	72	16 1	1 13	16.4	1 34	6.2	1.24	7.1	1.76
12-	65	88	16 7	1 34	17 0	1 64	6.9	1.98	7.4	2.04
13-	53	73	17.6	1 38	18 1	1.62	7 1	2.49	7.9	2.34
14-	46	73	19 0	1 94	19 1	1 94	8 3	3 28	8.0	2 11
15-	43	43	19 8	1 82	19 8	1.67	8.4	2.68	9.2	2.70
16-	58	68	20 6	1 75	20 5	1 92	9 2	2 68	9.8	2 75
17-	35	41	21 3	1 96	21.6	2.46	10.5	3.39	10.5	2.81
18-	56	45	22 3	1 74	21.4	1.56	11.7	4.02	10 2	2 89
19-	37	35	21 9	1 91	22 1	1 78	11.3	4.10	11.0	2.30
20-	173	199	22 5	1 95	22 1	2.01	10 7	3 91	10.9	3.52
25-	139	163	22 1	1 87	22 1	2 02	9.6	3 81	10 1	3.49
30-	137	184	22 6	2 15	22 3	2.17	10.0	4 53	10.6	3.52
35-	129	115	22 5	1 94	22.4	2.34	9.5	3.97	10.6	4.27
40-	108	83	22 5	2 41	22 4	2 37	10.0	4.53	10 7	4.64
45-	86	57	22.4	2 31	21 8	2 59	9.8	4.64	9.9	4.68
50-	38	47	23 6	2 94	22 6	2 11	11.6	4.53	11.5	4 38
55-	45	28	22 1	2 50	22 3	3 17	10.2	3.94	11 9	3.88
60 and above	85	49	21 4	2 88	21 7	2 86	8 7	4.79	9.8	5.06

STATE : MADHYA PRADESH SEX : MALES

AGE (Years)	Number 75-79	Number 88-90	HEIGHT(cm) 1975-79 MEAN	HEIGHT(cm) 1975-79 SD	HEIGHT(cm) 1988-90 MEAN	HEIGHT(cm) 1988-90 SD	WEIGHT (Kg) 1975-79 MEAN	WEIGHT (Kg) 1975-79 SD	WEIGHT (Kg) 1988-90 MEAN	WEIGHT (Kg) 1988-90 SD
under 1	64	21	62.1	5.76	60.5	4.27	6.2	1.46	5.8	1.49
1-	62	15	70.1	5.96	70.4	6.20	7 9	1.35	7.8	2.07
2-	55	16	77.8	7.06	77.8	6.81	9.6	1.60	10.0	2.26
3-	68	27	82.8	7.46	85.1	6.93	11.1	2.19	11.1	1.81
4-	93	32	90.6	7.32	91.3	7.20	12.1	1.74	13.1	1.80
5-	58	40	100.1	6.17	98.8	7.84	14.4	1.94	14.6	2.44
6-	70	23	104.1	8.27	108.4	4.04	15.7	2.64	16.8	1.95
7-	60	18	111.0	7.72	108.5	5.82	17.5	2.86	16.7	1.83
8-	68	24	118.1	7.66	114 3	7.03	19.8	3.58	18.7	2.23
9-	44	14	121.1	6.41	123.9	5.72	20.6	3.18	22.3	2.78
10-	72	28	128.6	9.27	126.8	8.14	23.9	4.47	22.8	3.76
11-	42	21	131.5	9.59	128.0	6.60	24.1	4.26	25.6	6.21
12-	75	41	137.8	9.74	134 5	10 34	28.4	5 80	27 5	6.00
13-	36	21	142.8	9.96	141 3	11.12	31.4	6.83	31.3	6.36
14-	49	25	148.9	9.45	143.3	7.48	35.6	6.99	32 0	5.94
15-	33	19	154.4	8.21	149.2	8.88	40.8	7.19	38.5	5.74
16-	41	12	160.0	6.15	156.8	11.51	43.6	5.58	43 7	6.31
17-	44	12	159.0	5.74	164.8	4 81	47.1	4.71	49.5	3.75
18-	52	21	162.6	6.65	161.7	5.37	49.0	6.36	47.4	5.37
19-	40	7	162.7	3.89	160.0	7 25	50 1	5.56	50.6	7.85
20-	169	66	164.7	6.82	162.1	6.98	50.9	6.25	50.2	5.54
25-	90	60	164.1	7.13	162.4	8.60	50.5	6.45	50.4	7.13
30-	93	49	163.7	7.75	161.7	7.48	51.0	6.96	50.9	6.82
35-	118	45	164.6	6.85	163.1	6.21	51.0	7.35	53.1	6.74
40-	85	24	162.4	5.97	159.8	4.69	50 2	6.61	51.1	5.37
45-	74	26	164.7	5.85	160.7	6.56	52.0	7.31	51.6	6.27
50-	71	22	163.5	6.82	160.3	4.74	50.6	7.77	50.3	9.56
55-	47	21	163.0	7.03	160.4	8.63	48.9	7.77	49.6	7.23
60 and above	86	39	162.9	6.34	161.5	5.74	49.7	7.93	47.4	8.88

STATE : MADHYA PRADESH SEX : MALES

AGE (Years)	Number 75-79	Number 88-90	ARM CIRCUMFERENCE(cm) 1975-79 MEAN	ARM CIRCUMFERENCE(cm) 1975-79 SD	ARM CIRCUMFERENCE(cm) 1988-90 MEAN	ARM CIRCUMFERENCE(cm) 1988-90 SD	FATFOLD AT TRICEPS(mm) 1975-79 MEAN	FATFOLD AT TRICEPS(mm) 1975-79 SD	FATFOLD AT TRICEPS(mm) 1988-90 MEAN	FATFOLD AT TRICEPS(mm) 1988-90 SD
under 1	64	21	11.6	1.44	10.4	1.02	7.5	1.90		
1-	62	15	12.4	1.13	11.7	1.28	7.4	1.79		
2-	55	16	13.0	1.83	12.2	1.20	7.3	2.27		
3-	68	27	12.9	1.23	12.4	0.93	7.3	1.65		
4-	93	32	13.3	1.33	12.9	0.69	6.9	2.02		
5-	58	40	13.9	1.16	13.5	1.12	6.6	1.52		
6-	70	23	13.9	1.08	13.4	1.04	5.9	1.52		
7-	60	18	14.1	1.15	13.3	0.90	5.6	1.20		
8-	68	24	14.7	1.15	14.0	1.00	5.4	1.35		
9-	44	14	14.8	1.44	15.1	1.81	5.0	1.16		
10-	72	28	15.8	1.36	15.6	1.35	5.1	1.25		
11-	42	21	15.6	1.66	15.9	1.64	5.0	0.88		
12-	75	41	17.1	1.69	16.3	2.36	5.7	1.89		
13-	36	21	17.6	1.87	17.3	2.03	5.4	1.29		
14-	49	25	18.6	1.67	17.5	1.87	5.4	1.22		
15-	33	19	19.7	1.78	19.1	1.75	4.9	1.08		
16-	41	12	20.7	1.76	20.7	1.15	5.1	1.16		
17-	44	12	21.8	1.48	21.6	1.40	5.8	2.00		
18-	52	21	22.6	2.14	21.4	1.75	5.8	1.62		
19-	40	7	22.8	1.99	22.6	1.29	5.8	1.66		
20-	169	66	23.0	2.13	22.3	1.53	5.7	1.68		
25-	90	60	23.1	2.35	22.3	1.97	5.4	1.82		
30-	93	49	23.5	2.12	22.4	1.79	5.7	1.99		
35-	118	45	23.2	2.10	23.1	1.89	5.7	1.95		
40-	85	24	23.3	2.09	22.7	2.22	5.9	2.02		
45-	74	26	23.3	2.21	22.1	1.74	5.9	2.18		
50-	71	22	23.0	2.62	22.8	1.84	6.1	2.68		
55-	47	21	22.8	2.52	21.9	1.28	5.5	1.83		
60 and above	86	39	22.1	2.51	21.1	1.89	5.8	2.20		

Note : During 1988-90 data on FFT were not recorded

STATE : MADHYA PRADESH SEX : FEMALES

AGE (Years)	Number		HEIGHT(cm)				WEIGHT (Kg)			
			1975-79		1988-90		1975-79		1988-90	
	75-79	88-90	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
under 1	42	20	62.0	5.15	62.1	6.66	5.9	1.46	6.2	1.61
1-	46	21	70.9	5.48	68.8	9.05	7.8	1.62	7.6	1.77
2-	38	13	76.0	7.55	76.7	6.22	8.9	1.70	9.0	1.94
3-	64	30	83.7	9.58	84.2	8.16	10.9	2.54	10.8	2.34
4-	65	27	90.0	6.98	91.8	8.10	12.1	2.07	12.8	2.33
5-	36	16	101.8	10.92	98.8	5.75	15.1	6.06	13.9	1.95
6-	64	18	105.9	9.78	103.0	14.39	16.0	2.98	15.1	3.26
7-	37	24	110.7	10.73	108.4	6.93	16.9	2.84	17.2	1.92
8-	58	25	115.9	8.73	114.9	8.40	19.2	3.16	19.3	3.49
9-	34	21	122.8	7.60	117.4	6.99	21.3	3.79	20.2	2.79
10-	60	31	125.6	9.19	125.3	8.59	22.7	4.60	23.3	4.78
11-	30	10	133.4	8.35	127.8	7.97	26.5	4.72	24.6	2.94
12-	40	32	136.2	9.24	130.6	8.59	29.0	5.47	26.9	5.25
13-	35	15	142.2	10.34	137.7	6.60	32.8	7.58	31.0	7.39
14-	29	17	144.1	6.79	145.4	5.72	35.9	6.91	36.1	5.46
15-	44	8	148.7	5.92	145.9	5.63	41.9	6.82	38.7	7.60
16-	37	8	151.0	5.69	149.8	6.46	43.1	5.91	43.1	4.86
17-	21	9	151.0	10.49	150.2	3.76	44.1	8.26	44.5	7.33
18-	45	13	151.2	5.28	147.6	12.14	45.2	5.28	43.4	8.95
19-	17	6	151.0	5.51	153.0	3.42	44.3	5.24	49.3	6.78
20-	124	75	150.8	6.00	150.5	4.95	44.3	6.12	44.3	5.86
25-	116	47	150.8	6.13	150.5	5.43	44.2	5.95	44.2	5.68
30-	125	67	150.3	4.65	150.5	6.40	43.9	5.94	43.9	6.24
35-	97	33	150.7	5.43	149.9	3.55	44.4	5.96	45.4	4.79
40-	72	37	150.3	5.58	149.4	6.00	45.2	7.36	42.1	6.37
45-	66	17	150.3	6.97	151.0	4.77	43.5	7.05	44.7	4.84
50-	48	24	149.6	6.13	149.3	7.19	42.9	7.50	44.5	6.75
55-	28	21	149.2	5.67	148.8	5.22	40.9	6.42	44.6	10.99
60 and above	75	31	147.6	6.02	146.3	6.52	40.9	6.67	42.0	7.30

STATE : MADHYA PRADESH SEX : FEMALES

AGE (Years)	Number 75-79	Number 88-90	ARM CIRCUMFERENCE(cm) 1975-79 MEAN	1975-79 SD	1988-90 MEAN	1988-90 SD	FATFOLD AT TRICEPS(mm) 1975-79 MEAN	1975-79 SD	1988-90 MEAN	1988-90 SD
under 1	42	20	11 5	1 32	10 7	1 35	7 2	1.85		
1-	46	21	12 0	1 16	11 4	1 32	7.3	1.86		
2-	38	13	12 3	1 45	12 0	1.06	7 3	1.74		
3-	64	30	13.0	1 56	12.9	1.14	6 9	1.80		
4-	65	27	13.3	1 30	13.2	1.03	7.3	2.04		
5-	36	16	13 9	1 83	13.4	0.74	6.3	1.51		
6-	64	18	14.3	1 33	13.5	1 19	6.4	1.61		
7-	37	24	14 5	1.32	14.0	1.01	5.4	1.26		
8-	58	25	15 0	1 30	14 6	1 29	5.9	1.25		
9-	34	21	15.2	1.31	14.8	1.17	5.7	1.24		
10-	60	31	16.1	2 41	16.0	1.72	5.9	1.42		
11-	30	10	17.0	1.78	15 8	1.14	6.3	1.66		
12-	40	32	17.7	1.75	16 7	1.46	6 0	1.73		
13-	35	15	18 8	2 45	18.0	2.27	6.4	1.79		
14-	29	17	19 9	2 40	19 0	1.95	6.9	2.36		
15-	44	8	21 6	2 31	19.6	2.76	7.5	1.99		
16-	37	8	21 9	2 21	20.4	1.64	7 6	1.75		
17-	21	9	22.0	2 81	22 1	1.47	9.0	2.46		
18-	45	13	22 3	1 87	20 8	2 36	8.5	2.50		
19-	17	6	22.2	1 89	22 6	3.22	7.5	3.06		
20-	124	75	22 3	2 23	21.6	1 63	7.3	2.53		
25-	116	47	21.7	2:46	22 1	1 64	7.2	2.56		
30-	125	67	22 3	2 38	22.0	2 22	7.5	2.58		
35-	97	33	22 3	2 14	22 0	1 50	7.0	2.32		
40-	72	37	22 9	2 58	21.3	1.82	7.6	3.35		
45-	66	17	22 2	2 34	22.0	1 09	7.0	2.46		
50-	48	24	22 2	2 67	21.6	2.11	7.0	3.02		
55-	28	21	21 6	2.49	22.0	2.34	6.3	2.43		
60 and above	75	31	21 2	2 71	21.0	2 11	6 9	2.31		

Note : During 1988-90 data on FFT were not recorded

STATE : ORISSA SEX : MALES

AGE (Years)	Number 78 79	Number 88 90	HEIGHT(cm) 1978 79 MEAN	HEIGHT(cm) 1978 79 SD	HEIGHT(cm) 1988 90 MEAN	HEIGHT(cm) 1988 90 SD	WEIGHT (Kg) 1978 79 MEAN	WEIGHT (Kg) 1978 79 SD	WEIGHT (Kg) 1988 90 MEAN	WEIGHT (Kg) 1988 90 SD
under 1	30	93	63.8	4.82	62.5	7.51	6.4	1.37	6.1	1.37
1-	53	107	71.6	5.89	72.8	6.57	8.0	1.53	8.1	1.41
2-	47	119	80.3	6.37	79.8	6.50	9.8	1.87	9.8	1.51
3-	83	111	86.9	7.18	87.8	6.22	11.1	1.77	11.3	1.63
4-	69	116	93.3	6.71	93.6	6.25	12.4	2.05	12.7	1.62
5-	62	147	98.8	7.69	100.3	6.45	14.2	2.12	14.0	2.05
6-	73	84	106.2	6.11	106.4	8.02	15.9	2.30	15.7	2.45
7-	63	97	113.3	7.88	112.5	6.85	17.8	3.12	17.5	2.54
8-	67	78	118.9	9.23	116.5	5.94	19.4	3.02	18.6	2.33
9-	44	51	119.9	7.09	119.9	7.10	20.2	3.29	20.2	2.66
10-	71	87	127.4	8.44	126.3	8.98	23.5	4.73	22.7	4.51
11-	46	41	133.9	6.23	129.2	7.17	26.1	3.58	24.1	4.55
12-	68	55	136.0	11.45	134.8	8.97	27.6	5.23	26.5	4.66
13-	36	33	139.1	9.12	141.6	8.17	29.5	5.23	31.0	5.43
14-	46	41	147.7	9.18	146.9	9.45	34.3	6.83	34.3	7.75
15-	38	37	146.8	8.62	152.5	10.24	34.4	6.37	39.3	7.54
16-	39	23	154.6	9.07	155.4	7.84	41.7	8.02	40.7	7.79
17-	25	21	159.7	6.63	157.3	8.80	45.3	5.14	43.1	6.92
18-	34	53	160.6	7.17	159.2	7.47	46.1	6.68	46.4	6.10
19-	21	15	161.9	8.06	161.4	9.81	47.5	4.91	46.5	6.39
20-	138	127	161.1	8.15	162.0	6.56	48.5	7.26	48.6	6.25
25-	105	164	162.1	5.93	161.4	6.00	49.6	6.13	49.5	6.63
30-	97	196	161.8	7.10	160.7	6.19	50.1	6.41	49.4	6.25
35-	105	180	161.4	6.74	161.0	6.54	50.7	6.63	49.5	6.11
40-	87	85	161.0	6.01	161.0	6.91	48.5	6.39	48.9	7.79
45-	103	75	160.4	6.39	159.8	6.66	48.5	6.79	48.4	7.06
50-	70	76	161.1	7.06	159.5	5.31	50.5	8.07	48.6	7.16
55-	60	81	160.0	7.19	159.8	5.97	48.2	7.91	48.3	7.31
60 and above	115	157	160.2	6.51	158.2	6.56	48.2	8.30	47.0	7.42

STATE : ORISSA SEX : MALES

AGE (Years)	Number 78-79	Number 88-90	ARM CIRCUMFERENCE(cm) 1978-79 MEAN	1978-79 SD	1988-90 MEAN	1988-90 SD	FATFOLD AT TRICEPS(mm) 1978-79 MEAN	1978-79 SD	1988-90 MEAN	1988-90 SD
under 1	30	93	12.7	1.48	12.0	1.63	8.0	2.20	4.1	1.52
1-	53	107	13.1	1.28	12.3	1.20	7.7	2.47	4.0	1.27
2-	47	119	13.4	1.11	13.0	1.65	7.9	2.15	4.4	1.59
3-	83	111	14.0	1.07	13.1	1.47	7.7	2.09	4.6	1.58
4-	69	116	14.3	0.97	13.4	1.40	7.4	1.63	4.6	1.96
5-	62	147	14.6	1.14	13.5	1.34	7.2	2.01	4.5	1.48
6-	73	84	14.5	1.04	13.8	1.78	6.4	1.86	4.9	1.64
7-	63	97	14.8	1.30	14.3	1.42	6.4	2.17	4.8	1.40
8-	67	78	15.4	1.22	14.8	1.85	6.8	2.48	4.9	1.37
9-	44	51	15.6	1.28	15.3	2.34	6.2	1.66	5.1	1.58
10-	71	87	16.3	1.64	15.9	2.32	6.7	2.34	5.3	2.21
11-	46	41	17.1	1.34	16.4	2.58	6.8	2.53	5.6	1.65
12-	68	55	17.7	1.54	17.2	2.46	6.8	2.26	6.3	2.69
13-	36	33	18.0	1.58	18.2	2.21	6.9	2.39	7.3	2.77
14-	46	41	19.2	2.22	18.7	3.12	6.4	2.71	6.9	3.56
15-	38	37	19.7	2.02	19.9	2.62	7.1	3.21	8.2	4.75
16-	39	23	21.3	2.36	21.6	2.91	8.2	3.37	9.1	4.93
17-	25	21	21.9	1.60	22.2	3.28	8.1	3.46	10.5	5.54
18-	34	53	22.7	2.36	22.7	2.27	8.0	3.33	10.3	4.91
19-	21	15	23.6	1.43	21.5	1.66	5.9	2.62	7.5	2.97
20-	138	127	24.0	2.51	22.8	2.62	7.8	3.78	9.7	4.82
25-	105	164	24.1	1.96	22.9	2.28	8.1	4.11	8.5	4.02
30-	97	196	24.6	1.88	23.1	2.25	8.1	3.95	8.5	4.26
35-	105	180	24.8	1.85	23.3	2.42	8.3	3.96	8.8	4.50
40-	87	85	24.2	1.85	23.3	2.89	7.7	3.71	9.4	4.69
45-	103	75	24.2	2.24	23.4	2.58	7.5	3.74	8.8	4.51
50-	70	76	24.6	2.21	23.4	2.76	8.1	4.20	9.7	4.70
55-	60	81	24.1	2.51	22.8	2.51	7.7	3.58	8.6	4.25
60 and above	115	157	23.6	2.45	22.2	2.94	8.1	3.85	7.8	3.89

STATE : ORISSA SEX : FEMALES

AGE (Years)	Number 78-79	Number 88 90	HEIGHT(cm) 1978-79 MEAN	HEIGHT(cm) 1978-79 SD	HEIGHT(cm) 1988-90 MEAN	HEIGHT(cm) 1988-90 SD	WEIGHT (Kg) 1978-79 MEAN	WEIGHT (Kg) 1978-79 SD	WEIGHT (Kg) 1988-90 MEAN	WEIGHT (Kg) 1988-90 SD
under 1	24	93	61.6	5.56	59.9	7.46	6.3	1.81	5.5	1.37
1-	34	95	72.5	7.61	71.4	6.74	7.8	1.60	7.6	1.20
2-	39	111	76.4	5.24	79.5	7.80	8.9	1.93	9.2	1.66
3-	61	129	86.4	6.41	85.2	7.05	10.9	1.89	10.4	1.42
4-	60	117	92.5	8.76	93.5	7.04	11.9	2.12	12.5	1.81
5-	63	123	98.9	6.41	99.0	7.63	13.6	2.14	13.8	2.07
6-	65	109	106.2	9.53	106.9	8.49	15.5	2.86	15.9	4.06
7-	65	120	113.3	8.10	110.7	6.94	17.3	3.18	16.7	2.38
8-	81	101	116.8	8.31	116.2	8.50	19.3	3.69	18.5	2.95
9-	45	56	121.9	8.09	122.8	8.77	20.9	3.54	21.2	3.95
10-	59	82	128.3	9.30	124.9	7.61	23.8	5.36	21.9	3.71
11-	41	48	132.5	8.88	129.9	8.54	26.3	5.07	24.5	4.59
12-	57	65	135.8	7.56	137.0	9.14	27.3	5.37	29.2	5.90
13-	35	35	142.3	9.87	142.8	6.71	33.8	8.49	33.8	6.21
14-	51	47	145.9	7.20	143.7	8.65	36.5	6.71	34.9	6.70
15-	47	55	147.0	5.07	147.1	6.12	38.7	5.81	38.6	5.91
16-	43	56	147.8	7.94	148.9	6.23	40.3	6.00	39.9	5.69
17-	38	24	150.8	7.11	150.1	6.13	43.0	5.13	42.7	5.22
18-	41	40	150.2	5.24	148.4	6.07	43.7	5.66	42.4	5.16
19-	16	24	148.8	8.92	149.8	6.22	42.1	5.24	44.1	5.57
20-	133	280	149.4	5.97	150.0	5.38	43.5	5.66	42.7	5.21
25-	129	298	149.0	5.88	150.3	5.58	42.0	5.48	42.6	5.49
30-	113	247	148.5	6.04	149.5	5.34	42.4	5.51	41.8	5.54
35-	114	122	148.3	5.57	150.6	4.41	41.4	5.81	42.7	5.33
40-	112	77	149.4	5.80	149.6	5.84	41.6	6.97	41.8	6.14
45-	87	87	149.6	5.93	149.4	4.95	42.8	6.82	41.0	6.27
50-	52	100	147.9	6.05	148.4	6.50	42.0	7.00	41.2	7.05
55-	55	76	147.2	6.09	147.8	6.50	38.8	4.90	40.7	6.42
60 and above	101	173	145.0	7.88	148.2	7.08	38.0	6.95	38.8	7.12

STATE : ORISSA SEX : FEMALES

AGE (Years)	Number 78-79	Number 88-90	ARM CIRCUMFERENCE(cm) 1978-79 MEAN	1978-79 SD	1988-90 MEAN	1988-90 SD	FATFOLD AT TRICEPS(mm) 1978-79 MEAN	1978-79 SD	1988-90 MEAN	1988-90 SD
under 1	24	93	12.4	1.51	11.6	1.72	8.3	2.15	4.2	1.65
1-	34	95	13.1	1.45	12.1	1.42	7.4	1.60	4.1	1.50
2-	39	111	13.1	1.40	12.6	1.73	7.7	2.18	4.2	1.60
3-	61	129	13.9	0.99	13.1	1.70	7.6	1.93	4.4	1.62
4-	60	117	14.2	1.08	13.7	1.82	7.9	2.07	4.7	1.99
5-	63	123	14.5	1.14	13.5	1.66	7.6	1.62	4.6	1.60
6-	65	109	14.5	0.91	14.3	2.29	6.8	1.85	5.0	2.06
7-	65	120	14.8	1.22	14.2	1.65	6.2	1.79	4.8	1.60
8-	81	101	15.6	1.47	14.4	1.74	6.7	2.02	5.0	1.54
9-	45	56	16.3	1.60	15.4	2.15	7.1	2.40	5.5	2.24
10-	59	82	16.8	1.84	15.8	2.00	7.2	2.61	5.4	1.90
11-	41	48	17.6	1.56	16.2	2.12	8.1	3.24	5.4	1.66
12-	57	65	17.6	2.22	18.1	2.76	7.7	3.01	6.8	2.98
13-	35	35	19.7	2.74	18.4	2.49	9.0	3.74	6.6	3.02
14-	51	47	20.4	2.46	19.1	2.10	9.5	3.91	7.8	3.35
15-	47	55	21.5	2.06	20.2	2.21	10.4	4.26	8.7	3.67
16-	43	56	21.9	2.05	20.7	2.36	10.7	4.06	8.8	3.29
17-	38	24	22.5	1.85	22.1	2.51	11.3	4.04	10.4	4.88
18-	41	40	22.7	1.88	21.4	2.99	11.3	3.72	9.7	4.15
19-	16	24	22.8	2.29	21.9	3.06	10.4	3.12	9.9	5.16
20-	133	280	22.5	1.99	20.5	2.19	10.4	4.01	7.7	3.43
25-	129	298	22.3	2.13	20.8	2.22	10.1	3.55	7.7	3.44
30-	113	247	22.6	1.99	20.9	2.49	10.5	4.19	7.7	3.35
35-	114	122	22.4	1.96	21.2	2.05	9.7	3.73	8.9	3.33
40-	112	77	22.8	2.25	22.3	2.88	10.3	4.63	9.7	4.76
45-	87	87	23.1	2.23	21.7	2.54	10.2	4.34	9.1	3.94
50-	52	100	23.4	2.65	21.1	2.40	11.2	4.38	8.2	3.76
55-	55	76	22.1	2.37	20.7	2.64	9.4	3.92	8.4	3.90
60 and above	101	173	21.4	2.86	20.3	2.93	8.5	3.55	7.2	3.83