

GOKHALE INSTITUTE OF POLITICS AND ECONOMICS

Publication No. 27

Survey of Fertility and Mortality Poona District

By

V. M. DANDEKAR
KUMUDINI DANDEKAR.

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FOREWORD

The Institute has had a continuing and longstanding interest in Indian population problems. The first step in this direction was the work on regional populations in India undertaken by Mr. N. V. Sovani. The results of this work, mainly based on the analysis of published data, were embodied in a publication of the Institute : "The Population Problem in India; A Regional Approach" (1942).

The Institute made the next move in this field by conducting a fertility survey as part of the socio-economic survey of Kolhapur city which Mr. Sovani was conducting on behalf of the Institute at that time. The inquiry into human fertility in Kolhapur was conducted at the end of 1945 and was the first demographic study undertaken by the Institute. The basic material collected consisted of a five year fertility record of a sample of about 2,000 women. Apart from yielding specific fertility rates for all ages, the enquiry indicated that except for the ages of mother and father, no other socio-economic factor, such as caste, occupation, income and education had any effect on fertility rates. The design of this enquiry suffered from two principal drawbacks. Firstly, the five year period chosen for fertility reporting created considerable difficulties at the analysis stage; secondly, though it was possible to estimate the present fertility conditions in the city, the enquiry failed to throw light on possible trends in fertility over the past, say forty years.

These shortcomings were attempted to be remedied in an enquiry conducted in 1949-50, in yet another city of the Bombay Deccan, Dharwar. This enquiry was designed and supervised by the Institute but the actual investigational work was done by the staff of the Karnatak College, Dharwar. The principal feature of this enquiry was the collection of complete marital histories of a sample of about 2,000 women.

In 1951 with a generous grant from the Rockefeller Foundation a Section in Demography and Population Studies was established at the Institute; this devotes itself exclusively to gathering new data on these topics and to a study of the published material on population. The Section has laid down a programme of survey work for gathering data on fertility, mortality, their economic and social correlates, the attitudes of people towards contraception, the feeding of young children and expectant mothers, etc., in both urban and rural areas. This

publication sets out and reports on the data collected by the section (during the course of the first year of its existence) in Poona City and in 5 towns and 30 villages in Poona District.

This report deals with material relating to Poona City and District collected during the survey as well as other demographic data available for the area. Fortunately, the 1951 Census was conducted shortly before the beginning of our survey and extremely valuable data have become available as a result of the census operations. For Poona City, data collected by the City Corporation were available in addition; all these data have been used in this publication.

The data for Poona City were comprehensive enough to enable the authors of the publication to prepare detailed life tables for the Poona City population. It is believed that these tables are the first of their kind prepared in India. A remarkable feature of the tables is that they reveal an expectation of life for the population of the city which is considerably above the generally accepted figures for the Indian population as a whole. Considerable improvements in the drainage system, road surfaces, health services, etc., of the city have taken place since the 'twenties and their cumulative effect on health and longevity appear to have become apparent in the statistics a couple of decades later. Some health statistics relating to Poona City have been set out and discussed in Volume II of Poona : A Socio-Economic Survey published recently. It is indicated there how a number of improvements likely to affect health had not been completed before 1935.

The main objectives of the survey were to collect information relating to births and deaths and to investigate attitudes towards family planning. When the survey was planned it was expected that one of the results yielded by it would be fuller and more reliable data regarding mortality, the registration of which in India, especially in rural areas, is supposed to be highly defective. This expectation was not fulfilled. The data on mortality gathered through the survey are shown to be the weakest part of the survey material. The defects in mortality statistics collected by the survey when examined closely point to possibilities of some defects in the statistics of births also. These, however, are comparatively small and do not invalidate the use of the data.

It is, at the same time, clear that the survey material is mainly of use not so much for calculation of overall figures or rates as for

detailed analysis of varying situations and conditions, that is differences between regions, classes and strata in society. For the overall figures reliance will continue to be placed, in the main, on such data as that of the census and the birth and death registration statistics. The central problem examined in this publication is that of differential fertility, a problem with which we were concerned in the earlier surveys also. The data collected during this survey have been examined much more thoroughly than was the case in relation to the Kolhapur material. This examination indicates some modification of the conclusions arrived at on the basis of the Kolhapur data. The Poona data when subjected to the same type of examination to which the Kolhapur data were subjected did not reveal significantly different conclusions. However, when the material is sifted further the negative findings registered in the Kolhapur Report do not appear to be fully justified. The more detailed examination indicated that the Poona data reveal some difference in fertility as between castes and between economic classes. It is at the same time clear, that this difference in fertility is not very marked. It may be that we have here a situation wherein the transition to new conditions is being only slowly revealed in the total mass of statistics. It is likely that a new set of conditions affecting births and deaths is emerging and that these conditions are more similar, than those obtaining previously, to conditions in industrialised countries of the West. In consequence data obtained through successive surveys, those relating to younger generations and to larger urban centres show greater elements of diversity and differentiation than was the case previously. Poona is a larger urban centre and more affected by outside influence than Kolhapur; the survey material was also collected six years later. Therefore, features which do not show up in the Kolhapur survey may emerge more fully in the Poona survey. The full qualitative and quantitative significance of these could not be judged easily or immediately. However, it is clear that instead of a comparatively uniform biological pattern, demographic data now reveal a somewhat variegated picture, some features of which are in particular respects and in a small measure analogous to the more familiar demographic data of the West.

The changing situation is emphasized by the detailed discussion presented in the chapter on Family Planning. In some ways the data and the discussions on Family Planning may be said to constitute a special and unique feature of this publication. There has been some writing heretofore, perhaps, on the general attitude of people in

India towards this problem but nothing that had been based on collection of objective data as presented in this report. These data have, therefore, been commented upon at greater length than any other portion of the collected information. It also deserves careful consideration, especially for a forecast of possible future trends. The data contain an amount of important sociological material, but the main feature of interest in it is the attitude revealed by men and women towards family planning. While on the one hand, it shows that the actual practice of family planning even in a city like Poona is yet extremely limited in scope, it also reveals a generally receptive attitude, extensive readiness to obtain useful and effective information and considerable preparedness to adopt family planning in case the means are suitable and appropriate. It is true that developments of the socio-economic situation in recent years are largely responsible for this generally receptive attitude. It yet appears clear that there exists no important element in the socio-economic framework or in the ideological make-up of the people which would make progress impossible if a movement towards family planning is launched appropriately. The ideological make-up is illustrated by a number of case studies which have been appended at the end. These contain a fair sample of the universal conservative attitudes but reveal no particular features in the Indian situation which requires special handling or appear unsurmountable by ordinary means.

In many ways, experience in the conduct of this survey has been re-assuring. It has shown the people, even women, to be more responsive on a subject which would ordinarily be expected to be tabooed. It was discovered, in part, that full response was obtained, especially amongst women, only in group conversations and not in private individual talk. However, it is clear that with greater interest aroused generally in the subject even this difficulty of getting private individual response or opinion will gradually vanish. It is not possible at this stage to say whether the results of the somewhat restricted sample examined in this publication have general validity even for a particular region. This will appear only when the results of the other surveys in rural areas, in other and neighbouring districts, now under way are examined in detail in a similar manner.

27th November 1953.

D. R. GADGIL

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CHAPTER I

INTRODUCTORY

1.1 The Section in Demography and Population Studies of the Institute was opened on 1st October, 1951. As the first of a series of regional demographic studies to be undertaken, a demographic survey of Poona district was conducted during the year and was concluded on 30th September, 1952. In the following is a report on this investigation.

1.2 In Chapter II relevant demographic data are presented for Poona district collected from the earlier censuses as also from the excellent 1951 Census Handbook for the district.

1.3 In Chapter III are outlined the investigational procedures. After a preliminary discussion of the method and approach, details are given regarding the sample design, questionnaire schedules, organisation of the fieldwork and the nature of the response.

1.4 For purposes of presenting the results, the district has been divided into two areas: the City of Poona and the other urban and rural area. The samples from the two areas are nearly equal in size, about a thousand families in each case, and the results are, therefore, comparable. The results of the investigation in Poona City are given in Chapter IV. A special feature of this Chapter is the derivation of the male and female life tables based on the 1951 census returns and the vital registration in Poona City. The results of the investigation in other urban and rural area are given in Chapter V.

1.5 Though the survey was aimed at a joint investigation of fertility and mortality, it appeared that the material on mortality was numerically inadequate to base independent judgment on. An examination of the reported deaths also indicated that there had been substantial under-reporting of deaths. In Chapter VI, we present the relevant data and indicate the extent to which the deaths appear to have been under-reported.

1.6 Two questionnaires were specially designed to ascertain male and female attitudes towards family planning and family limitation. Summary results in this respect are given in Chapter VII. Apart from direct questions on attitudes, a number of supplementary questions were included in these questionnaires. The analytical com-

plexities of these questions made it difficult to include a fuller analysis in the present Report. It is hoped that the same will be incorporated in a subsequent publication.

1.7 In the last Chapter are included a number of case studies largely based on the personal observation and notes by the investigators. It is hoped that these will be found useful as supplementary to the discussion of attitudes in the earlier Chapter.

CHAPTER II
POONA DISTRICT

2.1 Poona district is one of the central districts of Bombay State. The present district consists of the former Poona district of Bombay Province together with a part of the previously princely State of Bhor, which was recently merged with this district of Bombay State. The present area of the district according to the Surveyor General is 6,027.5 square miles and its population according to the 1951 population census is 19,50,976. The density of the population is 324 per square mile. The census divides the district into two broad tracts, called, the urban and the rural. The urban tract consists of 36 towns which are localities with 5,000 or more inhabitants and which exhibit urban characteristics. Among these is of course the important city of Poona. In the following table (table 2.1) we give the total population of the district divided into three tracts, namely, Poona City, other urban area, and rural area.

TABLE 2.1
1951 Population of the Poona District

Area	Population.
Poona City	480,982
Other Urban Area	353,741
Rural Area	1,116,253
Total	1,950,976

2.2 Thus, 42.8 per cent of the total population is urban. On the other hand, if we relate only the rural population to the total area, the density of the rural population works out at 185 per square mile. The district is divided into 14 administrative divisions called Talukas. In table 2.2 we show the area of each taluka together with the percentage of urban to the total population as also the density of the rural population according to the 1951 census.

2.3 The district comprises a total of 1,511 inhabited towns and villages. A village is an administrative division for the land revenue administration and in this district usually has a single village-site on which are situated most of the houses in the village. Besides the central site, however, there might be one or more subsidiary and smaller sites on which are also situated clusters of village houses.

TABLE 2.2

Percentage of Urban population and Density of Rural Population in different Talukas of the District according to 1951 Population Census.

Serial Number	Taluka	Area in square miles	Percentage of urban to total population	Density of rural population per square mile
1	Poona City (Corporation Area)	67.8	99.07	81.68
2	Haveli	514.9	17.44	289.67
3	Mulshi	353.3	—	194.97
4	Bhor	324.8	10.03	204.18
5	Mawal	413.8	23.50	181.89
6	Vele	196.2	—	139.61
7	Junnar	532.7	29.31	186.16
8	Ambegaon	401.5	20.13	196.69
9	Khed	539.4	11.21	208.15
10	Sirur	610.5	12.83	147.22
11	Baramati	539.7	22.26	198.40
12	Indapur	585.8	33.47	127.54
13	Dhond	516.1	21.14	136.24
14	Purandhar	426.5	9.08	220.42
	Total	6,023.0	42.78	185.33

These latter are generally termed "Wadis". The area of the village comprises not only the area on which the village houses are situated but also the agricultural and other lands of the village as defined by the revenue map. Most of the lands are, of course, cultivated by the residents of the village or in some cases by those of the adjoining villages. Besides the houses on the village sites, some isolated farm houses, either temporary or permanent, are to be found on the village lands. The area boundaries of a village are usually well defined by natural topography but nevertheless are in a sense arbitrary. The revenue village as a demographic unit is, however, not so artificial but distinctly possesses an existence as a community. A size distribution of the villages, therefore, is not altogether with-

out significance. In table 2.3 we give the distribution of the villages and towns by their 1951 population.

TABLE 2.3

Distribution by size of Villages and Towns in Poona District according to 1951 Population census.

Size of Population	Number of towns and Villages	Number of persons percent to total	Sex ratio $\frac{\text{Females}}{\text{Males}} \times 1000$
Less than 500	764	9.87	1,012.43
— 1,000	376	13.49	1,014.91
— 2,000	240	16.88	999.67
— 5,000	91	13.39	1,002.71
— 10,000	29	9.84	970.21
— 20,000	7	5.27	858.85
— 50,000	2	3.58	713.54
— 1,00,000	1	3.03	771.62
1,00,000 and more	1	24.65	864.82
Total	1,511	100.00	938.95

Of the total of 1,511 villages and towns, two are the Poona City Municipal Corporation and the Poona Cantonment. These appear in the last group having population above 50,000. In the adjoining column of the table, is shown the proportion of the total population of the district which stays in each size group of villages. Thus though more than half of the villages are of population less than 500 each, the total population staying in them forms less than 10 per cent of the population of the district. In the last column of the table is given the sex ratio, expressed as the number of females per 1,000 males. It is to be noted that the sex ratio is higher in smaller villages, and steadily decreases with the increasing village size. Because of the sudden drop in the sex ratio in towns with population above 20,000 an analysis was made of the four cases that came under this group. Among the two towns in the class with population 20,000-50,000 one is the Kirkee Cantonment with the sex-ratio 626.15. This town is really a part of Poona City. The other town has the sex-ratio 951.63. The town with population 50,000-1,00,000 is the Poona Cantonment and the sex-ratio for this Cantonment is 771.62.

In general Cantonments have smaller percentage of women as they are military areas. If the Kirkee and Poona Cantonments are included in Poona City, the sex-ratio for Poona City becomes 832.96.

2.4 In table 2.4 we give the distribution of the district population by what the census describes as 'the means of livelihood'. The census distinguishes in all 8 livelihood classes, 4 agricultural and 4 non-agricultural. An overwhelming majority of cultivators in this district are owner cultivators and therefore the distinction between the four agricultural classes is not very important. In this table (2.4) the distribution is, therefore, shown only in five classes, one agricultural and four non-agricultural. The distributions for the City, other urban and rural population are shown separately.

TABLE 2.4

Distribution of the Population by Principal Means of Livelihood according to 1951 Population census.

Class of livelihood	Poona City	Percentage to total.		
		Other urban area	Rural area	Poona District
(1) Agriculture	3.3	29.6	80.7	53.3
(2) Production other than cultivation	24.8	20.4	6.8	13.7
(3) Commerce	17.9	10.4	2.3	7.6
(4) Transport	6.7	4.0	0.6	2.7
(5) Other services and miscellaneous sources	47.3	35.6	9.6	23.7
Total	100.0	100.0	100.0	100.0

2.5 As data relating to the demographic history of the district, we give below a few series built out of the census of 1901, 1911, 1921, 1931, 1941 and 1951. They pertain to the size of the population and its composition by sex, age and marital status. In table 2.5 we give the area and density of population of the district at the time of the various censuses beginning with 1901. In adjoining columns are shown the proportions of urban to total population and also the sex ratio expressed as the number of females to 1,000 males.

2.5 The great increase in the population during the period 1941-51 is mainly due to the phenomenal growth of Poona City. The popu-

TABLE 2.5

Showing the Area and Density of Population of Poona District at the time of the various censuses from 1901 to 1951.

Census year	Area of the district in square miles	Density of population per square mile	Proportion of urban to total population	Sex Ratio F/M × 1000.
1901	5,349	186.08	22.11	980
1911	5,366	199.68	22.33	973
1921	5,357	188.36	27.58	952
1931	5,332	219.39	26.73	946
1941	5,347	254.24	28.58	946
1951	6,023	323.90	42.78	939

lation of the City increased by more than 50 per cent during this period and as a result the proportion of the urban to total population in the district suddenly increased from 28 per cent to 42 per cent. It might be noted that the sex ratio has kept pace with the trend in urbanisation. As the proportion of the urban to total population steadily increased, the sex ratio has steadily decreased. This means that the growth of urbanisation, or in other words the rapid growth of Poona City since 1921, has occurred not only through migration to the City from within the district, but also through some immigration from outside the district.

2.6 In table 2.6 we give the age composition of males and females at various censuses. There do not appear any obvious long term trends in the age composition of the population.

2.7 Data on marital status of males are given in two tables that follow. In the first table, we show for males and females separately the proportions of ever married, (married, widowed, etc.) in different age groups at various censuses. In the other table, we give the proportions of widowed, etc. to the total ever married.

2.8 In the above tables, the information from the 1951 census could not be included, as here the age-groups for which information regarding marital status was available were rather different. In the following tables, we give the relevant information. Table 2.9 gives the proportions of ever-married to total in different age groups shown separately for (i) Poona City (ii) Other Urban Area and

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(iii) Rural Area of the district. In table 2.10 are shown proportions of widowed, divorced, etc. to total ever married.

TABLE 2.6

Age Composition from 1901 to 1951.

Census year	Age Groups							Total
	0—5	5—10	10—15	15—20	20—40	40—60	60—	
<i>Males</i>								
1901	11.16	14.18	13.24	7.69	32.00	16.61	4.62	100.00
1911	13.52	12.23	11.29	8.05	32.92	16.93	5.06	100.00
1921	11.21	14.13	12.30	7.23	32.95	16.95	5.23	100.00
1931	14.36	12.52	11.34	8.77	33.53	15.57	3.91	100.00
1941	13.26	13.32	10.99	8.17	33.42	16.61	4.23	100.00
1951	13.59	13.10	12.12	9.39	32.12	15.47	4.21	100.00
<i>Females</i>								
1901	12.81	14.36	11.45	7.43	32.14	16.42	5.39	100.00
1911	14.81	12.26	9.71	7.92	33.23	16.36	5.71	100.00
1921	12.72	14.57	10.60	7.03	32.78	16.68	5.62	100.00
1931	15.91	12.51	10.87	9.19	32.73	14.73	4.06	100.00
1941	14.23	13.92	10.13	8.47	33.92	15.25	4.08	100.00
1951	14.68	13.38	11.57	9.16	30.82	15.10	5.29	100.00

TABLE 2.7

Proportion of Ever Married (1901-1941)

Census year	Age Groups			
	10—15	15—20	20—40	40—60
<i>Males</i>				
1901	9.22	34.30	86.32	97.27
1911	11.26	35.44	84.70	97.41
1921	10.26	33.54	83.45	97.15
1931	11.30	43.42	84.30	97.88
1941	5.28	25.43	81.78	97.89
<i>Females</i>				
1901	56.25	88.91	98.32	99.01
1911	64.46	94.52	98.22	99.10
1921	60.61	92.70	97.73	98.92
1931	47.87	90.56	96.64	99.31
1941	33.21	83.81	97.28	98.86

TABLE 2.8
Proportion of Widowed to Ever-Married (1901-1941)

Census Year	Age Groups			
	10—15	15—20	20—40	40—60
<i>Males</i>				
1901	6.83	4.90	6.20	14.18
1911	2.75	2.23	4.05	12.95
1921	5.85	3.97	6.91	16.02
1931	2.30	2.03	4.46	14.74
1941	23.46	6.90	5.25	15.69
<i>Females</i>				
1901	8.18	7.94	16.28	52.32
1911	2.81	4.33	13.99	52.37
1921	5.77	6.18	17.02	53.47
1931	2.26	3.88	15.30	56.21
1941	2.02	2.98	12.06	54.77

TABLE 2.9
Proportion of Ever Married to Total in different Age-groups according to 1951 Population Census.

Age Group	Area			
	Poona City	Other Urban area	Rural area	Poona District
<i>Males</i>				
5—14	0.3	0.5	2.2	1.49
15—24	24.1	30.8	37.6	32.10
25—34	80.9	85.0	92.7	87.66
35—44	93.8	95.5	98.0	96.35
45—54	95.7	96.4	98.8	97.65
55—64	94.5	97.7	99.0	97.69
<i>Females</i>				
5—14	5.4	9.0	16.4	12.77
15—24	71.0	85.5	94.9	86.23
25—34	96.7	98.0	99.4	98.49
35—44	98.6	98.9	99.6	99.24
45—54	98.7	98.7	99.7	99.35
55—64	99.3	99.1	99.2	99.20

TABLE 2.10

Proportion of Widowed to Ever Married in different Age-groups according to 1951 Population Census

Age Group	Area			Poona District
	Poona City area	Other Urban area	Rural area	
	<i>Males</i>			
5—14	11.11	10.00	2.09	2.95
15—24	2.52	1.46	2.04	2.04
25—34	3.07	3.05	2.86	2.95
35—44	6.94	5.27	6.33	6.29
45—54	15.24	14.05	12.99	13.70
55—64	27.26	20.27	20.80	21.89
	<i>Females</i>			
5—14	1.84	0.55	2.09	1.88
15—24	3.85	2.54	2.76	2.98
25—34	8.42	6.73	9.37	8.69
35—44	26.34	21.40	21.24	22.41
45—54	59.95	48.10	43.94	48.17
55—64	78.24	76.92	76.54	76.96

2.9 As is to be expected, the proportion of ever-married to total, both among males and females, in each age-group, is larger in the other urban area than in Poona City and are larger still in the rural area. Also the proportions in each group are larger among females than among males. As to the proportions of widowed to total ever married, the relative positions of the City, other urban area and rural area are less consistent. Among males the proportion, in all age-groups, is larger in the City than in the rural area; but the position of the other urban area is not always in between the two. Among females, the proportion of widows, among younger ages, is generally smaller in the City than in the rural area and it is smaller still in the other urban area. In higher age-groups, the proportion of widows to total ever-married is higher in Poona City than in the rural area, the other urban area lying in between the two.

2.10 Finally, we give more detailed age-distributions of males and females in the three census tracts of the district. The 1951 Census Hand Book gives single year age distributions for males and females for urban and rural area of the district. The distributions are based

on the tabulation of a 10 per cent sample of the census slips. Though not published in the Census Hand Book, the Census Superintendent has kindly supplied us a similar distribution for Poona City. In table 2.11 the distributions are given in quinquennial age groups centred at ages 10, 15, 20, etc. and expressed as proportions of a total of 1,000 persons. The distributions for the other urban area are obtained by subtracting from the table for Urban area given in the Census Hand Book, the table for Poona City supplied by the Superintendent.

2.11 Among males the proportions at very young ages, namely, at 0 and 1, are more or less the same in the three areas. The proportion between ages 3 to 12 is positively smaller in the City than in the other Urban area and very much smaller than in the rural area. This is compensated by a larger proportion between ages 18 to 42 in the City, than in the rural area. Thereafter, the proportions in the City are generally very much smaller than in the rural area. In short, the proportion of males of working ages is much larger in the City than in other areas. The same is true in respect of females, though here the young ages in which the City proportions are larger than the rural proportions, are confined to the ages from 13 to 27. At all other ages except the youngest, the proportions in the City are smaller than in the rural area. It appears, therefore, that the migration of the male population from the rural to the City and other urban area, largely consists of males of working ages. To a large extent, the migration is confined to male population which brings down the ratio of male to female population in the City and in larger towns. There is nevertheless some evidence of migration of female population of young ages between 13 and 27. This was to be expected, for even though in a large number of cases the male migrants seem to move singly, it is natural that some of them moved with their families and young wives.

2.12 In these pages, we could do no more than present the relevant material and indicate in broad terms the differences in the sex, age and civil status composition of the City, other urban and the rural population. The inter-relations of these differences would be of interest in the study of the characters of the migrant population. It is obvious, however, that the subject could be taken up only as an independent study.

CHAPTER III

INVESTIGATIONAL PROCEDURE

3.1 The objective of the investigation during the first year was to determine the content of a comprehensive and workable demographic enquiry and to develop field procedures suitable for work both in the urban and the rural areas. In all its earlier socio-economic investigations the Institute had adopted the method of sample surveys based on a random sample of households, cultivators, or of other suitably determined units, and the same method was used in the present case. The first problem to be decided was, therefore, the definition of the units to be sampled.

3.2 In the socio-economic surveys of the three cities, namely, Poona, Sholapur and Kolhapur conducted earlier by the Institute, the units to be sampled were the households usually defined as a group of persons eating from a common kitchen. As part of the socio-economic survey of Kolhapur City, a demographic enquiry was conducted, but there, attention was confined only to fertility and hence the enquiry was based on a sample of women of fertile ages. The sample of women, therefore, could be conveniently taken to be the women of fertile ages, included in the socio-economic survey. For the purpose of a purely demographic enquiry, we thought that the unit to be sampled might be more conveniently defined in a somewhat different way. The idea was worth giving a trial, and hence we decided to take a sample of what we called "Biological families".

3.3 A biological family was defined to be a set of relations enumerated around a male head. The relations constituting the biological family were defined to be:—

- (i) father and mother of the male head;
- (ii) his wife;
- (iii) his brothers and sisters;
- (iv) his sons and daughters.

In all cases only the living members were to be recorded. The members might or might not be staying in the household of the head as a socio-economic unit but nevertheless they were to be enumerated. On the other hand, there might be staying in the household of the head, persons, who according to above definition were

not members of his biological family and these were excluded from enumeration. Biological families so defined, therefore, constituted our basic units.

3.4 The choice of the biological family in preference to the ordinary household was based on a number of mixed considerations. The primary consideration was the definite composition of the biological family as opposed to the rather loose, for purposes of definition, nature of the socio-economic household. The two main objectives of the investigation were derivation of the fertility and mortality rates. For the purpose of deriving the fertility rates, the recorded births are to be related to the enumerated women and there is little difficulty if the women are enumerated as members of sampled households. The only care necessary is that all births to the enumerated women within the specified period must be enumerated; and also that the exclusion or inclusion of a woman from or in the enumeration should not depend upon whether she gave or did not give birth to a child during the specified period. The first point concerns good and careful fieldwork; the second concerns the definition of the sampling unit or in other words the definition of whom to enumerate. As we shall presently see the second requirement is not very easy to secure in practice. With mortality investigation, the problem remains essentially the same but becomes more serious and in some respects more complex. Here the basic requirements are firstly an enumeration of deaths within a specified period such as a year, and secondly an enumeration of living persons who during the same period were exposed to similar risk of death; or if we may put it the other way, the requirements are firstly the enumeration of a living population and secondly an enumeration of deaths of persons within a specified period, who if not dead should have been enumerated as living. The basic problem, therefore, is the definition of the persons to be enumerated; the other two problems namely, which births to enumerate and which deaths to enumerate are then decided automatically, namely, births to all enumerated women and deaths of all persons who, if not dead, should have been enumerated.

3.5 With household as the sampling unit, the difficulty arises out of the fact that the membership composition of the household is not usually fixed. Household, as we are now using the term and as is usually employed, is necessarily associated with a place of residence and comprises persons who live together. What constitutes living together is a matter of further definition such as that it might be de-

ined as eating from a common kitchen. Such definitions themselves raise issues which are not necessarily trivial but they need not concern us for the present.

3.6 Let us suppose, therefore, that a household consists of a group of persons who live together in a manner suitably defined. Now, no group of persons live together for ever so that the composition of household is not naturally fixed. Even for a comparatively short period like a year, there are considerable movements in and out of a household so that its membership composition becomes difficult to determine in practice. Moreover, the movements that take place within the course of a year in and out of a household are often directly associated with vital events of births and deaths; such as for instance that women move from one place to another specifically for the purpose of the delivery of a child and persons move from one place to another when more liable to risk of death. These considerations become all the more important when, as was true in the present case, the investigation is confined to a small area such as a district and further when it is intended to distinguish, compare and contrast the urban and rural areas within the district. Sometimes, an attempt is made to define the composition of a household as consisting of persons who are usual or normal residents in the household. Such definitions work only to the extent that they are kept vague and any clarification of the terms tends to defeat its purpose.

3.7 The biological family, as we defined it, was free from these difficulties and that was the principal reason why we adopted it as a sampling unit. Another reason for this choice was its inherent demographic value. The composition of the household as such is of little demographic importance and the supplementary information we gather about it is useful only to the extent that we might judge from such information the living standards of the persons and relate them to the demographic experience. On the other hand, the composition of the biological family as we defined it was of immediate and vital demographic importance. We had in fact, in the biological family, two generations enumerated. Though we were aware that to exploit this aspect of the data, we should have enumerated both the living and the dead members of the biological family we chose in the first instance not to enumerate the dead as it was thought that it might further complicate or at least enlarge the scope of our questionnaire.

3.8 Though for the above mentioned reasons, we adopted the biological family as our sampling unit, we were aware that this choice would

lead to some analytical complications. The analytical difficulties arise out of the fact that as we defined and actually enumerated the members of the biological families, all persons would not get equal opportunity of being included in our sample. To explain this point, we should first describe the procedure by which we enumerated the members of a biological family. In the first instance, a sample of households was selected by usual methods of random sampling. The details are given in subsequent paragraphs. But then instead of enumerating the resident, or otherwise defined, members of a selected household, we enumerated the members of the biological family of its head. The head of the household was not initially defined in any particular manner, but the person who was the *de facto* head of the household as a socio-economic unit, was taken to be the head. Around him was then enumerated his biological family. The head was usually an adult male but in a few cases when he was not, the following procedure was adopted. If there was any adult male in the household, he was treated as the head and his biological family was enumerated; if there was no adult male in the family then the *de facto* head who was usually a married or widowed adult female was taken to be the head and the biological family of her husband, whether living or dead, was enumerated.

3.9 Let us now examine in detail the manner in which a person might be enumerated in our sample. Let us begin with the heads and their wives. In so far as the *de facto* heads of households are in fact adult males, our sample of heads and their wives is not materially different from a similar enumeration on the household basis. Our requirement that as far as possible the head should be an adult male, causes a small bias in our enumeration but its effect is small and negligible and to a certain extent compensated by the enumeration of other relatives.

3.10 Next, persons might be enumerated as parents of the head. In the first instance, it should be noted that in so far as parents might be staying separate, constituting a separate household, they have a chance of being enumerated themselves as head and his wife. Secondly, parents with larger number of adult sons established in separate households, have proportionately greater chance of being enumerated as parents, and those with no such son, have no chance of being enumerated as parents.

3.11 The same is true of brothers and sisters of heads. In the first instance, adult brothers heading independent households have a

chance of themselves being enumerated as heads. Similarly, married sisters have a chance of themselves being enumerated as wives of heads. Secondly, brothers and sisters, with larger number of adult brothers heading independent households, have proportionately greater chance of being enumerated as brothers and sisters and those with no such brothers have no chance of being enumerated as brothers and sisters.

3.12 In the same way, adult sons heading independent households have a chance of being enumerated as heads and married daughters as wives of heads. In such cases and to that extent, they have also a chance of being enumerated as brothers and sisters of heads. Their chance of being enumerated as sons and daughters itself depends upon whether their father is living and if not whether their widowed mother stayed in a household without an adult male.

3.13 Finally, persons having no adult male first relations, such as, father, husband, brother or son and who are not themselves heads of households, have no chance of being enumerated.

3.14 It is clear that the problems are fairly complicated. We do not intend to treat them in this Report, but propose to present our results as if they were obtained from an unbiased sample. We may add that in presenting the data, we shall indicate the bias if any and that actually we shall be presenting in this Report only such data as are not affected by any serious bias.

3.15 In the following, we describe briefly the method by which we obtained the sample of households both in Poona City and the selected towns and villages. In the city surveys of Poona, Sholapur and Kolhapur, earlier conducted by the Institute, the sample of households was obtained by first taking a sample of houses. The houses in these cities bear municipal house numbers; after arranging them in serial order and excluding the non-residential buildings, every tenth, or fifteenth, as the case may be, house was selected. Some of the selected houses naturally comprised more than one tenements, that is to say, in them stayed more than one households. In such cases, all households staying in the selected houses were admitted for the household survey. In technical terms the households were selected in clusters of unequal sizes, giving the clusters and not the households equal chance of being selected. This has the effect that households staying in multi-tenement houses get more than proportionate representation in the sample. In so far as the households staying in multi-

tenement houses may have different socio-economic composition, their over representation in the sample is not desirable. To remedy this, we decided to obtain a direct sample of households giving each household an equal chance of being selected. For this purpose it was necessary to obtain a complete list of households resident in Poona City. This was available from the City foodgrains rationing office. The Poona Rationed Area comprised the Poona Municipal Corporation, the Cantonments of Kirkee and Poona and a few suburban villages. For the administration of the controlled distribution of the rationed foodgrains there were established in the rationed area a number of foodgrains shops called the Authorised Ration Distributors. At the time of our investigation there were 379 such shops in the Area. Every household, resident in the City, is registered at one and only one of these shops for the purpose of the foodgrains rationing. Each shop is required to maintain up-to-date register of the households registered with it. Our sample of households was based on these registers of households with the shops. From the register of each one of the 379 shops, we marked off a sample of one per cent households. That is to say, for every 100 households with the shop we chose at random one household. The City is divided into 18 wards for administrative purposes. In table 3.1 we give for the city wards and the suburban area the number of foodgrain shops, the number of registered households and the number of households selected by us.

3.16 Even this apparently simple procedure was not without its complications. The main complication arose out of the fact that the numbers furnished to us by the rationing office as of households registered at various shops were not always the active numbers. This arose out of the manner in which the registers were maintained. When a household left the rationed area or otherwise cancelled its registration from a shop, the name of the household was cancelled, but the old serial number was allowed to continue. In other cases, households leaving the area had failed to notify the shop or the ration office of its departure and hence had remained on the register. After the households were selected, tracing of their addresses proved unexpectedly and inordinately difficult. After having traced the address, in many cases it would be found that on account of the above-mentioned circumstances, the household had left the place. Our original intentions were not to substitute fresh households in case of non-response or otherwise failure to contact. But the investigators were paid by piece-rate per questionnaire filled in and they naturally suffered if after having traced the address they could not fill in a

TABLE 3.1

Showing details of the sample of families selected for and covered by the investigation in Poona City.

Ward	Number of shops	Number of families registered	Number of Families selected	Number of families contacted
Bhawani	15	6,945	69	34
Budhwar	12	4,199	48	45
Ganesh	7	2,401	28	28
Ganj	7	4,176	46	46
Guruwar	8	2,785	29	27
Kasba	22	7,216	70	70
Mangalwar	5	2,399	22	5
Nagesh	3	1,839	18	7
Nana	22	7,160	71	70
Narayan	13	4,567	47	42
Rasta	6	2,460	24	23
Raviwar	26	8,102	80	75
Sadashiv	37	12,918	136	133
Shanwar	13	4,323	47	44
Shivajinagar	25	10,631	103	100
Shukrawar	43	11,488	118	112
Somwar	11	4,434	43	12
Suburban Area	104	42,055	420	307
Total	379	1,40,098	1,419	1,180

questionnaire. For obvious reasons no remuneration could be paid for only tracing the address and reporting the absence of the selected household at that address. Ultimately, therefore, in such cases, substitution of another household at the selected and traced address was allowed. In the last column of table 3.1 are given the number of households finally contacted in each ward.

3.17 Thus out of a total of 1,419 families selected, only 1,180 could be contacted. In 67 cases, the families were contacted but they refused to be interviewed. These might be called the cases of non-response proper. They constitute about 5 per cent of the total and

TABLE 3.2

Comparing the number of households in the final sample with the number of households according to 1951 Population census.

Ward	Number of households from 1951 census	Total Number of households in the final sample	Percentage of of household contacted to total according to 1951 census
Shukrawar	9,759	112	1.15
Sadashiv	9,276	133	1.43
Kaviwar and Ganesh	7,889	103	1.34
Kasba	6,652	70	1.05
Nana	5,107	70	1.37
Bhawani	6,911	34	0.49
Shanwar	4,223	44	1.04
Narayan	3,952	42	1.06
Budhwar	3,712	45	1.21
Somwar and Mangalwar	6,520	17	0.26
Rasta and Nihal	2,836	30	1.06
Vetal	3,202	27	0.84
Ganj, Ghorpade, Gultekdi, Poona Suburban Municipal and other extended area	31,621	453	1.43
Total	1,01,460	1180	1.16

are more or less evenly distributed in all wards. In 76 cases, the families could not be traced at their addresses and no substitutions were made. These were all in Bhavani, Somwar, Mangalwar and Nagesh wards and in the suburban area. The difficulties of tracing addresses in these wards became so serious that the investigators gave up attempts to trace the addresses in the remaining 96 cases falling in these wards. On account of these difficulties the wards of Bhavani, Somwar and Mangalwar are seriously under-represented in the final sample. Though the difficulties of tracing the addresses in the suburban area were equally serious, it so happened that our original sample of selected families was proportionately large in this area, so that in the final sample this area does not suffer from under-

representation. In table 3.2, we give the number of households in different wards according to the 1951 Population Census and the number of households covered by our investigation. From the last column of this table, where the latter are expressed as percentages of the former, it will be seen that, except in the above mentioned cases, all wards are appropriately represented in the final sample. In this table the city wards have been rearranged according to the census wards.

TABLE 3.3

Number of households according to the 1951 Population census and number of households selected and contacted in selected towns.

Town	Number of households according to 1951 census	Number of households selected	Number of households covered by the investigation.
Lonavla	4,084	94	75
Dhond	4,554	107	105
Baramati	4,092	112	112
Talegaon	1,051	60	60
Junnar	1,989	38	34
Total	15,770	411	387

3.18 For the investigation in towns, a selection of towns had to be done in the first instance. According to the 1951 Census, there were 36 towns besides Poona City. Of these five towns, namely, Baramati, Dhond, Lonavla, Junnar and Talegaon were chosen for the investigation. In this choice we were largely guided by their geographical distribution. The five selected towns belong to four different talukas of the district and lie in different parts of the district. Dhond and Baramati lie in the east and in the south-east respectively. Junnar lies in the North, Lonavla in the West and Talegaon in the centre of the district. Another consideration in choosing these towns was that they were all under the foodgrains rationing system so that the same procedure of selecting a sample of households, as was used in Poona City, could be used. By means of

the same procedure we selected a two per cent sample of households in each of the five towns. In table 3.3 we give for the towns, the total number of households according to 1951 census, the number of households selected by us and the number of households finally interviewed.

3.19 In Lonavla 18 selected households could not be traced. This was due to the fact that the town is a hill station and as such there is a large floating population in the town. At other places, the difficulties of tracing the addresses of the selected households were not felt as much as they were in Poona City.

3.20 For the rural investigation, a sample of villages had to be selected. In selecting the villages, an attempt was made to select villages with population of not more than 1,500; this was to compensate for our proportionately large sample from the towns. In all, 30 villages were selected. The villages were not selected by any elaborate process of random selection but were chosen from a map so as to obtain a fair geographical distribution and then by reference to the Census Handbook so that the population of a selected village might not be much more than 1,500. In table 3.4 we give the distribution of the selected villages in different talukas. In an adjoining column of the table is shown the 1951 population of the selected villages.

3.21 As the field was new, we decided not to attempt any elaborate random sampling of households in the selected villages. Instead, the investigators were given instructions to select a sample of 15 to 30 households in each selected village so as to cover all sections of the village site. The investigators were asked to prepare a sketch map of the village site showing the main roads and pathways and to show the houses they selected in different parts. It is by means of these maps that we satisfied ourselves that the households were selected from all sections of the village site. In the last column of table 3.4, are given the numbers of households interviewed in the selected villages.

3.22 In all three questionnaires were used for the field investigation. The first was concerned with the main investigation into fertility and mortality. The other two were designed to ascertain the male and female attitudes towards family planning and limitation. The three questionnaires are reproduced in full (in translation) in an appendix to this chapter.

TABLE 3A

Giving the Population of the selected villages according to 1951 Population Census and the number of households covered by the investigation in each one of them.

Taluka	Village	Population according to 1951 census	Number of households interviewed
Ambegaon	Mahalung Padval	2,585	25
	Eka-Lahare	529	16
Baramati	Nimbut	2,658	15
	Tandulwadi	788	18
	Rui	675	18
Bhor	Utarwali	1,397	20
	Bholawade	740	15
Dhond	Malad	1,085	31
	Rawangaon	1,340	26
	Kusegaon	1,101	25
Haveli	Khanapur	1,301	33
	Shindvane	1,110	25
	Dighi	1,237	22
Indapur	Takarwadi	455	20
	Kumbargaon	606	17
	Loni	932	23
	Gotundi	1,091	20
Khed	Waghu	240	15
	Donde	1,603	15
	Padali	728	19
	Shiroli	984	16
Mawal Purandar	Salumbre	340	15
	Waghapur	1,330	15
	Ambodi	487	24
	Shivari	1,299	23
	Doundaj	982	22
Shirur	Golegaon	903	25
	Karegaon	900	20
	Kondhapuri	630	21
	Khandale	660	20
Total			619

3.23 The structure of the first questionnaire relating to the main investigation into fertility and mortality is simple. Its purpose is firstly to enumerate all members of the biological family of the head, secondly, to note any deaths that occurred during the course of one year, among the members of the biological family; and thirdly, to note if there were any additions to the membership of the biological family by way of births during the year. The manner in which we have defined the biological family, permits the addition of members only in two categories. Additions might take place, firstly in the category of brothers and sisters which must be the births to the mothers of the heads and secondly in the category of sons and daughters which must be the births to the wives of the heads. It will thus be seen that our investigation into fertility was confined to the mothers and wives of heads. On the other hand, the mortality investigation was to be based on all the enumerated members of the biological families.

3.24 Besides the direct investigation into fertility and mortality the questionnaire provides, through a complete enumeration of living sibs and children of the head, the possibility of comparing two successive generations. The analytical problems in this direction are obviously complex.

3.25 In addition, the place of residence of all the enumerated members was noted. This should supply information relevant to a study of migration trends.

3.26 For the purpose of noting births and deaths during one year the reference year had to be specified. There are two principal alternatives; one is to specify a fixed year such as a calendar year or more conveniently an year beginning with a popular festival such as is Divali in this part of the country; the other alternative is to choose a moving year, namely, the period of one year, immediately preceding the day of visit. We did not choose the first alternative mainly because our investigation was likely to be spread over a long period so that any fixed period would soon become remote. We, therefore, chose the second alternative and noted all births and deaths during the twelve months immediately preceding the day of visit. We feel that this method of specifying the year has certain advantages in its own right. There is no doubt that a popular festival provides a convenient landmark for counting one year period and that such a reference would be very useful in a number of socio-economic investigations. But with regard to events of births and deaths, it appears to

us that they provide to the household in which they occur, at least as good a landmark for counting one year. As we know, it is customary in the population with which we are concerned, to celebrate or to observe at least the first annual day of a birth or death among the first relatives. The celebrations or observance of the day do not of course always take an elaborate form but that is mainly because the households concerned cannot always afford it. But we have no doubt that at least the first annual day is remembered. We think, therefore, that our enumeration of births does not suffer because the events could not be located with reference to the specified year.

3.27 In framing the questionnaires to ascertain the attitude towards family planning and limitation, we thought that the subject could not be introduced without some introduction. To the father, the subject could most conveniently be introduced by reference to education and upbringing of his children and also by the consequent sub-division of his property and other assets if any. To the mother, the subject could be introduced through a reference to her own health and to the nutrition of at least the younger of her children. The manner in which we did this will be apparent from the full questionnaires reproduced in the appendix.

3.28 It is true that the questionnaires look lengthy. But we thought that in this matter the resistance from the respondent would not arise because of lengthy questionnaires; the resistance would be more fundamental and then he would just refuse to discuss the issues. It was, therefore, thought advisable to make the questionnaires topically complete at least in the chosen aspects of the problem and obtain information which would be of some importance from the point of view of a study of family living and of bringing up of families.

3.29 It is true that the set of questions which we put, before we lead the respondent to the direct questions on family planning and limitation, are not impartial or passive. They have an implicit directive in them. This is admitted and it is obviously necessary to study the responses of the respondents against the background of these questions. We feel that in spite of this, a study of the responses to these questionnaires will be of sufficient interest.

3.30 The questionnaires on attitude were addressed only to the male head and his wife. The questionnaire to the males was canvassed by a male investigator. This was done in respect of only a randomly selected sub-sample of the selected households.

3.31 To begin with, the fieldwork in Poona City and Suburban area was initiated. Two male and two female investigators were employed on this work. The original plan was to divide the fieldwork between the male and female investigators equally by allocating between them the selected households on a random basis. It was then expected that the male investigators would canvass the first questionnaire relating to the fertility and mortality as also the questionnaire relating to the male attitudes to family planning; on the other hand, the female investigators were expected to do the first questionnaire on fertility and mortality and also the questionnaire on female attitudes. It was soon discovered that to fill in the first questionnaire, it was necessary to interview the male head. The wives of the heads, apart from their ignorance of the relatives of their husbands, were in many cases not well informed of their own and their husbands' ages. The two female investigators were not always competent to interview the male heads of the selected households. The original plan of the investigation had therefore to be substantially changed. A further complication arose as it soon appeared that the visit of the female investigators to the selected households merely to fill in the questionnaire on female attitudes was uneconomic from the point of view both of the investigation and the investigators. These were however all initial difficulties and soon after some minor adjustments in the programme, the fieldwork progressed smoothly and was completed in due course.

3.32 Attempts were simultaneously being made to obtain local investigators to work in the smaller towns. The principal difficulty in this direction was that the amount of investigational work in each town was rather small and hence the total payment that we could offer to each local investigator was too small to be attractive. On the other hand the training of the local investigator for the small amount of investigational work he was to do, proved uneconomic and difficult. Nevertheless, we persisted and initiated work in two towns with the help of local investigators. Then suddenly a new and unexpected difficulty came up. The investigators reported that the information sought for was too much of a private nature and that the questions were difficult to be put to people with whom they were previously acquainted. It meant that in smaller towns, where many people would be knowing each other, the local investigators were not the suitable agency to be employed for this type of investigation.

The work in smaller towns was, therefore, temporarily suspended and we decided to send around the same investigators as were doing work in Poona City. The investigation both in the towns and the villages was, therefore, conducted by the same set of investigators who worked in Poona City.

3.33 The response to our investigation was everywhere satisfactory. In the City, some resistance came from two different types of people. The first type was of those who questioned the utility of such investigations and saying that these were futile, refused to give information. The other were those who felt that the matter concerned one's private life and could not be a subject of social investigation and hence refused to part with information. Some persuasion was tried and proved useful in some cases, but when it failed, the cases were left out. In smaller towns, once the difficulty raised by the local investigators was removed and Poona City investigators were sent to those places, the investigation proceeded smoothly. The resistance there was much less than in the City and the people generally supplied the information without much discussion regarding its utility and purpose.

3.34 In the villages, prior to contacting the households, the village headmen or leaders were always first consulted. Once these were persuaded to give information, the news would spread and there would be very little resistance thereafter. Except in two of the 30 villages, the investigation proceeded very smoothly.

3.35 With questionnaire on female attitude, it was found that the village women were too shy to discuss the matter singly. It appeared that they were also afraid that the discussion might be reported to their husbands or to their fathers-in-law. On the other hand, if a number of women were collected together with the help of some elderly women, whom we found unexpectedly outspoken on many matters of vital importance, and once the ice was broken the discussion would proceed with great interest. But these would inevitably take the form of group discussions and we were doubtful of the individual responses. The younger women would always turn to the elderly women for a lead. We could not, therefore, treat the information as personal information. The number of female questionnaires filled in villages thus fell short of our expectations.

3.36 In the following table, we give the data collected through our investigation in the City, the Towns and the Villages.

TABLE 3.5

Giving the number of attitude questionnaires filled in Poona City, and selected towns and villages.

Poona City		Selected Towns		Selected Villages	
Enquiry amongst males	Enquiry amongst females	Enquiry amongst males	Enquiry amongst females	Enquiry amongst males	Enquiry amongst females
850	512	304	200	551	40

APPENDIX
QUESTIONNAIRE SCHEDULES

Questionnaire No. 1

I. Enquiry into Fertility and Mortality

- | | |
|------------------|-------------------------------|
| (1) Village | (5) Name of Head of Household |
| (2) Ward | (6) Religion and Caste |
| (3) House Number | (7) Occupation |
| (4) Date | (8) Annual Income (approx.) |

II. About the Head of the Household

- | | |
|----------------------------|--|
| (9) Age | (14) Age at present marriage |
| (10) Occupation | (15) Difference between the ages of Husband and Wife at the time of present marriage |
| (11) Education | |
| (12) Marital Status | |
| (13) Age at first marriage | |

III. About the wife of the Head

- | | |
|----------------------------|--|
| (16) Age | (21) Age at present marriage |
| (17) Occupation | (22) Number of children born out of present marriage |
| (18) Education | Living |
| (19) Marital Status | Dead |
| (20) Age at first marriage | |

In case, the wife of the head is not living

- | | |
|-------------------|--------------------------------------|
| (23) Age at Death | (24) Number of years since her death |
|-------------------|--------------------------------------|

In case death of wife occurred during last 12 months

- | | |
|---------------------|---------------------------------------|
| (25) Place of death | (27) Cause of death |
| (26) Date of death | (28) Particulars of medical treatment |

IV. About the mother of the Head

- (29) Is mother living

If she is living

- | | |
|----------|-------------------------|
| (30) Age | (31) Place of residence |
|----------|-------------------------|

If she is not living

- | | |
|-------------------|--------------------|
| (32) Age at death | (33) Year of death |
|-------------------|--------------------|

If the death occurred during last twelve months

- | | |
|---------------------|-------------------------------|
| (34) Place of death | (36) Cause of death |
| (35) Date of death | (37) Particulars of treatment |

V. About the father of the Head

- (38) Is father living

If he is living

- | | |
|----------|-------------------------|
| (39) Age | (40) Place of residence |
|----------|-------------------------|

If he is not living

- | | |
|-------------------|--------------------|
| (41) Age at death | (42) Year of death |
|-------------------|--------------------|

If death occurred during last twelve months

- | | |
|---------------------|-------------------------------|
| (43) Place of death | (45) Cause of death |
| (44) Date of death | (46) Particulars of treatment |

VI. *About each one of the living brothers and sisters of the Head*

- | | |
|-------------------------|---|
| (47) Brother or sister | (50) Age |
| (48) Name | (51) How much older or younger than the Head. |
| (49) Place of residence | |

Did the Head have a new brother or sister born during last twelve months? If so,

- | | |
|------------------------|-----------------------|
| (52) Brother or sister | (54) Date of birth |
| (53) Place of birth | (55) Is he/she living |

Was there any death during last twelve months among the brothers and sisters of the Head? If so,

- | | |
|------------------------|-------------------------------|
| (56) Brother or sister | (59) Date of death |
| (57) Place of death | (60) Cause of death |
| (58) Age at death | (61) Particulars of treatment |

VII. *About each one of the living sons and daughters of the Head*

- | | |
|----------------------|-------------------------|
| (62) Son or daughter | (64) Place of residence |
| (63) Name | (65) Age |

Did the Head have a new child born during last twelve months?

- | | |
|----------------------|-----------------------|
| (66) Son or daughter | (68) Date of birth |
| (67) Place of birth | (69) Is he/she living |

Was there any death during last twelve months among the children of the Head? If so,

- | | |
|----------------------|-------------------------------|
| (70) Son or daughter | (73) Date of death |
| (71) Place of death | (74) Cause of death |
| (72) Age at death | (75) Particulars of treatment |

Questionnaire No. B.

Attitudes of Males towards Family Planning and Limitation.

- | | |
|------------------|-------------------------------|
| (1) Village | (5) Name of Head of Household |
| (2) Ward | (6) Religion and Caste |
| (3) House Number | (7) Occupation |
| (4) Date | (8) Annual Income (approx.) |

II. *About living sons*

- | |
|---|
| (9) Number of living sons |
| (10) Of which, number whose education is complete |
| (11) Educands |
| (12) Of pre-schooling age |

III. *About each one of the sons whose education is complete*

- | |
|--|
| (13) Age |
| (14) Education |
| (15) Age when education was completed |
| (16) Do you consider his education adequate? |
| (17) Did you intend giving him more education? |
| (18) If so, which education |

- (19) Why did you fail to give him this education?
- (20) Is he at present earning?
- (21) If so, his occupation
- (22) Marital status;
- (23) Lives jointly with father or separately;
- (24) If separate, does he make any contribution towards the expenses of the father's family directly or indirectly.

IV. *About each one of the educand sons*

- (25) Age
- (26) Class in which schooling
- (27) Number of years over which future education is planned.
- (28) Age of the father when the son is expected to stand on his own.
- (29) Does the father expect to be able to finance his entire education until then.
- (30) If not, what are the alternative sources.
- (31) In particular, does the father expect his elder sons (if any) to assist him;

V. *If the father is a cultivator*

- (32) Area of owned land
- (33) Area of land taken on rent.
- (34) Area of land rented out.
- (35) Area under cultivation
- (36) Is this cultivating holding adequate to maintain your family?
- (37) Among how many sons, will this holding be divided?
- (38) Do you think these sub-divided holdings will be adequate for your sons to bring up their families?
- (39) If not, how will you advise them?
- (40) Do you have any source of income from property and other assets ?

Land
Housing
Any other kind of property.

VI. *About living daughters*

- (41) Number married;
- (42) Number widowed;
- (43) Number unmarried;
- (44) Of which, number with complete education.
- (45) Of pre-schooling age
- (46) Number of educands;

VII. *About each one of married or widowed daughters*

- (47) Age
- (48) Marital status
- (49) Education
- (50) Age at marriage
- (51) Do you think she married at an appropriate age?
- (52) If not, was it too early; or too late?
- (53) If it was too early, why was it so?
Because she married on her own;
Because a particularly suitable party was found.
Because she was not suited to further education.
Because of your financial circumstances.
- (54) Do you think she is satisfactorily placed in life?
- (55) Do you think her education was adequate?
- (56) Do you think she was capable of better education and attainment?

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- (57) Do you think better education could have placed her better in life?
 (58) If so, why could you not give her better education?

VIII. *About each one of unmarried daughters whose education has been completed*

- (59) Age
 (60) Education
 (61) Age when education was completed;
 (62) Why was the education discontinued:
 Because you consider her education adequate;
 Because she was not suited to further education;
 Because in your opinion she came of marriageable age and hence you wanted her to get married;
 Because of domestic difficulties;
 Because of financial circumstances;
 Is your daughter of marriageable age now; if so,
 (63) Are you in search of a bridegroom;
 (64) Since when have you been in search of one;

IX. *About each one of unmarried daughters educand or of pre-schooling age.*

- (65) Age
 (66) Class in which schooling
 (67) Number of years for which future education is intended;
 (68) Age of the father when the daughter will be of a marriageable age;
 (69) Does the father expect to be able to finance the entire education of the daughter as intended;
 (70) If not, what are the alternative sources;
 (71) In particular, does he expect his elder sons (if any) to assist him.

X. *General*

- (72) Do you think that the upbringing of some or all of your children has not been satisfactory;
 (73) If so, what do you think, this was due to
 Because you have (or had) to support your parents
 Because you have (or had) to support some of your brothers or sisters.
 Because you have (or had) to support the members of a joint family with inadequate means
 Because you had met rather large medical expenses
 Because you had to incur some unforeseen and accidental expenditure
 Because you have too many children.

XI. *Family Limitation*

- (74) Do you at present practise contraception
 (75) If so, which method or means you use
 (76) Do you use these regularly or irregularly
 (77) Since when have you been using them regularly
 (78) Wherefrom did you obtain knowledge regarding them
 (79) Did you practise contraception prior to the conception of your last child
 (80) When did you practise it
 (81) Which methods or means did you use
 (82) Did you practise it regularly
 (83) In how many cases you think the use was a failure
 (84) If you do not practise it now, why did you discontinue
 Because you think it ineffective
 Because you think it a nuisance
 Any other reason

If you have never practised contraception

- (85) Do you know any method or means
- (86) If so, which
- (87) Wherefrom do you derive your knowledge
- (88) Did you ever think of using these means
- (89) If so, why did you not actually use them
- (90) Have you any moral or religious objections to using these means or in general to family limitations.
- (91) If so, what are they
- (92) If you have no objections, would you welcome expert advice regarding various means of family limitations
- (93) Did you discuss the desirability of children with your wife:
- (94) Did you do so prior to the conception of your last child.
- (95) Did you yourself desire this last child of yours
- (96) Do you positively think that your wife desired it
- (96) If not, for what reasons did she not desire
 - Because she thinks herself too weak to bear
 - Because she thinks the family is too large to support
 - Because she thinks that the child comes in the way of her occupation or career
- (97) If she desired the child, why
 - She thinks she can afford to have more children
 - She was desirous of a son

If you do not think that you have rather a large family to support

- (98) How many children, you think, you can afford to have
- (99) At what age of yours, you think, you should have your last child
- (100) Do you intend practising family limitation after this desired number or age.

Questionnaire No. 3

I. *Attitudes of Females towards Family Planning and Limitation*

- (1) Village
- (2) Ward
- (3) House Number
- (4) Date
- (5) Name of the Head of household
- (6) Religion and Caste
- (7) Occupation
- (8) Annual income (approx.)

II. *Regarding wife of the Head*

- (9) Age
- (10) Occupation
- (11) Annual Income (if earner)
- (12) Age at marriage
- (13) Total number of children born
- (14) Of which living
- (15) Of which dead
- (16) Still births (if any)
- (17) Premature deliveries and miscarriages, if any.
- (18) Were you physically fit during all the confinements.
- (19) If not, in how many cases, you think, you should not have borne the child;

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- (20) Was this due to
- (a) Generally weak health.
 - (b) Weakness due to having borne too many children
 - (c) Too short spacing
 - (d) Any chronic ailment
 - (e) Major illness during pregnancy
 - (f) Hard work during pregnancy
- III. (21) When did you have your last delivery (normal or abnormal)
- (22) In case the delivery was premature, length of pregnancy period prior to delivery
- (23) Reasons for the premature delivery.
- (24) If the delivery was normal, for how many days prior to the delivery did you cease doing your normal household duties.
- (25) If you were engaged in any occupation other than the normal household duties, for how many days prior to delivery did you cease working.
- (26) Do you think, you were physically fit to bear this child.
- (27) If not, why?
- (28) Did you suffer from any illness during this pregnancy
- (29) If so, its nature
- (30) Did this illness arise out of pregnancy
- (31) Were you medically treated for the same.
- (32) Did you receive any extra nutrition during pregnancy and confinement.
- Nutritional foods, e.g. milk, eggs, etc.
- Medicinal tonics.
- (33) Was the delivery normal or abnormal;
- (34) If abnormal, nature of the trouble;
- (35) Did you have any prolonged or serious illness after delivery.
- (36) If so, nature of the illness.
- (37) For how long did you suffer on that account.
- (38) For how many months was the child entirely breast-fed.
- (39) When was it completely weaned
- (40) Do you think that the breast-feeding was adequate
- (41) If not, why:
- (a) Your constitution
 - (b) Want of rest
 - (c) Lack of nourishment.
- (42) If the child last born, is living, its age today.
- (43) How much milk does it take daily
- (44) Do you think this quantity of milk adequate for it
- (45) If not, why do you not give it more
- (a) The child is too weak to have more
 - (b) The child is reluctant to have more.
 - (c) You cannot afford to give it any more.
- If the child last born is not living.*
- (46) Age at death.
- (47) Cause of death:
- (a) Major specific illness,
 - (b) Accident,
 - (c) Was born too weak,
 - (d) Did not receive adequate nourishment,
 - (e) Did not receive adequate medical care.
- (48) How many of your children take regularly any quantity of milk.
- (49) How much milk in all do they take.
- (50) Do you think, this is adequate for them.
- (51) Are you satisfied generally that all your children are adequately fed

- (52) If not, do you think this is because you have too many to feed.
- (53) If so, how many children you think, you could feed adequately.
- (54) Did you ever discuss with your husband, the desirable number of children.
- (55) Did you do so prior to the conception of your last child.
- (56) Did you yourself desire your last child.
- (57) If not, why.
Because you think yourself too weak to bear,
Because you think the family is too large to support,
Because you think the child comes in the way of your occupation or career.
- (58) If you desired your last child, why.
Because you desired more children.
Because you desired a son.
- (59) Do you think that your husband desired your last child.

If you do not think that you have rather a large number of children.

- (60) How many children you think you should have.
- (61) How many children you think you can bear without detriment to your health.
- (62) How many children you think you can afford to feed.
- (63) At what age of yours, you think, you should have your last child.
- (64) Do you know that it is possible, by artificial means to control and prevent conception.
- (65) If you do, do you or your husband use any contraceptives.
- (66) If so, which method do you adopt.
- (67) Are you regular in its use.
- (68) Did you practise contraception prior to the conception of your last child.
- (69) If you did, which method were you using.
- (70) Were you regular in its use.
- (71) In that case, do you think that it was a failure and if so, on how many occasions you think the method failed similarly.
- (72) If you do not practise it now, did you discontinue.
Because you think it ineffective.
Because you think it a nuisance.
Any other reason.

If you have never practised contraception.

- (73) Do you know any method or means.
- (74) If so, which.
- (75) Wherefrom do you derive your knowledge regarding them.
- (76) Did you ever think of using these means.
- (77) If so, why did you not actually use them.
- (78) Did you ever discuss the matter with your husband.
- (79) Have you any moral or religious objections to using these means
- (80) If you have no objection, would you welcome expert advice regarding various means of family limitation.

CHAPTER IV

SURVEY RESULTS—POONA CITY

4.1 In the present chapter, we shall present the survey results for Poona City. Of the 1,180 families investigated there, 105 families were speakers of languages other than Marathi (which is the regional language) and though most of them were Hindus, due to an investigational oversight, their castes were not noted. In table 4.1 is given the percentage distribution of the remaining families by principal castes. In the adjoining column is given the corresponding distribution from "A Socio-Economic Survey" of Poona City conducted by the Institute in 1936; the Survey was based on a one-in-fifteen sample of households.

TABLE 4.1

Percentage distribution of households by castes in (i) the Demographic Survey (1952); (ii) the Socio-economic Survey (1936)

Caste	Demographic survey sample	Socio-economic survey sample
Brahmins	26.14	17.80
Murathas	26.33	27.98
Advanced Hindus		
Other advanced Hindus	10.42	14.70
Intermediate Hindus (Artisans)	8.28	8.02
Intermediate Hindus (Others)	4.00	6.20
Backward Hindus	1.67	0.77
Scheduled Castes	8.47	8.43
Mohammedans	7.81	11.79
Jains	1.58	1.44
Christians and others	5.30	3.36
Total	100.00	100.00
Total number of families	1,180	4,529

It is obvious that except in one or two particulars, the two distributions agree very well. Indeed, in view of the fact that both the distributions are based on samples, one of one-in-fifteen and the other of only one per cent of the households and that they relate to two periods 16 years apart, the correspondence is strikingly close. Nevertheless the proportion of Brahmins in the Demographic Survey sample appears rather too large compared to the same in the Socio-economic Survey sample. This is compensated by the somewhat smaller proportions, in the present sample, of Advanced Hindus other than Brahmins and Marathas and of the Intermediate Hindus other than artisans. This might be partly due to the fact that some of the wards are under-represented in the present sample. As earlier explained, due to difficulties of field work in certain areas, the wards of Bhavani, Somwar, Mangalwar and Nagesh were considerably under-represented. It is most probably for this reason that Brahmins have been over-represented at the expense of other castes. The under-representation of the Muslims might be partly due to the same circumstances, but it is mainly due to the fact that there has been a considerable decrease in the Muslim proportion of the City's population. This will be apparent from the table 4.2 wherein our sample is compared with the 1951 distribution by different religions. In the 1951 census, among the Hindus only the scheduled castes were distinguished and a more detailed classification by castes was, therefore, not available.

TABLE 4.2

Percentage distribution by Religion (Scheduled Castes distinguished among Hindus) in (i) the Demographic Survey and in (ii) the 1951 Population Census.

Caste	Demographic survey sample	1951 population census
Hindu other than scheduled castes	76.84	75.02
Scheduled castes	8.47	10.12
Mohammedans	7.81	8.98
Jains	1.58	1.80
Christians and others	5.30	4.08
Total	100.00	100.00
Total number of families	1,180	

4.2 In table 4.3 is given the occupational distribution of the selected families. In the adjoining column is given the corresponding distribution from the Socio-economic Survey of Poona City (1936).

TABLE 4.3

Percentage distribution of households by Occupation in (i) The Demographic Survey (1952) and (ii) The Socio-Economic Survey (1936)

Occupation	Demographic survey sample	Socio-economic survey sample
Unskilled manual work	18.48	20.82
Skilled manual work	19.74	20.18
Lowest professions, administrative posts, primary teachers, etc.	7.97	7.73
Small businesses	9.75	12.36
Highly skilled and supervisory manual work	4.24	7.35
Clerks and shop assistants	12.54	9.30
Intermediate professions, salaried posts, secondary teachers, etc.	5.34	3.16
Medium businesses	8.13	7.55
Higher professions and salaried posts	1.95	1.46
Owners of factories, large shops, etc.	1.27	0.22
Beggars, prostitutes & pensioners. etc.	10.59	9.87
Total	100.00	100.00
Total number of families	1,180	4,529

Here again the correspondence between the two distributions is very close. The few deviations arise out of the over-representation of Brahmins and under-representation of certain castes as also the decrease in the proportion of Muslims. As a result there is a small excess of clerks and shop assistants, and of intermediate professions and salaried posts; on the other hand there is a small deficit of highly skilled manual labour and of small businesses. On the whole, however, the correspondence is very good.

4.3 In table 4.4 is given the income distribution of the selected families. In the adjoining column is given the corresponding distribution from the Socio-economic survey (1936).

TABLE 4.4
Percentage distribution of households by Income in (i) The Demographic Survey (1952) and (ii) The Socio-Economic Survey (1936)

Income in Rupees	Demographic survey sample	Socio-economic survey sample
Less than 100	0.09	5.98
100 —	0.89	20.68
200 —	2.75	20.88
300 —	5.42	16.97
400 —	6.04	8.67
500 —	15.19	11.07
750 —	22.73	4.30
1000 —	29.13	7.19
2000 —	17.76	4.26
Total	100.00	100.00
Number of families reporting income	1,126	4,463
Number of families not reporting	54	66
Total number of families	1,180	4,529

The two distributions bring out in a striking manner the change that has taken place, from 1936 to 1952. In 1936 more than 64 per cent of the families were below an annual income of Rs. 400. In 1952 there are hardly 10 per cent of such families. On the other hand, in 1936 only 27 per cent of the families had incomes above Rs. 500. In 1952, 85 per cent of the families have these incomes. It would be out of place to go into greater detail of the change that has taken place, nevertheless, it should perhaps be mentioned that a very large part of the change is more than cancelled by the relative price level in 1952 as compared to the same in 1936. Of the 54 cases where the incomes could not be ascertained, 21 were cases of unemployment, 7 reported losses in business and 3 reported that they lived on savings.

4.4 As explained earlier, our sample of families was a sample of what we called the "biological families" defined as a group of relations centred round a male head. Such families must, therefore, be sharply distinguished from the families in the sense of "households" as we

would have in a sample for a socio-economic survey. The sex and age composition of the members enumerated in the "biological families" would not, therefore, correspond to the age and sex composition of the City population. Therefore in discussing the composition of the enumerated members it becomes necessary to treat separately members in different relation-categories in which they were enumerated. Table 4.5 gives the distribution of the enumerated members by the relation-categories.

TABLE 4.5

Distribution by relation categories of members enumerated in the sample of biological families.

Enumerated as	No. of members
(Living) Male heads	1,115 ✓
Wives of living heads	927
Widows of dead heads	65
Fathers of heads	226 ✓
Mothers of heads	398
Brothers of heads	1,325 ✓
Sisters of heads	1,014
Sons of heads	1,533 ✓
Daughters of heads	1,375
Total	7,978

4.5 By definition the "biological family" was centred round a "Male Head". In most cases, the head of the selected household was indeed a male and around him could be enumerated the biological family. However, a few cases presented some difficulty. In some, the head of the household was a female; in such cases, if an adult male could be found in the family, he was defined to be the "Male Head" for our investigational purposes and around him was enumerated the biological family. In all these cases, therefore, the "Male Head" was either *de facto* head of the household or was an adult male actually located in the selected household. There occurred only two cases, where the enumerated "Male Head" was not actually present in the household; in both these cases their married wives were present. In one case, the male head was away on business; in the other, the male head had

reportedly deserted his wife. In this manner, "Male Heads" were found for 1,115 out of the total of 1,180 selected households. Around these heads were enumerated their biological families. In the remaining 65 cases, the *de facto* heads were widows and in the households no adult male could be found to be designated the "Male Head". In these cases, the "Male Head" was recorded as "Dead". In enumerating the members of the biological family of the "Dead Male Head", his father, mother, brothers and sisters were left out as no reliable information could be gathered from the widow. In such cases, only the sons and daughters of the "Dead Male Head" and his widow were enumerated.

4.6 While most of the enumerated male heads were married, some of them were unmarried and some were widowed. Table 4.6 gives the marital status and age composition of the male heads.

Distribution of the Male Heads by Age and by Marital Status
TABLE 4.6

Age group	Unmarried	Married	Widowers & others	Total
15-19	23	2	-	25
20-24	43	45	1	89
25-29	16	121	10	147
30-34	10	139	10	159
35-39	6	153	9	168
40-44	2	149	13	164
45-49	-	110	10	120
50-54	4	89	9	102
55-59	2	47	9	58
60-64	4	30	7	41
65-69	1	16	7	24
70 & above	2	10	6	18
Total	113	911	91	1,115

Thus of the 1,115 male heads, 113 were unmarried, 911 married, 75 widowed and 16 were of extra-ordinary marital status. Of the last category, 10 were separated and 4 divorced. In all the 14

cases of divorce and separation, excepting one, the reporting was done by the male head who was staying in the selected household while his wife did not stay with him. In one exceptional case, the male head was not in the household, and the reporting was done by the separated wife. In the two remaining cases, the male heads reported as their wives, women who on further enquiry appeared to have extra-marital relations with the heads.

4.7 From the manner in which the "Male Head" was defined and determined, it should be obvious that the enumerated "Male Heads" do not form a representative group of the adult male population; the older as opposed to the younger and the married as opposed to the unmarried among the adult males obtain more than proportionate representation in the group of "Male Heads". Nevertheless as will appear from table 4.7 the bias in favour for the older and the married is not as great as it might be imagined.

TABLE 4.7

Percentage distribution by Age and by Marital Status of (i) Male Heads in the Demographic Survey and (ii) Male adults in the Socio-Economic Survey.

	Age Groups		Marital status		
	15-50	50 & over	Single	Married	Widowed
Demographic Survey Sample	78.30	21.70	10.05	81.97	7.98
Socio-economic Survey Sample	84.50	15.50	25.50	65.56	8.94

4.8 In table 4.8 we give the age composition of the wives of the living heads and of the widows of the dead. The 911 married women were the wives of the 911 married "Male Heads". The case of 65 widows has already been explained; they were heads of the households in which there was no adult male member.

4.9 As in the case of "Male Heads", the group of "Wives and Widows of Heads" is not representative of the adult female population; in the first instance, unmarried women are ruled out by definition and widows appear only when in their households, there is no adult male member. In the table 4.9 is a comparative statement of the age and marital status of adult females in the sample for the Socio-economic Survey (1936) and the group of "Wives and Widows" in the present sample.

TABLE 4.8

Distribution of the Wives and Widows of Heads by Age and by Marital Status

Age group	Married	Widowed	Others	Total
Below 15	9	—	—	9
15-19	87	—	2	89
20-24	163	—	5	168
25-29	194	2	3	199
30-34	134	4	1	139
35-39	122	8	3	133
40-44	89	20	1	110
45-49	56	8	—	64
50-54	32	10	—	42
55-59	14	4	1	19
60-64	7	6	—	13
65-69	3	—	—	3
70 and above	1	3	—	4
Total	911	65	16	992

TABLE 4.9

Percentage distribution by Age and by Marital Status of (i) Wives and Widows of Male Heads in the Demographic Survey, (ii) Wives, Widows and Mothers of Male Heads in the Demographic Survey and (iii) Female adults in the Socio-Economic Survey

	Age Groups		Marital Status		
	15-50	50 & over	Single	Married	Widowed
Demographic Survey (wives and widows)	91.83	8.17	—	91.62	8.38
Demographic Survey (wives widows and mothers)	72.59	27.41	—	76.55	23.35
Socio-economic survey	83.02	16.98	4.74	68.59	26.67

It is thus clear that the group of "Wives and Widows" is loaded in favour of the married women much more than is the group of "Male Heads" in favour of the married men. On the other hand, the age-

bias in the group of "Wives and Widows" is of the opposite nature, there being more of the younger age group. This is largely due to the under-representation of the widows; the exclusion of the unmarried does not counteract the bias to any great extent, there being less than five per cent unmarried adult females in the population. The second line in the above table is referred to in section 4.12.

4.10 As pointed out earlier, it was only in respect of the 1,115 living male heads, that the information regarding their fathers and mothers was asked for. The parents of dead heads were not enumerated. Table 4.10 gives the particulars of the enumeration of the parents of the living heads.

TABLE 4.10
Details regarding enumeration of parents

Number of heads reporting both parents alive	137
Number of heads reporting only mother alive	261
Number of heads reporting only father alive	89
Number of heads reporting both parents dead	628
Total number of living heads	1,115

Thus the total number of enumerated mothers was 398, of whom 137 were married while 261 were widowed. On the other hand the total number of enumerated fathers was only 226, of whom 137 were married and 89 were widowers. The reasons why the number of enumerated fathers was so small as compared to the enumerated mothers are obvious; as the headship of a family goes, it is not unless the father is disabled by old age or otherwise, or is not staying in the household, that the son usually becomes the head.

4.11 In table 4.11 we give the age distributions of the enumerated fathers and of the married and the widowed mothers.

4.12 Earlier in table 4.9, we have compared the composition by age and by marital status of the wives and widows of the male heads with the corresponding composition of adult females in the sample for the Socio-economic Survey. Our investigation in fertility however is based on the wives and widows as well as mothers of the male heads. In comparing with the adult females in the sample for the Socio-economic Survey, therefore, it would be more appropriate to

TABLE 4.11

Distribution by Age of (i) Fathers, (ii) Married mothers and (iii) Widowed mothers

Age group	Fathers	Married Mothers	Widowed Mothers
30-34	8	-	8
35-39	18	3	3
40-44	34	21	11
45-49	51	27	30
50-54	40	34	45
55-59	29	23	42
60-64	28	15	42
65-69	7	9	34
70-74	10	5	51
Not given	1	-	-
Total	226	137	261

consider the group of wives, widows and mothers of male heads. This is done in the second line of table 4.9. It then appears that the correspondence with the sample for the Socio-economic Survey is much closer and that, therefore, our sample of women for the fertility enquiry does not suffer from any serious bias as revealed by its composition by age and by marital status. Moreover, whatever biases there might exist in this respect are eliminated by the analytical procedures for deriving the fertility rates. As will appear from later sections, the fertility rates are initially derived age-specific and for married women only and that all further derivations are based on these age-specific rates for married women. They are, therefore, not liable to any biases in the sample of women in respect of their composition by age and by marital status.

4.13 In table 4.12 are given the distribution by age of the enumerated brothers and sisters and also of the sons and daughters of the male heads.

4.14 The number of enumerated brothers is 1,325 while the number of enumerated sisters is only 1,014. Putting the brothers and sisters together we have a total of 2,339 sibs reported by the 1,115 male heads. The ratio of brothers to total sibs works out to be

TABLE 4.12

Distribution by Age of Brothers, Sisters, Sons and Daughters.

Age Group	Brothers	Sisters	Sons	Daughters
0—4	5	10	357	348
5—9	27	31	330	354
10—14	63	62	305	226
15—19	87	85	208	190
20—24	155	100	167	130
25—29	181	130	85	63
30—34	156	130	29	33
35—39	179	123	18	16
40—44	136	105	13	5
45—49	122	80	4	—
50—54	80	56	2	—
55—59	42	35	—	—
60—64	29	22	—	—
65—69	9	8	—	—
70 and above	13	10	—	—
Not given	41	27	15	10
Total	1,325	1,014	1,533	1,375

.5665. According to 1951 Census, the ratio of males to total population in Poona City was .5362. The same ratio in the Poona district was naturally somewhat lower, being .5157. It is perhaps more appropriate that the proportion of brothers among sibs should be compared with this latter ratio than the same in the City population where it is higher for reasons which should not affect the sex ratio among the sibs. It seems, therefore, possible that there has been some under-enumeration of sisters in our investigation. An inspection of the age distribution of the enumerated brothers and sisters suggests that such under-enumeration is mainly among the higher age-groups.

4.15 It should be noted that in the above while considering the sex ratio, we have related the reported number of brothers to the

reported total number of brothers and sisters. These numbers were reported by the male heads themselves and it is obvious that in considering the total number of sibs, the male heads themselves should be counted among the brothers. If we count the male heads among the brothers, as we should, it would appear that the number of brothers is not 1325 but actually 2440 as against only 1014 sisters, so that the ratio of brothers to total sibs is not .5665 but much larger. It might, therefore, be thought that the extent of under-enumeration of sisters is in fact much larger than is indicated in the above and that therefore its true extent has been disguised by not counting the male heads among the reported brothers. However, this is not true and in considering the sex ratio among the sibs, it is quite appropriate not to count the male heads among the brothers. The reasons for this are a little technical but might be explained in non-technical terms. The information is given by the male heads, that is, by one of the 'brothers'. On account of this circumstance, families with larger number of brothers get more opportunity of reporting themselves than do families with fewer brothers. The point might be illustrated by considering an extreme case. Consider, for instance, women who have no brothers; our procedure is such that these will never be reported in our sample as sisters. Or, again consider families with two sibs; these may consist of either both brothers, one brother and one sister or both sisters. Families in the last named category will just not be reported. But even between the first two categories, families in the first category get twice as much opportunity of being enumerated as get families in the second category; this is because either of the brothers may report the families in the first category. This argument is true more generally and shows that families with larger number of brothers get proportionately more opportunity of being enumerated. It is obvious therefore that among the enumerated sibs including the reporting male heads, there would be an excess of brothers so that the sex ratio among the sibs including the male heads would be biased in favour of males. It can be shown theoretically and also may be seen on general grounds, that the bias is corrected if we exclude from the sibs, the reporting male heads.

4.16 The reported numbers of sons and daughters are not affected by similar biases and their reported numbers, though they show a small excess of sons over daughters do not indicate any under enumeration of daughters.

4.17 We have so far described the relation categories in which the members of the biological families were enumerated. We shall now explain the bearing of this enumeration on the two principal points of enquiry, namely, the derivation of mortality and fertility rates for the population. Let us first consider mortality. After enumerating the living members in various relation categories, information was asked regarding any deaths that occurred in these relation categories during the course of one year immediately preceding the interview. Death could of course occur in all categories of members except in the categories of the members reporting the information; thus by definition and procedure of the investigation, no death could occur in the categories of (i) Living Male Heads and of (ii) Widows of dead male heads. In all the remaining categories death could occur. As earlier noted, in two cases, the living male heads were not actually staying in the selected households. In these cases the reporting members were the wives of the living heads and not the heads themselves. To be exact, therefore, deaths could occur among the absent male heads but not among their wives who were the respondents during the interview. However, as there were only two such cases, we shall neglect them. For derivation of mortality rates, therefore, we should consider the living members as given in table 4.13 being the survivors of those who were exposed to the risk of death during the year immediately preceding the interview. It should be clearly understood that these are the living members who were exposed to the risk of death but who did not die during the year. On the other hand, a total of 42 deaths, 20 male and 22 female deaths were recorded as having occurred during the year in the different relation categories. In a parallel column of table 4.13 are given the reported deaths in the respective relation categories.

4.18 Data given in table 4.13 thus constitute our investigation into mortality. However, the sample size is obviously too small for an independent treatment. As we have already noted we have another sample of about the same size from the non-city area, comprising towns and rural area of the district. We, therefore, propose to put the two samples together and take up the subject in a subsequent chapter.

4.19 The second principal objective of the investigation was the derivation of the fertility rates. For this purpose, information was asked regarding any additions by birth during the year to the cate-

TABLE 4.13

Living members who were exposed to the risk of death and number of reported deaths in different relation categories during the year

Relation Category	Living members	Reported deaths
Fathers	226	15
Brothers	1325	1
Sons	1533	4
Total males	3084	20
Wives	927	6
Mothers	398	8
Sisters	1014	—
Daughters	1375	8
Total females	3714	22

TABLE 4.14

Married women included in the Fertility Enquiry and the reported Live births to them during one year

Relation Category	No. of married women	Reported live births
Unseparated wives	911	178
Married mothers	137	2
Total	1048	180

gories (i) brothers and sisters and (ii) sons and daughters of the heads. Obviously, therefore, the women concerned were (i) unseparated wives of living heads and (ii) married mothers. To these women were reported a total of 183 births during the twelve months immediately preceding the date of interview. Out of these, 3 were still births of which one was a twin. In the derivation of the fertility rates we shall make use only of the 180 live births. Among the live births again there was a twin birth. In the derivation of the fertility rates, however, we shall treat it as a single birth. In table

F...4

4.14 are given the number of married women in the two relation categories included in the fertility enquiry and the number of reported live births to them. These data constitute the basic material for the derivation of the fertility rates for married women. In the following sections we shall derive the age-specific fertility rates for married women.

4.20 In table 4.15 is given the distribution by age of the 1048 married women included in our fertility investigation. Due to the heavy concentration around ages 15, 20, 25 etc. in the reported ages, the age distribution is given in quinquennial age groups centered at 15, 20, etc. Women under 13 and above 52 are grouped in two open-end class intervals. In the adjoining column are given the numbers of live births reported as having occurred during 12 months immediately preceding the date of interview. In the last column are shown the ratios of births to married women in different age groups, expressed as per 1,000 women.

TABLE 4.15

Derivation of Age-specific Fertility Rates for Married Women grouped in quinquennial age groups

Age group	Number of women	Number of live, births during 12 months preceding the date of enquiry	Number of births per 1000 women
Below 13	4	—	—
13 — 17	33	7	212.12
18 — 22	164	32	195.12
23 — 27	176	54	306.82
28 — 32	188	44	234.04
33 — 37	109	25	229.36
38 — 42	139	13	100.78
43 — 47	85	4	47.06
48 — 52	73	1	13.70
Above 52	87	—	—
Total	1,048	180	

4.21 The rates appearing in the table 4.15 should of course be centered at the centres of the corresponding age-groups, namely at ages 15, 20, 25 etc. For intermediate ages, the rates must be found by interpolation. The progression of age-specific rates as appearing in the last column of the table is generally satisfactory except for the relatively high rate in the earliest age-group 13-17, and the sudden fall in it in the next age-group 18-22. The gradient of the fall in the rate from 234.04 for the age-group 28-32 to 229.36 for the next age-group is also too small and not satisfactory. Recourse, therefore, has to be taken to some kind of graduation. We propose to graduate these rates graphically by free-hand. Some subjective judgement is, therefore, unavoidable. But in order to keep this to a minimum, we shall keep unaffected four of the eight actual rates. We cannot, of course, leave the rates at ages 15 and 20 unaltered. However, between the two rates, the rate at age 20 is based on a much larger number of observations than is the rate at age 15; we shall, therefore, make the graduation to agree more with the former than with the latter rate. The same is true of the rates at ages 30 and 35. The rate at age 30 is based on a larger number of observations and hence we shall place somewhat more reliance on it. The actual rates are plotted on Graph No. 1. Bearing in mind the considerations mentioned above, the rates were graduated by free hand. The rates for single years were then read off from the graduation and their first differences formed. These latter indicate the rate of change in the fertility rates at various ages. The first differences themselves were then plotted and graduated. With the help of the graduated first differences, the single year fertility rates were reconstructed and plotted on the original graduation. The reconstructed rates, of course, differed only slightly from the original graduation. A fresh graduation was then effected as *via media* between the original graduation and the reconstructed rates. The final graduation is shown in Graph No. 1 and will testify that the above mentioned considerations were borne in mind and that the graduation conformed closely to the actual rates plotted.

4.22 The finally graduated fertility rates for single age years were read off from the final graduation shown in Graph No. 1 and are given in Table 4.16. All the rates are expressed as number of births to be expected in one year to 1,000 married women at specified ages. In the adjoining column of the table are given the cumulative totals of the fertility rates cumulated upto specified ages and which therefore represent the total number of births to be expected to

FERTILITY AND MORTALITY IN POONA DISTRICT

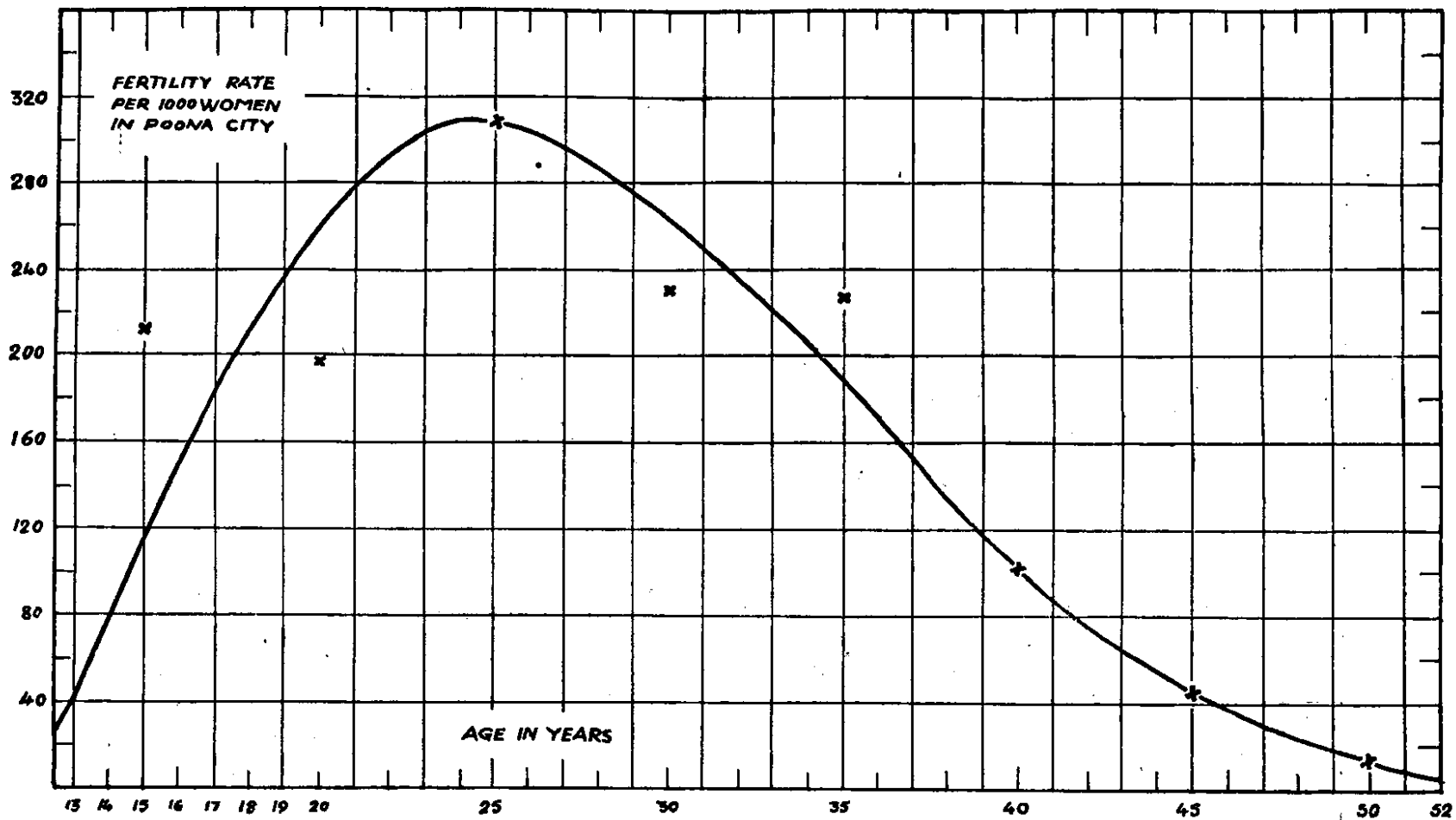
1,000 married women who live and remain married upto specified ages. The final total which in this case is 6,456 gives what is called the total fertility rate for married women and measures the total number of children to be expected to 1,000 married women who live and remain married throughout their fertile period.

TABLE 4.16

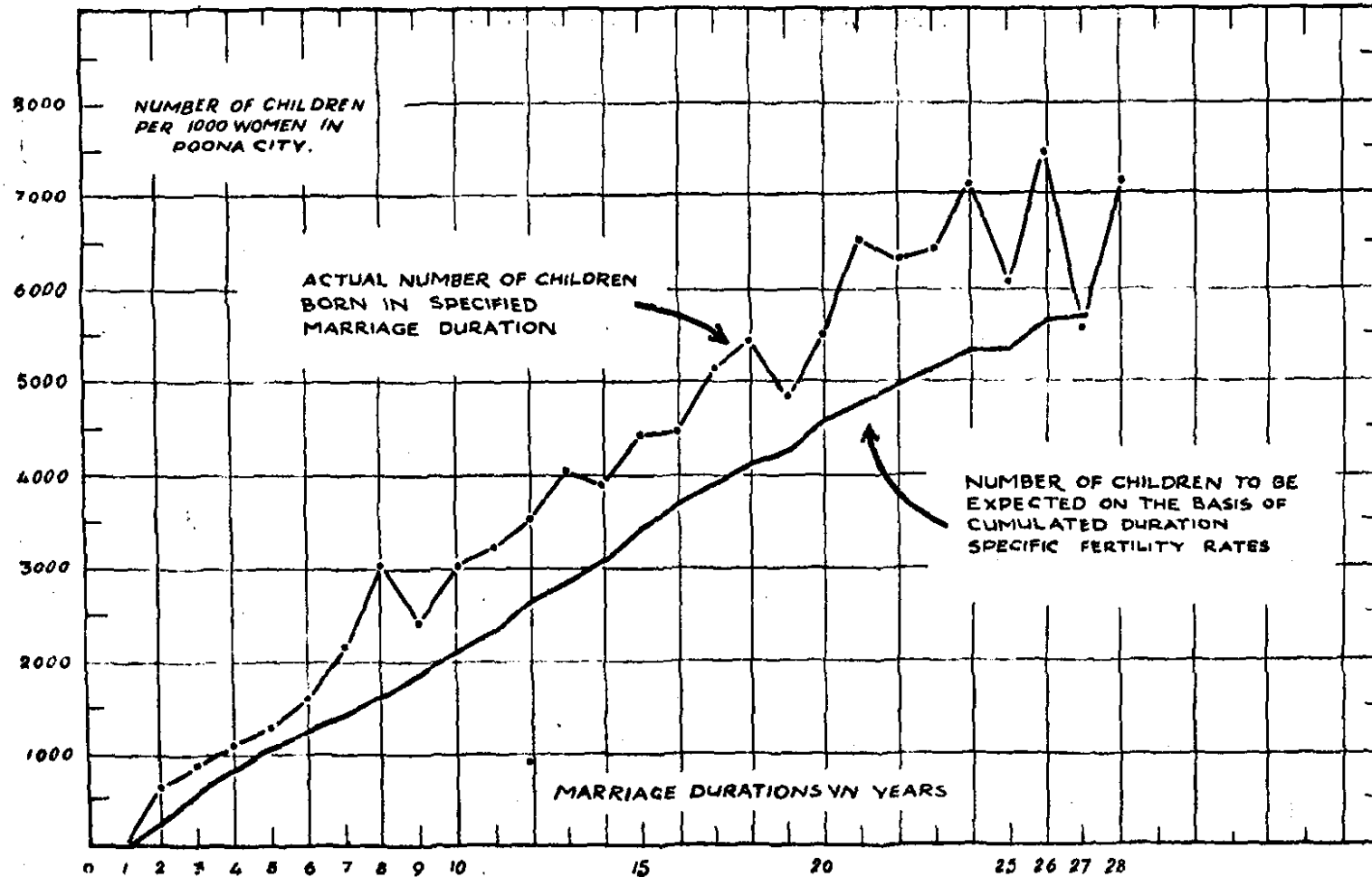
Age specific Fertility Rates for Married Women in Poona City read off from Graph No. 1

Age	Fertility rate per 1000 women	Cumulative total	Age	Fertility rate per 1000 women	Cumulative total
13	40	40	33	220	4,899
14	85	125	34	203	5,102
15	115	240	35	188	5,290
16	145	385	36	170	5,460
17	180	565	37	153	5,613
18	210	775	38	137	5,750
19	235	1,010	39	120	5,870
20	260	1,270	40	101	5,971
21	278	1,548	41	90	6,061
22	295	1,843	42	78	6,139
23	305	2,148	43	68	6,207
24	308	2,456	44	57	6,264
25	307	2,763	45	47	6,311
26	304	3,067	46	39	6,350
27	295	3,362	47	33	6,383
28	287	3,649	48	25	6,408
29	277	3,926	49	20	6,428
30	264	4,190	50	14	6,442
31	252	4,442	51	9	6,451
32	237	4,679	52	5	6,456

4.23 The interpretation put on the total fertility rate of married women as being the number of children to be expected to a cohort of 1,000 married women who live and remain married throughout



GRAPH No. 1 Age Specific Fertility Rates for Married Women in Poona City.



GRAPH No. 2 Comparison of Actual and Expected Number of Children born during specified Marriage Durations (Poona City).

their fertile period is open to criticism which is well-known. The criticism is principally based on the fact that the age-specific fertility rates which go into the computation of the total fertility rate are based on the experience at different ages of different cohorts of women; that the experience of a cohort of women at a specified age naturally depends upon their past experience at earlier ages and that in general this would be different from the experience of other cohorts at these ages. The computation of the total fertility rate implies that the experience at different ages of different cohorts of women can be pieced together and that a cohort of women may conceivably be subjected to this experience. This is obviously incongruous. The difficulty that the experience of different cohorts of women must be pieced together seems unavoidable unless we decide to observe a single cohort throughout their fertile period; that in practice is difficult and even having done so, the results might not prove applicable to cohorts other than the one observed. Observation of different cohorts appears therefore inevitable. There still remain two alternatives. One is to derive the age specific fertility rates, as is done above and as is the usual practice, on the basis of the experience at different ages of different cohorts of women and then to add them together. The other is to derive directly the total fertility rates upto specified ages on the basis of the total experience of different cohorts of women of the specified ages. The implication of the latter procedure is that if age-specific rates were required they would be obtained by differencing total fertility rates at successive ages; or in other words the procedure implies that a cohort of women aged say 30 today, makes up during the next five years for the difference between its own reproductive performance to date and that of another cohort of women aged 35 today. This implication is merely the converse of that implied in adding the age-specific rates as we do in the first procedure, and is not logically any the better. It is worthwhile, therefore, deriving total fertility rates by both the procedures and compare them at various ages.

4.24 The married wives of heads included in our investigation were asked about the total number of children born to them to date. These included both the living and the dead children. The married women were, of course, not married throughout their fertile period as many of them were married at ages later than 13. For that reason the total number of children born to married women of various ages are not comparable with the total fertility rates at those ages obtained by cumulating the age-specific rates of married women,

For an appropriate comparison of the fertility rates based on last year's experience with the rates underlying the total fertility experience of the same women, we should therefore base the comparison not on age specific fertility rates but on fertility rates specific for duration of marriage. The necessary computations are outlined in table 4.17. The women are first classified by duration of marriage. It should be noted that in cases where age at marriage was earlier than 13, the duration has been computed as from age 13. In column 2 of the table are shown the numbers of women of various marriage durations. In the next column are shown the number of children born to them during last year. In column 4 the children are expressed as per 1000 women; in other words this column gives the duration specific rates. The progression of these rates is not very satisfactory mainly on account of the gross reporting of present ages and ages at marriage from which are obtained the marriage durations. In column 5, the duration specific rates are cumulated upto specified marriage durations. The column ~~this~~ gives the number of children to be expected in specified marriage durations. The expectations are of course based on the fertility experience during last year of women of various marriage durations. These expectations may now be compared with the actual number of children reported by women of various marriage durations. The number of children born to women of specified marriage durations are given in column 6 and are expressed per 1000 women in the last column. We shall now compare the columns 5 and 7. For facility of comparison the rates appearing in the two columns are plotted in Graph No. 2.

4.25 It is obvious from the graph that the number of children born to women upto all durations are considerably in excess of those to be expected on the basis of last year's fertility rates. We believe that our reported births during last year as also the reported number of children born to date are both reasonably reliable. Nevertheless, it seems obvious that any possible errors in reporting would be on the side of under-reporting, particularly of dead children. In that case, it is clear that it is the series of total number of children born to date which would suffer from under-reporting to a greater extent than the series of numbers born during last year. Divergence between the two series, as appearing in the Graph No. 2 is not therefore likely to be on account of any errors of reporting. The conclusion therefore seems valid that during past years, the women included in the investigation were subjected to somewhat

TABLE 4.17
 Comparison of Duration specific Fertility Rates based on (i) Births during last year, (ii) Total births to-date.

Duration of Marriage	No. of Women	Children born During last year	Children born per 1000 Women	Cumulative Total of Col. 4	Total No. of children born to-date	No. of children born to-date per 1000 Women
0	← 11	—	—	—	—	—
1	20	1	50.0000	50.0000	1	50
2	25	6	240.0000	290.0000	16	640
3	38	12	294.7368	584.7368	33	868
4	26	7	269.2307	853.9675	29	1115
5	43	9	209.3023	1063.2698	55	1279
6	38	8	210.5263	1273.7961	91	1605
7	44	7	159.0909	1432.8870	95	2159
8	26	5	192.3077	1625.1947	80	3077
9	35	9	257.1429	1882.3376	85	2429
10	44	11	250.0000	2132.3376	134	3045
11	25	5	200.0000	2332.3376	81	3240
12	45	16	347.8261	2680.1637	159	3533
13	25	5	192.3077	2872.4714	106	4077
14	25	7	259.2593	3131.7307	98	3920
15	45	15	333.3333	3465.0640	199	4422
16	25	6	240.0000	3705.0640	112	4480
17	33	8	235.2941	3940.3581	171	5182
18	21	4	190.4762	4130.4343	115	5476
19	19	3	157.8947	4288.7290	92	4842
20	32	10	312.5000	4601.2290	177	5531
21	12	2	166.6667	4767.8957	79	6583
22	31	7	233.3333	5001.5290	197	6355
23	9	2	200.0000	5201.2290	58	6444
24	12	2	166.6667	5367.8957	86	7167
25	30	0	—	5367.8957	182	6067
26	15	4	266.6667	5634.5624	113	7533
27	27	1	37.0370	5671.5994	151	5592
28 & over	86	6	69.7674		619	7198
Total	268	178			3384	

higher fertility rates at various marriage durations than those indicated from the births occurring in the last year.

4.26 The total fertility rate of the married women represents in a sense the total reproductive potential of the women under investigation. For various reasons this reproductive potential does not become effective to its full extent. Two principal reasons, of course, are the facts that not all women live to the end of their fertile period and that for such part of it as they live, they are not always married. We shall return to the consideration of these factors in later sections. In the sections immediately following we shall consider some of the factors which are expected or supposed to affect marital fertility, that is, fertility of married women.

4.27 A large number of factors have been suggested as those that might affect marital fertility. We have noted most of them and we shall examine their influence, if any, on the marital fertility. However, these factors were noted only in respect of wives of the male heads and were not noted in respect of the married mothers of heads. The following discussion is, therefore, based only on the unseparated wives of the male heads included in the fertility investigation. There were 911 such; but among them were 43 falling outside the fertile period 13-50. The following discussion, therefore, is based on the 868 wives of ages between 13-50.

4.28 The factors which we propose to examine might be grouped into two groups, namely, the biological and the socio-economic. In the first group we shall consider the following factors:—

- (i) Age of the woman at the time of present marriage: Of the 868 women, 847 were only once married while 21 were twice married. In the latter case, age at second marriage was considered.
- (ii) Duration of marriage: Two points should be noted. Firstly the duration has been counted in all cases from the age at present marriage so that the duration is the duration of the present marriage; secondly where the age at marriage was below age 13, the duration of marriage was counted as from age 13. We thus consider the duration of present marriage within the fertile period.
- (iii) Difference between the ages of husband and wife: Age of the husband as such was not considered as it would be highly correlated with the age of the wife. However, we shall con-

sider the age of the husband, in its own right, while deriving the paternal fertility rates.

- (iv) Order of birth: That is, the total number of children born from the present marriage prior to the period of investigation.

In the second group of factors we shall consider the following: (i) Caste; (ii) Occupation of the husband; (iii) Income of the husband; (iv) Occupation of the wife; (v) Educational status of the wife; and (vi) Number of living children.

4.29 We shall briefly describe the procedure by which we examine the effect of each factor and illustrate it by considering the factor 'age at marriage'. The computational details are shown in table 4.18. To begin with, the 868 married women are classified by their age at marriage. Thus, 422 women were married at age 14 or earlier, 339 were married at ages between 15 to 19, etc. Next, the number of women in each class who reported birth during the year is noted. Thus 96 of the 422 women married at age 14 or earlier reported births during the year. We might say that the 422 women reported a total of 96 births during the year. These appear in the column headed 'observed number of children'. The 339 women in the next class reported a total of 67 children and so on. If the factor under consideration were effective, the proportions of women reporting birth or, which is the same thing, the average number of reported children should be different in different classes. However, before comparing these proportions or averages in different classes, allowance has to be made on two accounts: Firstly, the age composition of the women in different classes might be different and on that account alone the proportions of women reporting birth or the average number of reported children in different classes might be different. To allow for this, we examine the age composition of the women in each class. Thus, the 422 women who were married at age 14 or earlier are distributed according to their present age; 60 of them are of ages between 13-19, 76 of ages between 20-24 etc. This is done for each class. The numbers appearing below the numbers of women in each class are now to be explained. These are called expected numbers of children and we shall explain the basis on which they were calculated. In the last two lines of the table are shown the number of married women in different age groups and the number of reported children born to them during the year. Thus there were 93 women in the age group 13-19 and they reported a total of 20 children. Now, it appears that out of these 93 women 60 were

TABLE 4.18

Test of Significance of the effect on Marital Fertility of "Age of Women at Marriage".

Age at Present Marriage	Present Age							Total	Observed number of children	Expected number of children	$\frac{(\text{Obs} - \text{Exp})^2}{\text{Exp.}}$
	13-19	20-24	25-29	30-34	35-39	40-44	45-50				
14 and below: Number of women	60	76	85	58	56	49	38	423	96	84.73	1.5017
Expected number of children	12.90	17.25	21.47	15.15	11.38	5.51	1.06	84.72			
15-19: Number of women	33	73	75	56	50	29	23	339	67	71.30	0.2593
Expected Number of children	7.10	16.57	18.94	14.63	10.16	3.26	0.64	71.30			
20 and above: Number of women	—	14	34	20	17	11	11	107	15	21.98	2.2166
Expected number of children	—	3.18	8.49	5.23	3.45	1.23	0.41	21.98			
Total: Number of women	93	163	194	134	123	89	72	868	178	178.00	3.9776
Reported number of children	20	37	49	35	22	10	2	178			

Chi² Square = 3.9776 with 2 d.f.

Probability = 14.53 percent

married at ages 14 or earlier and 33 were married between ages 15-19. If the factor under consideration, namely, the age at marriage were ineffective, we would expect the 60 and the 33 women in the two classes to report on an average the same number of children as were reported by the 93 women. The 20 children reported by the 93 women of ages between 13-19 are therefore proportionately distributed between the two classes of women and the result is what we have termed the expected number of children. Thus if the factor 'age at marriage' were ineffective, we would expect the 60 women of ages between 13-19 and with age at marriage 14 or below, to report 12.90 children while the 33 women in the other class to report 7.10 children. This is done in respect of women in each age group. Thus there were 163 women of ages between 20-24 and they reported a total of 37 children during the year. Of the 163 women, 76 were married at age 14 or earlier and they are shown to expect a total of 17.25 children. This latter number, it will be seen, bears the same ratio to 76 as does 37 to 163. It is in this way that the number of children to be expected by women in each class are derived and are shown immediately below the number of women in those classes. We have earlier noted that there were 422 women married at age 14 or earlier. They are distributed according to their present age and as explained above we have now derived the number of children to be expected to them on the hypothesis that the factor 'age at marriage' was ineffective. If we now add up the expected children to women in different groups, we find that to the 422 women married at 14 or earlier, should be expected a total of 84.72 children. These are shown in the last but one column. As against this they have reported a total of 96 children. In the same manner the number of children to be expected to the 339 women married at ages between 15-19, appears to be 71.30 as against which they have reported a total of 67 children. The procedure then consists in comparing the observed or the reported number of children to women in each class by age at marriage, with the number of children to be expected to them on the hypothesis that the factor under consideration was not effective. If the agreement between the observed and the expected is good, there is no reason to suppose that the factor was effective.

4.30 The second consideration arises out of the fact that we have only a small sample of women to base our judgement on. The total number of women is only 868 so that the number in each class will be very much smaller. Therefore, there is bound to be some chance

deviations between the actual reported births and those to be expected in each class even though the factor under consideration were not effective. Some allowance has, therefore, to be made for the possibility of such chance deviations between actuals and expected. This is done by first calculating a combined measure of deviations in all classes—this measure is a standard tool in statistical methods and is called the chi-square goodness of fit—and then finding the probability of obtaining such or a larger deviation. If it is small we conclude that they are not chance deviations and that therefore the original hypothesis on which the expectations were based was probably wrong; that is to say the factor under consideration was probably effective. This again is a standard statistical procedure and is called the test of significance of a departure of observations from hypothesis. The full procedure is illustrated on the first factor, namely, the age at marriage. Later, for brevity of presentation, only the classification of the women in different classes by each factor, together with the number of births reported and expected in each class are shown. The chi-square measure of goodness of fit is then calculated and the probability that such a value or a larger value of chi-square might occur by chance is shown. (It is conventional to treat the chi-square value as significant only when the probability is less than 5 per cent. It will be observed that in most cases this probability is much more than 5 per cent and hence we conclude that none of the factors under consideration was effective. We should add that this conclusion is based on the available sample and it is possible that with larger sample some of the factors might appear to be effective. The correct conclusion, therefore, is that the effects of these factors, if any, are not large enough to be apparent with the size of sample that we have.

4.31 There is one limitation of the chi-square as a measure of divergence between the observations and expectations based on a specified hypothesis which must be taken into account. Referring again to the factor 'age at marriage', we find that the reported numbers of children to women in different classes by age at marriage are 96, 67, 15, and nil respectively. Corresponding expected numbers of children are 84.72, 71.30, 19.08 and 2.90 respectively. The test of significance based on the chi-square measure shows that the differences between the observed and the expected numbers are such as might occur by chance with a high probability so that they might be attributed to chance rather than to the falsity of the hypothesis on which the expectations were based. In doing this, the chi-square

takes into account the differences between the observed and the expected numbers in different classes but does not take into account any regularity exhibited by them. For instance, an examination of the observed and the expected numbers in successive classes will show that the observed numbers of children are in excess of the expectations only in first class and that in the latter classes while they

TABLE 4.19

Test of significance of the effect on Marital Fertility of "Duration of Marriage".

Duration of marriage in years	No. of women	Observed No. of children (X)	Expected No. of children (m)	$\frac{(x - m)^2}{m}$
0 — 4	120	26	25.93	0.0002
5 — 9	186	37	43.69	1.0244
10 — 14	165	45	41.92	0.2263
15 — 19	143	36	35.15	0.0208
20 — 24	96	23	17.69	1.5939
25 and above	168	11	13.19	0.3636
Total	868	178	177.57	3.2290

Chi-Square = 3.2290 with 5 d. f.
Probability = 66.6 per cent.

TABLE 4.20

Test of significance of the effect on Marital Fertility of "Difference between the ages of husband and wife".

Difference between the ages of husband and wife	No. of women	Observed No. of children (X)	Expected No. of children (m)	$\frac{(x - m)^2}{m}$
— 5	213	39	42.28	0.2544
— 10	452	94	92.39	0.0281
— 15	145	27	29.83	0.2684
16 & above	58	18	13.14	1.7975
Total	868	178	177.64	2.3484

Chi-Square = 2.3484 with 3 d. f.
Probability = 50.38 per cent.

are everywhere less than the expected, the relative departures of the observed from the expected are larger in successive classes. The test of significance based on chi-square measure does not take into account this regularity in the departure of observations from the expectations. If that is taken into account, as it should be, there appear sufficient indications that the factor 'age at marriage' has an influence on fertility at subsequent ages. Generally speaking, early marriages seem to enhance the fertility at subsequent ages.

TABLE 4.21

Test of significance of the effect on Marital Fertility of "the number of children born prior to the period of investigation".

Number of children born (prior to the year of investigation).	No of women	Number of children observed (X)	Number of children expected (m)	$\frac{(x-m)^2}{m}$
0	130	24	27.99	0.568
1	115	28	25.42	0.2619
2	126	19	28.61	3.2280
3	100	28	22.60	1.2903
4	100	19	22.32	0.4938
5	66	17	13.02	1.2237
6	65	14	12.59	0.1579
7	48	6	9.26	1.1477
8	52	14	8.42	3.6979
9 and over	66	9	7.77	0.1947
Total	868	178	177.99	12.2647

Chi-Square = 12.2647 with 9 d. f.

Probability = 19.91 per cent.

4.32 In the tests of significance of none of the other biological factors, a similar regularity in the departure of observations from expectations is apparent so that the conclusions indicated by the chi-square test seem to hold good. Among the socio-economic factors, however, even though the chi-square tests indicate that these factors are not effective, some of the departures of the observed from the expected seem meaningful and of a type which chi-square test fails to take account of. For instance consider the factor 'Caste'. If

castes exhibit differential fertility, there are a priori grounds to believe that fertility would be lower among Brahmins as compared with other Hindu castes. An examination of the observed and expected numbers of children to women classified by caste and religion shown in table 4.22 shows that among the Hindu castes, it is only in Brahmins that the observed number of children is less than the number expected. It seems therefore possible that there exists differential fertility in different castes and that possibly the Brahmins experience a relatively lower fertility as compared with other Hindu castes. It also appears that the non-Hindus other than Jains also experience lower fertility as compared with Hindus. This seems to be particularly true about Christians.

TABLE 4.22

Test of significance of the effect of "Caste" on Marital Fertility

Caste	No. of women	Observed No. of children (x)	Expected No. of Children (m)	$\frac{(x - m)^2}{m}$
Brahmins	206	35	41.45	1.0037
Hindus other than backward and Scheduled castes	395	89	82.22	0.5591
Backward Hindus	91	21	17.25	0.8152
Jains and other non-Maharashtrians	83	18	16.90	0.0716
Mohammedans	59	11	11.51	0.0226
Christians and other non-Hindus	34	4	6.19	0.7748
Total	868	178	177.52	3.2470

Chi-Square = 3.2470 with 5 d. f.

Probability = 66.34 per cent.

4.33 Details of the test of significance of the occupation of husband are given in table 4.23. The occupations are divided into rather broad groups such as manual labour, non-manual labour and higher professions and salaried employment. On a priori grounds one would expect higher fertility in manual occupations. This also seems to be indicated by the data. Thus it is only in the class of occupations classified under 'manual labour' that the observed number

of children is in excess of the expected number. In the non-manual labour as well as in higher professions and salaried employment the observed numbers are smaller than the expected. Further, the relative departure between the observed and the expected is larger in higher professions and salaried employment than in non-manual labour. The indications are therefore consistent and it seems that the fertility decreases from manual labour to non-manual labour and from the non-manual to higher professions and salaried employment.

TABLE 4.23

Test of significance of the effect of "Husband's occupation" on Marital Fertility.

Class of Husband's occupation	No. of women	Observed No. of children (x)	Expected No. of children (m)	$\frac{(x - m)^2}{m}$
Manual labour	320	76	66.92	1.2320
Non-Manual labour	319	64	67.16	0.1487
Higher professions and higher Salaried employment	174	30	34.86	0.6776
Others	55	8	9.07	0.1262
Total	868	178	178.01	2.1845

Chi-Square = 2.1845 with 3 d. f.
Probability = 53.84 per cent

TABLE 4.24

Test of significance of the effect of "Husband's Income" on Marital Fertility.

Husband's income in Rupees	No. of Women	Observed number of children (x)	Expected number of children (m)	$\frac{(x - m)^2}{m}$
— 500	108	21	21.68	0.0210
— 1,000	324	69	67.92	0.0172
— 2,000	274	57	56.59	0.0030
Above 2,000	162	31	31.62	0.0121
Total	868	178	177.81	0.0533

Chi-Square = 0.6533 with 3 d. f.
Probability = More than 99 per cent.

4.34 In the test of significance of 'Husband's income' details of which appear in table 4.24, the departures of observed numbers from the expected numbers are indeed very small and there appears little indication of any effect of income on fertility. In the classification of the women by their own occupation, details of which appear in table 4.25, a large majority of women have not reported

TABLE 4.25

Test of significance of the effect of "Occupation of the wife" on Marital Fertility.

Occupation of the wife	No. of women	Observed number of children (x)	Expected number of children (m)	$\frac{(x - m)^2}{m}$
Manual labour	45	12	10.38	0.3528
Non-Manual labour and occupations other than household work	22	5	4.47	0.0678
Household work	801	161	162.70	0.017
Total	868	178	177.55	0.3334

Chi-Square = 0.3334 with 2 d. f.
Probability = 84.81 per cent.

TABLE 4.26

Test of significance of the effect of "Educational status of the wife" on Marital Fertility

Educational status of the wife	No. of women	Observed number of children (x)	Expected number of children (m)	$\frac{(x - m)^2}{m}$
Illiterate	424	87	84.18	0.0945
Upto Matriculation	394	83	82.19	0.0080
Above Matriculation	50	8	11.20	0.9143
Total	868	178	177.57	1.0168

Chi-Square = 1.0168 with 2 d. f.
Probability = 60.97 per cent.

F...5

occupations other than the household work, and hence little can be said about the influence of this factor. Educational status of the woman nevertheless seems to have some influence. Test of significance of this factor is detailed in table 4.26. Both among the illiterate women and the women educated upto not more than matriculation, the observed numbers of children are more than those expected. Nevertheless, the relative departure from expectation is larger in the class of illiterates than in the class of women educated upto not more than matriculation. Further, in the last class of women, educated above matriculation, the observed number of children is actually less than the expected. There seem therefore sufficient indications that education has some influence in decreasing the fertility. Finally, the last mentioned factor, namely, the number of living children seems to have little influence on fertility. The test of significance of this factor is detailed in table 4.27 and there is apparent little regularity in the departures of the observed numbers from the expected. The indications of the chi-square test appear therefore justifiable.

TABLE 4.27

Test of significance of the effect of "the Number of Living Children" on Marital Fertility

Number of children living	No. of women	Observed number of children	Expected number of children	$\frac{(x - m)^2}{m}$
0	168	33	36.64	0.3616
1	165	38	36.42	0.0685
2	137	21	30.84	3.1396
3	124	32	26.35	1.2115
4	104	24	21.38	0.3211
5	78	13	12.92	0.0005
6	41	7	6.25	0.0900
7 & above	51	10	7.30	1.0889
Total	868	178	178.00	6.2817

Chi-Square = 6.2817 with 7 d. f.
Probability = 50.76 per cent.

4 85 In the fertility survey of Kolhapur City conducted by the Institute (The Social Survey of Kolhapur City: Part I—Population and Fertility by N. V. Sovani: Gokhale Institute Publication No. 18) the various factors affecting fertility were examined by similar tests of significance employing chi-square. The important limitation of the chi-square test pointed out above was not however then taken into account. It might therefore be worthwhile reviewing the results. The chi-square test itself brought out the significance of the age of the husband or the difference between the ages of husband and wife. As regards duration of marriage or age at marriage, the deviations between the observed and the expected births appear irregular so that the indications of the chi-square test, namely of the ineffectiveness of these factors seem valid. As for the influence of caste, it was only among Brahmins and Jains that the observed births were smaller than the corresponding expected. Among all other castes the observed exceeded the expected. It means that the Brahmins and Jains possibly experience lighter fertility. The case of Brahmins was anticipated and is in conformity with the indications of the present survey in Poona. The case of Jains is plausible and certainly not contrary to expectations. As for the income as a factor affecting fertility, the deviations of the observed births from the corresponding expected are quite regular. In almost all income classes with annual incomes less than Rs. 500, the observed births are smaller than the corresponding expected. On the other hand, in almost all classes with annual incomes more than Rs. 500, the observed births are more than the expected births. This would mean that it is the higher income classes which were liable to higher fertility. This is contrary to a common belief that the poorer are the more fertile. But the evidence in the Kolhapur Survey appears sufficiently strong to neglect, at least under the Kolhapur conditions, this common belief. In fact, the conclusion of insignificance of this factor based on the chi-square test was largely due to classifying the women in too many income classes. If for instance, they were classified in two broad classes as above even the chi-square test would not have failed to bring out the significance of this factor. When so classified it appears that in the lower income class, the observed births are 8 per cent less than the expected and that in the higher income class, they are 4 per cent more. Occupations are naturally highly correlated with income so that when the women are classified by the occupation of the head of the family, it is found that in the four lower grades of occupations, the observed births are fewer than the expected while in the higher grades they are more.

When women are classified by their own occupation, it appears that in all classes where women are employed for earning, the observed births are fewer than expected. It seems therefore that the employed women experience lower fertility. It is thus clear that the indications in the Kolhapur enquiry are generally in line with the results of the present survey.

4.36 So far we have considered the marital fertility and the factors that affect it. We shall now consider the point earlier mentioned in this connection, namely, that all women do not remain married throughout their fertile period. This happens on two accounts: Firstly, not all women are married at the beginning of the fertile period which we have taken to be at age 13; a number of women marry at later ages. Secondly, women once married do not remain married to the end of the fertile period because of the dissolution of marriage due to the death of the husband or under circumstances leading to divorce, separation, etc. It is, therefore, important to know what proportions of women remain married at various ages.

4.37 The women included in our investigation on fertility were all necessarily married. We know the ages at marriage of these women, but these do not directly give us information needed. We, therefore, propose to utilise, in the first instance, the 1951 Census information available. In Table 4.28 we give for Poona City the census distribution of women by age and civil condition based on the tabulation of a 10 per cent sample of census slips. (Table C-III: Poona District Census Hand Book, 1951).

As will be seen the census distribution is given in decennial age-groups so that the proportions of married to total at various single year ages will have to be obtained by interpolation. Considering the very broad age-groups, the progression of the proportions married to total in different age-groups is not quite suited to interpolation. We, therefore, propose to proceed in two stages. In the first stage, we shall consider the proportions of married, widowed, divorced, etc. of women to total women in each group; in other words we shall consider the proportions of women ever married in different age-groups and find by interpolation these proportions for single year ages. In the second stage, we shall find the proportions of married women to total of married, divorced, etc. women in different age-groups. In other words, we shall consider the proportions of women who remain married to total women ever married in each group and obtain by interpolation these proportions for single year ages.

TABLE 4.28

Distribution of Women by Age and by Marital Status based on a ten per cent tabulation of Population Census of 1951.

Age	Unmarried	Married	Widowed and divorced	Total
5-14	4,742	267	5	5,014
15-24	1,454	3,422	137	5,013
25-34	119	3,165	291	3,575
35-44	33	1,717	614	2,364
45-54	21	628	940	1,589
55-64	7	203	730	940
65-74	1	38	294	333
Total	6377	9440	3011	18,828

4.38 To facilitate interpolation for single years, we first obtain by means of the King's formula, the pivotal values for (i) Total number of women; (ii) Number of married, widowed etc., that is, the number of ever married women and (iii) Number of widowed, divorced etc. women, at the central age of each age group. From these are derived the proportions of women ever married to total and the proportions of married women to women ever married at the central age of each age group. The values for single years are then obtained by graphical interpolation. By multiplying the two sets of proportions obtained, we derive the proportions of married women to total women at all ages. The results for the ages from 13 to 52 are shown in table 4.29.

4.39 If we now combine these proportions with the marital fertility rates derived earlier, we get the fertility rates for all women. These are shown in the last column of table 4.29. The total of these rates gives the number of children to be expected by 1,000 women who are subjected to probabilities of marrying and of remaining married, as derived from the census tables. The difference between this total and the total of marital fertility rates measures the loss of the fertility potential due to the fact that not all women are married throughout the fertile period.

TABLE 4.29

Estimated proportions of married to total women at specific ages and the Age specific Fertility Rates for all Women

Age	Proportion of ever married to total	Proportion of married to ever married	Estimated Proportion of married women	Age specific Fertility Rates for all women
13	.270	.976	.263520	10.54
14	.340	.975	.331500	28.18
15	.400	.974	.389600	44.80
16	.470	.972	.456840	66.24
17	.540	.970	.523800	94.28
18	.600	.969	.581400	122.09
19	.660	.967	.638220	149.98
20	.725	.963	.698175	181.53
21	.780	.960	.748800	208.17
22	.830	.958	.795140	234.57
23	.865	.955	.826075	251.95
24	.900	.951	.855900	263.62
25	.925	.948	.876900	269.21
26	.940	.940	.883600	268.61
27	.955	.937	.894835	263.98
28	.965	.930	.897450	257.57
29	.972	.925	.899100	249.05
30	.980	.917	.898660	237.25
31	.981	.906	.888786	223.97
32	.983	.895	.878890	208.30
33	.983	.883	.867989	190.96
34	.984	.876	.861984	174.98
35	.985	.850	.837250	157.40
36	.986	.830	.818380	139.12
37	.987	.806	.795522	121.71
38	.988	.785	.775580	106.25
39	.989	.760	.751640	90.20
40	.990	.730	.722700	72.99
41	.990	.700	.693000	62.37
42	.990	.666	.659340	51.43
43	.990	.625	.618750	42.08
44	.990	.580	.574200	32.73
45	.990	.536	.530640	24.94
46	.990	.500	.495000	19.31
47	.990	.462	.457380	15.09
48	.990	.430	.425700	10.64
49	.990	.402	.397980	7.96
50	.990	.380	.376200	5.27
51	.990	.355	.351450	3.16
52	.990	.335	.331650	1.66

4.40 Before we leave this point, we might present some of our own investigational material relevant to the marriage rates. In table 4.30 we give the distribution by age and by marital status of the sample of daughters in our investigation. In the adjoining column are given the proportions of ever married to total. These proportions are in some sense more relevant, in so far as they are

derived from the behaviour of a restricted group more representative of the future generation. When compared with similar proportions derived from the census tables, it is clear that the daughters are marrying at considerably higher ages than all women considered together.

4.41 Though we do not propose to make use of these rates in subsequent discussion, we should note that if marriage and related rates are to be derived from the proportions of ever married, etc. in an enumerated population, the kind of enumeration that we have in our sample of daughters, is to be preferred analytically to a census enumeration of the population residing in an area.

TABLE 4.30

Distribution of Daughters in the sample by Age and by Marital Status

Age	Unmarried	Married	Widowed and Divorced	Total	Proportion of ever married to total
Below 13	730	—	—	730	.000
13	27	5	—	32	.156
14	35	1	—	36	.027
15	21	4	—	25	.160
16	26	4	—	30	.133
17	13	8	2	23	.435
18	15	26	1	42	.643
19	9	10	—	19	.526
20	6	41	1	48	.875
21	4	12	—	16	.750
22	5	22	—	27	.815
23	2	10	—	12	.833
24	2	11	2	15	.866
25	3	13	1	17	.823
26	3	7	1	11	.727
27 and above	2	68	2	72	.972
Total	903	242	10	1155	

4.42 In the derivation of the total fertility rate either for the married women or for all women, considerations of mortality were excluded. As earlier mentioned, the data collected on mortality in our own investigation were scanty and not adequate to base independent judgment on. However, for Poona City, we could obtain valuable information from other sources and we propose to make use of it. In the first instance we have the single age year distributions of males and females based on the tabulation of a 10 per cent sample of the census slips for Poona City. These were kindly supplied to us by the Census Superintendent. Secondly, there is the reasonably reliable and complete registration of births and deaths in Poona City, to which we were allowed free access by the Municipal Office. It has been possible to derive, on the basis of these data, very satisfactory life tables for males and females in Poona City. The relevant data, computational details and the resulting life tables are given in an appendix to this Chapter.

4.43 Though all the usual functions appearing in a life table have been computed and given, the function of immediate interest to us appears in the third column of the life table for females. The column is headed l_x which means number living at age x . The column gives out of a total of 100,000 females at age 0, numbers found living at specified ages. On the basis of these it is now possible to derive the net reproduction rate for females. This is obtained by combining the l_x column of the life table for females with the age specific fertility rates for all women earlier derived and given in table 4.29. It will thus appear that on the basis of the fertility and mortality rates so far derived a cohort of 1000 women is expected to give birth to 3250.1698 children in their life time. Among the registered births in Poona City the proportion of females is .4828; by multiplying the total expected births, by this proportion, we get the net reproduction rate to be 1569.1820 per 1000 women.

4.44 The limitations of the Net Reproduction Rate as a measure of population increase are well known. One fundamental limitation of the rate is that it deals only with the female population and hence gives a rate of reproduction of the female population; and that if a similar rate for the male population is derived the two rates might be incongruent. To examine this point, we derive in the following the Male Net Reproduction Rate. The procedure is exactly similar to the one by which the female rate has been derived above. Firstly, making use of our investigational material the age specific fertility rates for the married males are obtained;

TABLE 4.31

Age-specific Fertility Rates for Married Males and for all Males.

Age	Age specific Fertility Rates for married males	Proportion of ever married to total	Proportion of married to ever married	Estimated proportions of married males	Age specific Fertility Rates for all males
18	73	0.248	0.977	0.243296	17.6876
19	95	285	981	279585	26.5606
20	118	328	983	322424	38.0460
21	138	388	985	382180	52.7408
22	157	430	985	423550	66.4974
23	175	490	984	482160	84.3780
24	190	540	983	530820	100.8558
25	204	598	982	587236	119.7961
26	215	650	981	637650	137.0948
27	225	710	979	695090	156.3953
28	234	765	977	747405	174.8928
29	241	805	975	784875	189.1549
30	247	830	971	805930	199.0647
31	252	847	969	820743	206.8272
32	255	858	966	838828	211.3511
33	257	868	964	836752	215.0453
34	259	878	960	842880	218.3059
35	260	886	956	847016	220.2242
36	259	895	951	851145	220.4466
37	257	905	945	855225	219.7928
38	253	911	940	856340	216.6540
39	247	918	934	857412	211.7808
40	240	924	928	857472	205.7933
41	239	928	920	853760	195.5110
42	217	932	912	849984	184.4465
43	205	934	905	845270	173.2804
44	192	937	897	840489	161.3739
45	177	941	889	836549	148.0692
46	161	944	881	831664	133.8979
47	145	948	872	826656	119.8651
48	127	951	864	821664	104.3513
49	113	954	855	815670	92.1707
50	99	956	844	806864	79.8795
51	88	958	834	798972	70.3095
52	77	961	822	789942	60.8255
53	66	963	810	780030	51.4820
54	56	965	796	768140	43.0158
55	48	967	785	759095	36.4366
56	42	969	772	748068	31.4189
57	35	970	758	735260	25.7341
58	30	971	746	724366	21.7310
59	26	972	732	711504	18.4991
60	22	974	719	700306	15.4067
61	19	975	708	690300	13.1157
62	16	976	697	680272	10.8844
63	13	978	689	673842	8.7599
64	11	980	681	667380	7.3412
65	8	981	674	661194	5.2896

this is done by attributing the births to the father instead of to the mother. Secondly, making use of the census data, the marriage rates for males are derived. Combining these with the marital fertility rates, the fertility rates for all males are obtained. Finally, making use of these rates and the life table for the males and by applying the ratio of male to total registered births in Poona City, the Net Reproduction Rate for males is derived. This turns out to be 1751.9085 per 1000 males. Computational details are shown in table 4.31.

4.45 Thus the Net Reproduction Rate for males works out to be 1.7519 as compared to the female rate of 1.5692. The two rates are the rates of population increase per generation. The difference between the two is partly due to the fact that the mean length of generation of males is somewhat longer than that of females. The mean interval between generations may be roughly defined as the mean interval between the birth of parents and the birth of their offsprings. We might calculate the mean interval between the birth of the father and the births of his children making use of the mortality and fertility rates for males. This works out to be 36.390 years. A similar calculation for mothers gives the mean interval between female generations to be 27.836. Due to this large difference in the mean lengths of male and female generations, for a proper comparison of the male and female net reproduction rates, their true rates of natural increase must be used. Approximate figures of these rates for males and females net come out to be 0.01565 and 0.01641 respectively. The agreement between the two is extremely satisfactory and suggests that there is not much inherently unstable in the age and sex composition of the present population.

APPENDIX
Life Tables for Poona City

A.1 The following life tables are derived from (i) Single year age distributions of males and females based on the tabulation of a 10 per cent sample of 1951 census slips for Poona City supplied by the Census Superintendent and (ii) Birth and death registration of the Poona municipal corporation.

A.2 The population census in Poona City was taken on 1st of March 1951. We have, therefore, taken the deaths from September 1950 to August 1951, which is six months on both sides of the census enumeration. In table A.1, the registered deaths for males and females are given month by month during this period.

TABLE A.1
Registered Deaths of Males and Females in Poona City from September 1950 to August 1951.

Month	Males	Females
September, 1950	337	326
October	365	336
November	364	325
December	359	366
January, 1951	373	363
February	313	270
March	342	346
April	300	322
May	349	313
June	281	270
July	319	308
August	333	279
Total	4,025	3,824

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TABLE A.2

Population and deaths of males and females in quinquennial age groups beginning with age 3 in Poona City

Age Groups	Number of males	Number of male deaths	Number of females	Number of female deaths
3 — 7	28,530	262	28,150	294
8 — 12	27,090	71	26,200	82
13 — 17	22,470	40	22,310	79
18 — 22	33,510	115	29,460	184
23 — 27	27,990	102	22,320	153
28 — 32	25,520	114	17,480	147
33 — 37	18,020	112	12,710	100
38 — 42	14,410	126	11,980	106
43 — 47	9,580	137	8,310	62
48 — 52	9,580	127	8,630	86
53 — 57	5,190	128	4,540	77
58 — 62	4,320	206	5,360	148
63 — 67	2,280	149	2,030	126
68 — 72	1,100	158	1,520	148
73 — 77	550	111	660	98
78 — 82	280	95	310	133
83 — 87	70	41	100	39
88 — 92	50	19	80	53
93 — 97	—	12	40	13
98 — 102	30	4	30	25

A.3 On account of its hospital and other medical facilities, a large number of patients from the surrounding area and mofussil towns, come to the City for treatment. Some of them, of course, result in deaths. In the municipal death registration, the deaths, within the city limits, of outsiders are shown separately. Also, the deaths occurring in public hospitals are shown separately. We propose to exclude from the registered deaths, only those deaths of the non-residents which occurred in public hospitals. There were 123 and 112

such deaths of males and females respectively and these are excluded from further considerations.

A.4 The lumping of deaths at quinquennial ages is in common with the census age returns. We shall, therefore, group the census and the death returns in five year age groups centred at the ages of concentration, namely, 10, 15, etc. In table A.2 we give the distribution of the male and female census population (10 per cent sample multiplied by 10) and the corresponding deaths in five year age groups beginning with 3-7 and ending in 98-102.

A.5 For the derivation of mortality rates at earlier ages between 1 and 8 inclusive, we propose to make use of the single year age distribution of the living population and of the corresponding deaths at these ages. From these are derived the central rates of mortality m_x and hence the rates of mortality q_x . The numbers of the male and female living population together with corresponding deaths and the derived rates of mortality at these ages are shown at the beginning of table A.3.

A.6 For later ages, use is made of the quinquennial distribution of the living population and the deaths. By means of the King's formula, the pivotal values for both the living population and the deaths at the central ages are obtained. By dividing the deaths by the living population, the central rates of mortality m_x and hence the rates of mortality q_x at the central ages are derived. The pivotal values of population and deaths as also the mortality rates q_x at the central ages are shown in latter part of table A.3.

A.7 For mortality rates at age 0, use was made of the birth registration data. Data were obtained from the municipal birth registration for the two years from September 1949 to August 1951. In table A.4 are given the male and female births month by month during this period. In table A.5 are given the distributions of deaths during the period from September 1950 to August 1951, of males and females under one year, by age in months. The rates of mortality at age 0 were derived by making use of the formula recommended by S. W. Caffin (*Population Studies*, July 1952). The rates work out to be 182.4671 for males and 171.3225 for females.

A.8 With these derived rates at various ages, rates for all intermediate ages were to be interpolated. Methods of interpolation used for male and female life tables were somewhat different. We shall, therefore, explain them separately.

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TABLE A.3

Distribution by age of male and female living population from a ten percent tabulation of the 1951 census and of registered Deaths in Poona City during the period from September 1950 to August 1951

Age	Males			Females		
	Number of Males	Number of deaths	Deaths per 1000 persons	Number of Females	Number of deaths	Deaths per 1000 persons
1	597	333	54.267	610	299	47.847
2	628	194	30.420	635	189	29.324
3	608	109	17.771	659	117	17.594
4	603	70	11.543	553	79	14.179
5	555	32	5.753	546	52	9.475
6	552	31	5.604	535	23	4.291
7	535	20	3.922	522	23	4.400
8	557	20	3.733	577	19	3.285
10	5,440	13	2.386	525	15	2.853
15	4,370	7	1.601	448	15	3.341
20	6,830	24	3.508	600	38	6.313
25	5,570	20	3.585	442	30	6.764
30	5,140	23	4.475	350	30	8.534
35	3,570	22	6.143	251	20	7.936
40	2,890	25	8.614	242	22	9.050
45	1,880	28	14.783	161	12	7.425
50	1,950	25	12.739	176	17	9.613
55	1,010	25	24.449	87	16	18.223
60	870	42	47.137	104	29	27.502
65	450	29	62.432	38	25	63.694
70	210	32	141.593	21	30	92.308
75	110	22	181.818	13	19	136.201
80	60	19	273.381	6	27	357.347
85	10	8	571.428	2	7	297.872

TABLE A.4

Number of Live births in the Poona Municipal Corporation area during the period September 1949 to August 1951

Month	Male births	Female births	Total births
September, 1949	453	419	872
October	462	417	879
November	523	519	1,047
December	532	497	1,029
January, 1950	479	496	975
February	454	464	918
March	375	331	706
April	458	429	887
May	436	366	802
June	457	411	868
July	419	350	769
August	571	473	1,044
September	571	525	1,096
October	569	541	1,110
November	713	674	1,387
December	681	652	1,333
January, 1951	638	645	1,283
February	616	565	1,181
March	528	474	1,002
April	666	613	1,279
May	502	497	999
June	575	545	1,120
July	565	477	1,042
August	559	575	1,134
Total	12,807	11,955	24,762

A.9 For males, mortality rates for ages 0 to 8 inclusive were taken as they were derived above. Rates for ages 9, 10, 11, 12, 13 and 14 were obtained by Lagrange's formula making use of the values at 7, 8, 10 and 15 as derived above and the value at 16 derived as explained in the following. Rates for single year ages from 15 to 85 inclusive were derived from the pivotal rates at the quinquennial ages, by means of osculatory interpolation. After having obtained the interpolated values it appeared that there was a steep rise in mortality rates from age 40 to 45 and then a fall from age 45 to 50. It was thought that this feature was unlikely to be real and hence it seemed advisable to graduate this portion of the mortality curve. This was done graphically. In table A.6 we give the rates for ages 39 to 52 obtained by osculatory interpolation and those revised by graphical graduation. It is these latter that we accept as our final mortality rates at these ages. At higher ages again, the pivotal value at 85 was thought to be too high. Hence rates obtained by osculatory interpolation for ages 81-85 were

TABLE A.5

Age distribution of Deaths of Males and Females under 1 year of age

Age at death in months	Number of males	Number of females
0	650	470
1	78	58
2	73	81
3	70	61
4	45	59
5	33	37
6	72	74
7	42	40
8	49	59
9	40	51
10	48	42
11	34	34
Total	1,234	1,066

rejected. Instead, rates for all ages above 80, were obtained by Gompertz graduation assuming that $\log p_x$ were in geometric progression. Taking,

$$r = \frac{\log_{10} p_{80}}{\log_{10} p_{75}}$$

$r^{1/5}$ was used to derive $\log p_x$ successively for ages 81 onwards, from which were obtained q_x for these ages. These rates of mortality at all ages, together with all the usual functions appearing in a life table are shown in table A.7 for males in Poona City.

A.10 For females, the derived rates were not very regular and did not appear suitable for osculatory or any other refined methods of interpolation. All the rates were therefore obtained by graphical interpolation. In doing this, graduation was kept to a minimum

TABLE A.6

The Mortality rates for males at ages from 39 to 52.

Age	Mortality rate per 1000 males by osculatory interpolation	Mortality rate per 1000 males by graphical interpolation
39	7.880	7.880
40	8.614	8.350
41	9.723	8.975
42	11.173	9.430
43	12.693	9.950
44	13.996	10.475
45	14.783	11.000
46	14.694	11.600
47	13.927	12.180
48	12.998	12.820
49	12.434	13.550
50	12.739	14.430
51	14.018	15.500
52	15.920	15.920

and none of the essential features revealed by the pivotal values were destroyed. Attention for instance is drawn to the rates between ages 35 and 45 where after a steep rise, rates actually fall for a while. The finally graduated rates together with all life table functions are given in table A.8 for females in Poona City.

TABLE A.7

Life Table for Males in Poona City

Age	1000 q_x	l_x	d_x	L_x	T_x	e_x^o
0	182.467	100000	18247	90877	4354439	43.54
1	54.267	81753	4436	79535	4263562	52.15
2	30.420	77317	2352	76141	4184027	54.12
3	17.771	74965	1332	74299	4107886	54.80
4	11.543	73633	850	73208	4033587	54.78
5	5.753	72783	419	72574	3960379	54.41
6	5.604	72364	406	72161	3887805	53.73
7	3.322	71958	282	71817	3815644	53.03
8	3.733	71676	268	71542	3743827	52.23
9	3.122	71408	223	71297	3672285	51.43
10	2.386	71185	170	71100	3600988	50.59
11	1.742	71015	124	70953	3529888	49.71
12	1.325	70891	94	70844	3458935	48.79
13	1.192	70797	84	70755	3398091	47.86
14	1.319	70713	93	70667	3317336	46.91
15	1.601	70620	113	70564	3246670	45.97
16	1.852	70507	131	70442	3176106	45.05
17	2.271	70376	160	70296	3105664	44.13
18	2.755	70216	193	70120	3035368	43.23
19	3.202	70023	224	69911	2965248	42.35
20	3.508	69799	245	69677	2895337	41.48
21	3.629	69554	252	69428	2825660	40.63
22	3.633	69302	252	69176	2756232	39.77
23	3.585	69050	243	68926	2687056	38.91
24	3.547	68802	244	68680	2618130	38.05
25	3.586	68558	246	68435	2549450	37.19
26	3.698	68312	253	68186	2481015	36.32
27	3.845	68059	262	67928	2412829	35.45
28	4.024	67797	273	67661	2344901	34.59
29	4.235	67524	286	67381	2277240	33.72
30	4.475	67238	301	67088	2209859	32.87
31	4.746	66937	318	66778	2142771	32.01
32	5.048	66619	336	66451	2075993	31.16
33	5.381	66283	357	66105	2009542	30.32
34	5.746	65926	379	65737	1943437	29.48
35	6.143	65547	403	65346	1877700	28.65
36	6.529	65144	425	64932	1812354	27.82
37	6.904	64719	447	64496	1747422	27.00
38	7.332	64272	471	64037	1682226	26.18
39	7.880	63801	503	63550	1618889	25.37
40	8.350	63298	529	63034	1555339	24.57
41	8.975	62769	563	62488	1492305	23.77
42	9.430	62206	587	61913	1429817	22.99
43	9.950	61619	613	61313	1367904	22.20
44	10.475	61006	639	60687	1306591	21.42
45	11.000	60367	664	60035	1245904	20.64
46	11.600	59703	693	59357	1185869	19.86
47	12.180	59010	719	58651	1126512	19.09
48	12.820	58291	747	57918	1067861	18.32

TABLE A.7—(Contd.)

FERTILITY AND MORTALITY IN POONA DISTRICT

TABLE A.7—(Contd.)

Age	1000 q_x	l_x	d_x	L_x	T_x	e_x^o
49	13.550	57544	780	57154	1009943	17.55
50	14.430	56764	819	56355	952789	16.79
51	15.500	55945	887	55512	896484	16.02
52	15.920	55078	877	54640	840922	15.27
53	18.371	54201	996	53703	786283	14.51
54	21.252	53205	1131	52640	732579	13.77
55	24.449	52074	1273	51438	679939	13.06
56	28.364	50801	1441	50081	628501	12.37
57	32.851	49360	1622	48549	578420	11.72
58	37.830	47738	1806	46835	529871	11.10
59	42.759	45933	1964	44950	483036	10.52
60	47.137	43968	2073	42932	438086	9.96
61	50.019	41895	2096	40847	395154	9.43
62	51.646	39799	2055	38772	354907	8.90
63	53.321	37744	2013	36738	315535	8.36
64	56.413	35731	2016	34723	278797	7.80
65	62.432	33715	2105	32663	244074	7.24
66	73.304	31610	2314	30453	211411	6.69
67	88.530	29296	2594	27999	180958	6.18
68	106.777	26702	2851	25277	152959	5.73
69	125.572	23851	2995	22354	127682	5.35
70	141.593	20856	2953	19380	105328	5.05
71	152.540	17903	2731	16538	85948	4.80
72	159.885	15172	2426	13959	69410	4.57
73	165.643	12746	2111	11691	55451	4.35
74	172.118	10635	1830	9720	43760	4.11
75	181.818	8805	1601	8005	34040	3.87
76	194.268	7204	1400	6504	26035	3.61
77	207.959	5804	1207	5201	19531	3.37
78	234.394	4597	1032	4081	14330	3.12
79	245.414	3565	875	3128	10249	2.87
80	273.381	2690	735	2323	7121	2.65
81	295.630	1955	578	1666	4798	2.45
82	319.243	1377	440	1157	3132	2.27
83	344.285	937	323	776	1975	2.11
84	370.688	614	228	500	1199	1.95
85	398.439	386	154	309	699	1.81
86	427.487	232	99	183	390	1.68
87	457.752	133	61	103	207	1.56
88	489.125	72	35	55	104	1.44
89	521.469	37	19	28	49	1.32
90	554.412	18	10	13	21	1.17
91	588.346	8	5	6	8	1.00
92	622.428	3	2	2	2	0.67
93	656.598	1	1	-	-	-

TABLE A.8

Life Table for Females in Poona City

Age	1000 q_x	l_x	d_x	L_x	T_x	e_x^o
0	171.333	100000	17132	91434	4361136	43.61
1	47.000	82868	3895	80921	4269702	51.53
2	29.000	78973	2290	77828	4188781	53.04
3	17.500	76683	1342	76012	4110953	53.61
4	14.000	75341	1055	74814	4034941	53.56
5	9.375	74286	696	73938	3960127	53.31
6	8.125	73590	698	73291	3886189	52.81
7	6.750	72992	493	72746	3812898	52.24
8	5.125	72499	372	72313	3740152	51.59
9	3.750	72127	270	71992	3667839	50.85
10	2.850	71857	205	71755	3595847	50.04
11	2.625	71652	188	71558	3524092	49.18
12	2.600	71464	186	71371	3452534	48.31
13	2.675	71278	191	71183	3381163	47.44
14	2.875	71087	204	70985	3309980	46.56
15	3.325	70883	236	70765	3238995	45.69
16	3.750	70647	265	70515	3168230	44.85
17	4.250	70382	299	70233	3097715	44.01
18	4.625	70083	324	69921	3027482	43.20
19	5.075	69759	354	69582	2957561	42.40
20	5.500	69405	382	69214	2887979	41.61
21	5.875	69023	406	68820	2818765	40.84
22	6.250	68617	429	68403	2749945	40.08
23	6.625	68188	452	67962	2681542	39.33
24	6.950	67736	471	67591	2613580	38.58
25	7.200	67265	484	67023	2546079	37.85
26	7.450	66781	498	66532	2478806	37.12
27	7.675	66283	509	66029	2412274	36.39
28	7.875	65774	518	65515	2346245	35.67
29	8.050	65256	525	64994	2280730	34.95
30	8.175	64731	529	64467	2215736	34.23
31	8.300	64202	533	63936	2151269	33.51
32	8.375	63669	533	63403	2087333	32.78
33	8.450	63131	533	62870	2023930	32.06
34	8.475	62603	531	62338	1961060	31.33
35	8.500	62072	528	61808	1898722	30.59
36	8.475	61541	522	61283	1836914	29.85
37	8.425	61022	514	60765	1775631	29.10
38	8.325	60508	504	60256	1714866	28.34
39	8.250	60004	495	59757	1654610	27.57
40	8.150	59509	485	59267	1594853	26.80
41	8.125	59024	480	58784	1535586	26.02
42	8.175	58544	479	58305	1476802	25.23
43	8.250	58065	479	57826	1418197	24.43
44	8.350	57586	481	57346	1360671	23.63
45	8.500	57105	435	56863	1303325	22.82
46	8.750	56620	495	56373	1246462	22.01
47	9.050	56125	608	55871	1190089	21.20
48	9.375	55617	521	55357	1134218	20.39

FERTILITY AND MORTALITY IN POONA DISTRICT

TABLE A.8—(Contd.)

Age	1000 q_x	l_x	d_x	L_x	T_x	e_x^o
49	9.675	55096	533	54830	1078861	19.58
50	10.000	54563	546	54290	1024031	18.77
51	10.750	54017	581	53727	969741	17.95
52	12.000	53436	641	53116	916014	17.14
53	13.263	52795	700	52445	862898	16.34
54	15.250	52095	794	51698	810453	15.56
55	18.000	51301	923	50840	758755	14.79
56	21.750	50378	1096	49830	707915	14.05
57	25.500	49282	1257	48654	658085	13.35
58	29.000	48025	1393	47329	609431	12.69
59	32.500	46632	1516	45874	562102	12.05
60	35.750	45116	1613	44310	516228	11.44
61	39.250	43503	1707	42650	471918	10.85
62	44.000	41796	1839	40877	429268	10.27
63	48.250	39957	1928	38993	388391	9.72
64	52.500	38029	1997	37031	349398	9.19
65	57.750	36032	2081	34992	312367	8.67
66	63.500	33951	2156	32873	277375	8.17
67	69.000	31795	2194	30698	244502	7.69
68	75.750	29601	2242	28480	213804	7.23
69	82.500	27359	2257	26231	185324	6.77
70	89.500	25102	2247	23979	159093	6.34
71	97.500	22855	2228	21741	135114	5.91
72	107.500	20627	2217	19519	113373	5.50
73	116.000	18410	2136	17342	93854	5.10
74	127.000	16274	2067	15241	76512	4.70
75	139.500	14207	1982	13216	61271	4.31
76	158.500	12225	1938	11256	48055	3.93
77	182.500	10287	1877	9349	36799	3.58
78	209.500	8410	1762	7529	27450	3.26
79	237.750	6648	1581	5858	19921	3.00
80	267.250	5067	1354	4390	14063	2.78
81	289.750	3713	1076	3175	9673	2.61
82	309.750	2637	817	2229	6498	2.46
83	327.250	1820	596	1522	4269	2.35
84	342.250	1224	419	1015	2747	2.24
85	356.500	805	287	662	1732	2.15
86	370.500	518	192	422	1070	2.07
87	384.250	326	125	264	648	1.99
88	397.750	201	80	161	384	1.91
89	410.750	121	50	96	223	1.84
90	425.500	71	30	56	127	1.79
91	438.000	41	18	32	71	1.73
92	450.300	23	10	18	39	1.70
93	462.300	13	6	10	21	1.62
94	474.100	7	3	6	11	1.57
95	485.600	4	2	3	5	1.25
96	496.900	2	1	2	2	1.00
97	507.900	1	1	-	-	--

CHAPTER V

SURVEY RESULTS—TOWNS AND VILLAGES

5.1 In this chapter we shall present the results of our investigation in towns and villages. The investigation covered a total of 1,006 families. In table 5.1 is given their distribution by castes. The major difference in the caste composition of the City and the non-city population, it will be noted, is that while in the City population the Brahmins and other advanced communities, as also Muslims and to some extent the Jains and the Christians predominate, in the non-city population, the Marathas and the intermediate Hindus other than artisans as also the backward and the scheduled castes predominate.

TABLE 5.1

Percentage distribution by Castes of households surveyed in Towns and Villages.

Caste	Percentage of families
Brahmins	5.67
Marathas	45.63
Other Advanced Hindus	3.88
Intermediate Hindus (Artisans)	9.74
Intermediate Hindus (Others)	7.55
Backward Hindus	4.97
Scheduled Castes	14.11
Mohammedans	4.37
Jains	0.60
Christians and others	3.48
Total	100.00
Total number of families :	1006

5.2 In table 5.2 the distribution of sample families by religion is compared with the 1951 census distribution by different religions.

TABLE 5.2

Percentage distribution by Religion (Scheduled Castes distinguished among Hindus) in (i) the Demographic Survey and in (ii) the 1951 population census.

Castes	Demographic survey sample	1951 Population Census
Hindus other than scheduled castes	77.44	79.46
Scheduled Castes	14.11	14.26
Mohammedans	4.37	3.22
Jains	0.60	0.93
Christians and others	3.48	2.13
Total	100.00	100.00
Total number of families	1006	

5.3 In table 5.3 is given the occupational distribution of the selected families. The occupational distributions of the City and Non-city populations are of course fundamentally different and are so beyond comparison.

5.4 In table 5.4 is given the income distribution of the selected families. The difference between the income distributions of the city and the non-city populations, though expected is nevertheless noteworthy. In the City, it was noted that hardly four per cent of the families were under Rs. 300 annual income group. On the other hand, in the City, as many as 47 per cent of the families were above Rs. 1,000 annual income group, this proportion in the non-city population is only 12 per cent.

5.5 In table 5.5 we give the distribution by the relation categories of the members enumerated in the sample of biological families in the non-city investigation.

5.6 The number of widows enumerated as heads was only 22. This means that in only 22 out of the 1,006 families, no male head could be found around whom to enumerate his biological family. This number in the city was 65 in 1,180. The smaller number of families without an adult male in the non-city area might be attributed to the joint family which prevailed there to a greater extent.

TABLE 5.3

Percentage distribution of households by Occupation.

Occupation	Percentage of families
Unskilled manual work	15.32
Skilled manual work	12.52
Lowest professions and administrative posts, primary teachers etc.	6.46
Small businesses	5.86
Highly skilled and supervisory manual work	2.38
Clerks and shop assistants	3.08
Intermediate professions and salaried posts, secondary teachers, etc.	1.49
Medium businesses	1.19
Higher professions and salaried posts	1.00
Owners of factories and large shops, etc.	1.00
Pensioners, beggars, prostitutes, unemployed, etc.	2.38
Agriculture	47.32
Total	100.00
Total number of families	1006

5.7 In table 5.6 we give the marital status and the age-composition of the 984 male heads. Two marked differences between the composition of the male heads of the city and the non-city families might be noted. Firstly, the male heads in the non-city population are generally older and secondly, which is not altogether independent of the first, that the proportion of unmarried among them is small. Both these features might seem to follow from the prevalence to a greater extent of the joint family in the non-city area.

5.8 In table 5.7 we give the age-composition of the wives of the living heads and of the widows of the dead. The difference in the age composition of the wives in the city and non-city families seems to follow the differences in the age compositions of the male heads.

TABLE 5.4

Percentage distribution of households by Income.

Income in Rupees	Percentage of families
Less than 100	—
100—	2.73
200—	9.42
300—	18.03
400—	11.23
500—	22.98
750—	14.27
1000—	15.28
2000—	6.07
Total	100.00
Number of families reporting Income	988
Number of families not reporting	18
Total number of families	1006

5.9 As in the investigation in the City, the information regarding the parents of the male head was asked only in families where the male head was living. In table 5.8 are given the particulars of the parents of the living heads. The major difference in this respect from the composition of the city families appears to be that among the non-city families, the proportion of families where both parents of the male head are alive is smaller than in the city families. This of course is a direct consequence of the older age composition of the male heads in non-city families and an indirect consequence of the joint family prevalent more widely in the non-city area.

5.10 In table 5.9 is given the age distribution of the enumerated fathers and of the married and widowed mothers of male heads.

5.11 In table 5.10 is given the age distribution of the enumerated brothers and sisters. As will appear, though as many as 1,113 brothers were enumerated only 568 sisters were recorded. It is, therefore, clear that the sisters have been under-enumerated. We

TABLE 5.5

Distribution by relation categories of members enumerated in the sample of biological families.

Enumerated as	No. of members
(Living) Male heads	984
Wives of living heads	876
Widows of dead heads	22
Fathers of heads	149
Mothers of heads	359
Brothers of heads	1,113
Sisters of heads	568
Sons of heads	1,513
Daughters of heads	1,453
Total	7,037

TABLE 5.6

Distribution of the Male Heads by Age and by Marital Status.

Age Group	Unmarried	Married	Widowers & others	Total
15—19	8	3	—	11
20—24	14	53	3	70
25—29	5	106	3	114
30—34	3	127	2	132
35—39	—	150	5	155
40—44	—	93	10	103
45—49	—	120	6	126
50—54	—	83	12	95
55—59	1	56	5	62
60—64	—	41	15	56
65—69	—	19	10	29
70 and above	—	18	13	31
Total	31	869	84	984

suspected this to happen even in the investigation in the City, but the phenomenon has occurred on a much larger scale in the non-city investigation. It appears most surprising that the heads of families would not give the number and names of their sisters. Whatever might be the reasons, it constitutes a clear warning to all investigators who suppose that to obtain information on a point one has merely to frame the question and ask. The under-enumeration of sisters begins at age 15 and it seems possible that the married sisters have been under-reported.

TABLE 5.7

Distribution of the Wives and Widows of the Heads by Age and Marital status.

Age Group	Married	Widowed	Others	Total
Below 15	18	-	1	19
15 — 19	79	-	1	80
20 — 24	131	-	2	133
25 — 29	153	1	2	156
30 — 34	135	1	-	136
35 — 39	110	8	-	118
40 — 44	99	2	-	101
45 — 49	70	1	-	71
50 — 54	38	3	1	42
55 — 59	15	3	-	18
60 — 64	11	3	-	14
65 — 69	5	-	-	5
70 and above	5	-	-	5
Total	869	22	7	898

TABLE 5.8

Details regarding enumeration of parents.

Number of heads reporting both parents alive	87
Number of heads reporting only mother alive	272
Number of heads reporting only father alive	62
Number of heads reporting both parents dead	563
Total number of living heads	984

TABLE 5.9

Distributions by Age of (i) Fathers, (ii) Married mothers and (iii) Widowed mothers.

Age Group	Fathers	Married mothers	Widow mothers
30 — 34	—	—	—
35 — 39	—	1	2
40 — 44	—	7	7
45 — 49	3	15	21
50 — 54	10	27	38
55 — 59	26	18	39
60 — 64	35	10	63
65 — 69	25	3	34
70 and above	50	6	68
Not given	—	—	—
Total	149	87	372

5.12 In the last two columns of table 5.10 are given the age distributions of the sons and daughters of the heads. Though the number of daughters is a little smaller than that of the sons it does not appear that the daughters suffer from under-enumeration as do the sisters.

5.13 We shall now summarise our data with reference to the principal objectives of our investigation, namely, mortality and fertility. In table 5.11 we give our data relevant to the derivation of mortality rates. In one column of the table are given the living members in different relation categories who were exposed to the risk of death during the preceding year. In the adjoining column is given the number of deaths reported in each category. As we mentioned it in the earlier chapter, these data are inadequate for an independent treatment. In a subsequent chapter we propose to present them together with similar data from the city sample.

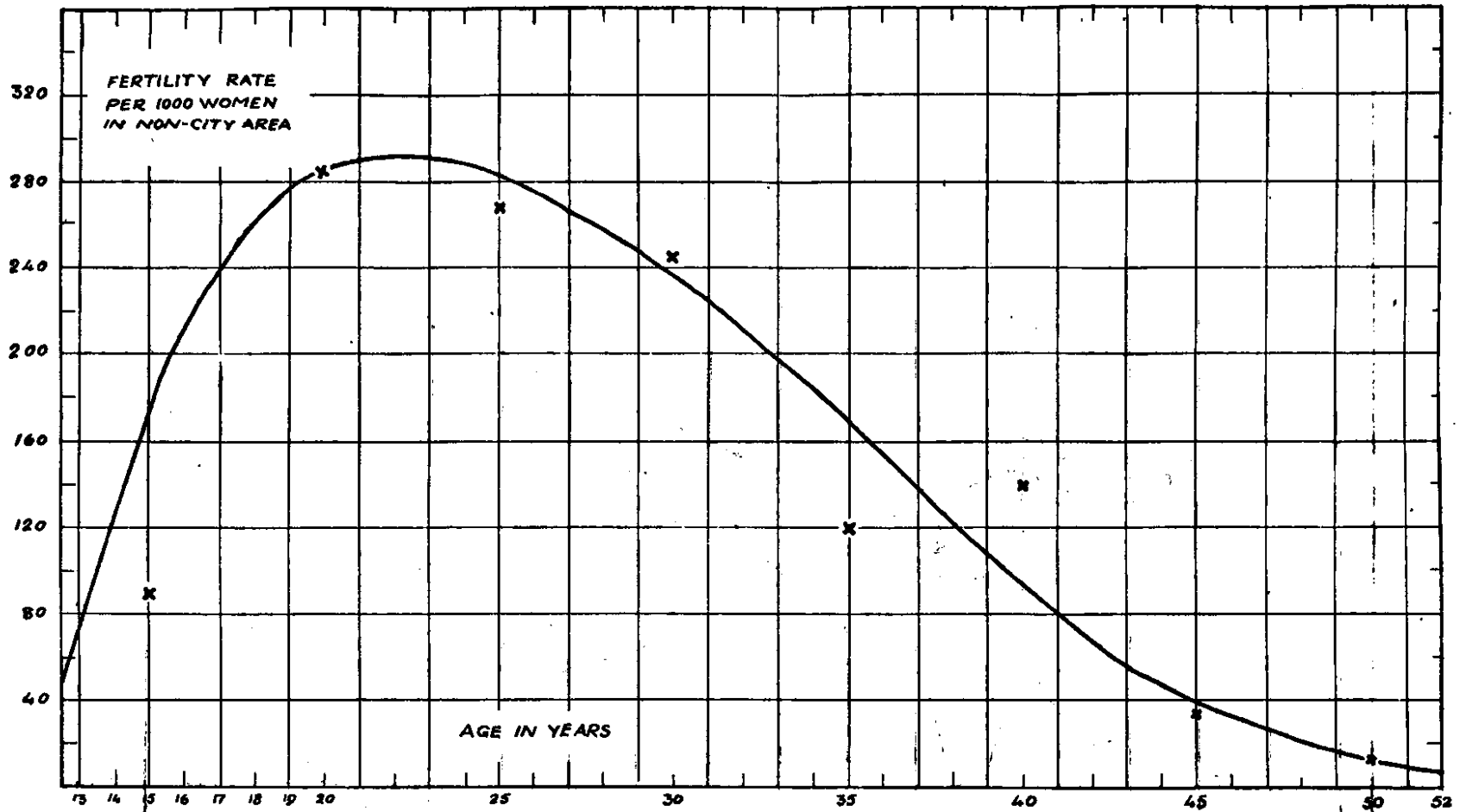
5.14 In table 5.12 we give our data relevant to fertility. From these the age-specific fertility rates of married women were derived

by precisely the same procedure as adopted in the previous chapter. In table 5.13 the married women are classified in quinquennial age groups and the reported births to them during last year are expressed as per 1000 women. In Graph No. 3 these are plotted and graduated by free hand. The graduated rates for single years are shown in table 5.14. In the adjoining column of this table, the age specific rates are cumulated giving total fertility rates of married women up to specified ages.

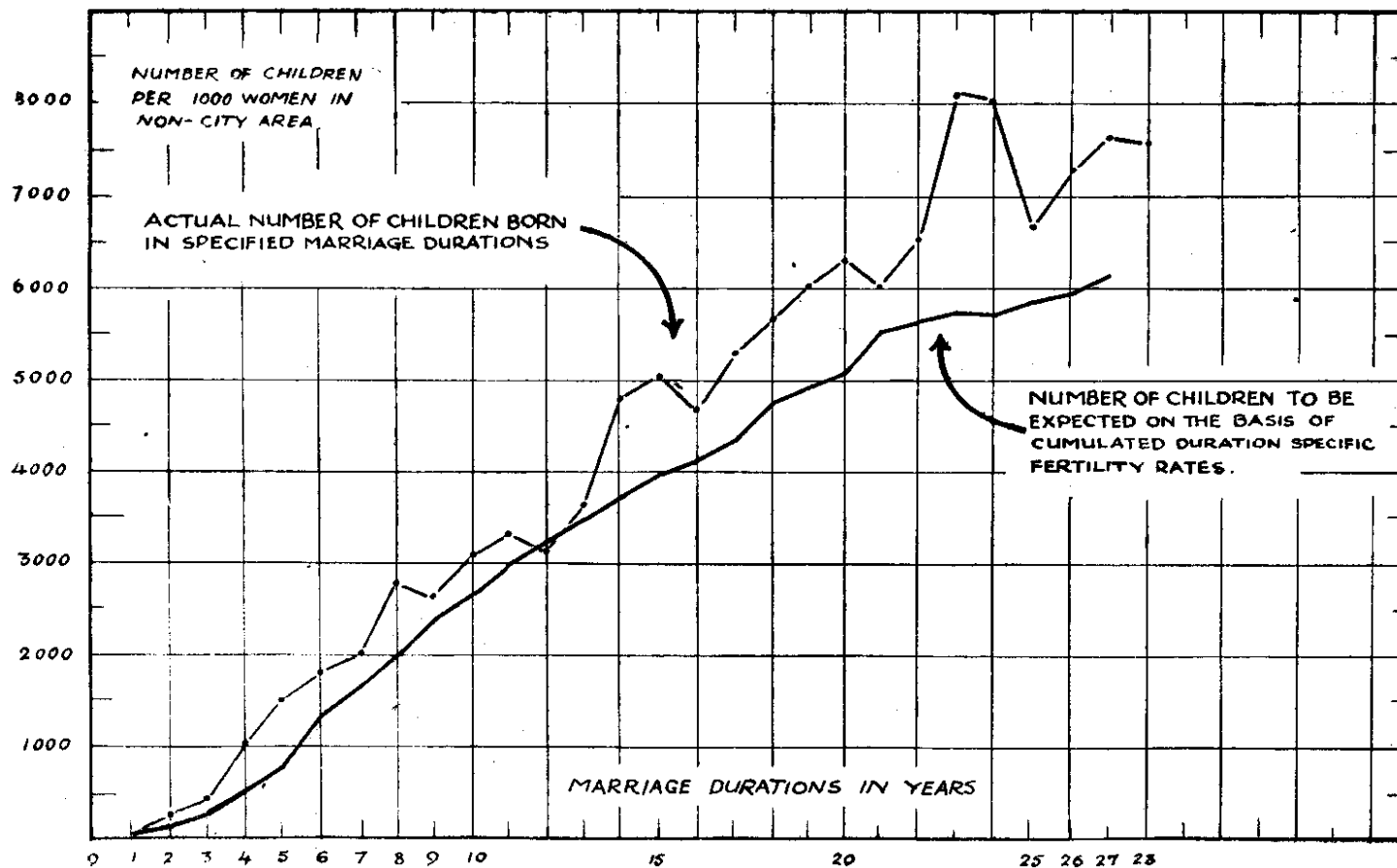
TABLE 5.10

Age distributions of Brothers (exclusive of heads themselves), Sisters, Sons and daughters.

Age group	Brothers	Sisters	Sons	Daughters
0 — 4	5	1	376	339
5 — 9	10	9	338	370
10 — 14	35	28	288	268
15 — 19	86	48	180	194
20 — 24	126	66	145	135
25 — 29	154	79	96	65
30 — 34	165	76	41	35
35 — 39	131	70	22	24
40 — 44	134	52	9	9
45 — 49	98	44	3	—
50 — 54	67	35	1	2
55 — 59	47	28	—	—
60 — 64	22	15	—	—
65 — 69	13	12	—	—
70 and above	11	3	—	—
Not given	9	2	14	12
Total	1,113	568	1,513	1,453



GRAPH No. 3 Age Specific Fertility Rates for Married Women in Non-City Area.



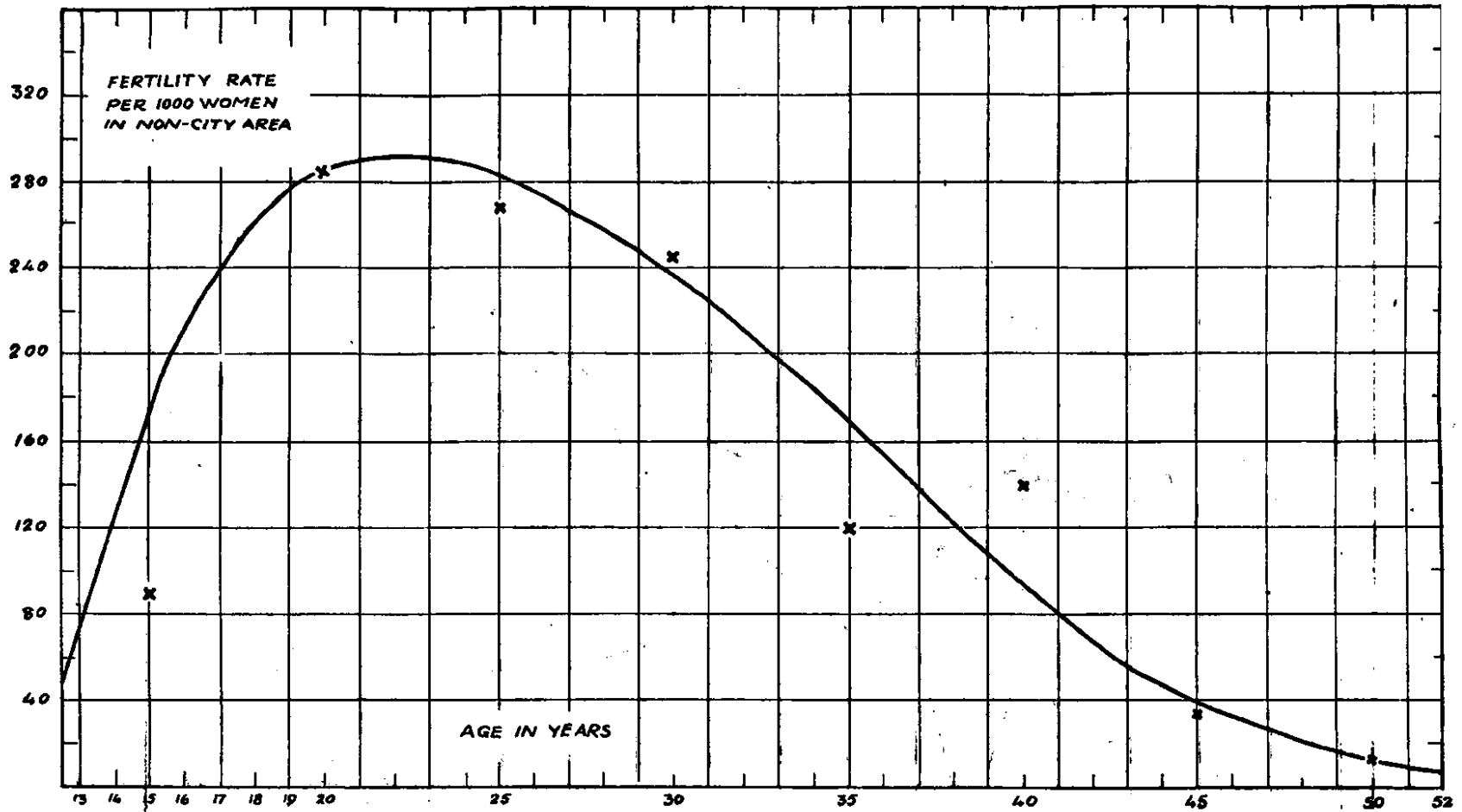
GRAPH No. 4 Comparison of Actual and Expected Number of Children born during specified Marriage Duration. (Non-City Area).

by precisely the same procedure as adopted in the previous chapter. In table 5.13 the married women are classified in quinquennial age groups and the reported births to them during last year are expressed as per 1000 women. In Graph No. 3 these are plotted and graduated by free hand. The graduated rates for single years are shown in table 5.14. In the adjoining column of this table, the age specific rates are cumulated giving total fertility rates of married women up to specified ages.

TABLE 5.10

Age distributions of Brothers (exclusive of heads themselves), Sisters, Sons and daughters.

Age group	Brothers	Sisters	Sons	Daughters
0 — 4	5	1	376	339
5 — 9	10	9	338	370
10 — 14	35	28	288	268
15 — 19	86	48	180	194
20 — 24	126	66	145	130
25 — 29	154	79	96	65
30 — 34	165	76	41	35
35 — 39	131	70	22	24
40 — 44	134	53	9	9
45 — 49	98	44	3	—
50 — 54	67	35	1	2
55 — 59	47	28	—	—
60 — 64	22	15	—	—
65 — 69	13	12	—	—
70 and above	11	3	—	—
Not given	9	2	14	12
Total	1,113	568	1,513	1,453



GRAPH No. 3 Age Specific Fertility Rates for Married Women in Non-City Area.

TABLE 5.11

Living members who were exposed to the risk of death and number of deaths reported in each relation category during the year.

Relation Category	Living members	No. of deaths
Fathers	149	13
Brothers	1,113	—
Sons	1,513	8
Total males	2,775	21
Wives of living heads	876	7
Mothers	359	13
Sisters	568	—
Daughters	1,453	9
Total females	3,256	29

TABLE 5.12

Married women included in the Fertility Enquiry and the reported live births to them during one year.

Relation Category	No. of married women	Reported live births
Wives of heads	869	156
Married mothers	87	1
Total	956	157

5.15 We shall next compare the duration specific total fertility rates based on births reported during last year and the total number of children born to-date. The computational details are shown in table 5.15. The two sets of total fertility rates as appearing in columns 5 and 7 of this table are plotted on Graph No. 4. It is obvious that the graph exhibits more or less the same features as in the earlier chapter. In general, the number of children born in all marriage durations appear to be more than those to be expected on the basis of the fertility rates derived from the births reported in the

TABLE 5.13

Derivation of Age specific Fertility Rates for Married Women grouped in quinquennial age groups.

Age group	Number of women	Number of live births During 12 months preceding the date of enquiry	Number of births per 1000 women
13 — 17	44	4	90.909
18 — 22	145	41	282.759
23 — 27	151	41	271.523
28 — 32	155	38	245.161
33 — 37	99	12	121.212
38 — 42	130	17	141.667
43 — 47	80	3	37.500
48 — 52	76	1	13.158
Above 52	86	—	—
Total	956	157	

5.16 We might now compare the marital fertility rates for the city and the non-city areas. It should be noted to begin with that the total fertility rates for the two areas are nearly equal; for the City it is 6,456 per 1,000 women; for the non-city area, it is 6,408 per 1,000 women. However, if we compare the single year age-specific rates, we find that in non-city area the fertility is higher than in the city, between ages from 13 to 22; while it is lower than that in the city area for ages between 22 to 52. It means that though the total family size, as indicated by the total fertility rates, is not very much different in the City and the non-city area, the women in the non-city area seem to build up their families much earlier than do the women in the city. In other words there appears to be some evidence of postponement of family building in the city as compared to the non-city area.

5.17 As in the earlier chapter we shall now present a set of tables (5.16 to 5.25) from which the influence of a large number of biological as well as socio-economic factors on marital fertility might be judged. As will be seen the influence of none of the factors can be judged as statistically significant. The divergence between the observed and the expected number of children is everywhere small and almost not

TABLE 5.14

Age Specific Fertility Rates for Married Women in Non-city area read off from Graph No. 3.

Age	Fertility Rate	Cumulative Total	Age	Fertility Rate	Cumulative Total
13	65	—	33	200	4,993
14	115	180	34	187	5,180
15	170	350	35	173	5,353
16	210	560	36	158	5,511
17	240	800	37	143	5,654
18	262	1,062	38	125	5,779
19	275	1,337	39	110	5,889
20	285	1,622	40	97	5,986
21	290	1,912	41	83	6,069
22	292	2,204	42	70	6,139
23	292	2,496	43	58	6,197
24	289	2,785	44	48	6,245
25	284	3,069	45	38	6,283
26	275	3,344	46	32	6,315
27	268	3,612	47	27	6,342
28	258	3,870	48	22	6,364
29	248	4,118	49	17	6,381
30	238	4,356	50	13	6,394
31	225	4,581	51	9	6,403
32	212	4,793	52	5	6,408

where regular. Nevertheless, table 5.23 suggests that possibly the occupation of the woman might affect marital fertility to some extent. As will be seen from that table, women engaged in manual labour have somewhat smaller number of children than would be expected of them; on the other hand, women engaged in no more than household work have somewhat larger number of children than would be expected of them. All the other factors do not seem to have practically any influence on marital fertility.

F...7

TABLE 5.15

Comparison of Duration specific Total Fertility Rates based on (i) Births during last year and (ii) Total births to-date.

Duration of marriage	No of women	Children born during last year	Children born per 1000 women	Cumulative of column 4	No. of children actually born to women till the date of inquiry	Children born to 1000 women calculated from column 6
0	2	—	—	—	—	—
1	21	1	47.6190	47.6190	1	48
2	12	1	83.3333	130.9523	3	250
3	17	3	176.4706	307.4229	7	413
4	26	6	230.7692	538.1921	27	1038
5	40	10	250.0000	788.1921	60	1500
6	30	11	550.0000	1338.1921	36	1800
7	42	10	238.0952	1576.2873	84	2000
8	18	7	388.8889	1965.1762	50	2778
9	31	12	387.0967	2352.2729	81	2613
10	41	10	243.9024	2596.1753	124	3024
11	6	2	333.3333	2929.5086	20	3333
12	56	12	214.2857	3143.7943	174	3107
13	19	6	315.7895	3459.5838	69	3632
14	31	5	238.0952	3697.6790	101	4810
15	46	11	239.1304	3936.8094	233	5065
16	14	2	142.8571	4079.6665	65	4643
17	60	14	233.3333	4312.9998	313	5217
18	13	5	384.6154	4697.6152	73	5615
19	16	3	187.5000	4885.1152	96	6000
20	27	4	148.1481	5033.2633	169	6259
21	2	1	500.0000	5533.2633	12	6000
22	43	3	69.7674	5603.0307	279	6488
23	13	1	76.9231	5679.9538	105	8077
24	2	—	—	5679.9538	16	8000
25	35	4	114.2857	5794.2395	230	6571
26	9	1	111.1111	5905.3506	65	7222
27	38	8	210.5263	6115.8769	289	7605
28 & over	128	3	23.4375		972	7594
Total	818	156				

5.18 From the fertility rates of the married women, the rates for all women in the non-city area, are obtained by precisely the same procedure as followed in the earlier chapter. In tables 5.26 and 5.27, are given the relevant data and the final results.

TABLE 5.16

Test of Significance of the effect on Marital Fertility of "Age of women at Marriage".

Age at present marriage	No. of Women	Observed number of children (x)	Expected number of children (m)	$\frac{(x - m)^2}{m}$
14 and below -	552	97	103.12	0.3632
15 — 19	224	49	45.14	0.3301
20 and above	42	10	7.70	0.6870
Total	818	156	155.96	1.3803

$\chi^2 = 1.3803$ with 2 d. f.
Probability = 64 per cent. approximately.

TABLE 5.17

Test of Significance of the effect on Marital Fertility of "Duration of Marriage".

Duration of marriage in years	No. of women	Observed No. of children (x)	Expected No. of children (m)	$\frac{(x - m)^2}{m}$
0 — 4	78	13	15.37	0.3654
5 — 9	150	49	40.41	1.8260
10 — 14	144	34	37.99	0.4191
15 — 19	149	35	33.73	0.0478
20 — 24	87	9	12.09	0.7898
25 and above	210	16	16.37	0.0084
Total	818	156	155.96	3.4565

$\chi^2 = 3.4565$ with 5 d. f.
Probability = 64 per cent. approximately.

Test of Significance of the effect on Marital Fertility of "Difference between the Ages of Husband and Wife".

TABLE 5.18

Difference between the ages of husband and wife	No. of women	Observed No. of children (X)	Expected No. of children (m)	$\frac{(x - m)^2}{m}$
- 5	301	62	58.45	0.2156
6 - 10	332	71	71.60	0.0050
11 and above	135	23	25.91	0.3268
Total	818	156	155.96	0.5474

$\chi^2 = 0.5474$ with 2 d. f.
Probability = 76 per cent. approximately.

TABLE 5.19

Test of Significance of the effect on Marital Fertility of "Number of children born prior to the period of investigation."

Number of children born prior to the year of investigation	No. of women	Observed No. of children (x)	Expected No. of children (m)	$\frac{(x - m)^2}{m}$
0 — 3	367	87	86.47	.0032
4 — 6	227	43	43.13	.0004
7 and above	224	26	26.36	.0049
Total	818	156	155.96	.0085

$\chi^2 = .0085$ with 2 d.f.
Probability = 99 per cent. approximately.

5.22 Life tables for Poona City were based on the municipal registration of deaths. We have no comparable data for the non-city area and hence we do not propose to derive the gross and net reproduction rates for this area. For the same reason we do not propose also to derive, for this area, the paternal fertility rates and attempt to check them with the maternal fertility rates.

TABLE 5.20

Test of Significance of the effect of "Castes" on Marital Fertility.

Caste	No. of women	Observed No. of children (x)	Expected No. of Children (m)	$\frac{(x - m)^2}{m}$
Brahmins	47	10	9.47	0.0297
Hindus other than backward and Scheduled castes	544	101	102.53	0.0228
Backward Hindus and Scheduled castes	161	30	31.20	0.0462
Others	66	15	12.76	0.7640
Total	818	156	155.96	0.8627

$\chi^2 = 0.8627$ with 3 d. f.
Probability = 97 per cent. approximately.

TABLE 5.21

Test of Significance of the effect of "Husband's Occupation" on Marital Fertility.

Husband's occupation	No. of women	Observed No. of children (x)	Expected No. of children (m)	$\frac{(x - m)^2}{m}$
Manual labour	615	113	115.80	0.0677
Non-Manual lower occupations	123	22	24.66	0.2869
Intermediate and higher-income occupations	61	21	14.56	2.8485
Others	19	—	0.94	0.9400
Total	818	156	155.96	4.1431

$\chi^2 = 4.1431$ with 3 d. f.
Probability = 25 per cent. approximately.

TABLE 5.22

Test of Significance of the effect of "Husband's Income" on Marital Fertility.

Husband's income in Rs.	No. of women	Observed number of children (x)	Expected number of children (m)	$\frac{(x - m)^2}{m}$
1 — 490	328	57	65.22	1.0980
491 — 990	301	64	56.33	1.0444
991 — 1990	134	22	24.52	0.2590
1991 and above	55	13	9.89	0.9780
Total	818	156	155.96	3.3174

$\chi^2 = 3.3174$ with 3 d. f.
Probability = 36 per cent. approximately.

TABLE 5.23

Test of Significance of the effect of "Occupation of the Wife" on Marital Fertility

Occupation of the wife	No. of women	Observed number of children (x)	Expected number of children (m)	$\frac{(x - m)^2}{m}$
Manual labour	386	63	71.36	0.9794
Non-Manual and other occupations other than house-hold work	12	1	2.72	1.0876
Household work	420	92	81.88	1.2508
Total	818	156	155.96	3.3178

$\chi^2 = 3.3178$ with 2 d. f.
Probability = 29 per cent. approximately.

TABLE 5.24
Test of Significance of the effect of "Educational Status of the Wife" on Marital Fertility.

Educational status of the wife	No. of women	Observed number of children (x)	Expected number of children (m)	$\frac{(x - m)^2}{m}$
Illiterate	691	127	127.78	0.0048
Upto Matriculation	123	29	27.28	0.1084
Above Matriculation	4	—	0.90	0.9000
Total	818	156	155.96	1.0132

$\chi^2 = 1.0132$ with 2 d. f.
Probability = 61 per cent approximately.

TABLE 5.25
Test of Significance of the effect of "the Number of Living Children" on Marital Fertility.

Number of children living	No. of women	Observed number of children (x)	Expected number of children (m)	$\frac{(x - m)^2}{m}$
0—3	522	111	115.43	0.1700
4—6	223	37	33.19	0.4374
7 and above	73	8	7.34	0.0593
Total	818	156	155.96	0.6667

$\chi^2 = 0.6667$ with 2 d. f.
Probability = 72 per cent. approximately.

TABLE 5.26
Distribution of Women by Age and by Marital Status based on a ten percent tabulation of Population Census of 1951.

Age	Unmarried	Married	Widowed and divorced	Total
5-14	15,585	2,653	51	18,289
15-24	923	11,013	307	12,243
25-34	102	9,896	952	10,950
35-44	46	6,334	1,712	8,092
45-54	25	3,024	2,454	5,503
55-64	29	828	2,713	3,570
65-74	9	181	1,292	1,482
Total	16,719	33,929	9,481	60,129

FERTILITY AND MORTALITY IN POONA DISTRICT

TABLE 5.27

Estimated proportions of married to total women at specific ages and the Age specific Fertility Rates for all Women.

Age	Proportion of ever -married to total	Proportion of married to ever -married	Marriage rate	Age specific Fertility Rates for all women
13	0.570	.979	0.558030	36.27
14	720	979	704880	81.06
15	840	978	821520	139.66
16	905	977	884185	185.68
17	932	976	909632	218.31
18	950	975	926250	242.68
19	962	974	936988	257.67
20	968	973	941864	268.43
21	974	970	944780	273.99
22	978	965	943770	275.58
23	980	961	941780	275.58
24	982	955	937810	271.03
25	984	950	934800	265.48
26	985	944	929840	255.71
27	987	936	923832	247.59
28	989	930	919770	237.30
29	990	920	910800	225.88
30	990	912	902880	214.89
31	991	902	893882	201.12
32	992	892	884864	187.59
33	993	882	875826	175.17
34	994	871	865774	161.90
35	994	860	854840	147.89
36	995	848	843760	133.31
37	995	836	831820	118.95
38	995	820	815900	101.99
39	995	804	799980	88.00
40	995	790	786050	76.25
41	995	770	766150	63.59
42	995	752	748240	52.38
43	995	730	726350	42.13
44	995	710	706450	33.91
45	995	687	683565	25.98
46	995	660	656700	21.01
47	995	635	631825	17.06
48	995	608	604960	13.31
49	995	580	577100	9.81
50	995	550	547250	7.11
51	996	520	517920	4.66
52	996	485	483060	2.42

APPENDIX

A NOTE ON MIGRATION

B.1 One of the defects of our approach through the biological family instead of the usual household, is that the enumerated members not all be residents of the place of investigation and that therefore to that extent the investigation ceases to have a geographical or regional delimitation. This defect is to a certain degree compensated by the information on migration that we obtain through this approach. In the population census, it is usual to ask about the place of birth and judge therefrom the migration to and from a district. The main defect of this approach is that the place of birth is often purely accidental and is little related to the normal place of residence. In our investigation, we asked regarding every enumerated member of the biological family, his or her place of residence. A classification of the members by their place of residence, gives the manner and extent to which members of a family are scattered, who in the absence of migration, should by the nature of the case be found together. In all except a couple of cases all the male heads, their wives and also the widows of the dead heads, were to be found at the place of interview. In tables B.1 and B.2 we give the percentage distributions of all other members of the family by their place of residence.

B.2 In Poona City, only 44 per cent of the fathers of the heads of households were found in the City. In a large majority of the remaining cases, it is the heads of households who should have been migrated to the City. It is interesting then to note that 17 per cent of the fathers belonged to places outside Bombay State. Within Bombay State 10 per cent belonged to cities and other urban areas and 18 per cent to rural area. Only about 6 or 7 per cent, belonged to Poona District. It appears, therefore, that of the heads of families immigrated into Poona City, a large part comes from other districts of Bombay State, a substantial part from outside the State and only a small portion from within the district. Among mothers, the proportion residing in Poona City is larger; otherwise the distribution is in harmony with the distribution of fathers. The larger proportion of mothers staying with the heads of households, must be explained by the fact that generally it is only after the death of the father that son assumes the headship of the household and if and when he migrates, the widowed mother often accompanies him.

TABLE B.1

Distribution by place of residence of different Relations of Male Heads in Poona City.

Place of Residence	Males			Females		
	Fathers	Brothers	Sons	Mothers	Sisters	Daughters
Poona City	43.86	47.09	92.77	61.90	37.87	88.45
Poona District other Urban Area	0.88	0.75	0.07	0.75	0.49	—
Poona District Rural Area	5.70	4.60	0.39	3.01	5.03	1.46
Bombay State Cities (except Poona District)	4.39	8.60	2.04	2.51	9.47	1.90
Bombay State, other Urban area (except Poona District)	5.70	6.26	0.66	4.51	8.58	2.19
Bombay State, Rural area (except Poona District)	18.42	11.48	0.59	12.53	14.79	1.39
Outside Bombay State	17.11	13.82	1.97	11.28	15.68	2.56
Not given	3.94	7.40	1.51	3.51	8.09	2.05
Total	100.00	100.00	100.00	100.00	100.00	100.00
Total number of persons	226	1,325	1,533	398	1,014	1,375

B.3 Among brothers only 47 per cent lived in Poona. The residence of the remaining brothers at other places might arise in different circumstances. Firstly, as in the above, the heads themselves might have migrated to Poona City leaving their brothers behind. Secondly, the heads might be residents of Poona, but their brothers might have migrated outside. Among fathers, only 4 per cent lived in other cities of Bombay State; but among brothers this proportion is 8 or 9 per cent. Apparently it is in this direction, namely, to other cities of Bombay State, such as the city of Bombay itself, that the migration of young men from Poona predominantly seems to take place. The position of sisters is similar and their small pro-

TABLE B.2

Distribution by place of residence of different Relations of Male Heads in the Non-City area.

Place of residence	Males			Females		
	Fathers	Brothers	Sons	Mothers	Sisters	Daughters
The same village as surveyed	74.50	66.40	91.73	86.07	22.36	70.51
Poona City Area	2.58	6.20	1.47	0.83	9.86	2.57
Poona District Other Urban Area	0.67	0.90	0.07	0.56	1.76	0.69
Poona District Rural Area	8.05	8.26	1.87	5.30	39.96	18.95
Bombay State Cities (Except Poona District)	4.04	7.19	1.53	1.67	6.87	0.69
Bombay State Other Urban Area (Except Poona District)	0.67	2.61	0.40	0.83	3.87	1.11
Bombay State Rural Area (Except Poona District)	4.70	3.05	0.33	1.67	7.04	1.73
Outside Bombay State	2.68	2.88	0.60	1.95	3.87	0.21
Not given	2.01	2.51	2.00	1.12	4.41	3.54
Total	100.00	100.00	100.00	100.00	100.00	100.00
Total number of persons	149	1,113	1,513	359	568	1,453

portion in Poona City, is on account of the different circumstances under which migration occurs, as for example after marriage.

B.4 93 per cent of the sons were to be found in Poona City. Many of them of course were too young to have migrated. Residents of other places should, in a majority of cases, be cases of migration from the City. It is to be noted then that 2 per cent were to be found in other cities of Bombay State and another 2 per cent outside the State. The position of daughters is similar to the sons. Their smaller pro-

portion in Poona City is again due to the migration because of marriage, which also accounts for their larger proportions in rural areas of the district and of the States than found in the case of sons.

B.5 The situation in the non-city area is very different. In the first instance, except in the case of sisters and daughters, the proportions found in the towns or villages of survey are very much larger than found in the city investigation. Thus, while only 44 per cent of the fathers in the city investigation were found residing in Poona, 75 per cent of fathers were found in the surveyed town or village in the non-city investigation. These are indications of smaller migration to and from smaller towns and villages. The very small proportions of sisters and daughters found in the surveyed villages is of course due to their migration on account of marriage. In a small town or village it is difficult, with the restrictions of the caste and family, to find a suitable bridegroom. It is also not considered desirable to have marriage relations within the village. Among sisters, it is remarkable, that as many as 10 per cent are to be found in Poona City and 40 per cent though not in the surveyed villages still in other rural areas within the district.

B.6 For a summary statement of the situation, we might make three broad categories: *Cities of Bombay State*; *Other urban and rural area of Bombay State*; and *outside Bombay State*. Then we have that of all the first relations of the heads of households staying in Poona City 66.81 per cent were found in cities of Bombay State; 22.79 per cent in other urban and rural area of the State and 10.40 per cent outside the State. These percentages for the first relations of the heads of households in towns and villages of Poona district are 7.60, 90.37 and 2.03 respectively.

CHAPTER VI

DATA ON MORTALITY

6.1 We have earlier explained that our data on Mortality suffer from two handicaps. Firstly, our sample of exposed to risk is not representative as certain relation categories have gained undue representation and it is by no means certain that these relation categories are not liable to differential mortality. Secondly the material is numerically too inadequate to derive mortality rates. For these reasons, we have so far refrained from making any use of the material. Instead we made use of the census returns and the vital registration and constructed male and female life tables for Poona City. We feel that these life tables are reliable. Our reliance on them is due to what we know is the quality of the material on which they are based and also due to the nature of the final results. If we now compare our mortality data, namely, the reported deaths with the deaths to be expected on the basis of these life tables, we find that the reported deaths in our investigation are too few. As explained earlier, we had asked only about the deaths among the first relatives and those that occurred within the course of one year. If as we feel our apprehensions are true and deaths have in fact been very much under-reported, it means that people do not care to report even the deaths of their close relatives. As we shall presently show, the conditions in this respect are not very different in the city and the non-city areas.

6.2 We shall first examine the reporting of deaths in the City investigation. The number of living members and the number of deaths recorded in each relation category were given in table 4.13 of Chapter IV. As would appear from the table no death was recorded among sisters while only one death was recorded among 1325 brothers. There is no doubt therefore that the deaths among brothers and sisters were altogether neglected. In the following we shall therefore, examine the reported deaths among the other relation categories only.

6.3 In table 6.1 are given the age distributions of the enumerated persons and also of the reported deaths in different relation categories. The sum of the two gives the exposed to risk in each age-group. In a parallel column are derived the number of deaths to be expected

TABLE 6.1

Comparison of reported and expected deaths in different relation categories in
City investigation.

Age Group	No. of Fathers	Reported deaths	Expected deaths	No. of Sons	Reported deaths	Expected deaths	Total Number	Observed deaths	Expected deaths
0	—	—	—	80	2	14.96	80	2	14.96
1	—	—	—	54	—	2.93	54	—	2.93
2	—	—	—	77	1	2.37	77	1	2.37
3-7	—	—	—	348	1	3.06	348	1	3.06
8-12	—	—	—	325	—	0.78	325	—	0.78
13-17	—	—	—	222	—	0.36	222	—	0.36
18-22	—	—	—	201	—	0.71	201	—	0.71
23-27	—	—	—	121	—	0.43	121	—	0.43
28-32	—	—	—	48	—	0.21	48	—	0.21
33-37	—	—	—	17	—	0.10	17	—	0.10
38-42	1	—	0.01	16	—	0.14	17	—	0.15
43-47	8	—	0.12	4	—	0.06	12	—	0.18
48-52	27	1	0.36	5	—	0.06	32	1	0.42
53-57	30	—	0.73	—	—	—	30	—	0.73
58-62	58	1	2.78	—	—	—	58	1	2.78
63-67	31	2	2.06	—	—	—	31	2	2.06
68-72	31	3	4.81	—	—	—	31	3	4.81
73-77	24	2	4.73	—	—	—	24	2	4.73
78-82	7	3	2.73	—	—	—	7	3	2.73
83-87	4	—	2.29	—	—	—	4	—	2.29
88-92	4	—	1.33	—	—	—	4	—	1.33
Above 92	1	1	—	—	—	—	1	1	—
Not given	1	2	—	15	—	—	16	2	—
Total	226	15	21.95	1533	4	26.17	1759	19	48.12

TABLE 6.1 (Continued)

Comparison of reported and expected deaths in different relations categories in
City investigation.

Age Group	No. of mothers	Reported deaths	Expected deaths	No. of wives	Reported deaths	Expected deaths	No. of daughters	Reported deaths	Expected deaths	Total number	Reported deaths	Expected deaths
0	--	--	--	--	--	--	85	7	15.76	85	7	15.76
1	--	--	--	--	--	--	56	--	2.68	56	--	2.68
2	--	--	--	--	--	--	71	--	2.08	71	--	2.05
3-7	--	--	--	--	--	--	352	1	3.67	352	1	3.67
8-12	--	--	--	4	--	0.01	285	--	0.81	289	--	0.82
13-17	--	--	--	34	--	0.11	202	--	0.68	236	--	0.79
18-22	--	--	--	168	--	1.08	168	--	1.06	336	--	2.12
23-27	--	--	--	181	2	1.24	72	--	0.49	253	2	1.73
28-32	1	--	0.01	190	--	1.62	42	--	0.41	232	--	2.04
33-37	8	--	0.06	109	1	0.88	12	--	0.14	121	1	1.02
38-42	25	--	0.23	112	1	1.02	8	--	0.07	145	1	1.32
43-47	50	--	0.37	62	--	0.46	--	--	--	112	--	0.83
48-52	90	--	0.86	34	--	0.33	--	--	--	124	--	1.19
53-57	57	1	1.06	19	2	0.52	--	--	--	76	2	1.44
58-62	66	2	1.27	9	--	0.25	--	--	--	75	2	2.12
63-67	41	2	2.74	4	--	0.25	--	--	--	45	2	2.99
68-72	30	1	2.86	--	--	--	--	--	--	30	1	2.86
73-77	16	--	2.18	--	--	--	--	--	--	16	--	2.18
78-82	11	1	4.41	--	--	--	--	--	--	11	1	4.41
83-87	1	--	0.30	--	--	--	--	--	--	1	--	0.30
88-92	1	--	0.43	--	--	--	--	--	--	1	--	0.43
Above 92	1	1	0.36	--	--	--	--	--	--	1	1	0.36
Not given	--	--	--	1	--	--	10	--	--	11	--	--
Total	398	8	17.74	927	6	7.61	1375	8	27.85	2700	22	52.20

DATA ON MORTALITY

TABLE 6.2

Comparison of reported and expected deaths in different relation categories in the non-city investigation.

Age Group	No. of Fathers	Reported deaths	Expected deaths	No. of Sons	Reported deaths	Expected deaths	Total number	Reported deaths	Expected deaths
0	-	-	-	73	7	14.60	73	7	14.60
1	-	-	-	59	-	3.20	59	-	3.20
2	-	-	-	84	-	2.56	84	-	2.56
3-7	-	-	-	370	-	3.25	370	-	3.25
8-12	-	-	-	322	-	0.77	322	-	0.77
13-17	-	-	-	196	1	0.32	196	1	0.32
18-22	-	-	-	194	1	0.68	194	1	0.68
23-27	-	-	-	108	-	0.39	108	-	0.39
28-32	-	-	-	58	-	0.26	58	-	0.26
33-37	-	-	-	18	-	0.11	18	-	0.11
38-42	-	-	-	13	-	0.11	13	-	0.11
43-47	1	1	0.03	2	-	0.03	3	1	0.06
48-52	12	-	0.15	2	-	0.03	14	-	0.18
53-57	24	-	3.59	-	-	-	24	-	0.59
58-62	37	2	1.84	-	-	-	37	2	1.84
63-67	25	1	1.62	-	-	-	25	1	1.62
68-72	26	5	4.39	-	-	-	26	5	4.39
73-77	6	-	1.09	-	-	-	6	-	1.09
78-82	9	1	2.73	-	-	-	9	1	2.73
83-87	2	-	1.14	-	-	-	2	-	1.14
88-92	2	2	1.33	-	-	-	2	2	1.33
Above 92	5	1	-	-	-	-	5	1	-
Not given	1	1	-	14	-	-	14	1	-
Total	149	14	14.91	1513	9	26.31	1662	23	41.22

TABLE 6.2 (Continued)

TABLE 6.2 (Continued)

Comparison of reported and expected deaths in different relation categories in the non-city investigation.

Age Group	No. of Mothers	Reported deaths	Expected deaths	No of Wives	Reported deaths	Expected deaths	No. of Daughters	Reported deaths	Expected deaths	Total Number	Reported deaths	Expected deaths
0	-	-	-	-	-	-	83	5	15.08	83	5	15.08
1	-	-	-	-	-	-	52	1	2.54	52	1	2.54
2	-	-	-	-	-	-	57	-	1.67	57	-	1.67
3-7	-	-	-	-	-	-	383	1	3.99	383	1	3.99
8-2	-	-	-	9	-	0.03	319	-	0.91	328	-	0.94
13-17	-	-	-	45	-	0.15	210	-	0.70	255	-	0.85
18-22	-	-	-	147	1	0.93	170	1	1.08	317	2	2.01
23-27	-	-	-	153	2	1.05	85	1	0.58	238	3	1.63
28-32	-	-	-	155	1	1.33	45	-	0.38	200	1	1.71
33-37	2	-	0.02	99	2	0.80	23	-	0.18	124	2	1.00
38-42	15	-	0.14	113	1	1.03	12	-	0.11	140	1	1.28
43-47	29	1	0.22	67	-	0.50	-	-	-	96	1	0.72
48-52	69	1	0.67	50	-	0.48	2	-	0.02	121	1	1.17
53-57	56	1	1.04	15	-	0.37	-	-	-	71	1	1.31
58-62	77	1	2.15	12	-	0.33	-	-	-	89	1	2.48
63-67	36	5	2.62	4	-	0.25	-	-	-	40	6	2.87
68-72	38	-	3.51	4	-	0.37	-	-	-	42	-	3.88
73-77	14	-	1.91	3	-	0.41	-	-	-	17	-	2.32
78-82	14	2	5.88	-	-	-	-	-	-	14	2	5.88
83-87	8	-	2.38	-	-	-	-	-	-	8	-	2.38
88-92	1	1	0.86	-	-	-	-	-	-	1	1	0.86
Above 92	1	1	0.18	-	-	-	-	-	-	1	1	0.18
Not Given	-	-	-	-	-	-	12	-	-	12	-	-
Total	359	13	21.58	876	7	7.93	1453	9	27.24	2688	29	56.75

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on the basis of the life table rates. Thus as against a total of 48 deaths to be expected among fathers and sons, only 19 were reported. Similarly while a total of 53 deaths were expected among mothers, wives and daughters, only 22 were reported. The under-reporting of deaths exists among all relation categories but it exists to a much larger extent among sons and daughters than among fathers and mothers. The reporting of deaths among wives is apparently very nearly complete. A disturbing feature of the under-reporting of deaths among sons and daughters is that it largely comprises under-reporting of infant deaths. Thus under one year of age, while 15 deaths were expected among sons, only 2 were reported. Similarly, while 15 deaths were expected among daughters of this age, only 7 were reported. In such cases, it seems possible that even births were not always reported so that the fertility investigation also might suffer to some extent from the under-reporting of births.

6.4 The number of living members and the number of deaths recorded in different relation categories in the non-city investigation were given in table 5.11 of Chapter V. As would appear from the table the deaths among brothers and sisters have been totally neglected. As for the reported deaths among other relation categories we have no comparable life tables for the non-city area with which the reported deaths might be compared. We might presume, however, that the mortality in the non-city areas would not be lower than that in the City. In table 6.2 we therefore compare the reported deaths in the non-city investigation with the deaths to be expected on the basis of the city life tables. It is obvious that the position is similar to that in the City investigation and that therefore the evidence regarding under-reporting of deaths, particularly of infant deaths, is clear.

CHAPTER VII

ATTITUDES TOWARDS FAMILY PLANNING AND LIMITATION

7.1 In this chapter we shall present our material regarding attitudes towards family planning and limitation. The data to be presented in this chapter were collected through two questionnaires, one for the male head and one for his wife, which were canvassed for a subsample of families included in the fertility and mortality investigation. The questionnaires are fully reproduced (in translation) in the appendix to Chapter III. In addition to the regular canvass of these questionnaires, we had instructed our investigators to interview some of the persons in greater detail on points arising out of the questionnaires and record these interviews. In Chapter VIII, we shall present these notes as a series of case studies. We hope that they will make a lively and meaningful reading supplementary to the discussion of attitudes in this chapter.

7.2 The questionnaire on attitudes of males towards family planning covered 850 cases in the city and 917 cases in the non-city area. The questionnaire on attitudes of females covered 512 cases in the city and only 240 cases in the non-city area. The males and females included in these samples were not in all cases husbands and wives, though in many cases they were. It will therefore be more convenient to treat the questionnaires on attitudes of males and females as mutually unrelated and hence present them separately. We shall begin with the questionnaire on attitudes of males.

7.3 As will appear from a rapid reading, the questionnaire is rather lengthy. In fact it contains as many as 100 questions. The length of the questionnaire was due to our decision not to directly come to the questions on family planning and limitation but instead to introduce them only after an adequate background was prepared. As we have explained in Chapter III, we thought that it would be more fruitful to discuss with the male head, the problem of family planning and limitation, against the background of the size of his present family and particularly the responsibility which he voluntarily accepted as his own, in regard to the upbringing and education of his children. As will appear from the questionnaire, three-fourth of the questionnaire is devoted to an elucidation of these points. In fact, questions from 1 to 75 are devoted to these points and, barring a few questions, they are concerned primarily with an objective assessment

of the present situation. It is only the latter part of the questionnaire, consisting of questions from 74 to 100, that is directly concerned with family planning and limitation. It will therefore, be advisable to keep the first part distinct from the latter and treat it on its own merits.

7.4 In considering the responsibility of his family that rests on the male head, we have confined ourselves to his responsibility as a father. In other words, we have confined ourselves to his responsibilities towards his children. It is not suggested that his responsibilities in regard to other members of the family, such as aged parents, younger brothers and unmarried sisters or more distant relatives, do not affect him as a father or that consequently they do not condition his attitude towards family planning and limitation. In fact, the influence of such responsibilities might often be quite decisive. The situations that such responsibilities create are various and the reactions of the family head to them are naturally complex. Nevertheless, it is obvious that they will be largely governed by what the father feels are his primary responsibilities towards his own children. There is also this distinction between the burden of other members and the responsibilities of his own children that while the former is largely extenually determined, the latter, in so far as he is aware of the possibilities of family planning and limitation, are voluntary and in a sense of his own making.

7.5 We shall begin by describing the size of the present family of fathers at different ages. In table 7.1 the male heads in both samples are classified by age. In subsequent columns of the table are given the average number of children ever born to them, and the number of living sons and living daughters. The averages are expressed as per 100 fathers in each group except that in the last line the totals are not expressed as averages. In the last column of the table the living children are expressed as percentage of the total ever born. It will be noticed that a comparison of the city and the non-city samples for the number of living sons and daughters at various ages of the father does not positively show that the size of living family is different in the two cases. The figures are rather irregular. Nevertheless, it is possible that the size of the living family is somewhat larger in the non-city than in the city sample. When we examine the column of the average number of children ever born, however, it is obvious that these are very much larger in the non-city sample than the city sample. The correcting factor seems to be mortality as will be seen from the last column of the table where the proportions of living to total born

TABLE 7.1

Male heads classified by age showing the average size of the family at different ages of the father.

Age of male head	City Sample No. of children per 100 heads					Non-City Sample No. of children per 100 heads				
	No. of male heads	No. of children born	No. of living sons	No. of living daughters	Proportion of living children to total born per cent	No. of male heads	No. of children born	No. of living sons	No. of living daughters	Proportion of living children to total born p.c.
27 and below	108	98.15	39.81	39.81	82.13	112	125.00	42.86	47.32	72.14
28-32	131	221.37	80.15	92.37	77.13	134	269.40	105.97	87.31	71.75
33-37	137	342.32	135.03	128.47	75.37	150	426.69	133.00	132.00	61.88
38-42	146	458.88	170.54	165.75	70.85	126	523.02	184.19	176.98	69.04
43-47	100	538.00	205.00	199.00	73.01	110	601.82	210.00	207.27	69.34
48-52	104	538.44	217.30	189.42	73.44	102	693.14	220.41	202.83	63.23
53-57	46	608.72	232.65	165.22	73.31	65	685.95	235.31	207.63	64.57
58-62	40	677.50	227.50	235.00	67.52	55	690.24	227.25	170.89	57.63
63 and above	38	776.32	260.53	252.63	65.44	63	669.71	206.31	171.40	56.40
Total	850	3479	1333	1244	72.37	917	4417	1493	1369	64.80

are uniformly smaller in the non-city than in the city sample. The influence of the death of children on the attitude of the father towards his living children as also towards the possibility of planning or limiting his future family, is obviously complex. Nevertheless, there is no doubt that the necessity to provide against the contingencies of mortality affords one of the principal and apparently a rational ground against the practice of contraception.

7.6 Turning to the living children, in the present context of our society, the responsibilities that a man may feel towards them are in general very different in the case of sons on the one hand and daughters on the other. We believe this would be so to a more or less degree in all patrilineal societies. The distinction is naturally more sharp in our society where the women are not yet generally accorded the status of independent earning members. Under the circumstances, the responsibility of the father towards his daughters is rather limited and in a sense more well defined. On the other hand the attitude of the father towards his sons being a composition of a variety of obligations, responsibilities and expectations is naturally a good deal more complex. We might describe its two principal components as cultural and material respectively. Underlying the cultural component is the responsibility that a man may feel for maintaining the continuity of the family as a biological and cultural entity. The material component comprises the expectations that the father may have from his sons towards his own personal self, and in particular an old age assurance that he might seek in them.

7.7 From the point of view of the responsibility of the father, we might therefore classify the sons into three broad categories; namely, those whose education has been completed, those who are still students and those who are yet too young to have been schooling. Question Nos. 9 to 12 in the questionnaire enquired about the number of living sons to each one of these categories. In table 7.2 we have outlined these details for the fathers covered by our investigation. Of the 850 fathers in the city sample, 236 had no living sons. Similarly of the 917 fathers in the non-city sample, 289 had no living sons. The remaining fathers have been classified according to their present age and for each group are given in subsequent columns of the table the average number of sons of each category and finally the total number of living sons. As before, the averages are expressed as per 100 fathers in each group. As will appear from this table,

TABLE 7.2
*Male heads with living sons classified by age showing average number of sons
of different categories.*

Age of father	<i>City Sample</i>					<i>Non-City Sample</i>				
	No. of fathers	With completed education	Educands	Too young	Total number of sons	No. of fathers	With completed education	Educands	Too young	Total number of sons
27 & below	34	—	5.88	120.59	126.47	37	—	8.11	121.62	129.73
28 — 32	67	1.49	38.81	116.42	156.72	91	7.09	38.46	109.89	156.04
33 — 37	105	11.43	77.14	87.62	176.19	113	15.93	56.64	102.66	175.23
38 — 42	116	23.28	113.79	77.59	214.66	105	35.24	85.72	100.00	220.96
43 — 47	84	70.24	110.72	63.10	244.06	87	97.91	107.46	70.45	275.82
48 — 52	88	94.29	119.28	43.17	256.74	94	108.51	75.53	64.89	248.93
53 — 57	40	177.50	110.00	37.50	325.00	54	161.13	83.34	38.89	283.35
58 — 62	40	112.50	97.50	17.50	227.50	48	199.97	49.99	8.33	258.29
63 & above	40	210.00	37.50	—	247.50	59	191.54	22.03	6.78	220.35
Total	614	382	537	414	1333	688	542	436	515	1493

the average number of sons to fathers in different age groups upto age 42 are much the same in the city and the non-city samples; thereafter, the progression of these averages is not very regular but on the whole there is little evidence that the fathers in the non-city sample have either more or fewer living sons than have fathers in the city sample. The distribution of the living sons in the three categories is however very different in the city and the non-city samples.

TABLE 7.3

Sons with completed education classified according to the age at which education ceased and the educational level attained.

	Number of sons with completed education	
	City sample	Non-city sample
Age of completing education --12	122	309
Illiterate	55	233
Less than Std. IV (primary)	37	56
Up to Std. IV (primary)	30	20
Age of completing education:--13--16	112	156
Less than std. IV (primary)	16	38
Up to std. IV (primary)	60	93
Up to std. VII (primary)	36	25
or std. III (high school)		
Age of completing education:--17--20	95	61
Up to std. VII (primary)	52	55
or std. III (high school)		
Up to Matriculation	39	5
Higher	4	1
Age of completing education:--21--	48	2
Up to Matriculation	13	—
Higher	35	2
Information not available	6	14
Total	382	542

7.8 We shall first examine the conditions of the sons with completed education. As will appear, there were 382 sons of this category in the city sample and 542 in the non-city sample. Question Nos. 14 and 15 related to the educational level attained by each son and the age at which his education ceased. In table 7.3 we give a distribution of these sons according to the age at which their education ceased. In each such class, the sons are further classified according to the level of education attained. To begin with we might note that even in the city sample, almost 15 per cent of the sons were illiterates. The proportion is of course very much larger in the non-city sample, being more than 40 per cent. If we omit these cases, the remaining number in the two samples is nearly equal and comparison between the other classes is facilitated. It will then be seen that of the sons sent to school, about 55 per cent in the city sample and about 75 per cent in the non-city sample do not continue their education after age 16. Of the remaining, in the city sample about 30 per cent continue their education upto age between 17 and 20 and about 15 per cent continue it even after the age 20. On the other hand, in the non-city sample, practically in all cases the education ceases before age 20. It is obvious therefore that the burden of education of the sons is far heavier in the city than in the non-city sample.

7.9 Question Nos. 16, 17, 18 enquired in the case of each son, whether the father considered the education received by his son, as adequate and further if he did not consider it adequate, how far did he desire educating him. In table 7.4 we have classified the sons according to the educational level attained and further classified each group according to the educational level desired by the father. Under each class, the first line designated "satisfied" gives the number of cases in which the fathers considered the education attained to be adequate.

7.10 In table 7.5 we give the same in a more summary form. The difference between what the fathers desired and what their sons could attain is glaring both in the city and the non-city samples. It should be noted that in the classification by educational level desired, the cases of 'not stated' arise mostly out of the cases where the sons were either illiterate or had not even completed their first four primary standards. In the other classes the differences are notable. Thus even in the city sample only less than half the sons for whom their fathers desired education up to matriculation could actually

TABLE 7.4

Sons with completed education classified according to the level of education attained and level of education desired by the father.

		Number of sons with completed education	
		City Sample	Non-city Sample
Educational level attained :	Illiterates and educated up to less than std. IV (primary)	110	340
desired :	Satisfied	15	34
	Up to Std. IV (primary)	—	49
	Up to Std. VII (primary) or std. III (high school)	29	49
	Up to Matriculation	17	1
	Higher or technical	15	46
	Not stated	34	159
Educational level attained :	Up to std. IV (primary)	101	138
desired :	satisfied	15	24
	Up to std. VII (primary) or std. III (high school)	43	90
	Up to Matriculation	33	9
	Higher or technical	7	11
	Not stated	3	4
Educational level attained :	Up to std. VII (primary) or std. III (high school)	79	54
desired :	Satisfied	8	5
	Up to Matriculation	50	46
	Higher or technical	21	3
	Not stated	—	—
Educational level attained :	Up to Matriculation	50	5
desired :	Satisfied	9	2
	Higher or technical	40	3
	Not stated	1	—
Educational level attained :	Higher education	38	3
desired :	Satisfied	20	1
	Further education	20	3
	Not stated	1	—
Educational level attained :	Not stated	4	2
desired :	Satisfied	1	2
	Not stated	—	—
Total		382	542

reach that stage and only one third of those for whom their fathers intended higher education could obtain it. The differences are no less striking in the non-city sample. Thus less than one-third of the sons for whom their fathers desired education upto the seventh primary standard or the third high school standard could reach that stage; further only one-seventh of those for whom their fathers desired matriculation could obtain it. The large number of sons for whom their fathers desired higher education in the non-city sample is noteworthy for it probably reflects the growing education consciousness in rural areas. It is possible that such desires, unfulfilled in most cases, were expressed without a full realisation of their implications, but there appears little reason to doubt their genuine character.

TABLE 7.5

Sons with completed education classified according to the level of education attained and level of education desired by the father (Summary)

	<i>City Sample</i>		<i>Non-City Sample</i>	
	Number of sons with educational level		Number of sons with educational level	
	attained	aimed at	attained	aimed at
Illiterates	56	8	240	17
Less than Std. IV (primary)	54	9	100	22
Up to Std. IV (primary)	101	15	138	68
Up to Std. VII (primary)	17	29	34	112
Up to Std. III (high school)	62	51	20	56
Up to matriculation	50	107	5	36
Higher	38	120	3	66
Not stated	4	43	2	165
Total	382	382	542	542

7.11 Question No. 19 enquired about the reasons for being unable to complete education of the sons as desired. In table 7.6 we have classified the sons according to these reasons as stated by the fathers. The large number of cases in the non-city sample for which the reasons were not specified arise out of the large number of illiterate sons in that sample. Among the specified reasons, poverty accounts for the majority of cases in both the samples. Incapacity of the educands also appears to be an important reason. In the city sample it accounts for almost 10 percent of the cases of specified reasons for incomplete education. In the non-city sample it accounts for about 15 percent of the cases. In the non-city sample, other reasons such as the absence of an institution near by or domestic difficulties also accounts for almost 10 percent of the cases each. The domestic difficulties largely consist in the fact that the fathers need their sons to help them in the fields or to otherwise supplement their earnings.

TABLE 7.6

Sons with completed education classified according to reasons for being unable to complete education as desired by the father.

Cause of discontinuing education	Number of sons with completed education	
	City Sample	Non-City Sample
Education attained satisfactory	68	68
Poverty	233	199
Incapacity of the educand	26	44
Non-existence of an institution near by	—	32
Domestic difficulties	3	26
Others	14	17
Unspecified	38	156
Total	382	542

7.12 Question Nos. 20 to 24 enquired of the marital status of each son, whether he was an earning member, whether he stayed with the father and if he did not, did he financially assist the family of the father. Answers to all these questions were of course given by the father. In table 7.7 we have classified the sons by their age and according to categories indicated by answers to these questions.

7.13 The basis of classification obtained in the above table might be noted. In the first instance a distinction is made between sons staying and not staying with their fathers. Further distinctions are sought as between the earning and the non-earning sons and between the married and the unmarried sons. Sons in each category are then classified by their present age. On account of the large number of illiterates included in the non-city sample and also on account of the generally lower age at which the education of sons in that sample ceased, the total number of sons with completed education in the non-city sample is much larger than in the city sample. For that reason a direct comparison between the figures as they appear in the above table or expressing them as percentages of the total is not appropriate. To facilitate comparison in the two categories where the difference in the two samples is the largest. Both of them are categories of sons who are earning and who stay with their fathers. One class is of married sons under age 22 and the other class is of unmarried sons under age 17. If we drop these two classes, the sons in the remaining classes total to 326 in both the samples. We might therefore attempt a direct comparison between the remaining classes. To begin with let us note that the number of sons not staying with the fathers or whose whereabouts are not known is 75 in the city sample while it is only 46 in the non-city sample. If we confine our attention to the married and earning sons of age above 22, we see that in the city sample 82 such stayed with their fathers while 42 stayed away; in other words, we might say that in the city sample about one-third of the married earning sons of age 22 stayed away from their fathers. The corresponding figures for the non-city sample are that 152 sons stayed with their fathers while only 26, that is less than 14 per cent stayed away from their fathers. This difference between the city and the non-city samples is of course a natural consequence of the joint family which prevails to a greater extent in the non-city area than in the city, this in its turn might again be due to the more conservative as also the predominantly agricultural character of the non-city population. What is probably surprising is that the joint family should persist in the

TABLE 7.7

Sons with completed education classified by age and earning status and according to whether they stayed with their parents.

		Number of sons with completed education	
		City Sample	Non-city Sample
Staying with parents :	Earning: Married :	112	269
	Age: —22	30	117
	23—27	47	77
	28—32	13	46
	33—	22	29
Staying with parents :	Earning: Unmarried :	120	162
	Age: —17	26	99
	18—22	62	57
	23—	32	6
Staying with parents :	Not earning: Married :	24	15
	Age: —22	16	6
	23—27	5	7
	28—32	1	—
	33—	2	2
Staying with parents :	Not earning: Unmarried :	51	50
	Age: —17	16	36
	18—22	25	10
	23—	10	4
Not staying with parents :	Earning: Married :	49	26
	Help parents	13	8
	Do not help parents	39	18
Not staying with parents :	Earning: Unmarried :	9	12
	Help parents	5	4
	Do not help parents	4	8
Not staying with parents :	Not earning :	6	—
Information not available :		18	8
Total		382	542

city area even to such large extent as to make 70 percent of married earning sons of age above 22 to stay with their fathers.

7.14 On the other hand, if we examine the position of the unmarried earning sons of age above 17 we see that the position between the city and the non-city samples is reversed. In the city sample there were 94 sons of this category who stayed with their fathers while only 9 stayed away. In other words, in the city sample, only about 9 or 10 percent of the unmarried earning sons of age above 17 stayed away from their fathers. On the other hand, in the non-city sample, there were 63 sons in this category staying and 12 not staying with their fathers. Thus about 16 percent of the sons in this category stayed away. The difference in this respect between the city and the non-city samples, though not very large, is probably significant, and possibly is on account of the migration of young men that takes place from rural area to urban centres.

7.15 We could have brought out this difference between the city and non-city sample perhaps in a more direct way. In the city sample, there were 51 earning sons not staying with their fathers and out of these 42 were married and 9 were unmarried. On the other hand, in the non-city sample there were 38 earning sons not staying with their fathers and out of these 26 were married and 12 were unmarried. It is thus obvious that while in the city sample marriage is a more operative factor affecting separation of sons from their fathers, in the non-city sample there exist possibly other circumstances. One such might be the migration of young men from rural to urban centres.

7.16 We should note nevertheless that even in the city the cases where either married or unmarried sons stay away from their fathers in the same city are not common. The social complex conditioning a joint family is still too strong in many communities so that one usually needs showing sufficient grounds to justify separation. From the point of view of the father, the earning unmarried son, though not necessarily a source of net receipt, is usually not a burden. The parents also have an emotional interest in his marriage. As for the earning married sons staying with the father, in the initial days they are rarely a source of net receipt and are often a positive burden. More often the young couple affords a source of friction. Nevertheless, barring extreme situations, the parents usually desire their sons to stay with them. Underlying such a desire is partly the ego of a patriarch, partly their emotional interest in the grand-children and

TABLE 7.8

Educand and too young sons classified by age and by the school standard.

	Number of educand and too young sons	
	City sample	Non-city sample
Age :-6 :	420	506
Illiterates	398	490
Less than std. IV (primary)	30	16
Up to std. IV (primary)	1	—
Age :-7-12 :	320	338
Illiterates	23	62
Less than std. IV (primary)	155	167
Up to std. IV (primary)	114	105
Up to std. VII (primary)	28	4
or std. III (high school)		
Age :-13-16 :	117	87
Less than std. IV (primary)	3	9
Up to std. IV (primary)	32	50
Up to std. VII (primary)	73	26
or Std. III (high school)		
Up to Matriculation	9	2
Age :-17-20 :	65	18
Up to std. IV (primary)	4	5
Up to std. VII (primary)	25	11
or std. III (high school)		
Up to Matriculation	27	2
Higher or technical	9	—
Age :-21-	20	2
Up to Matriculation	4	1
Higher or technical	16	1
Total	951	951

partly the more material interest of keeping the old age assurance in sight.

7.17 We shall now turn to the educands as also the sons too young to have yet begun schooling. There were 951 such sons in the city and the same number in the non-city samples. Question Nos. from 25 to 31 relate to them. In table 7.8 we have classified the sons according to their age and according to the standard in which they were schooling. It might be noted that in the city sample there were 20 educand sons of age 21 or above; as against this there were only 2 such sons in the non-city sample. There is also a remarkable difference in the standards attained by educands of different ages in the two samples. However, it would probably be out of place here to go into these differences. From the point of view of the responsibility of the father, the important points are what would be the age of the father at the time when the education of these sons would be completed and to what extent the fathers expect assistance from other quarters, particularly from the elder sons, to enable the young sons to complete their education. In table 7.9 we give a classification of the sons ac-

TABLE 7.9

Educand and too young sons classified according to age of the father at the time of completion of their proposed schooling.

Age of father at completion of son's education	Number of educand and too young sons	
	City sample	Non-city sample
37 and below	6	8
38-42	48	50
43-47	101	148
48-52	197	204
53-57	174	193
58-62	146	155
63-67	73	95
68-72	46	54
73-77	19	12
78 and above	4	9
Not stated	137	23
Total	951	951

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TABLE 7.10

Educand and too young sons classified by age and according to the responsibility of the father in completing their proposed schooling.

	Number of educand and too young sons	
	City sample	Non-city sample
Age :-6:	429	506
Father's sole responsibility	327	395
Expects another son to assist	46	71
Expects other assistance	3	—
Not stated	53	40
Age :-7-12:	320	338
Father's sole responsibility	244	265
Expects another son to assist.	52	51
Expects other assistance	3	1
Not stated	21	21
Age :-13-16:	117	87
Father's sole responsibility.	83	69
Expects another son to assist.	33	15
Expects other assistance	—	1
Not stated	1	2
Age :-17-20:	65	18
Father's sole responsibility	45	17
Expects another son to assist.	15	1
Expects other assistance	2	—
Not stated	3	—
Age :-21-	20	2
Father's sole responsibility	15	1
Expects another son to assist.	4	1
Expects other assistance	—	—
Not stated	1	—
Total	951	951

according to the age of the father when their proposed schooling would be completed. It may be noted that expect for the large number of the non-reporting cases in the city sample, the two distributions are remarkably similar. It might also be noticed that in the case of about one-third of the educand or too young sons, their fathers would be over 60 years of age at the time of completion of their education. A simple application of the mortality tables would show in how many cases the fathers might not at all live to see the completion of the education of their sons. Even in the remaining cases where the proposed schooling of the sons would be completed before the fathers were of age 60, it is not to be supposed that the corresponding fathers would be free of all responsibilities regarding, at that age, education of their sons. This is because the above table gives a classification of sons and not of fathers. Moreover, it takes no account of the sons that may be born to some of the fathers in future.

7.18 In table 7.10 we give a classification of the sons by age and according to the manner in which their fathers proposed to complete their education. It will be seen that in the case of 139 sons in the city sample and 150 sons in the non-city sample—in other words in the case of about 15 per cent of sons—the fathers admittedly expected their elder sons to assist in completing the schooling of the the younger sons. There were practically no other quarters from where the fathers might expect assistance, and hence in most of the remaining cases the fathers expected to complete the education of the sons on their responsibility. It should be noted that such expectations naturally do not take into account the possibility of more children being born and adding to the responsibilities of the father; they also do not take into account the contingencies of mortality which in the context of the age of the fathers at completion of the education of their sons might indeed be very important.

7.19 We shall now consider the responsibility of the father towards his daughters. As we have earlier noted, in the context of our present day society, this responsibility is rather limited and in a sense more well defined. Simply told, the daughter is not supposed to belong to the father's home and practically the sole aim of the father is to find for her a good home. The entire upbringing of daughters is therefore oriented to this objective. From the point of view of responsibility of the father we might therefore classify the daughters into three broad categories; namely, the married daughters including widowed etc. daughters, unmarried daughters with completed education and unmarried daughters either educand or too young to

TABLE 7.11

Male heads with living daughters classified by age showing average number of daughters of different categories.

Age of father	City Sample					Non-City Sample				
	No. of fathers	No. of daughters per 100 fathers		Educands and too young	Total No. of daughters	No. of fathers	No. of daughters per 100 fathers		Educands and too young	Total No. of daughters
Married	Unmarried with completed education	Married	Unmarried with completed education			Married	Unmarried with completed education			
27 & below	35	—	—	122.85	122.85	45	—	—	117.78	117.78
28 — 32	79	1.27	6.33	145.59	153.19	84	—	9.52	129.71	139.23
33 — 37	96	4.17	12.50	166.72	183.39	117	15.38	20.51	133.33	169.22
38 — 42	111	20.72	20.72	176.58	218.02	98	58.14	26.52	141.79	226.44
43 — 47	81	40.74	29.63	175.31	245.68	95	97.93	25.27	116.88	240.08
48 — 52	92	61.96	32.61	119.57	214.14	88	102.24	45.44	94.29	241.97
53 — 57	38	97.38	31.59	71.06	200.02	54	137.05	31.48	81.49	250.03
58 — 62	34	164.70	26.47	85.29	276.46	45	173.32	15.55	20.08	208.97
63 & above	36	183.25	33.34	50.00	266.69	50	180.00	8.00	30.00	218.00
Total	602	277	127	840	1244	676	500	150	719	1369

have begun schooling. Question Nos. 41 to 46 in the questionnaire enquired about the number of living daughters in each of these categories. In table 7.11 we shall outline these details for the fathers covered by our investigation. 248 fathers in the city sample and 241 fathers in the non-city sample had no living daughters. The remaining fathers have been classified according to their present age and for each group are given in subsequent columns of the table, the average number of daughters of each category and finally the total number of living daughters. As before the averages are expressed as per 100 fathers in each group. As will appear from the table, though the progression of the average number of living daughters is rather irregular in both the samples, there is no clear indication that the number of living daughters is larger in one sample than in the other. The distribution of the total living daughters in the three categories is however very different in the city and the non-city samples.

TABLE 7.12

Married daughters classified by age at marriage and according to whether the age was considered appropriate.

	umber of married daughters	
	City sample	Non-city sample
Age at marriage not later than 14 :	126	431
Considered appropriate	100	366
Considered too early	26	165
Reasons for early marriage :		
Suitable match found	5	10
Financial circumstances	17	13
Unspecified	4	142
Age at marriage from 15 — 21 :	140	69
Considered appropriate	134	64
Considered too late	6	5
Age at marriage above 21 :	11	—
Considered appropriate	7	—
Considered too late	4	—
Total	277	500

7.20 We shall first examine the conditions of the ever married daughters. There were 277 such daughters in the city and 500 in the non-city sample. Question Nos. from 47 to 58 relate to them. In table 7.12 we have classified these daughters by their age at marriage and further according to whether their fathers regarded this age appropriate, too early or too late. In cases, where the age at marriage was regarded to be too early, the reasons for early marriage were asked for and are tabulated in the above table. It will be seen that practically 50 percent of the daughters in the city sample and 90 percent of the daughters in the non-city sample were married at age not later than 14. In 80 per cent of such cases in the city and 60 percent of the cases in the non-city sample the age was regarded as appropriate. In the majority of the cases where the age of marriage was regarded to be too early in the city sample, the reason for early marriage was given as financial circumstances. In the non-city sample, in most cases, no reasons were given and this might

TABLE 7.18

Married daughters classified by educational attainment and according to whether it was considered adequate.

	Number of married daughters					
	City sample			Non-city sample		
	Considered adequate	Considered inadequate	Total	Considered adequate	Considered inadequate	Total
Illiterates	43	60	103	327	99	426
Less than Std. IV (primary)	21	19	40	29	6	35
Up to Std. IV (primary)	35	26	61	11	11	22
Up to Std. VII (primary)	15	8	23	4	6	10
Up to Std. III (high school)	19	8	27	—	5	5
Up to matriculation	10	2	12	2	—	2
Higher or technical	10	1	11	—	—	—
Total	153	124	277	373	127	500

probably be understood as saying that the reason was no other than custom. 4 per cent of the daughters in the city sample were married at age later than 21. There were no such cases in the non-city sample.

7.21 In table 7.13 the daughters are classified according to their education and also according to whether the educational attainment was considered adequate. It is noteworthy that even in the city sample, in about 15 per cent cases where daughters were actually illiterate, that was not regarded as improper. This proportion in the non-city sample is of course very much higher, where in 65 percent cases, the daughters were illiterate without that being regarded as improper.

7.22 In table 7.14 the daughters are classified by the educational level attained by them and the reasons as given by the fathers as to why their education was discontinued at that stage. It might be noted that in about half the cases in the city sample and in more than three-fourth of the cases in non-city sample, more education was not regarded as useful. Poverty appears as a reason only in 25 per cent cases in the city and only in 5 per cent cases in the non-city sample.

7.23 Question Nos. from 59 to 64 related to unmarried daughters with completed education. There were only 127 such in the city and 150 in the non-city sample. In table 7.15 we give their distribution by age and by the educational level attained. It may be noted that about one-third of the daughters in the city sample and about 45 per cent in the non-city sample were illiterate. In table 7.16 the daughters are distributed by their age at leaving education. Further in Table 7.17 they are classified according to reasons for leaving education.

7.24 Finally, in table 7.18 the daughters are classified by their present age according to whether they were then regarded as marriageable. It will be noticed that a majority of the daughters in the non-city sample, more than 90 per cent, were of age 14 or below. The same proportion in the city sample was less than 60 per cent. To judge whether the daughters were regarded as marriageable, it was asked whether the parents were on the look out for a bridegroom. Confining our attention to daughters of age between 10 and 14, we see that about 40 per cent in the city sample but only 30 per cent in the

TABLE 7.14

Married daughters classified by educational attainment and according to reasons for its discontinuance.

	Number of married daughters							
	Education considered not useful	City sample			Non-city sample			
		Poverty	Other reasons	Unspecified results	Education considered not useful	Poverty	Other reasons	Unspecified results
Illiterates	25	30	11	37	332	13	5	76
Less than std. IV (primary)	26	5	—	9	27	3	—	5
Upto std. IV (primary)	33	16	6	6	18	1	1	2
Upto std. VII (primary)	17	3	—	3	3	3	1	3
Upto std. III (high school)	16	4	—	2	2	3	—	—
Upto Matriculation	4	3	—	5	2	—	—	—
Higher or technical	7	2	—	2	—	—	—	—
Total	128	63	22	64	384	23	7	86

TABLE 7.15

Unmarried daughters with completed education classified by age and educational attainment.

	Number of unmarried daughters with completed education	
	City sample	Non-city sample
Age: —9 :	14	35
Illiterate	14	32
Less than Std. IV (primary)	—	3
Age: 10-14 :	58	98
Illiterate	30	78
Less than Std. IV (primary)	12	12
Upto Std. IV (primary)	15	8
Upto Std. VII (primary)	1	—
Age: 15-20 :	38	15
Illiterate	2	8
Less than Std. IV (primary)	7	5
Upto Std. IV (primary)	13	1
Upto Std. VII (primary)	6	1
Upto Std. III (high school)	5	—
Upto matriculation	2	—
Higher or technical	3	—
Age: 21-	17	2
Illiterate	2	—
Less than Std. IV (primary)	—	—
Upto Std. IV (primary)	3	1
Upto Std. VII (primary)	—	—
Upto Std. III (high school)	4	1
Upto matriculation	5	—
Higher or technical	3	—
Total	127	150

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TABLE 7.16

Unmarried daughters with completed education classified by age at leaving education.

Age at leaving education	Number of unmarried daughters with completed education	
	City sample	Non-city sample
—9	59	125
10—14	37	21
15—20	27	2
21—	4	2
Total	127	150

TABLE 7.17

Unmarried daughters with completed education classified by age and by reasons for leaving education.

Cause of leaving education	Number of unmarried daughters with completed education							
	City sample				Non-city sample			
	Present age							
	—9	10—14	15—20	21—	—9	10—14	15—20	21—
Education satisfactory	1	3	5	3	—	—	1	—
Incapacity of the educand	—	—	4	8	—	—	—	—
Marriageable age	—	3	2	2	—	5	1	1
Domestic difficulties	—	3	7	—	2	6	1	—
Financial difficulties	2	31	15	1	2	7	3	—
Unspecified	11	18	5	3	31	80	9	1
Total	14	58	38	17	35	98	15	2

non-city sample were being regarded as marriageable in the sense that the parents were actively on the look out for a bridegroom. In view of the fact that among the married daughters in the non-city sample, a large majority, almost 90 per cent, were married before age 14, the above is difficult to explain and is probably not very relevant. It was possible however that in the non-city area, longer time elapsed between the settling of a marriage and the actual marriage so that among some of the parents who said that they were not on the look out for a bridegroom, it might be that the marriages were already settled.

TABLE 7.18

Unmarried daughters with completed education classified by age and according to whether the father was on the look out for a bridegroom.

	Number of married daughters with completed education							
	City sample				Non-city sample			
	Present age							
	-9	10-14	15-20	21-	-9	10-14	15-20	21-
Not on the look out	14	32	13	7	35	72	3	1
On look out for 1 year	—	24	15	1	—	21	7	1
On look out for 2 years	—	2	10	4	—	5	5	—
On look out for 3 or more years	—	—	1	5	—	—	—	—
Total	14	58	38	17	35	98	15	2

7.25 Question Nos. from 65 to 71 related to unmarried daughters in school or too young to have yet begun schooling. There were 840

such in the city sample and 719 in the non-city sample. In table 7.19 they are classified according to the education their fathers intended for them. The category of 'other' education indicates that the fathers in these cases thought that some education other than the formal schooling would be more useful for their daughters. Though some of the fathers indicated what that could be, in most cases they were unable to specify details. In table 7.20 the daughters are classified according to the age of the fathers by the time the daughters would be married. It will be seen that barring cases where such age was not specified, in about 20 per cent of the cases in both the samples the fathers would be of age above 60 by the time their daughters were married.

TABLE 7.19

Unmarried daughters, educand and too young, classified by education intended for them by their fathers.

	Number of unmarried educand and too young daughters	
	City sample	Non-city sample
Educational level intended :		
Illiterate	—	5
Less than Std. IV (primary)	27	39
Upto Std. IV (primary)	46	107
Upto Std. VII (primary) or Std. III (high school) }	247	125
Upto matriculation	182	50
Higher (graduate)	57	—
Other	260	217
Unspecified	21	176
Total	840	719

TABLE 7.20

Unmarried daughters, educand and too young, classified by the age of the father when the daughters would be married

Age of father when daughter would be married	Number of unmarried educand and too young daughters	
	City sample	Non-city sample
37 and below	28	49
38 — 42	86	131
43 — 47	168	143
48 — 52	168	127
53 — 57	132	112
58 — 62	90	83
63 — 67	46	27
68 — 72	12	10
73 and above	8	8
Unspecified	112	29
Total	840	719

7.26 We shall now analyse the responses of the male heads to our question Nos. from 74 to 100 directly related to practicing of and attitude towards family planning and limitation. To the question enquiring whether the person practiced any contraceptive methods, only 76 out of the 850 persons in the city sample answered in the affirmative. However, their answers to the next question relating to the methods used showed that 38 of them practiced no more than what might be described as judicious abstinence which apparently also included coitus interruptus and the rhythm method, though the answers were not specific on these points. 23 persons reported use of the condom and 4 of the diaphragm. The remaining 11 were cases of surgical sterilisation, 6 of vasectomy and 5 of salphingectomy. Answers to subsequent questions, relating to the period over which the method was being practiced, etc., were not very satisfactory.

7.27 To the question enquiring whether any of the male heads not practicing contraception at present, practiced it at any time before, no one answered in the affirmative. There were therefore no cases of reported discontinuance and hence subsequent questions, relating to methods used and the reasons of discontinuance became inapplicable.

7.28 To the question enquiring whether the male heads not practicing contraception knew anything about it, 14 answered in the affirmative; 509 positively said that they knew nothing about it while 251 persons did not answer indicating that the question did not concern them. The 14 male heads affirming knowledge of contraception, when questioned as to the methods of which they knew, 13 professed knowledge of no method other than abstinence which, as we said earlier, might include coitus interruptus and the rhythm method; only one reported knowledge of vasectomy. We might therefore take it that practically nobody not practicing contraception knew anything much about it. Their answers to subsequent question regarding the source of their information are not therefore very relevant.

7.29 The 14 male heads who professed knowledge of contraception as also the 509 who said that they knew of no contraceptive methods, were followed up with questions enquiring as to whether they had ever thought of family planning, and if so, why did they not pursue the matter any further; in particular, were they opposed to it and if so, on what grounds or if they were not opposed, would they welcome information on the subject. 154 said that for various reasons there was no need in their particular cases, to consider the proposition; 87 said that they were positively opposed to it; 236 said that they would welcome information on the subject; the remaining 46 did not respond to these questions.

7.30 The 154 male heads in the first category advanced various reasons as to why they had little interest in the subject. 16 said they were too young while 32 said that they were too old; 48 said that they had not yet too many children, 40 said that they liked to have more sons, 10 said that their children were naturally well-spaced while 8 said that the number of children that they had or would have did not much concern them.

7.30 The 87 male heads who were positively opposed to contraception, in answer to the question relating to the ground on which they opposed, gave the following reasons. 9 said that it was immoral while 59 said that it was against Nature or the will of God; 10 said that they were opposed to contraception by any means other than judicious

abstinence while 9 did not specify the grounds on which they were opposed to contraception.

7.32 Among the 236 male heads who said that they would welcome information on the subject, 131 said that they would immediately adopt it while 105 said that they would give thought to it after knowing what it was. In response to our question enquiring whether they had discussed the matter with their wives, among the 236 welcoming information, only 33 answered in the affirmative.

7.33 An analysis of the 251 male heads who did not respond to this part of the questionnaire shows that 5 of them were aged 60 or more; 66 were widowers, in 42 cases their wives were of age 45 or more and in 3 more cases though the wives were under 40, they had reportedly reached menopause; 82 had no living child while in 41 cases they had no child during the preceding 10 or more years. Only 6 plainly refused to discuss the subject while in 6 other cases, the investigators felt that the answers forthcoming were not either sincere or truthful. It would thus appear that the response was generally satisfactory and that most of the cases of non-response were for understandable reasons.

7.34 In table No. 7.21, we have summarised the above discussion in a classified form. In a parallel column is given a similar classification of the responses in the non-city sample. As we have earlier noted, the non-city sample consisted of a total of 917 male heads. The discussion in previous sections was based on this total sample. For subsequent discussion directly related to their attitudes towards family planning, however, we propose to reject some of the returns. From one of the villages a large number of forms were returned. On enquiry we discovered that the investigator has filled them by means of a group discussion. Such discussions, though they often reveal quite unexpected lines of thinking, generally tend to become impersonal and unrelated to specific facts regarding individual participants. We thought it, therefore, advisable to omit them from subsequent discussion. We have on this account discarded a total of 62 returns. In the following sections, the results of the non-city sample are therefore based on the analysis of only the remaining 855 returns.

7.35 For a broad comparison between the responses in the city and the non-city samples, we may note that the total number of persons interviewed in the two cases is nearly the same, 850 in the city and 855 in the non-city sample, so that the numbers as they are given in the table may be directly compared. Secondly, the extent of non-

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TABLE 7.21

Analysis of responses to questions referring to practice of contraception.

	Number of persons	
	City sample	Non-city sample
Practising contraception	76	13
Abstinence, coitus interruptus etc.	38	4
Condom	23	2
Diaphragm	4	3
Vasectomy	6	3
Salpingectomy	5	1
Were not concerned about contraception	200	166
Too young	16	7
Too old	32	25
Wanted more children	48	57
Wanted more sons	40	54
Children naturally well-spaced	10	1
Not concerned about number of children	8	8
Reasons unspecified	46	14
Were opposed to contraception	87	119
Immoral	9	8
Against will of God	59	85
Opposed to methods other than abstinence	10	10
Reasons unspecified	9	16
Would welcome information on contraception	256	306
Would immediately adopt	131	198
Would give thought to	105	108
Had discussed the subject with wife	33	2
Had not discussed with wife	203	304
No response to the question on contraception	251	251
Persons aged 60 or above	5	12
Widowers	66	66
Wives above 45 or having reached menopause	45	71
Had no living child	82	67
Had no child during last 10 or more years	41	30
Refused to answer or co-operate	12	5
Total	850	855

response in the two cases is about the same and as will appear, most cases of non-response are for understandable reasons so that the responses in both cases should be regarded as satisfactory. Moreover, the number of persons who either did not respond or who said that they were not concerned with the proposition for various reasons are closely similar in the two cases indicating that the grounds stated might in most cases be truthful. It also suggests that the persons in the two samples were very similar in their marital and biological status. Their responses are, therefore, very well comparable.

7.36 The responses in the two groups are characteristically different in some respects. Nevertheless a closer examination reveals an astonishing similarity in their major categories. Thus it will be seen that while 76 persons in the city reported as practising contraception, only 13 in the non-city area did so. Or if we confine our attention to those using contraceptive methods other than abstinence, these were 38 in the city but only 6 in the non-city area. This was to be expected. However, it was probably not to be expected that this difference would be largely compensated by there being a much larger number of persons in the non-city area than in the city, who would welcome information on the subject or those who, after learning of the methods, would like to adopt them in practice. Thus while only 236 in the city said that they would welcome information and only 131 said that they would immediately adopt the methods, the corresponding numbers in the non-city area were 306 and 198 respectively. Of the persons who welcomed information, the number who had discussed the subject with their wives was indeed small in the city and was naturally very much smaller in the non-city area.

7.37 In the category of persons positively opposed to contraception, there were 87 in the city and 119 in the non-city area. The difference is entirely confined to the category of persons opposing contraception on grounds that it was against the will of God. This again was to be expected. However, this difference seems largely compensated by there being a much larger number in the city who said that they were not concerned about contraception without stating reasons thereof; this number was 46 in the city as against only 14 in the non-city area.

7.38 Another notable difference between the responses in the city and the non-city samples is that a somewhat large number of persons in the non-city than in the city sample said that they would have either more children or more sons. In the city, 48 persons said that they would like to have more children and 40 persons said that they would

like to have more sons. The corresponding numbers in the non-city area were 57 and 54 respectively.

TABLE 7.22

Male heads practicing contraception by methods other than abstinence, etc. classified by Caste and Income.

Caste	Number of persons			Number of persons	
	Condom and diaphragm	Surgical sterilization	Income	Condom and diaphragm	Surgical sterilization
Brahmins	22	10	— 1000	2	4
Marathas	4	2	1000 —	7	6
Other Hindus	2	3	2000 —	8	2
Non-Hindus	2	—	3000 —	7	2
Non-Marathi speaking	2	—	4000 —	8	1
Total	32	15	Total	32	15

7.39 Among the persons reported as practising contraception, those who practised methods other than abstinence were of special interest. There were 36 such in the city and 6 in the non-city sample. Here again the distinction between surgical sterilisation and other means is vital. There were 11 cases of surgical sterilisation in the city and 4 in the non-city area. Though the numbers are too small, the relatively large number of cases of sterilisation in the non-city area might have some significance. In the following, we shall distinguish cases of surgical sterilisation and those adopting other means and give a series of tables giving particulars of these cases. In table 7.22, are given their distributions by caste and income. In table 7.23 are given their distributions by their own age and by the age of their wives. In table 7.24 are given their distributions by the number of children born to them and by the age of the last child. Finally, in table 7.25 are given their distributions by the number of living children and by the number of living sons.

7.40 It is obvious that two thirds of those practising contraception were Brahmins. There is however no similar concentration as re-

TABLE 7.23

Male heads practicing contraception by methods other than abstinence etc. classified by age of the Male and Age of the Female.

Age of male	Number of persons		Age of female	Number of persons	
	Condom & diaphragm	Surgical sterilization		Condom & diaphragm	Surgical sterilization
6-32	5	1	-27	9	1
3-37	8	3	28-32	9	5
6-42	11	6	33-37	5	2
1-	8	5	38-	8	2
Total	32	15	Total	32	15

TABLE 7.24

Male heads practicing contraception by (i) condom and diaphragm and by (ii) surgical sterilization, classified by Number of children born and Age of the youngest living child.

Number of children born	Number of persons		Age of the youngest living Child	Number of persons	
	Condom and diaphragm	Surgical sterilization		Condom and diaphragm	Surgical sterilization
1	3	—	1	3	3
2	3	1	2	6	3
3	5	1	3	5	2
4	6	3	4	3	2
5	2	2	5	2	—
6	5	2	6	3	—
7	1	1	7	2	2
8	—	2	8	1	1
9	1	2	9	2	—
10 & more	—	1	10 or over	—	2
Total	32	15	Total	32	15

TABLE 7.25

Male heads practicing contraception by methods other than abstinence etc., classified by the Number of living Children and the number of living sons.

Number of living children	Condom & diaphragm	Surgical sterilization	Number of living sons	Condom & diaphragm	Surgical sterilization
0	—	—	0	5	—
1	4	1	1	13	4
2	8	1	2	8	3
3	7	2	3	4	4
4	6	6	4	1	1
5	6	1	5	1	2
6	1	1	6	—	1
7 & above	—	3	7 & above	—	—
Total	32	15	Total	32	15

gards their income class. As for the age, practically in all cases of surgical sterilisation, the male head was of age above 33 and his wife above 28. Similarly practically in all these cases the number of children born was 4 or more. From the age of the last child, it is to be noted that in about half the cases of contraception by condom or diaphragm, the youngest child was not of age more than two years. The majority of the cases of surgical sterilization had three or more living children and all had a son. All cases of contraception with condom diaphragm had a living child though five of them had no living son. It was possible that the use of contraceptives in these cases was mainly intended for postponement.

7.41 It might be worthwhile examining the number of living children or of living sons of those who said that they would like to have either more children or more sons. In table 7.26 we give the distribution of these cases separately for the city and the non-city area. Those who said that they would have more children are classified by the number of living children while those who said that they would have more sons are classified by the number of living sons. It will be observed that among the former, practically all cases in the

TABLE 7.26

Male heads desiring more children classified by the number of living children and those desiring more sons classified by number of living sons.

Number of living Children	Number of persons desiring more children		Number of living sons	Number of persons desiring more sons	
	City sample	Non-city sample		City sample	Non-city sample
0	1	—	0	27	40
1	30	20	1	13	13
2	16	23	2	—	—
3	—	11	3	—	1
4 & more	1	3	4	—	—
Total	48	57	Total	40	54

TABLE 7.27

Male heads welcoming information on contraception either for (i) immediate use or for (ii) consideration, classified by their present age.

Age	Number of persons, who would welcome information & practice contraception		Number of persons, who would welcome information for consideration	
	City Sample	Non-city Sample	City Sample	Non-city Sample
—27	11	17	10	7
28—32	24	46	23	23
33—37	35	45	16	26
38—42	32	37	27	24
43—47	15	27	11	16
48—	14	26	18	12
Total	131	198	105	108

city had no more than 2 living children while in the non-city area the family sizes were somewhat larger. On the other hand, among those desiring more sons, practically in all cases, both in the city and in the non-city area, the persons had either no living son or only one living son. It will appear, therefore, that the contention in most cases was understandable.

TABLE 7.28

Male heads welcoming information on contraception either for (i) immediate practice or for (ii) consideration, classified by the number of living children.

Number of living children	Number of persons who would welcome information and practice contraception		Number of persons who would welcome information for consideration	
	City sample	Non-city sample	City sample	Non-city sample
0	3	5	2	2
1	21	30	14	11
2	24	36	25	17
3	26	41	13	23
4	23	22	20	16
5	15	28	13	15
6	11	20	8	14
7	5	10	5	6
8	2	4	2	2
9	1	2	1	1
10 and More	—	—	2	1
Total	131	198	105	108

7.42 We should also examine the composition of those who said that they would welcome information on contraception. A distinction between those who said that they would immediately adopt the methods and those who said that they would give thought to it, though, not necessarily real, might usefully be maintained in the analysis. In tables 7.27 and 7.28 we give the distributions of these cases by the age of the persons and also by the number of their living children.

7.43 Our next set of questions from Nos. 94 to 97 enquired whether the last child was desired. The questions were obviously rather awkward. Nevertheless the response does not seem to be so bad. Out of the 850 persons in the city sample, 361 reported that they as well as their wives positively desired their last child while 92 reported that both of them positively did not want the child. There were 10 more cases where either the father or the mother did not desire the last child. 41 persons said that it was an improper question to ask; that they neither desired nor not-desired the child; that the birth of the child was an act of God and that they willingly submitted to it. In the remaining 346 cases there was no response, mostly because the questions were not applicable to their particular conditions.

TABLE 7.29

Analysis of response to questions enquiring whether the last child was desired.

	Number of persons	
	City	Non-city
Both parents desired the last child	361	411
Wanted more children	155	120
Wanted a son	148	285
Reasons unspecified	58	6
One of the parents desired but the other did not	10	11
Both parents did not desire the child	92	75
Think they have too many children	66	72
Health of mother too weak	13	—
Reasons unspecified	13	3
Persons thinking the question to be improper	41	63
No response to these questions	346	295
Total	850	855

7.44 The 361 persons who said that they and their wives both desired their last child were asked the subsequent question as to why they wanted the child. 155 of them said that they wanted more children while 148 said that they wanted more sons, the remaining

TABLE 7.80

Male heads desiring more children classified by number of living children, those desiring more sons classified by number of living sons and persons not desiring any more children classified by number of living children.

Number of living children	Number of persons desiring more children		Number of living children	Number of persons desiring more sons		Number of living children	Number of persons not desiring any more children	
	City sample	Non-city sample		City sample	Non-city sample		City sample	Non-city sample
0	4	6	0	51	86	0	-	-
1	44	19	1	73	124	1	-	1
2	45	33	2	16	53	2	3	4
3	31	21	3	5	17	3	10	8
4	15	14	4	-	4	4	9	5
5	11	15	5	-	1	5	14	13
6	2	5	6	-	-	6	10	16
7	1	6	7	-	-	7	9	12
8	-	1	8	-	-	8	8	6
9	2	1	9	-	-	9	1	2
10 & over	1	-	N G.	4	-	10 & over	3	-
Total	155	130	Total	148	285	Total	66	73

did not answer. On the other hand, the 92 persons who said that neither they nor their wives had desired their last child were asked the subsequent question as to the reasons thereof. 66 said that they had already too many children, while 13 said their wives did not keep good health. Others did not give any reasons. In table 7.29, we have summarised the above in a classified form, giving in a parallel column, the corresponding numbers in the non-city investigation. Here again the responses in the two samples are surprisingly similar. The number of cases where both the parents desired their last child is larger in the non-city area than in the city but it is largely compensated by the larger non-response in the city.

7.45 Cases where the parents desired their last child because they either wanted more children or more sons as also cases where parents did not desire the last child because they thought they already had too many children are of special interest. In table 7.30 we give their distribution according to the number of living children or living sons as the case may be.

TABLE 7.31
Male heads classified by the desired number of children.

Desired number of children	City Sample		Non-city Sample	
	No. of persons stating the existing number as desired	No. of persons stating specified number as desired	No. of persons stating the existing number as desired	No. of persons stating specified number as desired
1	3	2	3	—
2	23	42	23	18
3	26	98	39	68
4	40	106	37	109
5	37	48	49	62
6	26	15	39	14
7	15	2	27	10
8	6	2	8	1
9 & over	34	24	33	41
Total		339	258	323
Unspecified	—	298	—	274

7.46 Next question enquired about the number of children desired. A distinction was made in the question as between the number of children desired on the basis of the financial circumstances of the family and the number to be desired on the basis of the health condition of the mother. However, in the responses to these questions sufficient distinction was not made and the responses to both the questions were nearly identical. In the following we shall, therefore, disregard the distinction. In the city sample, 298 persons did not respond to this question and in most of these cases the question was not applicable. 213 reported that their present number of children was exactly what was desirable; in such cases it is only indirectly that we might infer that these persons did not desire any more children though it would perhaps be more appropriate to treat such responses as rather indifferent. The remaining 339 reported what they regarded as the desired number of children. In table 7.31 we shall keep the latter two sets of persons distinct and give their respective distributions according to the number of children they thought were desirable. In parallel columns are given similar distributions for the non-city sample.

7.47 Next question asked what the person thought was his appropriate age when the last child may be born. In the city sample, 64 persons indicated their present age to be the age after which no children should be born. 253 persons did not answer and in most of these cases the question was not relevant. 106 persons said that they could not say what should be the appropriate age. The remaining 427 persons indicated what they thought should be the appropriate age when the last child may be born. In table 7.32 we give a classification of these answers. In a parallel column is given similar classification of the responses from the non-city investigation.

7.48 The last question enquired whether after the above mentioned age after which the persons thought no more children should be born, they would adopt contraceptive methods. The responses were, however, not very satisfactory. Probably the question itself was too hypothetical to answer. We shall, therefore, neglect this question.

7.49 We shall next present data collected through our questionnaire on attitudes of females towards family planning and limitation. The questionnaire is reproduced in the appendix to Chapter III. As we have earlier described and as a glance through the questionnaire will show, we had tried to introduce the subject of family planning and limitation through a set of preliminary questions relating to the health of the women, their capacity to bear children as also conditions

TABLE 7.32

Male heads classified by the age after which in their opinion no more children should be born.

Age	Number of persons	
	City sample	Non-city sample
25	3	—
30	12	9
35	42	36
40	133	149
45	130	146
50	82	68
55	16	10
60	3	8
Total	427	426
Could not say	106	150
Present age	64	117
Unspecified	253	162
Total	850	855

relating to feeding of infants and children. Four-fifth of the questionnaire comprising question Nos. from 1 to 63, is devoted to these preliminary points, and it is only the remaining question Nos. from 64 to 80 that are directly related to family planning and limitation. As in the questionnaire on attitudes of males, it is advisable here to keep the two parts separate. To begin with we shall present data from the first part of the questionnaire.

7.50 The sample of women for this questionnaire comprised 511 women in the city and 240 women in the non-city sample. Question Nos. from 13 to 17 enquired about the number of completed deliveries including still births, number of still births, number of living children, number of dead children, and number of incomplete delive-

TABLE 7.33

Women classified by age showing total number of deliveries and living children.

Age	City sample					Non-city sample				
	No. of mothers	Total No. of complete deliveries	Of which no. of still births	No. of incomplete deliveries	No. of living children	No. of mothers	Total no. of complete deliveries	Of which no. of still births	No. of incomplete deliveries	No. of living children
-17	13	69.2	—	—	53.8	4	100.00	—	—	100.00
18-23	84	114.29	2.38	8.33	98.10	44	213.18	6.82	2.27	131.82
23-27	99	293.94	7.07	13.13	286.36	47	342.55	4.26	8.51	255.39
28-32	108	396.30	3.70	9.26	313.89	52	515.38	9.62	15.38	359.61
33-37	71	591.55	19.72	29.58	433.80	31	625.81	35.48	25.81	409.68
38-42	69	559.42	14.49	39.13	395.65	38	657.89	26.32	26.32	423.68
43-47	36	630.56	13.89	58.33	452.78	14	821.43	—	14.29	500.00
48—	31	674.19	3.23	9.68	445.16	10	730.00	20.00	80.00	410.00
Total	511	2066	43	102	1536	240	1161	33	41	768

ries. In table 7.33 the women are classified according to their present age and for each group the abovementioned information is tabulated. As before, the number of deliveries etc. are given as averages per 100 women. It will appear from this table that in the city sample there were 43 still births in a total of 2,066 complete deliveries and in the non-city sample there were 33 still births in 1161 complete deliveries. The proportion of still births to deliveries is thus about 2 per cent in the city sample and about 3 per cent in the non-city sample. As for the incomplete deliveries, which might conceivably include induced abortions, in the city there were 102 such cases as against a total of 2066 complete deliveries. Thus for every complete 20 deliveries there was one incomplete delivery. This ratio in the non-city sample is nearly 1 incomplete delivery for every 30 complete deliveries. Thus there are apparently more cases of incomplete deliveries in the city while more cases of still births in the non-city area.

7.51 In order to examine whether the incidence of either still births or incomplete deliveries is larger among women having larger number of deliveries. in table 7.34, we have classified the women by the number of deliveries. In successive columns are then given the total number of deliveries, number of still births as also the number of incomplete deliveries. Except for the large number of incomplete deliveries to women in the city sample having no complete deliveries, there is little evidence to suggest that the incidence of either still births or incomplete deliveries is different among women with larger number of deliveries than those with a smaller number of deliveries.

7.52 Question Nos. 18 to 20 related to the general health condition in all previous pregnancies and deliveries. 46 women in the city sample and 32 women in the non-city sample reported trouble during pregnancy or delivery but particulars regarding the nature of the trouble or reasons thereof were not satisfactory.

7.53 Subsequent question Nos. 21 to 42 related to the last delivery. These questions were confined to women in whose cases the last delivery had occurred not more than 5 years ago. There were only 333 such women in the city sample and 177 in the non-city sample. In the following, we shall outline the responses of these women to our questions.

7.54 There were 24 cases of incomplete deliveries in the city sample and 12 in the non-city sample. Their proportion to total cases is thus 7 per cent in both the city and the non-city samples. In response to the question asking for causes of the incomplete delivery, in most

TABLE 7.84

Women classified by number of deliveries showing still births and incomplete deliveries.

No. of deliveries	City Sample				Non-city Sample			
	No. of mothers	Total No. of complete deliveries	Of which No. of still births	No. of incomplete deliveries	No. of mothers	Total No. of complete deliveries	Of which No. of still births	No. of incomplete deliveries
0	58	—	—	18	4	—	—	—
1	57	57	2	3	25	25	3	4
2	77	154	7	7	24	48	—	1
3	48	144	3	12	32	96	3	3
4	66	264	1	5	32	128	1	5
5	46	230	7	3	26	130	3	1
6	48	288	4	10	25	150	6	9
7	37	259	5	14	25	175	3	11
8	27	216	8	10	14	112	5	3
9	21	189	2	10	14	126	1	1
10 & over	26	265	5	5	19	171	9	3
Total	511	2068	43	102	240	1161	33	41

cases no specific cause could be given; nevertheless, putting the two samples together in 4 cases the cause was reported to be overwork and in 5 others it was said to be general weakness.

7.55 Subsequent discussion is confined to cases of normal deliveries. In response to question enquiring how long during pregnancy the women continued to do their normal household duties, in the city sample all except 10 cases said that they were doing their normal duties practically to the end. In the 10 cases, the women worked upto 3 or 4 months. Next question concerned women who were engaged in other than household duties. In the city sample there were only 15 such cases 13 of which said that they were doing their duties upto the eighth or ninth month, of pregnancy. All women in the non-city sample said that they worked right upto the end.

7.56 In response to questions regarding any trouble during pregnancy, in the city sample, only 10 women reported such trouble, 6 of which said that they were medically treated for the purpose; the other 4 said that they did not receive any specific medical treatment. No women in the non-city sample reported any such trouble. Next questions related to trouble during delivery. 18 women in the city and 2 in the non-city sample reported some trouble but no particulars were given. Subsequent questions related to trouble after delivery. In the city sample, 27 women reported such trouble, among 10 cases of these the trouble lasted for one or two months while in the remaining cases it lasted for a longer period. In the non-city sample, 12 women reported similar trouble but in all cases it was only of a short duration.

7.57 Question No. 32 related to special food and nutrition during post-delivery period. In table 7.35 are outlined the particulars.

TABLE 7.35
Particulars regarding special nutrition in post-delivery period.

	Number of women	
	City sample	Non-city sample
Received special nutritional food	95	53
Medicinal tonics	37	5
No special food	187	108
Total	309	165

7.58 Question Nos. from 38 to 41 related to the breast feeding of infants. These questions were confined only to women in whose cases the last delivery had occurred not more than 3 years ago. Barring cases of abnormal deliveries, etc., occurring during this period there were 281 reporting cases in the city sample and 149 in the non-city sample. Among these, 188 had a breast-fed child each. 130 of these said that their children were completely breast-fed. In table 7.36 are particulars of the answers to the relevant questions.

TABLE 7.36

Particulars regarding breast feeding.

	Number of women	
	City sample	Non-city sample
Currently and totally breast-fed	130	97
Currently but partially breast-fed	58	21
Weaned after one year	25	4
Weaned within one year	67	27
Total	381	149

7.59 To the question, as to whether the breast-feed was adequate, 200 women in the city sample said that it was, while 76 said that it was not; the remaining 3 did not answer. The 76 women who said that the breast-feed was not adequate, were asked about the reasons thereof. 33 said that it was either due to their bad health or due to want of sufficient rest. 25 said that it was due to want of sufficient nutrition. Others could not give specific reason. In table 7.37 we classify these answers giving in a parallel column, the corresponding figures from the non-city sample.

7.60 Question Nos. from 42 to 47 related to the last child. Among the 511 women in the city sample, 58 had no completed deliveries whatever. In the case of 44 others, the last child was not living, 5 of these were cases of still births while in 32 other cases the children had died under one year of age. In the case of 409 women, the last child was living. In table 7.38 we give the information in a classified form. In a parallel column, the corresponding figures for the non-city sample are given. Of the 32 children in the city sample dying under one

TABLE 7.37

Particulars regarding adequacy of breast feeding.

	Number of women	
	City sample	Non-city sample
Breast-feed adequate	200	118
Breast-feed inadequate	76	29
Due to ill-health or insufficient rest	33	14
Due to insufficient nutrition	14	7
Unspecified reasons	29	8
Not reported	5	2
Total	281	149

TABLE 7.38

Women classified according to particulars of last born children.

	Number of women	
	City Sample	Non-city Sample
No complete deliveries	58	4
Still births	5	5
Death under one year	32	14
Death after one year	7	6
Last child living	409	211
Total	511	240

year of age, 13 were reported to be too weak at birth while in 3 cases the mothers attributed the death of the children to inadequate medical attention. Similarly, in the non-city sample, out of the 14 children dying under one year, 4 were reported to be too weak at birth while in 3 cases the death was attributed to inadequate medical care.

TABLE 7.39

Women classified according to particulars of milk intake of last born living children.

	Number of women	
	City Sample	Non-city Sample
Children of 1 year & under	184	101
Breast fed	90	61
No milk	10	4
Half lb. of milk	45	19
One lb. of milk	25	10
More than one lb. of milk	7	2
Not given	7	5
Children 1-2 years	48	35
Breast fed	5	5
No milk	9	8
Half lb. of milk	20	15
One lb. of milk	9	5
More than one lb. of milk	3	2
Not given	2	-
Children of 3-7 years	88	48
No milk	27	23
Half lb. of milk	29	16
One lb. of milk	23	4
More than one lb. of milk	2	-
Not given	7	-
Children of years 8 & above	89	39
No milk	33	13
Half lb. of milk	20	7
More than one lb. of milk	1	-
Not given	45	12
Total	409	211

TABLE 7.40

Women classified according to adequacy of milk intake of last born living children.

	Number of women	
	City sample	Non-city sample
Intake of milk adequate	162	60
Intake of milk not adequate	90	57
Due to poverty	76	50
Due to dislike	10	6
Unspecified reasons	4	1
Not given	157	94
Total	409	211

7.61 In cases where the last born children were living, subsequent questions related to the milk intake of these children. In table 7.39 we have classified the children according to their age and according to the quantity of milk taken. It will be observed that of the children of age one year or under, about 50 per cent in the city and 60 per cent in the non-city sample, were completely breast-fed. Among two year old children both in the city and the non-city samples about 20 per cent did not take any milk. Among children of age three to seven years about 30 per cent in the city and about 50 per cent in the non-city samples did not take any milk. Next question enquired whether the mothers considered the milk intake of their children as adequate. In table 7.40 are classified the answers to this question. The large number of cases where no answers were given related to cases of breast-fed children or where the children did not take any milk. Out of the remaining in about 36 per cent cases in the city and in about 50 per cent cases in the non-city sample the mothers thought that the milk feed was inadequate. The reason in most cases was stated to be poverty.

TABLE 7.41

Showing particulars regarding consumption of milk by children under age 15.

No. of children under 15	No. of families	City Sample			Non-city Sample			
		Total No. of children	Proportion of children taking milk	Average consumption per child taking milk (in lbs.)	No. of families	Total No. of children	Proportion of children taking milk	Average consumption per child taking milk (in lbs.)
0	35	—	—	—	15	—	—	—
1	95	95	.568	0.71	44	44	.500	0.68
2	109	216	.421	0.62	57	114	.333	0.68
3	80	240	.358	0.52	44	132	.303	0.68
4	48	192	.375	0.60	34	136	.272	0.59
5	48	240	.313	0.52	20	100	.180	0.50
6 & above	17	109	.211	0.57	26	87	.264	0.61
Not given	80	—	—	—	—	—	—	—
Total	511	1094	.367	0.58	240	613	.290	0.63

7.62 Next set of questions related to the consumption of milk by children under age 15 and to the general conditions regarding their feeding. In table 7.41 we have classified the women by the number of children under age 15. In subsequent columns of the table are then given the total number of children in their families, proportion of children taking any quantity of milk regularly and the average consumption of milk per child taking milk. It will be noticed that both in the city and the non-city samples, the proportion of children taking milk and to some extent, the average consumption of milk decrease with increasing family size. As between the city and the non-city samples, though the proportion of the children taking milk is smaller in the non-city sample than in the city sample, the average consumption of milk per child taking milk is not much different in the two samples.

TABLE 7.42

Showing particulars regarding general feeding of children under age 15.

Number of children under 15	City sample		Non-city sample	
	Number of women	Proportion satisfied about feeding of children	Number of women	Proportion satisfied about feeding of children
0	35	—	15	—
1	95	.7053	44	.8636
2	108	.5278	57	.7193
3	80	.5125	44	.5000
4	48	.4583	34	.4118
5	48	.3750	20	.5500
6 & above	17	.2941	26	.2400
Not given	80	—	—	—
Total	511	.5197	240	.5732

7.63 Consumption of milk provides a simple index to the feeding of children. Nevertheless, 701 women were asked whether they thought that the feeding of their children was generally satisfactory and if they did not think so, what in their opinion were the reasons therefor.

In table 7.42 we have classified the women according to the number of children under age 15. In each class is then given the proportion of women who felt that the feeding of the children was satisfactory. As will be noticed, both in the city and the non-city sample, this proportion decreases with increasing family size, and as between the two samples, the proportion is generally smaller in the city sample than in the non-city sample. As for the reasons for unsatisfactory feeding of children, in most cases the reason was given as poverty and very few women said that they thought it was on account of too large a number of children.

TABLE 7.43

Women classified according to the number of children they thought they could possibly feed satisfactorily.

Number of children possible to feed	Number of women	
	City sample	Non-city sample
1	7	1
2	34	8
3	70	26
4	54	30
5	33	14
6	5	5
7	5	—
8	3	2
9 & over	4	1
Could not say	183	94
Unspecified	113	59
Total	511	240

7.64 Question No. 53 asking how many children the women could feed satisfactorily was necessarily a hypothetical one. We shall nevertheless tabulate the results. In table 7.43 the women are classified according to the number which they thought they could feed satisfactorily.

TABLE 7.44

Women classified according to the responses to questions enquiring whether the last child was desired.

	Number of women	
	City Sample	Non-city Sample
Wanted a child	225	186
(i) Desire more children	106	52
(ii) Desire more sons	119	83
(i) Discussed with husband	57	8
(ii) Not discussed with husband	178	127
Did not want a child	71	45
(i) Too many children	53	21
(ii) Weak health	9	7
(iii) Coming in the way of occupation or career	9	17
(i) Discussed with husband	17	5
(ii) Not discussed with husband	54	40
Thought question to be improper	99	80
No response to that question	116	80
Total	511	240

7.65 Question Nos. 54 and 55 enquired whether the women ever discussed with their husbands the desirability or otherwise of having any more children. No. 54 was only a general question while No. 55 enquired specifically whether there was any discussion prior to the last confinement. This was followed up by question No. 56 enquiring whether the woman wanted her last child. For women who said that they did not want their last child, question No. 57 enquired about the reasons thereof. Similarly, question No. 58 was concerned about reasons for desiring the last child. In table 7.44 are given the responses to these questions. These responses it will be noticed, are in general accord with the responses of the male heads to similar questions.

TABLE 7.45

Women classified according to whether their husbands wanted their last child.

	Number of women	
	City sample	Non-city sample
Husband wanted a child	249	138
Husband did not want child	52	21
Considered the question improper	82	47
Not given	128	34
Total	511	240

7.66 Next question enquired whether the husbands wanted the last child. In table 7.45 are given the answers.

TABLE 7.46

Women classified according to the desired number of children.

Desired number of children	Number of women	
	City sample	Non-city sample
1	2	—
2	17	3
3	87	20
4	54	30
5	39	26
6	10	9
7	2	1
8	1	2
Any number	122	89
Could not say	75	31
Total	399	211

7.67 To those women who thought that their present number of children was not too large, we asked as to the number of children they would like to have. By means of subsequent questions a distinction was sought as to the number of children to be desired from the financial point of view and from the point of view of the health of the women. Answers to the two questions are however largely similar and in the following we shall make no distinction between the two. 399 women in the city and 211 women in the non-city sample answered these questions. In table 7.46 are given the results.

TABLE 7.47

Women classified according to the age after which they thought that children should not be born.

Age after which children should not be born	Number of women	
	City sample	Non-city sample
25	10	8
30	74	30
35	64	44
40	66	28
45	13	12
50	5	1
Could not say	163	86
Unspecified	116	31
Total	511	240

7.68 Finally we had the question enquiring as to the age after which the women thought they should have no children. In table 7.47 are given the results.

7.69 Question Nos. 64 to 80 directly related to practising of and attitudes towards family planning and limitation. In the following we shall analyse the responses to this set of questions. To our question asking whether the women knew anything about contraception and, if they knew, did they practise it, only 40 out of the 511 women in the city sample answered in the affirmative. However, their answers to the next question relating to the methods used showed

that 17 of them practised no more than what they described as abstinence, which possibly included the rhythm method and also perhaps coitus interruptus, but the answers were not specific on these points. 14 reported the use of the condom by their husbands while 6 reported the use of the diaphragm. The remaining 3 were cases of surgical sterilization, 2 of which were cases of vasectomy and one of salphingectomy. As we have earlier noted, the 850 male heads in the city sample for whom the questionnaire on attitude of males was canvassed, had reported 11 cases of surgical sterilization. On that basis, we should have expected the 511 women to report at least 6 such cases. Of course, the 511 being examined, were not all chosen from the wives of the 850 men for whom the questionnaire for males was canvassed. The two samples were quite independent. Nevertheless, with better investigational effort we should have expected a closer correspondence between the two responses.

7.70 It is difficult to imagine that surgical sterilization of one partner is not always reported to the other, though considering the complexity of human nature and behaviour, one cannot rule out such a possibility. In fact, the one woman who reported surgical sterilization in her own case, told our investigator confidentially that the fact was not known to her husband and that she desired that it should not to be reported to him. In cases of surgical sterilization of the females, it is also not impossible that such operations are often regarded primarily not as means of contraception. We think therefore that some more direct questioning with a clear distinction regarding the means used by the husband and those used by the wife might have been more useful.

7-71 The women who said that they practised contraception, were asked questions regarding the regularity of the use and utility or futility of the practice. But the answers have not been very satisfactory. To the question, enquiring whether any of the women not practising contraception at present, practised it at any time before, only one answered in the affirmative. But the cause of the discontinuance was only old age.

7.72 To the next question enquiring whether the women not practising contraception knew anything about it, 12 answered in the affirmative; 295 women said that they knew nothing about it while 16 women did not respond to this part of the questionnaire indicating that the questions did not concern them. The 12 women professing knowledge when questioned as to the methods they knew, 7 of them

said that they knew of surgical sterilisation of the female. In response to subsequent questions they also said that they intended being operated upon. The remaining 5 women did not know of any method other than abstinence.

7.73 Finally the 12 women who professed knowledge of contraception as also the 295 women who said that they knew nothing of contraception were followed up with questions enquiring whether they were opposed to contraception and if so on what grounds; and further if they were not opposed, would they welcome information on the subject. 86 women said that for various reasons there was no need in their particular cases to consider the proposition; 77 said that they were positively opposed to it; 102 said that they would welcome information on the subject; the remaining 42 women did not respond to these questions.

7.74 The 86 women in the first category advanced various reasons as to why they had little interest in the subject. 17 said that they were too young while 16 said that they were too old; 2 had no children and probably were cases of natural sterility. 13 said that they had not yet too many children, 17 said that they would like to have a son, 12 said that their children were naturally well-spaced, while 9 said that the number of children that they had or would have did not much concern them.

7.75 The 77 women who were positively opposed to contraception, in answer to the question relating to the grounds on which they were opposed, gave the following reasons. 9 said it was against religion, while 55 said that it was against Nature or the will of God; 7 said that they were opposed to contraception by any means other than judicious abstinence while 6 did not specify the grounds on which they were opposed to contraception.

7.76 The 102 women who said they would welcome information included among them the earlier mentioned 7 women who said that they proposed to be operated upon for sterility.

7.77 Analysis of the 163 women who did not respond to this part of the questionnaire shows that 45 were of age 45 or above and 50 had no children. In the remaining 68 cases also the non-response was mostly for similarly understandable reasons.

7.78 In table 7.48 we shall summarise the above discussion in a classified form. In a parallel column are given the corresponding figures from the non-city sample. As will appear the responses in

TABLE 7.48

Analysis of responses to questions relating to practicing of contraception.

	Number of women	
	City Sample	Non-city Sample
Practicing contraception	40	6
Abstinence; rhythm method etc.	17	5
Sheath	14	—
Diaphragm	6	—
Operation	3	1
Were not concerned about contraception	129	58
Too young	17	7
Too old	17	12
Sterility	2	—
Wanted more children	13	4
Wanted more sons	17	6
Children naturally well-spaced	12	4
Not concerned about number of children	9	—
Reasons unspecified	42	25
Were opposed to contraception	77	44
Against religion	9	11
Against will of god	55	29
Opposed to methods other than abstinence	7	1
Reasons unspecified	6	3
Would welcome information on contraception	102	88
Proposed to be operated	7	—
Would consider the matter	95	38
No response to the questions on contraception	163	44
Too old	45	11
No children	50	4
Other reasons	68	29
Total	511	240

the non-city sample are closely similar to those in the city sample and the differences between the two follow the same pattern as indicated by the responses to the questionnaire on attitude of males.

7.79 In concluding this chapter, we should note that the response to our questionnaire was unexpectedly satisfactory. This is true of the questionnaires for males and females both and in the city and no less in the non-city sample. With due regard to the skill of our investigators, we believe that this is an indication that the outlook of our people on these problems is basically healthy and free from religious dogmas. It was remarkable, for instance, that the recognition of the parental responsibilities was practically universal and that cases of expression of irresponsible attitude towards children were so few and rare. A feeling of dissatisfaction about the present state regarding the upbringing of children was also general. It is true that in most such cases, poverty and not too large a family was given as the reason. With practically total ignorance about the possibilities of planning or limiting the family, this seems natural. The most significant fact about the situation therefore is the large number of persons, both male and female, in the city as well as in the non-city area, who said that they would welcome information on the subject of family limitation and the substantial number among them who voluntarily said that they would immediately adopt the methods in practice. Positive opposition to family planning or limitation was surprisingly small in both the city and the non-city samples and probably smaller than what we understand is true in most western countries. The grounds of opposition were also of the usual type and generally innocuous. The people regarded the problems as basically personal and there was no suggestion anywhere that spread of knowledge of family planning would meet with social opposition.

7.80 Ignorance was conspicuous, not in the understanding of parental responsibilities, but in the almost complete absence of knowledge regarding contraceptive means and measures. The need to spread this knowledge is thus patent. In this task, the social worker might depend upon a generally receptive population. The people are neither hostile nor indifferent. It is a merit of the situation that they regard the problems as essentially personal. A steady and silent, not secret, flow of scientific knowledge regarding contraception and provision of facilities within means of those wishing to adopt it in practice, is urgent and will, it appears to us, produce lasting results.

CHAPTER VIII

ATTITUDES TOWARDS FAMILY PLANNING AND LIMITATION—CASE STUDIES.

8.1 Attitudes of males and females towards family planning and limitation as gathered from our respective questionnaires were described in the previous chapter. In this chapter we shall present a series of case studies of some of the respondents to the questionnaires who were interviewed in greater detail by our investigators. The choice of the respondents for a more detailed interview was entirely that of the investigators. Apart from the choice of the cases, it is possible, that during the interview, the investigators appeared to the respondents as protagonists of family planning and limitation. Nevertheless, though, on this account, some bias might have been imparted to the responses, the investigators were instructed to give full liberty to the respondents to express themselves and record their responses faithfully. As the records will show there is little evidence of undue pressure or biased recording on the part of the investigators. Therefore, at any rate the records might be regarded as responses of chosen persons to no more than positive persuasion in a specific direction. The case studies being presented here form a further selection out of a larger number of interviews recorded by the investigators. The selection has been made with a view to presenting some of the more significant and typical cases. It is hoped that there will appear in the cases included a sufficient variety of situation, attitude and response.

Case Histories from Poona City.

8.2 *Case No. 1: Shukrawar Ward. B. Drainage Inspector Maratha* :— He had children but he was not very concerned about their education. He did not care for birth control either but in giving said are not his genuine opinions. He said "children must be educated, but as one of his sons was ill he had not sent him to school, and he was going to do so as soon as possible. Birth control is very necessary. It is bad to have a large number of children. I am going to get operated soon. Then I will have no further children" etc. etc.

8.3 *Case No. 2: Shukrawar Ward. P. Brahmin High School Teacher* :— He lived in his owned house with 12 children. The

wife did not want any more children, but the husband was not prepared to do anything in the matter on the plea of not doing anything against nature.

8.4 *Case No. 3: Shukrawar Ward. M. Bookbinder* :— He had 9 children of whom 8 were alive. From the economic point of view both he and his wife wanted no more children. His wife had tried in the past medicines for inducing abortion and had also tried to use some contraceptives which unfortunately proved useless. She was willing to get operated upon. She could not afford contraceptives. It was not possible to get an operation done because of the lack of funds. The husband (45 years old) said that he was unwilling to get operated upon but would be willing to use contraceptives. The family lived in only one room and the surroundings were dirty.

8.5 *Case No. 4: Shukrawar Ward. Gurav, a Grocer* :— He had 7 children of whom 6 were alive. Both husband and wife were healthy but both of them favoured birth control because of economic reasons. They answered all questions and the wife was particularly anxious to get information about contraceptives immediately and she enquired as to wherefrom that could be obtained.

8.6 *Case No. 5: Ganj Ward. G. Gujerati, a Grocer* :— He belonged to the *Warkari* sect and believed that everything was ordained by God. "We have to believe that everything goes as laid down by Him." When he was asked about the growing imbalance between population and food supply he said "People have become fashionable these days. They do not want to work hard. If they do so our motherland will give us abundant food. For that, it is not necessary to do unnatural things like birth control. Everybody should follow the *ashram dharma* and should resolve that he will breed only enough for the continuation of the society. Then there would be only enough progeny which will be also qualitatively the best."

8.7 *Case No. 6: Gunj Ward. B. Shoemaker* :— This man was slightly educated and had two wives. He had married a second time because children born to the first did not survive. Two children born to the second wife also died. Then the first wife got a son. He said "For several years though I had 2 wives many of my children died, and only the son of the first wife was now living. The second wife is, therefore, jealous and she has been trying all religious and other methods so that she should get a child and that it should survive. The first wife feels that she is respected and more

cared for by relatives and people in the neighbourhood because she has a son. So, both of my wives want more children. If I say no, it would be of no consequence. I am afraid that if they feel that they are not able to have children from me they might seek other mates. So I have to behave so as to satisfy them. I do not care what happens to my economic conditions. Whatever is destined will happen."

8.8 *Case No. 7: Ganj Ward. P. Gondhali* :— His profession was to buy old clothes, in exchange for crockery, metal vessels, etc., and re-sell them at a profit. His children begged. All of them lived in one room. He said, "The traditional profession of our community is either this or begging. We, therefore, never think about education. We have no fixed location. We move from village to village and collect old clothes. All members of the family have to wander for business and if we do not get enough, we beg. We cannot think of the education of our children or cannot do much with regard to their bringing up. Those of the children that God likes, will die. Those who will remain will somehow feed themselves. We do not become anxious on this point."

8.9 *Case No. 8: Nana Ward. Timber Merchant* :— He said, "It is necessary that something must be done in regard to birth control. I fully support it and I am ready to do anything that I can in this connection."

8.10 *Case No. 9: Nana Ward. B. Mang, a Factory Worker* :— His wife was 38 years old. They had 9 children; 8 of these were alive. The eldest son was a casual labourer and worked when he found work. The head of the family had a monthly salary of Rs. 70/-. When he was asked about birth control, he said "I agree that one should not have many children, but I cannot believe that anything can be done to bring this about." When he was informed about the existence of methods of birth control he said "I will try to take to them." But it was clear that he only expressed his willingness because he was made conscious by the questions of the investigator about the rather excessive number of children he had. It was doubtful whether he was genuinely convinced about it.

8.11 *Case No. 10: Nana Ward. K. Mahar Tamashewalla* :— There were 8 people in the family and they were living in a house in dirty surroundings. When asked as to how many children did he think he should have, he said "Do not make jokes at our cost. Don't you know that you get children in the natural course? What can

we do about that?" When he was told that it was possible to have a smaller number of children and that there were methods of birth control, he said "Please give me all the information. I will do everything if it is within my means". It appeared, however, that he did not feel that he would have to actually practise these things.

8.12 *Case No. 11 : Nana Ward. M. A. Mohammedan. Dealer in second hand and hardware goods :—*He had three grown up sons who were married. Besides these and their wives there were in the family 2 small school going children and 4 girls. These together with his wife constituted the whole family living in two big rooms. One son got a monthly salary of Rs. 90/-. This together with the income from the shop was the main source of maintenance. When he was asked about the education of his children, he said "We can give education to our children only up to the age at which they can work and earn. If they get some work after that it is not necessary to educate them further. Together with my two sons I look after the shop because my sons cannot get work elsewhere. All of us sit in the shop. If I had capital I would have set up more shops and provided work to my sons. The problem of educating the daughters does not arise when I do not think of the education of my sons. Because the daughters are uneducated, it becomes difficult to arrange their marriages." When asked about the number of children and whether they were in his opinion in excess, he said "Government must provide work (employment). My sons are ready to work, but the Government does not do anything. It will not do anything. We can only have faith in God and await whatever happens. It is not possible for us to do anything else."

8.13 *Case No. 12 : Nana Ward. U. Mohammedan Mender of locks, etc. :—* He had a wife and a small daughter 2 years old living in a mosque. When asked about education he said he could not think of education when it was difficult to get sufficient to eat. When asked about the number of children he would like to have and their relation to his poverty, he said "Who thinks of children when we have not got sufficient to eat? Even if we have children, because we are unable to give them proper food and medicine, they die. Three of my children have died so far. There is the only living daughter I have. I do not know how long she will live or whether she will live at all. My wife's health is also not good, but what can I do? Whatever has been destined by "Alla" will happen. I do not think one can do anything by thinking about it."

8.14 *Case No. 13 : Bhawani Ward. K. A. Mang :—* There were ten persons in K's family. He, his wife, 7 children and a daughter-in-law. All were literate. When the questionnaire was being filled in his wife was near and she felt, as she herself expressed it, that she had an excessive number of children, but she was not aware that it was possible to limit them. Both of them feel the necessity of birth control, i.e. they feel that they should not have any more children; but they do not understand how they can bring this about.

8.15 *Case No. 14 : Kasba Ward. B. Maratha Teacher in Municipal School :—* The man felt that he ought to provide for his sons' education upto graduation. He wanted to educate his daughters till they got married. He got a monthly salary of Rs. 81/- and had 4 children; his wife had had 9 deliveries so far. He was not prepared to go against nature in practising birth control. But his wife did not want any more children. She was ready to do anything if she got the necessary information. She was educated up to the vernacular final standard.

8.16 *Case No. 15 : Kasba Ward. B. Clerk. Brahmin :—* The man refused at first to give any information. Later his son interceded and persuaded him to give the necessary information. His wife was by his side while the information was being taken down. She called the investigator aside after the work was over and told him the following :— "I had 9 children. My husband earned a meagre salary. We had insufficient food and medical care. The education of the children also suffered. I pleaded and requested my husband to do something to restrict the number of children, but he was not prepared to do anything in the matter. Ultimately I became ill and was receiving treatment in the Sassoon Hospital. There I told the doctor-in-attendance about my circumstances and requested him to perform an operation on me without asking my husband. The doctor was moved and he performed the operation. This is not known to my husband. He has only realised that I no longer conceive."

8.17 *Case No. 16 : Kasba Ward. B. Brahmin Clerk :—* He had been married only about a year and had had no issue so far. He was a Matriculate and his wife had passed her 5th standard (English). He said that he would be prepared to give information about everything in the questionnaire except birth control, because he felt that that was a very private intimate and personal affair.

8.18 *Case No. 17 : Kasba Ward. B. Peon* :— He and his wife were illiterate. They had in all five children of which three were living. He said "We both of us feel the necessity of birth control, but it is not economically possible for us to-day. We will be glad if you can tell us anything which is inexpensive. I have a son about 6 months old and the one older than him is about 2 years old. Both of them are being fed at the breast of the mother. My wife also suffered during the last delivery, and therefore, I am anxious to practise birth control if it is within my means."

8.19 *Case No. 18 : Kasba Ward. Mrs. L.* :— Mrs. L. was contacted at the time of her last delivery at the K.E.M. Hospital by a propagandist and was persuaded by her to begin practising contraception. She used the jelly and the cap method. She estimated that it cost her about Rs. 6/- per year.

8.20 *Case No. 19 : Vetal Ward. N. Marwadi* :— He was a rich merchant, had flourishing business during war-time, had three shops at three different places, two of them were outside Poona and all of them going well. He said "I am agreeable to the opinion that there should be children in proportion with the earning capacity, but if children can be employed profitably, then there was no point in restricting the number of children." In regard to the growing imbalance between food and population growth, he said "It is necessary to slacken the rate of growth of population, but the growth largely occurs among the poor people; so they should compulsorily be made to follow birth control practices. Whether birth control should be practised or not, should be, I think, determined according to the economic status of the individual."

8.21 *Case No. 20 : Vetal Ward. K. Bidi Worker* :— He was very poor and he and his wife were both ill. He said "It is not possible for me to educate any of my children. We have not sufficient to eat or to wear. We are ill and it is not possible for us to spend money on medicines. We are eking out our existence with faith in God." When asked about the number of children and their future, he said "That is a thing which is in the hands of God. Whatever He has planned would happen." When he was told that it is possible to limit the number of children, he said "When we cannot eat enough every day, it is unthinkable that we can go to the doctor. Whatever is destined will happen. God who has given the beak will also give the grains that are necessary. We cannot do anything about it. However, if there is some method of stopping children I would be pre-

pared to follow it, if it can be followed conveniently, if the medicines can be got free and if I think it is right to use them. I think I need them."

Case histories from towns and Villages in Poona District

8.22 *Case No. 1 : Scavenger, Lonavla :—* He had 9 children living and had lost 2. In his opinion the large number of children had not been unprofitable. His wife, his eldest son and his daughter-in-law were all engaged as scavengers by the railway and they are almost never unemployed. His daughters and sons-in-law were also employed by the railways and though they were not educated, they were able to get employment and earn. "Our traditional business will not be done by anybody else," he said. Speaking about the education of children he said "If they get educated then they would look down upon the traditional occupation of scavenging and it will not be possible for them to secure employment elsewhere, as in the traditional business." He is now aged and his wife has borne him quite a number of children. She is constantly ill. He, therefore, thinks that they should have no more children henceforth. For this purpose he was ready to use methods of birth control or to get himself operated upon.

8.23 *Case No. 2 : Lonavla. P. Brahmin Teacher :—* He is a Matriculate and his wife has passed her 5th standard English. He said that he wished to educate his sons up to graduation and his daughters upto Matriculation. Speaking about the necessity of birth control, he said "Birth control is very essential, considering the standard of living of the people and the problem of population. It is also necessary in order to be able to fulfil the responsibilities devolving on parents in regard to their children. The number of children should be as much as the parents can bring up satisfactorily and in a good manner."

8.24 *Case No. 3 : K. Katkari, Lonavla :—* He said that the question of educating their children did not arise at all in his community because all of them had to work night and day either as labourers or as collectors of firewood, grass, etc., in order to earn a living. "Most of our community lives in and around the jungle where facilities for education are nil." When asked about the number of children, he said "Children are the gift of God. We feed them from whatever we get. If they live they will live by God's mercy." When told about the possibilities of birth control, he said "I do not think that we can

do anything in this connection, but it is good if there is any such method or treatment; but, as you see, even when we are ill, we are unable to go to the doctor and we have to depend on the traditional medicines we know. Whatever costs money is impossible for us. If Government can provide for the education and the feeding of our children it will be a good thing. In the same way if the Government will afford free treatment for birth control, then I will consider. If there are methods of birth control which do not cost any money and if it is possible and convenient for us to practise them I will think and decide, but to-day I will not be able to say anything in the matter."

8.25 *Case No. 4 : Baramati. K. A. Mang. Casual labourer :—* He had eight children of which six were alive. He got about Rs. 20 to Rs. 25 per month. When asked about the education of his children, he said "We have not enough to eat; the children beg; how can we educate them in the circumstances"? When asked about the excessive number of children he said "Our community has been very poor from the first and we marry without any reference to our poverty. If we decide to marry when our economic situation is better, then in our community it will not be possible for even 2 or 3 per cent of the people to marry. This is the providential dispensation and we should not try to avoid it. We have not enough knowledge or means to do anything in the matter of children. Our way is to watch things as they occur."

8.26 *Case No. 5 : Dhond. K. Brahmin. Municipal Secretary :—* He got a monthly salary of Rs. 300/-. He had four daughters and he intended to educate them up to Matriculation. He said that he had tried to use birth control methods from the first but that they had proved a failure. So he got vasectomy performed on himself. He thought that birth control was necessary if we thought of the nation as a whole.

8.27 *Case No. 6 : Baramati. T. Owner of Sugar Cane Juice Shop :—* He had got himself operated upon at the instance of a doctor. He had 3 children but he found it difficult to earn enough to feed them. He thought that it had been wise on his part that he had got himself operated upon.

8.28 *Case No. 7 : Discussion at a Village Chowdy :—* The village is Mouje Ambodi, Taluka Purandhar. The investigator could not finish his work in this village and so he went to the village Chowdy to spend the night. There were about 50 other people from the village

who had come to the Chowdy, which was used as a dormitory. The investigator had told the villagers during the day about the purpose of his visit and the information he was seeking and that was the topic of conversation and discussion among the people gathered in the Chowdy that night. The investigator recorded the discussion that took place there. He himself did not participate in the discussion but only recorded it later.

8.29 One of them said "This enquiry into children that the Government has launched is really very pertinent. As we see it, the population of our village has gone up to 475 and there are besides 125 to 150 young men from the village gone for work to Bombay. About 5 generations back the population was not more than 40 or 45. If population has increased to such an extent in 5 generations what can one do? The total land has not increased. In the circumstances what can Government do?"

8.30 A second person said "In some ways our village is somewhat better situated. We are on the road to Bombay and we are able to export vegetables and other irrigated crops to Bombay. Therefore, we are able to earn more. But what must be happening in villages that are away from roads and not irrigated?"

8.31 A third said "The real trouble is that the Brahmins have taken most of the lands and we are their tenants. We have to give one-third of what we produce by our sweat to the Brahmin landlords. If the peasants get all the lands then there would be more food production and the Government will not have to import food from abroad. It is these people (Brahmins) that must be controlled first."

8.32 The fourth man who was a member of the Indian National Congress said "The Government has passed legislation favouring the agriculturists. Tenancy has been assured and the rent has been reduced. No non-agriculturist can buy agricultural land. The value or price of land when you want to buy land is also fixed by the Mamlatdar, a Government Officer. All in all it means that ultimately the lands of all absentee owners will come to the tillers of the soil. Even if we become owners of the land at present owned by landlords, the absolute amount of land does not increase thereby. Whatever land is there, is now being cultivated by us. What is the fault of Government in this?"

8.33 Another person said "Is the Government going to make a law, preventing the birth of children? If there is a complete stoppage of

births, then how is the world to go on?" Someone else replied "Oh, it is not like that. The Government does not want to stop children being born for all times. We must have only so many children as we can adequately take care, educate and set up in business, etc. To-day the wife delivers every year. As a result, her health suffers and the children born are also physically inferior. Therefore, it is necessary that there should be spacing between children."

8.34 Someone else said "But how can this happen? Can a man resist temptation? Or is there a medicine by which it is possible to stop the birth of children permanently?" Someone else said "There is a method by which you will get as many children as you want and at the time at which you want them. Everybody should get the information about this method. How everyone will use it and with what success will depend upon each individual."

8.35 Someone else said "Oh why make such a bother? I am going to get myself operated upon as soon as I have two children. That is the most convenient way." Another one said "But what will the Government do in this connection? Will it provide the necessary instruments free? Will it give us the information? Money is required even for the operation, and those who cannot afford it, can they expect free treatment? I think nothing will probably happen and it will go on as before."

8.36 Another one said "Why are you bothering about these things? So far there have been many reforms and talks of reforms; ultimately what God decides and has decided will happen." Someone said "But we cannot allow human beings to die with open eyes. Even when one is about to die we give one medicine and try to save one. In the same way the leaders in the nation try to think of remedies to improve the situation. Whether these remedies are good or bad should be decided by all of us by discussing, thinking and then seeing how these can be brought into practice."

8.37 *Case No. 8 : Loni Taluka Indapur. D. Brahmin. Shopkeeper and farmer* :— When asked as to how many children his two elder sons had, he said "The eldest has 7 and the younger one has 5. In all there are 17 persons in the family. All of them are dependant on the income from 35 acres of dry land. The shop does not bring in much. I am now convinced about the seriousness of the population problem. I think I have more than enough children; so please give

me information about birth control so that I might follow it. Ordinarily, a man should not have more than 2 children in these days."

8.38 *Case No. 9 : Mouje Dighi. Taluka Haveli. W. Patil :—* When he was asked questions about children, etc., he, of his own accord said, "At the present time of national crisis, it is necessary to have birth control so as to bring prosperity to the country. I am prepared to do whatever is necessary for that."

8.39 *Case No. 10 : Mouje Padali. Taluka Khed. B :—* Total persons in the family 13—all illiterate. They did not feel any need for education. Income from land was hardly sufficient. One son was working in Bombay. Birth control was literally news to the whole family. "This is the fad coming out of new education." This summarised their attitude towards birth control.

8.40 *Case No. 11 : B :—*Thirteen people in the family living on 40 acres of land of which 15 acres were irrigated. He himself and his two sons were educated upto the 4th standard Vernacular. He was conscious of the necessity for more education. He said "Birth control is one of the many new fads of the Government. The attention of the people should be really directed towards economic development. Such fads only divert it to something else. The real problem will not be solved by birth control. It is true that population is increasing and something must be done about it, but, the Government must take steps to bring about economic development, and to give more jobs and more employment to the people."

8.41 *Case No. 12 : Golegaon. Taluka Shirur. G. Vadar Bricklayer :—* He had 11 children of which 8 were alive. His brother had 10 of which only 6 were alive. All of them were illiterate and because of the economic circumstances it was not possible to think of educating them. Speaking about birth control, he said, "This subject cannot be even mentioned in our community; if we do, we will be excommunicated."

8.42 *Case No. 13 : K. Military Pensioner and Farmer :—* He said "These days a man must have only 2 children. The population in the country is increasing and there is great poverty in the rural area. It is necessary to remedy this situation, and it is necessary to practise birth control. Birth control will not basically solve the main problem. It is necessary that the Government must, by scientific methods, try to increase production and arrange for an equitable distribution; then only can this problem be solved."

8.43 *Case No. 14 : Mouje Kondhapuri. Taluka Shirur. G. Military Pensioner* :—He was 64 years' old and had married a second time. His last child was about one year old at the time he was interviewed. His second wife had in all 9 children and 8 of these were alive. When he was asked about birth control, he said "I am completely unaware of any such thing, but if there is such a thing then I am prepared to practise it."

Case Histories of Women in the Surveyed Area

8.44 *Case No. 1 : Poona City. K. A Woman aged 40* :—She came from a well off Brahmin family. She had eight children. She was against birth control. At the time of interview one of her children was seriously ill and hence she did not answer the questions in the schedule. But after three days, she met the investigator in a public bus. There she asked the investigator to come to her again for getting the questionnaire filled in. She then told the investigator, how birth control means had unfortunately fallen into the hands of only the educated and rich people, the intelligentsia and how the population was getting deteriorated. According to her "lower classes" should use birth control but not she or the women of her class.

8.45 *Case No. 2 : Poona City. Shukrawar Peth* :—A Maratha woman in abject poverty had 5 children out of which 3 were living. She was almost in rags living in a dark wet room of 70 square feet. Her husband was completely deaf and could get work with great difficulty. She called the woman investigator a God-sent help and showered blessings on her for letting people know how smaller number of children could be had.

8.46 *Case No. 3 : Khanapur. A Maratha woman aged 38-40* :—She had 10 children. 8 of them were living, the youngest being 9 months old. One of her young children had possibly rickets. On being asked why it was not being taken to the doctor, she said "As long as the potter and his wife are there, there is no dearth of pots" showing complete indifference to whether the child lived or not. She was a farmer's wife and was desirous of stopping child bearing. According to her, her husband also would like it because then he would not have to work at home during the first ten days of her delivery. She was ashamed of having children when her daughter-in-law also was having them.

8.47 *Case No. 4 : Khanapur. Maharwada* :—The investigator had a discussion with a group of women. They did not know any-

thing about birth control. They did not know that some means are available now which people use for checking births. Their husbands also were sitting nearby. It was suggested that they should leave since the matter to be discussed concerned women only. All of them left except one who sat there and tried to look indifferent. Women whose husbands or mothers-in-law were not present showed much interest. Some others looked frightened. On the whole the women thought that after getting a large number of children, if one is not able to feed them properly, it would be better to stop them; but only after one got at least five children living. After this discussion an old woman, a widow aged about 60 came in and said "Do not tell my daughters anything like that. What would my sons do if their wives start such non-sense?".

8.48 *Case No. 5 : Talegaon. A woman aged 32. Brahmin :—* Her husband was a cashier earning about Rs. 105 a month. He was not aware that with the means he had, it was not possible to keep his four children, below seven, perfectly well dressed. He took his wife to task for not keeping the household in good order. The wife, a healthy woman with four healthy children, was finding it extremely difficult to put up with the whims of her husband. She really was not bored with children; but she did not want any more children because she thought that with more children her husband, with his unreasonable expectations, would make her life impossible. This couple had no knowledge of birth control, though they had heard about the vasectomy. The husband was thinking of getting it done. Of course he never allowed his wife to say anything whatsoever in the matter.

8.49 *Case No. 6 : Talegaon. A Brahmin woman aged 34 :—* Her husband was an officer in the factory, earning Rs. 225/- a month. They lived in a 4 roomed bungalow. The husband was definitely of the opinion that propaganda regarding contraceptives was absolutely necessary and he wanted that some such advice be given to all the 500 workers of the factory. The couple had five children. After the first four were born, the husband started using the sheath. He was, however, alarmed at having a child after a twelve year gap, in spite of the regular use of the sheath. This last unexpected child was two years old. After finding the use of condom, unreliable, the husband was thinking of having an operation. The operation was being postponed because of the fear of the after-effects of it. The wife knew about

the D. Cap but was ashamed of going to a lady doctor and getting the necessary measurements.

8.50 *Case No. 7 : Talegaon. A woman aged 35. A widow belonging to the Burud community* :— She was quite amused when family limitation was mentioned. She was very much surprised to learn that even mothers were sometimes bored by their children. She told a story (folklore) of a woman who had the good fortune of having twenty children. Finding that she had nothing to cover her children when there was pinching cold, she took off her saree and covered her children with it. Some portion of her saree remained unused as cover and she prayed God for giving her more children in order to make proper use of that unused portion. This according to the interviewed woman was just the symbol of "mother's love" for her children. This woman when told of the conditions of some suffering women with a number of children and their incapacity to feed their children agreed that such women should use birth control. According to her, cases where the mothers could not feed their children were very rare. She herself belonged to a very poor community. She did not think that any woman was too poor to have more children.

APPENDIX

A NOTE ON THE FAMILY PLANNING CENTRES IN POONA CITY ORGANISED BY POONA MUNICIPAL CORPORATION

The Poona Municipal Corporation opened its first family planning centre in November 1950. This followed the opening of similar centres in April 1947 by the Bombay Municipal Corporation. The opening of these centres marks in a sense the culmination of long years of silent and patient work in this field by a few social workers in Bombay and Poona. It may not therefore be out of place to give here a brief account of the early non-official efforts in this direction.

The credit of pioneering work in this field goes to Mr. R. D. Karve. He was a teacher and then a lecturer in Mathematics in the Bombay Government service. He had considerable interest in the subject of birth control and family hygiene generally which of course could not find public expression on account of his being in Government service. In 1921 he resigned his service and began his pioneering work in this field.

Mr. Karve began by writing a couple of booklets in English but could not find a publisher to publish them. He therefore published them on his own but no newspaper would accept an advertising insertion. He narrates the story of how a leading Marathi weekly 'Kesari' in Poona refused to accept an insertion and how after considerable argument and personal persuasion, the editor agreed to accept only one insertion but no more. In 1923 he delivered probably the first public lecture on the subject. That was in Poona. He immediately perceived that the subject must reach primarily women and hence decided to write in Marathi, the regional language. He therefore wrote his standard book on birth control in Marathi. The book was first published in 1923 and has since then run into ten editions.

Soon after Mr. Karve opened a private clinic advising on birth control and prevention of venereal diseases. He imported appliances and sold them through his own commercial agency called, the 'Right Agency' for which he had to suffer a good deal of criticism. He also used to manufacture contraceptive jelly. Mrs. Karve was equally active and gave practical instructions to women in fitting diaphragm pessary.

In July 1927, Mr. Karve started a monthly journal in Marathi called 'Samaj-Swasthya' which was entirely devoted to the subject of birth control and sex hygiene. The journal was generally looked upon as obscene literature and met with considerable opposition. Mr. Karve was prosecuted three times under the obscenity law and was twice fined. In spite of the opposition and financial difficulties the journal has been running regularly for over 25 years now.

The actual field work of Mr. Karve was largely confined to Bombay though its influence in Poona was considerable. Mr. G. D. Kulkarni and Dr. R. A. Rairkar were two notable workers in Poona. Mr. Kulkarni founded in 1923 a birth control league in Poona. Later, he also wrote a book on the subject. Dr. Rairkar wrote a general book on birth control in 1934. This was followed by another book in two volumes devoted to a discussion of surgical sterilization. He advocated vasectomy in appropriate cases. Ever since then he has been personally performing operations of vasectomy.

Poona had another advantage in that a woman social worker took lead in the matter. Miss Shakuntala Paranjpe derived her inspiration and training in the subject from Mr. Karve. In 1938 she began her advisory service in Poona with a regular fortnightly advertisement in a daily, Dnyanprakash, which incidentally was an organ of the Servants of India Society. Other leading papers in the city had refused to accept the advertisement. The present family planning centres organised by the Poona Municipal Corporation owe their origin to her efforts. At present she acts as an Honorary Supervisor for these centres. She is also engaged in organising similar centres in moffusil towns.

The first family planning centre opened by the Corporation was attached to the King Edward Memorial Hospital for women and children. This was opened in November 1950. Within one year four more centres were opened and were similarly attached to various medical institutions. One of them was attached to a child welfare centre, another to a T. B. clinic, a third one to a joint T. B. and Leprosy clinic and the last one to a general dispensary. The advantages in attaching these centres to various medical institutions are obvious. Firstly, the choice of the clinics to which these centres are attached was such that the knowledge reached those who most urgently needed it. Another advantage from the personal point of view is that as

TABLE
*Details of work done during 1952-53 in the five family planning centres run by
 Poona Corporation*

Ward in which the centre is located	Date of commencement of work	Number of mothers advised	Number of fathers advised	Number of sterilizations of mothers	Number of fathers advised vasectomy	Number of pessaries supplied	Number of jelly tubes supplied	Number of social workers trained
Wasta peth	Nov. 1950	1650	305	194	45	53	105	12
Kasba peth	Feb. 1952	107	39	2	4	8	12	44
Shanwar peth	July 1951	240	184	—	39	60	101	3
Yeravada	Feb. 1952	203	226	4	2	—	—	—
Gadikhana (Sbukrawar peth)	1952	202	132	1	13	4	5	—
Total		2402	866	201	103	125	223	59
					(61 actually got operated)			

these centres are apparently a part of general clinics, persons wishing to keep the consultations confidential can do so more easily.

In the adjoining table are given the details of work done at these centres during the year 1952-53. The table is taken from the Municipal Administration Report for that year.