CHAPTER 4

FERTILITY AND MORTALITY
FERTILITY AND MORTALITY

Apart from migration, fertility and mortality are the other components of population change in any region. For several reasons human fertility occupies a central position in the study of the demographic changes. The growth of the world population depends entirely on human fertility. In population dynamics, fertility is the positive force through which the population expands, counteracting the force caused by mortality. The number of births replaces the number of deaths in any population growth. Through this replacement of human numbers, the population may expand, or it may shrink. Excessive replacement of human numbers creates several political and social problems for a country. The process of replacement of a group through fertility is a complicated process within which several social, cultural, psychological as well as economic and political factors are found to operate.

In the study of human fertility various terms and concepts are studied about which it is necessary to have some general information. The terms, fecundity and fertility, are often used and it is essential to differentiate between the two. American demographers use the term fertility to connote the actual bearing of the children and the term fecundity to the capacity to bear children. Thus fecundity
refers to the capacity of a woman, man or a couple to participate in reproduction (i.e., production of a live child).¹

Fertility, on the other hand, refers to the actual reproductive performance—whether applied to an individual or a group.² When there is no direct measurement for fecundity, fertility can be studied through the statistics of birth, though, of course, fertility of an individual is limited by his or her own fecundity. Thus it is clear that the fecundity of an individual or a couple may be quite normal, yet the fertility performance may be low because fertility indicates the actual level of reproductive performance and is determined by a number of variables. Demographers no doubt distinguish between fecundity and fertility but in medical literature the two terms are used loosely and sometimes treated as being synonymous.³

'Sterility' is another term studied in relation to fertility. A man or woman or a couple who have caused the birth of at least one live child, is considered fertile, while one who has not had a single child, is considered sterile. Live birth is generally taken as extraction of a child from its mother and is capable of

² Ibid., p. 38.
³ Ibid., p. 38.
having independent life. Thus abortions, whether natural or induced, are not considered deaths, but as foetal deaths. When birth does not have the characteristic of either live birth or abortion, it is known as still birth.

The term 'Sterility', in common practice, is attributed only to woman. The family size in demography is taken to mean the total number of persons in the family. The complete size of the family indicates the number of children borne by a woman up to the end of her reproductive period. Fertility may also be natural or controlled. Natural fertility is the fertility which exists in the absence of deliberate birth-control, while controlled fertility is that which involves deliberate use of birth-control. 4

Fertility depends on the woman's marriage at an effective age, her child-bearing capacity and parity and sex habits of the people.

Fertility Trend of the Indian Women

The number of children born to a woman during the period of her fecundity is known as her fertility. On the basis of certain studies conducted by different agencies, it can be concluded that women who marry late, especially after the age of 19, have a lower fertility rate than those

who marry earlier. The United Nations study of the Mysore population revealed that rural women who married between 14 and 17 years, gave birth to 5.9 children, but those marrying between 18 and 21 years gave birth to only 4.7 children.\(^5\) The Registrar-General of India in his study of the rural and the urban population of Punjab found that women marrying up to the age of 18 years had a higher fertility than those marrying after that age. Majumdar in 1955 conducted a survey in Kanpur and found that women marrying up to the age of 15 years gave birth to 6.9 children while those marrying after 19 years to 6.0 children.\(^6\)

**Factors Affecting Fertility in India**

The growth of population in any country depends on two factors, viz. survival rate and migration. However, the survival rate (fertility rate - mortality rate) plays a more significant role in contributing to the growth of population in any country. Inspite of our steady and planned efforts during the post-Independence period, we have failed to bring about a sharp decline in birth-rate. A number of social, cultural and religious factors are responsible for the high birth-rate in our country.

1. **Climate**

The climate acts as a determining factor in the

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growth of the population. In India, girls attain puberty between the ages of twelve and fifteen and though, often psychologically and physically immature, they are physiologically ready to bear children, and cases are not wanting where reproduction has begun at the age of thirteen or fourteen. 7

(2) Universal Marriage

Marriage in India is not merely a biological necessity but a socio-religious duty. Society disapproves the unmarried state of life, both for males and females. Marriage in India has a religious significance, because every Hindu must marry to have a son to attain salvation or Moksha. 8 As an individual’s economic security or emotional maturity is seldom a pre-requisite for marriage, there is no economic or emotional deterrent to marriage. Thus spinsters and bachelors are a rare phenomenon in India and nearly every adult male and female in the country participates in reproduction. 9

Early Marriage

In European countries, a person is not supposed to marry until he can support his family. 10 But the common

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and rather widely prevalent tendency in India is to marry early, with a socio-religious sanction behind it. Most of the women in India are married before they are twenty and bear most of their children before they are thirty.

Promotion of Widow Remarriage

In recent years, there has been an important shift in the essential feature of the Indian marriage system. Though, due to pioneering agitation by Ishwar Chandra Vidyasagar, Hindu Widow Remarriage Act was passed in 1856 which made remarriage of the widows legal, yet the social ban against widow remarriage continued to operate. Some relief from population pressure was obtained in the past from the obscurantist feature of the Hindu social scene — the social ban on widow-remarriage. But India is fast changing and, at present, there are some enlightened people who are willing to marry eligible and unencumbered widows. This welcome modern trend which defies the traditional custom of banning widow remarriage and withdrawing these women from participating in reproduction is contributing its small share to the population problem.

Increase in Mean Duration of Fertile Union

The duration of the fertile union has been taken to mean the time spent by woman between the age of her effective marriage (gauna) and her age at the time of her widowhood, death or at crossing the age of 50— the maximum fertile limit. Fertile age in India begins at an average age of 15 years and ends at the maximum fertile age of 50 years. Thus a full 35 years period is availed of by those who lead an uninterrupted marriage life.

Sex is the Only Source of Relaxation and Recreation

Unlike western countries, there is a lack of relaxation and healthy recreation in India. A majority of the people are encumbered with incredible poverty and low level of living which offer no pleasure in life save that of sexual intimacy. The psychological reason that encourages every man to look to his wife is sex intimacy as the only relaxation and recreation in an otherwise dull, drab and unexciting life or in a relentless struggle to make both ends meet. Hence sex is a play in India. 14

Ghurye's survey15 relating to the sex habits of the middle-class people of Bombay and Agarwala's survey16 relating to the frequency of coitus among the people attending the Delhi

Family Planning clinics have also revealed the same truth. In the absence of means of relaxation and recreation, it is definitely to be excused but high frequency of coitus increases the possibility of sex-intimacy beyond the rhythmic period, resulting in conception. Unlike western countries, people in India are so superstitious and conservative that they are hesitant to obstruct the unwanted encumbrance through artificial methods and readily accept it as the gift of God. This results in an increase in the country's population.

**Poverty and Low Standard of Living**

India is a land of the poor with a low standard of living. The people of scanty means tend to have larger families than the well-to-do. The poorer an individual or a class, the larger the size of the family. Where there is no stake in life, the arrival of an additional child is a source of additional income, as the child may be put to work at an early stage to supplement the meagre resources of the family. 17 Children are the poor man's wealth and a means of insurance too because the arrival of a child is regarded as a source of income. 18

**Joint Family System**

The joint-family system in India does not insist

on the economic solvency of the husband as a pre-requisite for marriage. Children under this system are always welcomed as they are supposed to be an insurance against loneliness and starvation in old age. The system in India has been responsible for early marriages and unprudential reproduction.

Religious and Conservative Outlook

Religion in India does not encourage celibacy or a no-child family. Every Hindu must marry and have at least one son to attain Nirvan or Moksha. Family planning norms are unacceptable to them. High birth-rate in India is a part of our culture and it is only when moral sentiments of the community change either by choice or by the force of circumstances that a fall in the birth-rate, comparable with the fall which has taken place elsewhere, can be expected.

A number of factors are thus responsible for the high birth-rate in India. Social and religious factors are so strong even now that it is really very difficult to motivate the people to accept the small-family norm. In this context, an analysis of the low-income-group of the families in Kanpur has been undertaken.

Fertility in Low Income Group People

The survey of low-income-group families, yields the following information regarding the human fertility among low-income-group married couples. Of the 500 families surveyed, in 480 families, the head of the family was married and in the remaining 20 families unmarried. Thus in the low-income-group families, only 4 per cent families in Kanpur are being headed by unmarried persons. These unmarried heads of families are young persons who are devoted to their parents or uncles (father's brothers) and to their families. The parents of most of them were keen to marry their sons in the near future into suitable families of their choice. The marital status of the low-income-group families surveyed is presented in Tables 4.01 and 4.02.

Table 4.01 Marital Status of Low-Income-Group Families Surveyed in 1985

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Characteristics</th>
<th>Number</th>
<th>Percentage to the total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Total number of families covered</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Total number of persons covered</td>
<td>2,561</td>
<td>100.00</td>
</tr>
<tr>
<td>3.</td>
<td>Total number of married males</td>
<td>678</td>
<td>26.47</td>
</tr>
<tr>
<td>4.</td>
<td>Total number of unmarried males</td>
<td>657</td>
<td>25.66</td>
</tr>
<tr>
<td>5.</td>
<td>Total number of widowed/divorced males</td>
<td>75</td>
<td>2.92</td>
</tr>
<tr>
<td>6.</td>
<td>Total number of married females</td>
<td>640</td>
<td>24.99</td>
</tr>
<tr>
<td>7.</td>
<td>Total number of unmarried females</td>
<td>452</td>
<td>17.66</td>
</tr>
<tr>
<td>8.</td>
<td>Total number of widowed/divorced females</td>
<td>59</td>
<td>2.30</td>
</tr>
</tbody>
</table>

Source: Based on Field Survey, 1985.
<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of Persons</th>
<th>Total number of married persons</th>
<th>Total number of widowed/divorced persons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Male Female</td>
<td>Total Male Female</td>
<td>Total Male Female</td>
</tr>
<tr>
<td>All ages</td>
<td>2561 1410 1151</td>
<td>1318 678 640</td>
<td>134 75 59</td>
</tr>
<tr>
<td>10-15</td>
<td>975 555 420</td>
<td>- - -</td>
<td>- - -</td>
</tr>
<tr>
<td>15-25</td>
<td>390 214 176</td>
<td>275 133 142</td>
<td>3 - 3</td>
</tr>
<tr>
<td>25-35</td>
<td>478 260 218</td>
<td>452 242 210</td>
<td>13 6 7</td>
</tr>
<tr>
<td>35-45</td>
<td>330 171 159</td>
<td>300 151 149</td>
<td>25 15 10</td>
</tr>
<tr>
<td>45-55</td>
<td>243 130 113</td>
<td>209 109 100</td>
<td>31 18 13</td>
</tr>
<tr>
<td>55 &amp; above</td>
<td>145 80 65</td>
<td>82 43 39</td>
<td>62 36 26</td>
</tr>
</tbody>
</table>

Source: Based on Field Survey, 1985.
It is evident that 26.47 per cent are married males, 24.99 per cent married females, 25.65 per cent unmarried males, 17.65 per cent unmarried females, 2.9 per cent widowed/divorced males and 2.3 per cent are widowed/divorced females of the total population of the lower-income group surveyed. (Table 4.01).

Table 4.02 gives the data of married and widowed/divorced males and females according to their age group. It is interesting to note that all the persons below the age of 15, whether male or female, are unmarried. It is a welcome trend that the old practice of child marriage has decreased considerably. The most interesting pattern is of the widowed and the divorced. In early ages the widowhood or divorce is most frequent among the females but after the age of 35 years, it is more common among the males. This may be attributed to the prevalence of remarriage among the widowers while widow marriage is still less common. But after a certain age widowers do not marry and due to high death rate among females the widowers outnumber widows.

The rise in the age of marriage of females is conclusively proved by the medium age of marriage of the wife of the head of the household (Table 4.03, and Figure 4.01).
Table 4.03  **Age At Which Females Were Married**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of Females</th>
<th>Percentage to total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>480*</td>
<td>100.00</td>
</tr>
<tr>
<td>6-8</td>
<td>40</td>
<td>8.4</td>
</tr>
<tr>
<td>8-10</td>
<td>38</td>
<td>7.9</td>
</tr>
<tr>
<td>10-12</td>
<td>63</td>
<td>13.1</td>
</tr>
<tr>
<td>12-14</td>
<td>85</td>
<td>17.7</td>
</tr>
<tr>
<td>14-16</td>
<td>105</td>
<td>21.8</td>
</tr>
<tr>
<td>16-18</td>
<td>99</td>
<td>20.6</td>
</tr>
<tr>
<td>18-20</td>
<td>40</td>
<td>8.4</td>
</tr>
<tr>
<td>20-22</td>
<td>10</td>
<td>2.1</td>
</tr>
</tbody>
</table>

*Twenty heads of the households are unmarried.

Source: Based on Field Survey, 1985.

The medium age of the wives at marriage has been found in the age-group of 14-16 and nearly all girls were married by the age of 22. It is surprising to find that nearly half of the married families have been reported to have married before they attained the age of 14 years, and, 8.4 per cent of them were married when they were between 6 and 8 years, 7.9 per cent in the age group of 10-12 and 17.7 per cent between 12 and 14 years. Thus it is revealed that the system of child marriage was largely prevalent among the low-income-group families. It may be noted that most of the married women covered by the survey were married three or four decades ago when the system of child
Age at which Female was Married (As Surveyed)

Fig. No. 4.01
marriage was largely prevalent in rural India. This was due to the fact that Hindu scriptures sanction such marriages enjoining that a girl should be married before she attains the age of puberty which certainly is immediately after her first menstruation. On personal enquiry, I was informed that in the case of child marriages the party does not begin to cohabit immediately after marriage but conjugal relations generally start after the second ceremony called 'Gauna' ceremony. This is roughly the period when the girl attains puberty and till this period, the bride lives with her parents.

Now it is relevant to analyse the present view of people in regard to the appropriate age of marriage of boys and girls, as it is a crucial factor in the determination of fertility.

Views of Households About Age of Marriage

To the head of the households I have put questions about the proper and reasonable age of marriage for the girls and boys keeping in view the age prescribed for eligibility to marriage under the Child Marriage Restraint Act. In 1978, the Child Marriage Restraint Act or Sharda Act was amended to raise the minimum age of marriage to 21 years for men and 18 years for women. The views expressed have been classified separately on the basis of the standard of education and cast of the family surveyed (Table 4.04).
Table 4.04  
**Attitude of Heads of Households Towards Reasonable Marriage Age (18 and 21 years) According to Their Education Level**

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Total literate and illiterate</th>
<th>Yes</th>
<th>Early</th>
<th>Late</th>
<th>Early for girls</th>
<th>Late for boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>500</td>
<td>272</td>
<td>134</td>
<td>22</td>
<td>49</td>
<td>23</td>
</tr>
<tr>
<td>Illiterate</td>
<td>266</td>
<td>108</td>
<td>119</td>
<td>-</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>Literate</td>
<td>234</td>
<td>164</td>
<td>15</td>
<td>22</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>Primary</td>
<td>50</td>
<td>23</td>
<td>9</td>
<td>7</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Middle</td>
<td>54</td>
<td>48</td>
<td>4</td>
<td>-</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>High School</td>
<td>64</td>
<td>43</td>
<td>2</td>
<td>8</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Intermediate</td>
<td>41</td>
<td>34</td>
<td>-</td>
<td>7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Graduate</td>
<td>25</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Based on Field Survey, 1985.

**Attitude of Households**

Among 500 heads of families 266 (53.2%) were illiterate persons and could not put down their own signatures. The remaining 234 (46.83%) heads of families were found literate but had different levels of education. As to their level of education, 50 heads had received education up to the primary level, 54 heads up to middle school, 64 had passed High School, 41 Intermediate and 25 were Graduates.
Of the 266 illiterates, 108 heads were agreeable to the age prescribed for the marriage of girls and boys in the Sharda Act and opined that girls should not be married before 18 years of age or boys before 21 years. This seems to be contrary to the religious beliefs which their counterparts of rural areas entertain. Their argument was that it is wise to marry sons and daughters when they become major. Possibly, this is due to the enlightenment in their views which they have developed while living in a city like Kanpur. Perhaps they might have in their view the difficulties and the hardships that a jobless couple has to face and also the miseries which the family suffers due to a large number of children. 119 illiterate heads (44.73%) of low-income families wanted that both girls and boys should be married at an early age but they were not definite about a particular age at which the marriage should take place. For girls they were definite and wanted that they should be married before they attained puberty, that is, when they become major, i.e. 18 years of age. None of the illiterate heads of families wanted the boys and girls to marry after becoming major. The remaining 39 gave vague answers and appeared to be confused about the age of marriage for girls and boys which under the Sharda Act is 18 years for girls and 21 years for boys.
Of the 50 heads of households having education up to primary level, 23 were in favour of the marriageable age fixed under the Sharda Act, 18 were of the view that the marriage should take place before boys and girls became major, and only 9 heads wanted that marriage should take place after girls and boys became major. Their argument was that it is always better to marry when individuals have developed mature understanding and have learnt about worldly life. Among these 9 heads, 7 were working as peons attached to their factory bosses.

Out of 54 heads with education up to Middle School standard, 48 agreed to the restrictions laid down on the marriageable age under the Sharda Act, 4 favoured early marriages and only 2 expressed their opinion that girls should be married much before they attained the age of puberty. These 2 persons were highly religious in their outlook.

Among the 64 heads who had passed the High School Examination, 43 agreed to the age prescribed under the Sharda Act, 2 disagreed while 8 expressed their opinion for marrying girls and boys after the age of 18 and 21 years respectively, and 9 were of the opinion that girls should be married before 18. Only 2 wanted that boys should be married after they have attained 21 years of age but for girls they wanted early marriage. Those who had passed the Intermediate examination were 41 in number. Of these 34
agreed to the Sharda Act and the remaining 7 wanted that boys and girls be married after becoming major and they did not agree upon any fixed age before which marriage should take place. Among 25 Graduate heads of households, 16 agreed to the Sharda Act and 9 wanted that marriages of boys only be performed late.

Table 4.05  
Attitude of Head of Households Towards Reasonable Marriages Age (18-21) According To Their Castes

<table>
<thead>
<tr>
<th>Caste</th>
<th>Total</th>
<th>Yes</th>
<th>Early</th>
<th>Late</th>
<th>Early for girls</th>
<th>Late for boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>500</td>
<td>272</td>
<td>134</td>
<td>22</td>
<td>49</td>
<td>23</td>
</tr>
<tr>
<td>Brahmin</td>
<td>80</td>
<td>69</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Thakur</td>
<td>41</td>
<td>32</td>
<td>5</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bania</td>
<td>25</td>
<td>21</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Backward</td>
<td>175</td>
<td>80</td>
<td>49</td>
<td>-</td>
<td>31</td>
<td>15</td>
</tr>
<tr>
<td>Scheduled Castes</td>
<td>148</td>
<td>62</td>
<td>57</td>
<td>5</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>Scheduled Tribes</td>
<td>20</td>
<td>4</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Muslims</td>
<td>11</td>
<td>4</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Based on Field Survey, 1985.

Attitude of Low-Income-Group Households Towards Marriage Age According to Their Castes

Apart from education, caste is another important factor affecting the attitude of the people in regard to
regard to the marriage age. Among the 500 households, 80 heads of families were Brahmins, 41 Thakurs, 25 Vaishyas, and 175 belonging to backward communities, 148 Scheduled Castes, 20 Scheduled Tribes and 11 Muslims. Among the Brahmin heads of households, who numbered 80, 69 were in favour of the age prescribed for marriage for girls and boys, 9 wanted that boys and girls both be married after they had attained the ages of 21 and 18 respectively, while 2 others were in favour of early marriage before the age of 18 for girls.

Among 41 heads belonging to the Thakur community, 32 agreed to the marriageable age of 18 and 21 for girls and boys, respectively, 5 wanted their girls and boys to be married before 16 and 21 years of their respective age. The remaining 4 wanted late marriages for both boys and girls. Among the 25 heads of households belonging to the Vaishya community, 21 were in favour of the marriageable ages for girls and boys under the Sharda Act and the remaining 4 wanted that girls and boys be married after they had attained the ages of 18 and 21 respectively. They wanted the boys to marry only after they had become capable of earning to support themselves.

In the low-income-group, backward class and scheduled caste communities represented the highest number, almost 2/3rds of the total families surveyed. Among them,
belonged to backward and 148 to scheduled castes. The 80 heads of backward communities expressed their opinion in favour of the marriageable ages prescribed by the Sharda Act, 49 were of the opinion that both boys and girls be married much before they attained the ages of 21 and 18 respectively, 31 heads of households were in favour of marrying the girls before they attained the age of puberty, while the remaining 15 wanted the boys to be married late, after 21 years of age so that they might not be a burden on their parents.

Among the 148 scheduled caste households, 62 were in favour of the age of marriage under the Sharda Act, 57 wanted early marriage for both girls and boys, 16 heads of families were in favour of marrying girls either immediately before they attained the age of puberty or immediately after it. Only 8 heads of households of this caste group wanted late marriages for boys and 5 were in favour of late marriages for both boys and girls.

Among the scheduled tribes and Muslim communities, households which were 20 and 11 respectively, 4 in each of the community were in favour of the ages for marriage prescribed for girls and boys under the Sharda Act and 16 heads in the Scheduled tribes group and 7 in Muslim households wanted that both girls and boys be married earlier than the ages given under the Sharda Act.
The birth of a child is basically a biological phenomenon, but the child-bearing in any society occurs in a social set-up and is, therefore, affected by the social structure and the norms related to various aspects of child-bearing. An understanding of customs operating in the various groups of low-income-group families concerning the sexual behaviour of man and woman is a relevant factor in the study of fertility. It is a common belief among the low-income-group households that reproduction should take place within wedlock. In most of the families surveyed, which included households of different castes, viz. Brahmins, Thakurs, Baniyas, Backward communities, Scheduled castes, Scheduled tribes and Muslims, there are some norms and customs relating to fertility and the size of the family. Many of these practices and customs are so deeply rooted in social values and norms that they are even pursued rationally but are followed blindly. The customs that a Hindu girl should be married before she attains puberty also has a religious sanction. Though the Sharda Act (1978) prohibits child marriage in our country, still girls are married before they attain the age of 18 years.

The enquiry revealed that among 500 families of the low-income-group, 699 were married women which included widowed and divorced women. They bore children and the number of births in each age-group after their marriage is
recorded in the parity Table 4.06. A parity table has classified women into different groups according to the number of children born alive to them. The first parity of women consists of those who have given birth to one child, the second of those who have given birth to two or more children. In this context it can be pointed out that while the birth order refers to child, parity refers to mother. The parity table (Table 4.06) has been prepared according to the classification of married women on the basis of children born to them. It may be mentioned here that a married woman who did not deliver a live child in a particular age-group did give birth to live children subsequently on entering another age-group. Usually it was found that women did not bear children after they crossed their reproductive age. The parity table helped us to find out the average number of children which a married woman bore in her entire span of married life.

<table>
<thead>
<tr>
<th>Age of women (in years)</th>
<th>Total number of married women</th>
<th>Number of women who bore children from 0-5 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Less than 25</td>
<td>699</td>
<td>34</td>
</tr>
<tr>
<td>25-35</td>
<td>556</td>
<td>29</td>
</tr>
<tr>
<td>35-45</td>
<td>339</td>
<td>111</td>
</tr>
<tr>
<td>45 &amp; above</td>
<td>177</td>
<td>137</td>
</tr>
</tbody>
</table>

Source: Based on Field Survey, 1965.
From Table 4.06 it is clear that out of 699 women, 34 bore no children before the age of 25, 143 women gave 1 or 2 live births, 305 women gave 3 live births, 185 gave 4 live births and 32 gave births to 5 or more children. In the age-group of 25-35, out of 556 women, 29 did not bear any child, 209 gave birth to 1 or 2 children, 179 gave birth to 3 children, 87 bore 4 children, and 52 bore 5 or more children. Coming to the age-group of 35-45, out of 399 women, 111 gave no birth, 138 gave birth to 1 or 2 children, 83 women bore 3 children, 7 bore 4 children and none bore 5 or more children. Growing above the age of 45, 137 women did not give birth to any child while 38 bore 1 or 2 children and 2 bore three children while none gave birth to 4 or more children.

On the basis of the parity table, the fertility of women was calculated (Table 4.07 and Figure 4.02).

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total number of married women</th>
<th>Total number of children born to them</th>
<th>Average number of children born per woman</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-25</td>
<td>699</td>
<td>2029</td>
<td>2.90</td>
</tr>
<tr>
<td>25-35</td>
<td>556</td>
<td>1458</td>
<td>2.62</td>
</tr>
<tr>
<td>35-45</td>
<td>339</td>
<td>484</td>
<td>1.42</td>
</tr>
<tr>
<td>45 &amp; above</td>
<td>177</td>
<td>63</td>
<td>0.55</td>
</tr>
</tbody>
</table>

Source: Based on Field Survey, 1985.
Fertility According To Age Group In Low Income Group People 1985 (As Surveyed)
It is evident that the highest fertility existed in the age-group of 15-25 years of married women and the average number of children born in this age group was 2.90. Next to them were the married women between the age-group of 25-35 wherein the number of children born per woman was 2.62. This shows that reproductivity is the highest in the age-group of 15-25 of married women. These findings regarding fertility according to the age-group, have been computed on the basis of the parity table given earlier. According to the survey done, it has been noted that 699 women (including 59 who were widows and divorced women) bore 4,034 children, the average of which works out to 5.8 children per married woman.

It has been observed that married women after attaining the age of 45 do not generally give birth to a child but in the case of low-income-group people, it has been found that out of 699 married women surveyed, 177 women were in the age-group of 45 and above, of which 137 women did not bear any child, but the remaining 40 gave birth to 63 children, which showed that 22.6 per cent women in the age group of 45 + years had the capacity to conceive and give birth to live children. The possible reasons responsible for this fact seem to be that women of this low-income-group are generally poor and do sufficient manual labour which contributes to keep them healthy and biologi-
ally their childbearing age is prolonged. The second possible reason in my analysis has been that this category of women of low-income-group were usually illiterate and had no consideration for their own future or for the future of their children.

Apart from education and caste, other social norms are also significant factors affecting the fertility.

Social Norms:

Some heads of families pointed out that a large number of births in a family is considered necessary, particularly in their native villages, on the belief that strength lay in numbers and the security of the family was assured when it was large in size. In this connection, it is to be mentioned that in such families where high fertility generally favoured social norms, customs, and practices do not necessarily support high fertility. Some of the customs actually have a restrictive effect on fertility. If a mother-in-law and her daughter-in-law are found pregnant at the same time, the mother-in-law is looked down upon and becomes a laughing stock, if she is found to be in the age group of 45-55. Such a social inhibition certainly affects the number of children born within the limits established by physiological factors. A multiplicity of social, psychological, economic and cultural factors operates and all affect the fertility and the size of the family.
The physiological factor is affected by biological limits imposed on child-bearing by age and sex. Only women can conceive and give birth to children and this too, within certain age limits. A woman becomes biologically fecund and capable of bearing a child with the onset of menstruation and her capacity to bear a child comes to an end with the onset of menopause. This is what medical men call the reproductive span. It is not well defined but is roughly calculated to be between 15-45 years. From the medical point of view, the capacity to bear children is higher in the age group of 20-25 years, after which it starts to decline. The parity table of the lower-income group given earlier, however, reveals that the highest fertility is found in the age group of 15-25 years. Theoretically, throughout the child-bearing period, a woman can give birth to a child every ten months and the number of births may rise up to 37 and if she gives birth to a child in every 15 months throughout her reproductive period she would produce a total of 25 children.\(^{21}\) In actual practice, however, such a phenomenon is a rare one. In our survey, the highest number revealed was 10 children belonging to Muslims having an average monthly income of Rs. 450/-. It has been revealed in the analysis that the highest number of births was among those married couples who were married at an early age.

During the reproductive span of woman, there are certain periods of sterility called post-partum sterility. In this period the possibility of conception is very rare. In the case of the low-income-group families where the mother adopts the practice of breast-feeding for her child, the post-partum period is longer. As a result of this breast-feeding, commonly adopted in these families, the average interval between two births has been found to be about 3 years. Another custom prevalent mostly in communities of scheduled castes and scheduled tribes is that, couples are unable to participate in reproduction due to the prevalent practice of forced separation: The wife generally lives aloof from the husband either in her father's house or sleeps with the mother-in-law. In the case of educated and literate wives, though their number has been found to be much smaller in the families surveyed, the post-partum period was prolonged due to the use of contraceptives. Another physiological factor on unrestricted fertility is abortion and still-birth for which either incomplete information was given or replies if not evaded, were ambiguous.

The process of child-bearing is biological in nature but is affected by social, cultural and economic factors which are termed as non-physiological factors. These affect fertility. All these variables are present in every society and each one can operate to reduced or enhance fertility. 22

The marriage age of the female and its effect on societal fertility has been an important topic in the field of demography. In societal groups where practice of contraception is non-existent, the reproductive ages acquire importance as most of the girls in these families are married at an early age, the number of children born to them are large in number as compared to those belonging to higher-status families. This testifies to the finding of Kingsley Davis who has argued that the postponement of marriage and not celibacy was one of the many ways in which Japan attempted to bring about a reduction in her fertility rates. S.N. Agarwala has pointed out that if all Indian women got married after the age of 19, there would be a 30 per cent reduction in the birth rate by 1991-1992.

One of the cultural factors, which also works as a constraint on fertility is the traditional practice followed to govern the sex life of married couple, which includes the segregation of the woman after child-birth and sending the girl to her parents' home. This practice has been found to be adopted in most of the families surveyed where facilities for the observance of such a custom existed.

Religion also operates as a constraint on the size of the family. The families belonging to the low-income-groups are God-fearing and highly religious in their day to day life. On a good number of days in a year, it is prohibited for the couple to have physical union. In the Hindu religion, these prohibited days are 80 to 100 in a year. The women folk, even the illiterate among them, have knowledge of such days. This knowledge is acquired either from the Purohit or the Priest who visits them before the religious days or from their neighbours. In our surveys, the number of Muslim families is 2.5 per cent. In these families, such ritual abstinence is found to be for a much shorter duration. This factor may explain somewhat high birth-rate in Muslim families as compared to Hindu families. This was also testified to by Dudley Kirk. 25

The behavioural pattern of the married couple, particularly in urban life, works as a constraint on fertility. The urban life at Kanpur and the pattern of urban culture is based upon competition and struggle for status.

In a few families belonging to Thakurs and scheduled caste, tribes, a trend has been found to live an ultra-modern life. The young men of these families have been found to be living in the air of romanticism, sex, courtship and marriage, which is not always conducive to the interest

of the families to which they belong. Unbridled sex, in them may give rise to fertility. Although the cases of illegitimate pregnancies have not been reported, cases of induced abortions might be there.

The use of birth-control devices, though it is not generally favoured by the families under survey, has found favour with educated families and families of such heads as are progressive in their outlook. These families have been affected by the family-planning programme. The use of birth-control measures has been greatly responsible for the decline in fertility in recent times in our country. Some recent data revealed that more than half of the women of the reproductive age practised some kind of contraception. This has been possible by large-scale adoption of birth-control. Our memory of the happenings of compulsory sterilization adopted during 1975 to 1977 by the Congress Government is still fresh and the opposition to such a measure by the masses resulted in the change of government. Particularly the low-income-group do not approve of any compulsory check on fertility. The measures designed to control fertility come under the study of controlled fertility. Controlled fertility measures may be adopted by either of the parties of the married couple. The measures, applicable to the females are the rythm method, use of mechanical and chemical contraceptives, intrauterine device (IUD), oral contraception, etc.
The measures of fertility control have been discussed later in Chapter VI of this dissertation.

**Mortality and Population Change**

Fertility along with mortality affects population change. Population increases or decreases with the fall or rise in mortality which is known as death-rate. One of the factors for the population explosion in developing countries is the decline in the death-rate. The developing countries are undergoing a typical demographic transition due to fall in the mortality rate.

The study of mortality is important in analysing demographic conditions and for determining the prospects of changes in mortality conditions of the future. The public health policies are framed on the basis of statistics of mortality. The statistics of death in the population classified on the basis of sex and age and causes of deaths are of great value for the formulation of public health programmes. Such statistics on deaths also form the basis of policies of insurance companies. The factors affecting mortality are broadly heredity, constitution, and environment.\(^{27}\) From the demographic point of view, mortality is studied to determine changes in the size and structure of the population. Demographic study is not made from the medical point of view. The constitutional and environmental factors provide the basis of demographic analysis of mortality. Constitutional factors

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include the physical, physiological, anatomical and psychological characteristics of men. Among the various constitutional factors, the most important for demographic study are age and sex. The environmental factors are the natural physical surroundings of the individual as well as his social and economic environment, and personal habits.

The study of mortality deals with the effects of death on the size and structure of population. Death is the permanent disappearance of all evidence of life at any time after it has taken place. 26 A death, therefore, is an occurrence only after live birth and the span between birth and death is life.

The sources of data regarding death are not usually available and wherever they are, they are not authentic and cannot be used for a meaningful analysis of mortality. The occurrence of death is a vital event and information on it is usually obtained through systems of registration of the vital events in developing countries. The system of registration of vital events of birth and death is faulty and adequate information may not be available. Not all events of death are registered. In the absence of reliable registration data, the national census and demographic surveys provide alternative sources of information on mortality. Death-rates are

estimated on the basis of available data on age, sex, distribution and other important bases like infant mortality, cause of death, etc. 29

Measures of Mortality

Three basic measures are employed in the analysis and general understanding in the process of mortality: crude death-rate, infant mortality rate and expectation of life at birth.

(1) Crude Death-Rate

The crude death-rate is the most simple and commonly used method to measure mortality. It refers to the ratio of total registered deaths in a specified year to the total mid-year population multiplied by 1000. Its formula is:

\[
\frac{D}{P} \times k
\]

where: \(D\) - refers to the total number of deaths registered during a calendar year,

\(P\) - refers to the total population at the middle of the year (when year is calculated from January 1 to December 31. The mid-year population is on July 1).

\(k = 1000.\)

This can be easily understood and at the same time quickly calculated. An important use of the crude death-rate is that it provides one of the bases for:

computing the rate of natural change in the population. The natural increase or decrease in population is found by comparing the crude birth-rate with the crude death-rate. The crude death-rate is the most widely available index of the level of mortality in any population. It is not a refined measure and suffers from several limitations like inadequate coverage of death statistics, it hides the experience of the population group whose mortality varies a great deal, non-recognition of the death-rate and age structure, etc. Due to these limitations of the crude death-rate, the other two measures are preferred.

(ii) Infant Mortality Rate

Infants have been defined in demography in relation to an exact age from age 0 to 1 year. This age of children includes any period up to the age when they have not reached the age of 1 year. Infant mortality rate is computed as a ratio of deaths of children under one year of age to the total number of live births registered in the same year. It refers to the true risk of death, between the birth of the baby and its first birthday. The infant mortality rate is computed on the following formula:

\[ \frac{\text{D}}{\text{B}} \times k \]

Where, \( D_0 \) is the number of deaths below the age of one year registered during a calendar year,
\( B \) is the number of births registered during the same year, and
\( k = 1000 \)

(iii) The Average Expectation of Life at Births

This refers to the average life expectancy and is not affected by the age-structure of the population. It is a good measure derived from the life-table which is constructed to summarise the mortality experience of a single hypothetical generation or a cohort of people subject to a set of constant age-specific death-rates throughout its lifetime. The average expectation of life represents the average number of years of life which a newborn baby may be expected to live subject to the risks of death at each age according to the age-specific mortality rates prevailing in the country at the time to which the measure refers. The process of calculating the average expectation of life at birth is a complicated one, but it is widely used to compare the mortality levels and analyse mortality trends in most of the countries.

In most countries of the world, mortality conditions differ for males and females. Generally from experience it has been found that females live longer than males and hence expectation of female life at birth is higher than that of males. India is an exception to this rule where there exists a higher female death-rate at all ages,
which is imputed to the neglect of females.

**Foreign Studies About Mortality**

Some demographers have made special studies about mortality but they relate mostly to foreign countries. Young et al. pointed out that the widower's higher mortality rate was precipitated due to the loss of care bestowed by the departed spouse and the grief caused by the death of the spouse. 32

In a more comprehensive study, Shurtleff found that among both men and women at every age the married had lower death-rates than the single, the widowed or the divorced. When allowance is made for variation in age, the mortality of bachelors is nearly two-thirds greater than that of husbands and the mortality of widowers and the divorced men is about double that of husbands. The differences are smaller for women. The available data do not afford an interpretation of the nature of selection of persons into the marital groups and effect of marriage, itself on divorce rates. 32

Joseph Berkson, who has been a personal critic of the statistical studies of the relationship between smoking and cancer, applies his line of reasoning to the

---


marital status differential in mortality. He examines a long list of diseases that might theoretically be related to marital status and finds that none of them show patterns that lead to any sensible hypothesis. On the other hand, he finds marked marital status differentially that is hard to justify on marital status ground such as lung cancer itself. He concludes that the long established observation of differential mortality by marital status is yet to be explained.

Trends of Mortality in Lower-Income-Group

A detailed statistical analysis of mortality in lower-income-group families surveyed revealed that deaths reported during the last 10 years were 479. So the average annual death-rate for all the age groups was 18.7 per 1000 people surveyed. This figure cannot be compared with those of the previous years as no information for that period is available, because no survey for this income-group was undertaken in Kanpur in the past. The low-income-group population consists of people of different-age-groups and sexes men, women and children. The mortality rate for different age-groups was calculated (Table 4.08 and Figure 4.03).

Table 4.08  *Age Specific Death Rate in Low-Income-Group People, 1985*

<table>
<thead>
<tr>
<th>People of different age-group</th>
<th>Average annual death rate (death per 1000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ages</td>
<td>18.7</td>
</tr>
<tr>
<td>0-9</td>
<td>38.1</td>
</tr>
<tr>
<td>10-19</td>
<td>3.8</td>
</tr>
<tr>
<td>20-29</td>
<td>4.1</td>
</tr>
<tr>
<td>30-39</td>
<td>5.3</td>
</tr>
<tr>
<td>40-49</td>
<td>7.0</td>
</tr>
<tr>
<td>50-59</td>
<td>22.4</td>
</tr>
<tr>
<td>60+</td>
<td>38.0</td>
</tr>
</tbody>
</table>

Source: Based on Field Survey, 1985.

It is evident that the highest mortality exists among the people who are 60+ years of age followed by the age-group of 0-9 years and lastly of 50-59 years. Table 4.09 reveals that the mortality rate for men and women are different.
Age Specific Death Rate in Low Income Group People, 1985 (As Surveyed)
Table 4.09  **Deaths by Sex in Low-Income-Group of Kanpur, 1985**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Total deaths during last 10 years</th>
<th>Population</th>
<th>Average annual death rate (deaths per 1000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>253</td>
<td>1410</td>
<td>17.9</td>
</tr>
<tr>
<td>Female</td>
<td>226</td>
<td>1151</td>
<td>19.6</td>
</tr>
</tbody>
</table>

Source: Based on Field Survey, 1985.

The average annual death-rate for women has been found higher (19.6 per 1000) than for men (17.9 per 1000). The reason for higher mortality-rate among women was deaths at the time of delivery. The families of low-income-group have poor means and cannot afford the expenses necessary for obstetric help in hospitals or in private nursing homes. Most of the women in the low-income class prefer deliveries in their homes where unhygienic conditions exist, resulting in deaths of females. Malnutrition after birth is another cause of higher mortality among women. The sex differentials vary from one income-group to another income-group. The low-income-group is a subgroup of the population and the modern health and medical facilities are not available to this group and hence females in this group are deprived of the facilities that women in higher-income-groups have.
The reason for high mortality-rate among men has been found to be the hazardous occupations that these people adopt for living and that prove to be fatal. It is a well recognised fact that man's surroundings and the occupation from which he earns and his living have an important bearing on his health status. The low-income-group people are living in much less favourable environmental surroundings and under situations of greater personal stress and strain. The customs and practices followed by this group of persons are not conducive to the preservation of good health. From her own enquiry, the researcher has come to the conclusion that the causes of higher mortality rate in the low-income-group in Kanpur, are various occupational diseases, greater exposure to occupational and industrial hazards, accidents in mills and factories, tuberculosis and excessive liquor consumption. Those who work in cotton mills inhale cotton particles and develop respiratory diseases. Further, after a certain stage they become prey to tuberculosis, a disease which is found to be common in most of the low-income-group workers in Kanpur. Some workers have been found to have died due to accidents which mostly occurred during night duties. Some rickshaw pullers after their strenuous day become addicted to liquor. The quantity and that too of spurious liquor grows with time resulting in death. Very few deaths have been reported due to fever and other diseases like cholera, small-pox, etc. As the death certificates were not available
and the census data do not speak about it, other causes about the higher mortality-rate of this group have not been found out. Some deaths have been reported from the families of low-income-groups, of persons who migrated during their illness from the villages to cities to have the facilities of medical treatment. They stayed with their families and later died because of unhealthy conditions and polluted environment in the city life.

It has also been reported that mortality-rates for married males and married females were lower than for the unmarried of the same sex and age. Though rigorous questioning has not been done for finding the reasons of this phenomenon, the possible reason seems to be that married persons are generally more secure and better taken care of than those who are unmarried.

For demographic purposes, children under one year of age are deemed to be infants. Information regarding infant mortality could not be ascertained, hence the death-rate of children in the age group of 0 to 4 years was obtained. Children in the age-group of 0-4 years, died in large numbers and the mortality was 48.8. Child mortality is higher among the females than among the males. This is due to the reason that the male child is properly cared for and better looked after. The high infant mortality rate is one of the reasons for low life expectancy in India. In the present conditions, the mortality-rate has been
reduced to a considerable degree, which is a general phenomenon in all developing societies.

So far as the literates and the illiterates in this income-group are concerned, the survey reveals that the death-rate among the illiterates was higher for which a number of reasons have been found to be responsible. The illiterates are a superstitious class who believe in evil spirits and treat their ailments on the basis of the faith that they have in God. They get their diseases treated by charlatans called *OJHAS*. These employ odd methods and recite *MANTRAS* and odd mutterings for treating diseases. The illiterates do not often consult recognised doctors nor do they visit the hospitals. Even if they do so, they soon get out of patience and give up the treatment in cynical despair. On the contrary, the educated people of this group consult the recognised doctors or avail themselves of the free medical facilities from Government hospitals and dispensaries. They also try to treat the disease as soon as it is detected.

The people in the low-income-group having the monthly income of Rs. 350 to Rs. 600 have been considered. In this income-group the income from Rs. 351 to Rs. 400 has been taken as the lower limit and the one from Rs. 500 to Rs. 600 as the higher one. The death-rate for those in lower limit of income then higher limit of income has also been found to be lower, possibly due to the reason that the people
belonging to the lower limit are the first migrants from the rural areas who have better health standard and can resist the diseases from which they can suffer.

Kanpur is a big city. The survey was undertaken regionwise and it has been found that people living in localities situated around mills and factory areas have a higher death-rate than localities like Swarup Nagar, Tilak Nagar, Pandu Nagar which are mostly posh localities and free from filth and pollution that characterise the city's industrial areas.

Thus the reason for higher mortality rate among the low-income-group is low level of literacy, low standard of living, little awareness of personal hygiene, etc. All these factors contributed to extremely filthy environments leading to all kinds of diseases. Initially Kanpur was the biggest industrial city of Northern India and particularly from 1975 has been at rapid pace of industrialisation process. Large sections of its labouring low-income-group people have been living in over-crowded, dark houses which are poorly ventilated, damp and lack light and sunshine. They have no private bathing facilities and the toilet facilities are horrible. The working conditions in factories are also not good. The concept of personal hygiene is unknown. Most people in this age-group take filth and insanitary conditions in their stride. Stink and nasty
odours are taken for granted, for example, the Ganda Nala of Shastri Nagar and Colonel Ganj. Malnutrition due to high food prices and also because of low income has been one of the major causes of the high death-rate. In very few cases, has the real income of the people been found to have increased and they are without the advances in technology and improvements in the standards of living which help to decrease the mortality rates in cities like Kanpur. An overwhelming majority of the slum people who comprise the low-income-group live under insanitary conditions and do not get even pure drinking water facilities, which has been responsible for diseases like jaundice and other stomach diseases, taking a great toll of life.