CHAPTER VI

THE FERTILITY FACTOR

The vital factors i.e. birth and death keep fundamental importance in the determination of sex composition of a population. The number of reflective weight-age of male and female babies born during a course of period plays fundamental role in the determination of sex imbalance in a population. It is therefore relevant to examine the position of birth factors in the Orchha and in order to provide this understanding of the relative significance of factor number responsible for the determination of sex composition in a region.

According to the law of inheritance, the sex-ratio during reproduction is not 1:1. As in the area the second sex-ratio is concerned, in static birth, due to the difference in death rate, on every 100 female children, 125-135 male children are born (Stern 1969, p 429). However, some scientists this figure might be still higher (107-170). Whatever it may be, it is a fact that in over fertilization, the number of x sperms is more
than Y sperms (Cavalli-Sforza and Bodmer, 19971/p. 654). Therefore in reproduction also the number of male children is more than female children. Why does exist in nature such a positive difference towards male? The answer to this question has always been a puzzle for geographers and scientists. The question which still persists is that why the sex ratio is different from 1:1. This is a subject for the scientists of genetics to investigate.

Though it is a very well known and established fact that testes and sperm ducts are equally potential, and consequently after sexual intercourse the number of sperms and ova should also be similar in the reproductive organs of the female. Now here three possibilities determine the fate. First of all, the atmosphere of testes is more suitable for X sperms and Y sperms. Secondly, Y sperms have more potential for reaching with ovum than X sperms. Thirdly, ovum has more affiliation for sperms. Thus because of these three possibilities, the selection process comes into being (Stern 1968, p. 429). However, no reliable evidence is available so far, which may fortify any
of these three possibilities. One of the possibilities is that the number of Y sperms is more than X sperms (Cavall-Saforge and Bodmer 1971, p. 659) due to the presence of meiotic devices. A survey in Korea has given remarkable indication that there is some relation between the blood group of the mother and the father. Mothers having 'AB' blood group give birth to more male children, and females having 'O' blood group have fewer male children. It is also found that the parents having incompatible blood groups have fewer male children. But the fact firmly stressed is that Y sperms make faster than X sperms upto the ovum. This may be due to the fact that since they are smaller in shape they are naturally lighter (Beaty 1972; p. 749). In the uterus and oviduct there is a kind of race between X sperms and Y sperms, in which Y sperms are faster, hence they have more potentiality of fertilization, (Hill, 1955, p. 433).

It is also said that in primary sex-ratio a kind of psychological reason also works behind male domination. In almost all the countries of the world, a family is believed to be incomplete until a male child is born (Clark 1960, p. 29).
Stern holds the view that factors such as atmosphere, nutrition, and metabolic factors together have an effect on the reproduction power of X and Y sperms. But if at all any atmospheric factor has any decisive effect, it is still undiscovered. In order to study this, we should understand the difference of 1:1 in primary sex ratio. It is therefore essential to examine the past and present pattern of fertility situation of that community.

The data available on fertility is inadequate. The only source of data on fertility is the census of India, which collects fertility data on the basis of 20 per cent samples. This data can very well be used to find out whether the male birth rate is higher than the female birth rate. The census of India provides district wise data on fertility which in turn provides information regarding "Total Children ever born and 'Total live' children". So, from this data the role of fertility in gender imbalance may be broadly visualised.

Age pyramid is the one other important source of study of fertility. The male-female age pyramid indicates clearly whether the male birth
rate is higher than the female birth rate. The age pyramid not only throws light on the present male-female birth rates but also gives some impressions about the past pattern of birth rates.

Besides, in order to study fertility, data were collected from 10 per cent families (261 families) of the 2 per cent villages (19 villages) of the Orchha Upland. To bring out the fertility rate the following formula has been used:

(Total fertility rate) \( TFR = \frac{P_3}{P_2} \)

\( P_3 = \) Mean number of children ever born to women in the third reproductive age group (25-29 years)

\( P_2 = \) Mean number of children ever born to women in the second reproductive age group (20-24 years).

The male/female fertility has been determined from the above formula and in turn the number of male and female child born per mother, was also found out. The total fertility rate was used because it could help in the study of the religion differentials, caste differentials,
educational differentiation, occupational differentiation and area differentiation in fertility.

The study of the birth order was made in order to know the proportion of male and female children born during the earlier births. This also helped to know the affect of higher fertility on the sex ratio. Besides, the blood group of 20 parents were obtained from 20 several villages of the Orchha upland region in order to study the affect of blood group on the sex ratio. Among these 20 families in 10 families, the number of male children was more and in the other 10 the number of female children was more.

THE AGE PYRAMID:

An observation of the distribution of males population in different ages is suggestive about the state of fertility in Orchha.

The arc of age pyramid fig. No. 7 shows its very broad arc which is an indicator of very high fertility in the current time. About 15.29 percent of the total males and 14.20 percent of the total female of the region are classed under the age group of 0-4 years. The proportion is quite
high in all the three groups in the basal segment of the pyramid, viz. 0-4, 5-9 and 10-14 where about 45 per cent of the total population has been classed. It may be pointed out here that the proportion of population under the 5-9 age group is smaller than the lower age group of 0-4 years. This is an indication of a decrease in the current fertility rates 5.14. If there be success than the male in the lower part of pyramid in 0-4 set in significantly smaller than the over lying group of 5-9 years age compared with corresponding shows of female in these age groups. This may suggest therefore, that there may be a pronounced decline in males then their counterparts females with following years and share of females in the population is likely to improve in future. Mention may also be made about the trend of past fertility situations as visible from the age pyramid of the region. The fertility seems to have had a high trend throughout though the mortality fluctuations have been of disturbing the relative share of males and females.

It may be noted that absolute number of male and female children in 0-4 years age group was 15.29 and 14.20 respectively.
### TABLE 6.1

**ORCHHA UPLAND: TOTAL CHILDREN EVER BORN - 1981**

<table>
<thead>
<tr>
<th>Rural/Urban</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>799255</td>
<td>426450</td>
<td>372805</td>
</tr>
<tr>
<td>Rural</td>
<td>715788</td>
<td>380980</td>
<td>334808</td>
</tr>
<tr>
<td>Urban</td>
<td>83467</td>
<td>45470</td>
<td>37997</td>
</tr>
</tbody>
</table>


### TABLE 6.2

**ORCHHA UPLAND: TOTAL LIVE CHILDREN 1981**

<table>
<thead>
<tr>
<th>Rural/Urban</th>
<th>Total</th>
<th>Male</th>
<th>% of Male</th>
<th>Female</th>
<th>% of Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>549982</td>
<td>300950</td>
<td>54.72</td>
<td>249032</td>
<td>45.28</td>
</tr>
<tr>
<td>Rural</td>
<td>484898</td>
<td>264946</td>
<td>54.64</td>
<td>219952</td>
<td>45.36</td>
</tr>
<tr>
<td>Urban</td>
<td>65084</td>
<td>36004</td>
<td>55.32</td>
<td>29080</td>
<td>44.68</td>
</tr>
</tbody>
</table>

Source: Census of India, 1981. Series II. Madhya Pradesh, Fertility Table Part IV, pp. 1289.

It may be pointed out that in India and Madhya Pradesh and likewise in Orchha Upland the most important reason for the female deficiency is
primarily their lower number of birth rate. Thus female children were fewer than male children by 53645. In other words, the percentage of male children was 53.36 and that of female was 46.64. It makes a difference of about 6.72 per cent. In rural areas, the percentage of male children is 53.22 per cent and of female children is 46.78 and in urban areas this percentage has still higher. Out of every 100 children there are 55 male children and 45 female children in the urban areas.

Looking at the number of children it is also clear from table 6.2 that in Tikamgarh district female children are fewer than male children, at the time of birth itself of the children born in Tikamgarh thus were 54.72 per cent was male and 45.28 per cent was female. Thus this difference is about 9 per cent. In rural areas this difference is a little less but in urban areas it has gone up by 10.64 per cent.

According to the data collected from various countries, the ratio of male children is higher than female at the time of birth in every country. On every 100 female children there are 104-107 male children (chandna, 1987, p.142). As per the census of 1981 it is clear from table 6.2 that
in India, the number of male children is greater than female children in Madhya Pradesh and in Orchha Upland. Now the question arises why the sex-ratio at the time of birth is not similar.

In all animals in world the birth rate of males is higher than females. On a small scale this difference does not carry any importance but when we analyse it on a large scale then it is surprisingly big. It is still not known what factors determine the sex at the time of birth. The evidential analysis of sex ratio will help in understanding them separately. The difference in primary sex-ratio is perhaps because of two reasons. Firstly, because of the difference in the production of X and Y sperms in the meioticdrive or perhaps because of the difference in the fertilization power of these two sperms. Secondly, at the time of fertilization the death rate could also be different (Chandna 1987, p. 141).

In Kaweli-Saforza and Bodman (1971, p.650) in all age-groups there are clear evidences of difference in the death rate of males and females. But there are no clear evidences of differences in 1:1 (sex-ratio) at the time of
fertilization. Some genetical evidences show that at the time of reproduction associated with X destroy the surviving power of female genes, male has only one X chromosome, perhaps this is also a reason why they are weak. If it is true then female who are supposed to be weak, scientifically they should be strong because of the fact that they have two chromosomes. This is also a reason why many diseases are more fatal to men than women. Possibly the nature has bestowed them with more power because they play a major role in continuing human race. Then, after all what is the reason? Is it because of the higher death rate of female before birth? There is no evidence available, which supports this assumption.

Some times it is asked why the difference occurs at the time of birth that some female chromosome develop in male zygot (Stern, 1968, p. 430).

At times the diversion in sex-ratio (1:1) is also associated with birth order. In all censuses at the time of first ratio, the male birth ratio is higher, but as the birth order increases female birth rate decreases. This factor is some
time also said that the parents of younger age have more potentiality to produce male children, perhaps the reason behind this is that as the age increases male loses the power of producing X Chromosomes.

Above discussion shows that at the time of birth two factors are responsible for sex determination, one is the difference in primary sex-ratio and the other difference in mortality rate before birth. The factor affecting the sex-ratio at birth may be random error, biases in vital registration, race, diet, climate etc. (Dange, Artha Vijnara, p. 278). Thus Dange holds that the diet is also responsible for the irregular sex-ratio at the time of birth. He evidently tried to establish relation between sex-ratio and a particular crop producing region. He says that in rice producing area there are less females.

RELIGIOUS DIFFERENTIALS IN FERTILITY, 1989

An analysis of the table 6.3 makes it clear that the fertility rate is the highest in Muslim community (6.48 children per mother). The fertility rate is found to be the lowest in the Jain community (3.00 children per mother). In this region the highest populated community is of the
Hindu community in which the fertility rate is found to be almost the same as that of the total fertility rate of the region (5.11 children per mother in the Hindus and the total fertility rate of the region is 5.14).

It becomes clear from the study of the Male/Female fertility rate that in the Hindu community the male fertility rate is higher than the female fertility rate (Male fertility rate is 2.95 and the female fertility rate is 2.29). [But in the Muslim and the Jain community the male fertility rate.] (Male fertility rate is 3.02 in the Muslim and 1.52 in the Jain, but the female fertility rate is 3.82 in the Muslim and 1.58 in the Jain.

**TABLE - 6.3**

**ORCHHA UPLAND : TOTAL FERTILITY RATE**

<table>
<thead>
<tr>
<th>Religion</th>
<th>No. of Children per Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Hindu</td>
<td>5.11</td>
</tr>
<tr>
<td>Muslim</td>
<td>6.48</td>
</tr>
<tr>
<td>Jain</td>
<td>3.00</td>
</tr>
<tr>
<td>Total</td>
<td>5.14</td>
</tr>
</tbody>
</table>

Source : Primary Survey Conducted by the Author.
The region in the north belt of M.P. is dominated by a greater number of Hindus. The male fertility rate is more than the female fertility rate. The case of more male child birth is still a matter of controversy. But the cause may be the fact that has been hinted by in the areas producing wheat and Jowar and in the areas where there is the production of rice, the proportion of female is higher. Since in this region the wheat is produced abundantly, the male fertility rate is higher than the female. (Apart from this factor since this area is largely populated by the Hindus who have regin tired ensher sirphs of male children, is a major cause of the higher male fertility rate.)

As compared to the Hindus, in the Muslim and in the Jain the female fertility rate is found to be higher than the male fertility rate. The cause of higher female fertility rate in the Muslims and Jains is not yet clear. But the cause of higher fertility rate of the males as well as of the females in the Muslim community is the result of their rejection of the family planning measures because such measures are taken to be anti-religious acts by them. Since the Jains are well up both economically and educationally, they
believe in the concept of "Small family happy family", and so their fertility rate is lowest.

Thus from the above discussion it becomes clear that, in this region the female fertility rate is lower than the male among the Hindus who cover 95 per cent of the total population of the region. As a result of this the female population in this region is very less than the male population. Although the female fertility rate is higher among Muslims and the Jains it hardly affects the higher male fertility rate of this region because they cover only 5 per cent of the total population of the region. Thus the higher male population is the most important factor of the greater imbalance found in this region.

CASTE DIFFERENTIALS IN FERTILITY, 1989

Table 6.3 makes it clear that the fertility rate is the highest in ‘Other Castes’ (7.25 children per mother) and next to them are the ‘Dhimars’ among whom, the fertility rate is 5.81 children per mother. It has been recorded that the fertility rate is lowest in the ‘Thakurs’ (2.03 children per mother). Apart from them the
fertility rate of the Brahmins were found to be 2.78, of the Baniyas 3.13, of the Yadaves/Lodhis 3.07, of the Scheduled castes 4.41 and of the scheduled tribes 2.69, per cent.

Variation is also found in the male-female fertility rate. The male fertility is found to be higher than that of the females among the 'Brahmins', 'SC's', 'ST's' and 'Other Castes'. But in case 'Baniyas', 'Yadaves', 'Lodhis' and the 'Thakurs', it is just opposite. But the male fertility rate is found to be the same as the female fertility rate among the 'Dhimars'. The cause of the variation in the male-female fertility among the various castes is (though living in the same region) still a matter to be found out. Since the female fertility rate is higher among the Thakurs, the Yadaves, they should have a higher sex ratio. But as a contradiction there is low sex ratio among them (812 females per thousand males). Since, the sex ratio is almost equal in the Baniyas (male 1.51 and female 1.63) and the Dhimars (male 2.91 and female 2.91) they have got high sex-ratios. Number of female in the Baniyas is 1000 and Dhimar's is 892 per 1000 males. On the other hand, the male fertility rate is found to be higher among
the Brahmins (males 2.00 and female 0.88) and the Scheduled Castes (male 2.40 and female 2.02), as a result of which the sex-ratio is found to be low among them (Brahmins 750 females and SC's females per 1000).

The cause of difference in the fertility rate in different castes may be traced in their social, economical and educational differences. Since the socio-economic and the educational status is higher in the castes like Brahmins, Thakurs and Baniyas they believe in the concept of "small family—happy family" and thus they have registered lower fertility rate.

On the contrary, the fertility rate is very high in the castes like 'SC', 'ST', 'Dhimar' & 'Other Castes', which have not yet accommodated the norms of family limitation technique. Due to socio-economic backwardness, they fail to believe in the concept of "small family happy family". Due to bad economic condition they fail to avail medical facilities. As a result the death rate among them is higher. So in the apprehension of deaths and in order to compensate the further.
TABLE - 6.4


<table>
<thead>
<tr>
<th>Caste</th>
<th>Total fertility rate</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Children per Mother</td>
<td>Total</td>
<td>Male</td>
</tr>
<tr>
<td>Brahmin</td>
<td>2.78</td>
<td>2.00</td>
<td>0.88</td>
</tr>
<tr>
<td>Thakur</td>
<td>2.03</td>
<td>0.88</td>
<td>3.55</td>
</tr>
<tr>
<td>Baniya</td>
<td>3.13</td>
<td>1.51</td>
<td>1.63</td>
</tr>
<tr>
<td>Yadav/Lodhi</td>
<td>3.07</td>
<td>1.03</td>
<td>2.16</td>
</tr>
<tr>
<td>Dhimlar</td>
<td>5.81</td>
<td>2.91</td>
<td>2.91</td>
</tr>
<tr>
<td>SC</td>
<td>4.41</td>
<td>2.40</td>
<td>2.02</td>
</tr>
<tr>
<td>ST</td>
<td>2.69</td>
<td>1.78</td>
<td>1.58</td>
</tr>
<tr>
<td>Others</td>
<td>7.25</td>
<td>4.35</td>
<td>3.05</td>
</tr>
<tr>
<td></td>
<td>5.14</td>
<td>3.01</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Source: Primary Survey conducted by the author.

EDUCATIONAL DIFFERENTIALS IN FERTILITY

An effort may now be made to find out the impact of education in the case of fertility. Table 6.5 makes it clear that the fertility rate in the educated mothers is less (4.64 children per mother) than that of the uneducated mothers (5.23 children.
per mother). The educated mothers believe in the concept of "Small family - happy family" because they are aware of the dangers and difficulties of high fertility. So in order to make their families small, they utilize the means and methods of family planning. (On the contrary, the uneducated mothers have not yet feted the family limit technique.) Since they believe in the phenomenon of giving birth to a child to be a kind of god-gift, they don't take to make use of family planning measures. This results in their higher fertility rate. The male/female fertility shows that the female rate is higher in the educated mothers, whereas the male fertility rate is more in the uneducated mothers. The cause of this fact has not yet been made clear. However, it is not possible to have authentic data because due to illiteracy the mothers not only fail to speak out the exact number of children born from them but also fail to say their exact age.

From the above discussion it can be said that the fertility rate can be lowered in this region by raising the female literacy rate. To some extent, a balance can also be brought about by raising the rate of female literacy.
### TABLE 6.5
**ORCHHA UPLAND: EDUCATIONAL DIFFERENTIALS IN FERTILITY, 1989**

<table>
<thead>
<tr>
<th>Educated/Uneducated Mother</th>
<th>Total Fertility Rate No. of children per Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Educated Mother</td>
<td>4.64</td>
</tr>
<tr>
<td>Uneducated Mother</td>
<td>5.23</td>
</tr>
<tr>
<td>Total</td>
<td>5.14</td>
</tr>
</tbody>
</table>

Source: Survey Conducted by the author.

### TABLE 6.6
**ORCHHA UPLAND: OCCUPATIONAL DIFFERENTIALS IN FERTILITY, 1989**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Total Fertility Rate No. of Children per Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Agriculture</td>
<td>4.31</td>
</tr>
<tr>
<td>Labour</td>
<td>4.69</td>
</tr>
<tr>
<td>Business</td>
<td>8.00</td>
</tr>
<tr>
<td>Service</td>
<td>8.00</td>
</tr>
<tr>
<td>Total</td>
<td>5.14</td>
</tr>
</tbody>
</table>

Source: Primary survey conducted by the author.
OCCUPATIONAL DIFFERENTIALS IN FERTILITY.

Table 6.6 clearly shows that the fertility rate is the highest among the business and the Service class communities (8.00 children per mother), whereas it is lowest in the agricultural community (4.31 children per mother). That apart, the fertility rate in the labour community is 4.69.

In Orchha the business and the service community are economically far. Among them the death rate is low due to their better bringing up capability. The business community has an attitude to have more hands to carry out the business smoothly for which their fertility rate is higher. But the cause of low fertility rate in the economically, and educationally backward agricultural, labour community is still not clearly known. Poverty may be one of the causes in their low fertility.

The conclusions obtained from the study of male/female births suggest that the male are reproduced in higher number in the agricultural communities. The female births are more pronounced in the labour class communities. From the above study it is also known that in the business
community the male/female birth rate is equal and in the service community the female fertility rate is higher. The cause of all of them is not easy to be found out.

However, from the above study it is clear that in the Orchha among the 70% of agricultural population, the male births are higher than that of the female births. As a result of this reason, the sex ratio is low in this region.

**TABLE 6.7**

<table>
<thead>
<tr>
<th>Birth Order</th>
<th>Males</th>
<th>Females</th>
<th>Ratio (F/M X 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>153</td>
<td>109</td>
<td>712</td>
</tr>
<tr>
<td>2.</td>
<td>137</td>
<td>120</td>
<td>876</td>
</tr>
<tr>
<td>3.</td>
<td>140</td>
<td>110</td>
<td>785</td>
</tr>
<tr>
<td>4.</td>
<td>115</td>
<td>96</td>
<td>834</td>
</tr>
<tr>
<td>5.</td>
<td>90</td>
<td>81</td>
<td>900</td>
</tr>
<tr>
<td>6.</td>
<td>64</td>
<td>58</td>
<td>906</td>
</tr>
<tr>
<td>7.</td>
<td>48</td>
<td>40</td>
<td>833</td>
</tr>
<tr>
<td>8.</td>
<td>28</td>
<td>19</td>
<td>678</td>
</tr>
<tr>
<td>9.</td>
<td>12</td>
<td>8</td>
<td>666</td>
</tr>
<tr>
<td>10.</td>
<td>7</td>
<td>2</td>
<td>286</td>
</tr>
<tr>
<td>Total</td>
<td>798</td>
<td>644</td>
<td>807</td>
</tr>
</tbody>
</table>

Source: Primary Survey conducted among 261 families by the author.
BIRTH ORDER:

The birth order of 365 mothers in 261 families has been worked out. It has been found that in these families, 789 male and 644 female babies were born. Thus share of males was bigger than that of the females. This would then, that excess of biological evolution.

As per table 6.7 it is clear that in each birth order proportion of male babies was comparatively very higher than females. There was a great difference between the proportion of male and female babies in first birth order, the sex ratio to be found very low (712 females, per 1000 males). But as the birth order increased the sex-ratio comes higher from 712 females per 1000 males to 906 females per 1000 males. This fact confirms Chandana's view in which he says that male proportion is higher at first birth order but as it increases male proportion decreases (Chandna, 1987, p. 141).

But after 6th birth order, again the birth order comes in favour of males, or after 6th birth the sex ratio comes low which gradually lower and was 287 females pre 1000 males by the end of
In 10th birth order. In other words 10th number in
vary nine children 7 were male babies and only two
female babies.

SEX RATIO AS RELATED TO BLOOD GROUPS

In the Orchha Upland, right from the
birth, the proportion of male population is higher
than the female population. In order to find out
its cause, the researcher collected from several
villages the blood groups of various families in
which either the male or the female population is
higher and has reached at the following
conclusions:

<table>
<thead>
<tr>
<th>Blood Group</th>
<th>No of mother</th>
<th>Sex Ratio No. of female per 1000 males</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5</td>
<td>263</td>
</tr>
<tr>
<td>B</td>
<td>7</td>
<td>578</td>
</tr>
<tr>
<td>0</td>
<td>7</td>
<td>5833</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>4000</td>
</tr>
</tbody>
</table>

Source: Primary Survey Conducted by the author.
(1) The proportion of female births is very high among the mothers having blood of '0' group. The percentage of female birth by large mothers is about 85 per cent. It is noted worthy that 60 per cent of such mothers have not given birth to any male baby. The number of female children per mother of '0' group was found to be 3.86 and the number of male children per mother was found to be only 0.86.

(2) In 80 per cent of mothers with the blood group 'A' the proportion of male children was found to be higher. In 74 per cent of mothers with 'B' blood group the proportion of male babies found to be higher. In mothers with either of these blood groups number of male births number is 3.00 and the number of female births per mother is only 1.00. 60% of the total number of mothers either under the blood group of 'A' or 'B' from whom the number of male births per mother is 3 times more than the female births from them. So it can be said that the difference in the blood group plays an important role in the higher number of male population in this region.

(3) In 76% of parents, having the same blood groups, the proportion of male is found to be
higher. In the parents having the same blood group, every mother gave birth to 3.12 males and 1.50 females. Thus it can be concluded that in the parents having the same blood group, the proportion of male is higher.

(4) It has been found that the proportion of female children is higher in the parents having dissimilar blood groups. The proportion of female babies is higher in 60% of parents having dissimilar blood groups. In such kind of parents the number of males per mother was found to be 1.50 whereas the number of female, per mother was found to be 2.12.

From the above analysis it becomes clear that there is certainly some kind of relationship between the blood group and the sex-ratio. The data of sample mother covered in the fertility survey conducted at for present research show that Blood groups play an important role in lowering sex ratio. There are 60% of mothers, who either have 'A' group or 'B' group of blood, in whom the proportion of male is 3 times more than the females. Even the proportion of male is more than the females in parents having the same blood group. The proportion of female is more than the males.
only in the mothers with the blood group '0', and in this region there are only 35 per cent mother with blood group '0'.

CONCLUSIONS

From the discussion in the fertility factor composition the following conclusions can be drawn:

1. Like North India and Madhya Pradesh in Orchha Upland the main reason behind the deficiency of females is a biological factor. At the time of birth, the number of male babies is higher than female. In this area the ratio of babies is higher than female (55:45).

2. Age data also shows that in every age group male proportion is higher barring old age groups only. According to the census of 1981 between 5-9 age groups difference was the higher, it was over seven thousand. Why is it so? because the mortality rate is higher in females (This may be because of high mortality rate of females). In age pyramid there was a little deficiency in male proportion which positively indicates that in 1992 census the sex-ratio will increase.
3. According to the data collected from the census of Tikamgarh, out of the total children born, the proportion between male and female children was 53.36:46.64. Although in total alive children this difference was little higher, it was 54.72:45.28. Thus these data obviously show that male proportion is greater at the birth time only, which gives way to three possibilities. Firstly, the atmosphere prevailing in the area should be more suitable for Y sperms than X sperms. Secondly, Y sperms possesses greater strength to reach up to ovum than Y sperms. Thirdly, ovum have more responsiveness towards Y sperms than X sperms. Hence in ovum fertilization is a kind of selection process exists.

4. A psychological factor also works behind the abundance of males throughout the world. Every family is supposed to be incomplete family until a son is born.

5. At the time of reproduction a kind of relation between the blood group of mother and father has also been observed. Mothers having 'A' and 'B' blood groups, give birth to more male children, while women having blood group of 'O' gives birth
to female children. It is also found that the parents who have dissimilar blood groups also give birth to less male children.

6. The survey which was carried out in Tikamgarh district clears the fact that initially the male birth proportion decreases but after 5th birth the situation is once again in favour of male, and as the birth order increases this proportion increases. After 10th birth the ratio of male/female comes upto 77 and 23 per cent respectively.

Hence it is obvious that the sex ratio will consistently be low if birth is too high. So in this area birth rate is responsible for low sex ratio.

7. Economically, and from the point of view of sitecacy this area is a backward area, Early marriage is of great importance. 60 per cent population of this area gets marriage by the age of 20 years only, and it is said that a young aged father possesses more strength to reproduce male children. If this is true than male abundance is quite natural.
8. It is also responsible for sex determination at the time of reproduction. It is surveyed that there are more females in rice producing areas while in maize and wheat producing area there are more males. In this area wheat and maize are cultivated in 38 per cent of total and rice grown only in 10 per cent. It is thus clear from above discussed evidences and facts that right from the birth only the number of females is comparatively lower than males. Why it is so? This is a disputable matter. This may be because of biological factor, or psychological factor or diet or early marriage. There are some factors that are responsible for low sex-ratio and the deficiency of females in the area. So it can be said that higher fertility corresponds to higher death rate in which there are proportionately more female deaths than male deaths. Thus the above fact is also one of the causes of less female population in this region.

9. The fertility rate is found to be the highest in the muslim community because of their blind beliefs based on religion. The fertility rate in the Jain community is the lowest due to their better educational and economical conditions. The
fertility rate in the Hindus is higher than that of the Jains and lower than that of the Muslims. The cause of the variation is the male/female fertility rate has not yet been made clear.

10. The study of caste differentials in fertility brings out the conclusion that the fertility rate in the higher castes (Brahmins, Thakurs, Baniya) is low and that in the lower castes (Dhimar, SC, Others) is high. In the region the sex-ratio is low due to higher male fertility and the sex-ratio is low in the Baniya, Chimar and Thakur because of their higher female fertility.

11. The fertility rate in the educated mothers is lower than the uneducated mothers. But the variation in the male/female fertility rate has not yet been made clear.

12. It emerges from the study of fertility in regard to occupation that, the fertility rate is higher in high paying occupation and fertility rate is low in low grade occupations. The male fertility is higher in the agricultural community. Since in this region a higher percentage of people are from agricultural occupation, the sex ratio here is low.
REFERENCES


Clark, J.L. (1960) "Rural and Urban sex ratio in Social Geography.

