4.1. DECLINING SEX RATIO IN THE INDIAN CONTEXT

In India, there has been an unbroken series of decennial censuses, which commenced from 1881. The thirteenth of this series and the latest one was conducted in 2001. In respect of population India is second only to China in the world. Her female population alone can outnumber the total population of many of the large nations of the world. India's population which was 23 crores in 1901, increased to 102 crores in 2001 thereby showing an increase of 79 crores during 100 years between 1901 and 2001. But the growth rates for males and females have been unequal over these ten decades. The net deficit of females in India which was 3.2 million in 1901, has now widened to over 35 million at the 2001 census. This differential growth rate resulted in a rather steady decline in Sex Ratio.

In India, thus sex ratio has been favourable to males from the beginning of the century and deficit of females kept on increasing over time except in 1981 when there was marginal increase of three points from that of 1971. While the ratio was 972 in 1901, it has declined to an all time low of 927 in 1991 census while slightly improving to 933 according to provisional census of 2001. Sex ratio is not only adverse to woman rather it has deteriorated over the decades. This clearly indicates the fact that the benefit of socio-economic development which occurred in India is not being shared equally by two sexes of the population. This steadily deteriorating ratio of females to males in Indian population has been the subject of much speculation and investigation and has led to protracted discussion about the specific factors at work. Though demographers and researchers have attributed the declining sex ratio in India to sex differential in mortality, still we may take a detailed note of the various probable reasons for masculinity in India.
4.1.1. Differential under count of females in the census

When the censuses began in the last quarter of the preceding century, the deficit of females was attributed to incomplete enumeration or omission of females in large proportion [Premi: 1991]. But prior to 1951, there was no post enumeration check, consequently there is no definite evidence at all which can establish that there has been relatively larger and larger omission of females in successive censuses. Still if it is assumed to be true that more under enumeration of females is the only reason for low proportion of females, then the declining proportion of females since 1901 to 1991 in India should indicate that female under count is increasing in magnitude since 1901. But to expect increase in female under count with the advancement of social and cultural developments and with increasing census efficiency appears unconvincing. Bases on the information available from post enumeration checks of 1951 and 1961, Visaria (1969) concluded that under enumeration of females was not a factor of low sex ratio. However, Rajan, Mishra and Navaneetham (1991) propose an alternative explanation of double counting of males. They believe that male over count together with an improved and accurate count of females may give rise to the present state of sex ratio disparity. Migrants males are more likely to be enumerated at the place of origin as well as at the place of destination compared to females who mainly migrate due to marriage. According to 1981 census, 31.8% of males migrated for employment and for females, this percentage was only 14%. On the other hand, as much as 73.4% of women had reported marriage as a reason daughters are not counted as members in their parents house where as a migrant son to some other place for employment or education will always be counted at his parent’s place of residence. Thus double counting of males has led to increase in males in this component (ibid). However, Krishnaji (2000) believes that the inference about double counting is purely a speculative one and the declining sex ratio in India can be identified as a manifestation of an increasing gender bias prevailing in the society.
4.1.2. Sex selective Migration

Migration separately for internal and international level can be taken as another factor responsible for differential sex ratio. Number of international migrants in India compared with the total population has always been so insignificant that it can not affect the sex ratio. There is no evidence at all of female selective emigration or male selective in migration of a magnitude which can affect the ratio (Premi, M.K. : 1991).

Data regarding emigration of Indians are very scarce and incomplete. However, a crude estimate made recently shows that little more than 8 million people of Indian origin were living in countries of the world i.e. South and East Africa, Burma, Ceylon, Fiji, Mauritius and West Indies which constitute 2% of the total population (Jain: 1976). Consideration of the volume and impact of post partition refugee movement on sex ratio in India indicates that at the time of 1951 census about 7.4 million people reported their place of birth in Pakistan which increased to 8.3 million in 1961 but declined to 8.1 million in 1971. Similarly, the number of persons having their place of birth in India but enumerated in Pakistan at the time of 1951 census was 7.2 million and 6.2 million in 1961. By adjusting the population of India for the refugee movement, it is observed that the sex ratio of India is estimated to be 945 after the adjustment as against 946 of the enumerated population at the time of 1951 census and this reveals only one point increase in sex ratio during 1941 – 51 (ibid). Moreover, an estimate of the number of male migrants from Bangladesh during 1981 – 91 indicates that though the number of immigrants has increased significantly as reflected by increased population growth in Border districts but it cannot explain the decline in sex ratio at the national level. Since Bangladeshi migrants mostly come with their families as a result of which the sex ratio of border districts of West Bengal, Tripura has not gone down. Besides, the percentage of immigrants from Nepal has slowed down considerably particularly
in Sikkim, one of the major recipients of the Nepali inmigrants. This is attributed to restrictive migration policies. The return migration from Middle East countries due to Gulf War is too small to explain the phenomenon (Kundu and Sahu, 1991). Thus it can be asserted that the migration have very little effect on the sex ratio for the country as a whole during past decade because of its small magnitude. However, at the state level, the position is reversed because internal migration plays an important role on the sex composition of the state’s population.

4.1.3. Sex ratio at birth:

The sex ratio is more or less a biological phenomenon. Male predominance at birth is commonly observed in almost every part of the world and does not vary much from country to country. Studies in India indicate that the sex ratio at birth are in keeping with this biological pattern. In India even at the time of 1971 census, the masculinity at birth was analysed in the light of several factors viz., race, climate, season of gestation, food, consanguineous marriages, polyandry etc. [RGI: 1973]. However, studies made in different parts of the world in recent time suggest that the sex ratio at birth is affected by several other factors like socio economic condition of the parents, age and parity of mothers, birth order, use of contraception, level of mortality etc. The data regarding sex ratio at birth are reported by the vital registration system from the beginning of the present century. But due to inherent defects in the registration system and also due to substantial amount of omissions along with bias in the nature of registration of particular event, these cannot be considered as reliable estimates of sex ratio at birth in India. However, in this connection data from Statutory Registration System, Sample Registration Scheme and from National Sample Surveys report a higher masculinity at birth. Contrary to this, the findings of a study based on hospital data is made by K.V. Ramachandran and Vinayak A. Deshpande (1964) report a moderate sex ratio at birth in India i.e. around 106 males per 100 females. The sex ratio at birth as reported by the study
appears to be more accurate because it is based on more reliable data and it is in accordance with the general observations regarding the sex ratio at birth in many other countries. Further, the analysis of the causes affecting sex ratio at birth indicate that due to higher proportion of low order births, younger ages of the parents, reduction in foetal losses along with improvement in the socio-economic status of the population, the sex ratio at birth must be in favour of male births than female births. Still it can be said that sex ratio at birth in India appears to be in the usual range and there are no evidences of its increase during the past decade and hence it cannot be accounted as a significant reason for the continuing decline in the proportion of females in the population of India (Visaria; 1969). However, a number of researchers have expressed the possibility of rising sex ratio at birth in recent times.

4.1.4. Sex differentials in mortality

Females are considered to be biologically a superior sex in comparison to their male counterparts. Higher attrition rate of male foetuses and the higher still birth rate for males stand as evidence of this as does the higher death rate of male children in the developed world. India follows this universal pattern only in the first week or the first month of life after which the female death rate becomes higher [Ghosh: 1985]. Visaria who conducted a study among the Indians living abroad found that the sex differentials in mortality is still prevalent among those Indians inspite of the fact that they are residing in different cultural setting.

The study of mortality conditions prevailing in India shows that during the first two decades i.e., 1901-11 and 1911-21, when there were famine, plague, malaria and influenza the mortality conditions were rather alarming for both the sexes but these diseases were disastrous for females especially at the early reproductive ages because of the unhygienic and ill sanitary conditions at home. From 1921
onwards, the improvements started in the general mortality conditions but along with this improvement, the gap between male and female age specific rates started increasing because the reduction in mortality rates were not similar in both the sexes. The age specific death rates for females were found to be higher from age 10 to 50 for females and these differences in the death rates started even at the early childhood i.e. from first year of age [Jain ; 1976]. The reason for this appears to be the low pace of reduction in female age specific death rates as compared with the male age specific death rates. The possible causes of relatively higher female mortality in India are (1) female infanticide (2) greater neglect of females specially at the earlier ages (3) premature cohabitation and child bearing associated with unskilled midwifery (4) hard work for females particularly among lower income groups (5) poor nutrition, housing and sanitary conditions [Mitra : 1979].

Among these causes, the first one i.e. female infanticide was very common in the past and various ways were used for killing the child. Even in modern times, this ugly practice does exist in certain communities particularly in the Kallar community of landless labourers in Tamilnadu’s Madurai district. As many as 3000 causes of female infanticide occur in Tamilnadu every year, [Sadhu Veenu : 1999]. The recent application of sex determination tests at the time of pregnancy has increased the practice of female infanticide in Indian society. Amniocentesis is actually a technique for the prenatal testing of a foetus to detect serious genetic defects sufficiently early in pregnancy so that if needed, the foetus can be aborted. However, today it is almost exclusively being used for sex determination and subsequently for female foeticide. The decline in sex ratio in India has been attributed to increasing incidence of female foeticide through the use of modern techniques of ultrasonography and amniocentesis by the women’s group and others [Srinivasan : 1994]. When these procedures determine at an early stage of pregnancy that the foetus is female, it is more likely to be aborted. Thus the unborn female baby shares with the born female infant high risks of elimination as
technology reinforces traditional biases [Krishnaji : 2000]. The attitude of parents and society in general towards the birth of a female child is very indifferent and there is a very strong preference for sons in many parts of India. It is during infancy itself that discrimination begins. The neglect of female children in the matter of providing good health facilities and in controlling their various diseases and malnutrition has caused numerous female deaths in India. The prevalence of early pregnancy of females results in weakness and ill health among the females which may be one of the reasons of early female mortality in the Indian society.

Maternal mortality is higher in India than those observed in the developed countries' due to the fact that medical facilities to expectant mothers during antenatal period and just after birth are scarcely available in rural areas and in absence of maternity home and trained medical personnel, the births in rural India are domesticated and attended largely by the unskilled midwives or daies only. The Indian women on an average has 8 – 9 pregnancies, resulting in a little over six live births of which 4 – 5 survive. She is estimated to spend 30% of her reproductive years in pregnancy and lactation. Dietary survey have shown that the intake of woman in low income groups is deficient by 500 to 600 calories. The corresponding findings for pregnant and lactating women reveal daily deficiency of 1100 calories and 1000 calories respectively. Deficit in nutrient intakes have been observed in various occupational groups, particularly in those women without land and are working as labourers. With the fairly high fertility levels during the reproductive span prevailing in India, mater in mortality account for the largest or near largest proportion of deaths among women in their prime years. Official estimates place maternal mortality at 400 – 500 per 100,000 live births but figures as high as 1000 – 2000 have been reported from certain rural areas. A woman in the subcontinent runs a life time risk of 1 in 18 of dying from a pregnancy related cause [National perspective plan for women : 1988]. Moreover, the females are affected more seriously by poor dieting, housing and sanitary conditions because of their lower

The above discussion reveals a clear picture of discrimination against women. Consequently, gender discrimination emerges as the crucial determinant of the behavioural pattern of sex ratio. The essence of the examination of the factors responsible for unfavourable sex ratio boils down to a clear practice of discrimination against women in the Indian society. In most countries cultural and social factors do not operate vigorously in favour of any one sex. In India, however, it has been found to be so with respect to male sex. When resources are a constraint and access costly in terms of money, time and other opportunity cost, the gender bias takes over and works preeminently to the advantage of male over female. It is in this context that the study of gender discrimination in connection with the behavioural pattern of sex ratio assumes importance in our study, since experience of advanced nation reveal that favourable sex ratio is highly correlated with better status of women in the society. Therefore, inferior status of women must surely be an important contributory factor for lower number of females per thousand males.

The present work will view the behavioural pattern of sex ratio from the point of view of gender studies. It will therefore make an attempt to examine gender discrimination from the perspective of sex ratio and seek to explore a major area on women's studies via gender discrimination.

A number of studies have found evidence that the discrimination against females in India is not primarily determined by economic hardships rather by
cultural factors [Miller: 1981, Das Gupta 1987, Karkal and Pandey: 1988]. Miller says that is a "culture against females" in India which brings into play the neglect and mistreatment of unknown number of female children. Das Gupta suggests that strong preference for son, reflecting a patriarchal social order is the key reason for gender discrimination. Son preference which is rooted in our cultural and social milieu, the increasing social costs – real and perceived associated with bringing up a girl, increasing expenses of marriage and doing one's parental duty even after marriage may be responsible for prevalence of gender discrimination. Consequently, there arises a powerful relationship between culture and mortality since culture has its strong effects not only on female role and status but also on female survival itself [Miller: 1981].

4.2. Need and Importance of Studying Regional Variation in Sex Ratio

The declining sex ratio in India have been a subject of interest to scholars for many years and systematic attempts to analyse the problem have been made from time to time. The 2001 census figure of 933 females per 1000 males is neither surprising nor perplexing rather it is quite similar to overall sex ratio for most of the countries of the Middle East and for Pakistan, while it is lower than the other countries of South Asia. However, the overall Indian sex ratio of 933 conceals regional variation that are most interesting. Though India has an exceptionally low sex ratio, the problem is not of course equally acute in every region of India. There are large variation in sex ratio between different regions. Thus the overall nation wide study is not enough to give us a clear picture of the actual variation in sex ratio.

While regional studies have not been a new phenomenon in India, their application in demographic field particularly sex ratio analysis has not been
frequent. Such an attempt in the context of our present study will give us a much clear and complete picture of the problem under consideration.

As we know the distribution of sex ratio is not homogeneous rather it varies considerably across different geophysical regions and states. At one extreme we have Kerala having the highest sex ratio of 1058 which is comparable with developed countries and at the other hand, states like Punjab, Haryana, Chandigarh having sex ratio around 880 which is much below the national average. The regional variation in Indian sex ratio is thus, a well accepted fact. The present task involves bringing the level of analysis from the state level to the district level, since no studies are so far available on this aspect for Assam more particularly Barak Valley. It will be useful therefore, to examine the interconnections among the determinants of sex ratio corresponding to Barak valley since such type of micro level study will provide us better insights and more clear picture of the problem. Study of regional patterns of sex ratio need to be pursued more seriously because of its important implications for regional studies, data collection and policy planning.

4.3.1. Sex Ratio by Regional and State Level Analysis

One of the most comprehensive work on Indian sex ratio is that of Visaria (1969) who for the first time attempted to study regional sex ratio patterns using state level data for 1961 and made the following observations.

(a) Masculinity of the enumerated population has been rising steadily since 1901 in India as a whole and in most states. States deviating from this trend are (1) Punjab with a steady fall in the excess of males after an initial jump between 1901-11, (2) Kerala with an increasing excess of females prior to the 1961 census and (3) Andra Pradesh, Gujarat and Rajasthan where the trend is not very clear.
(b) In the North West, the North and North East comprising of Punjab, Jammu and Kashmir, Rajasthan, U.P, West Bengal and Assam, the deficit of females is most marked. The heaviest deficits are in the states of Jammu and Kashmir and Punjab. There is an excess of females in Kerala and Orissa and a situation closer to parity prevails over the rest of India.

Mitra (1979) also found significant regional differences in the sex ratio all over India and divided India into regions which were (1) well above the average for all India in all the censuses – Kerala, Karnataka, Bihar, Orissa, Andra Pradesh, Tamilnadu and Madya Pradesh, (2) Well below the average for India in all the census – Assam, West Bengal, Rajasthan, Uttar Pradesh, Punjab including Haryana, Jammu and Kashmir and (3) Close to India average – Gujarat and Maharashtra.

We again find regional pattern which show higher proportion of males in the states of North Western, Northern and North Eastern region, the reverse pattern in the states of southern and south eastern region and a situation close to parity in the south west and western parts of the country is recorded.

Most of the studies on inter regional variation in the sex composition of the population in India highlights that in the North and North western region, the sex ratio is very low as compared with the southern region. The North South divide on sex ratio has also been highlighted by Sopher (1980) but the most influential exposition of this divide has been made by Miller (1981). For the first time, she examines sex ratio patterns at the district level only for the juvenile population using 1961 census data for 323 districts and has shown that juvenile sex ratios are significantly more masculine to the north and north west than to the south and south east of this line. She identifies the Narmada – Satpura line as a great divider of culture and finds two distinct regional ecological pattern in the Indian sex ratio which
has been expressed in terms of famous North South Model reproduced from her original work.

In her model, she makes an important distinction between Emic and Etic perspective where the Emic part of the explanation emphasises the importance of marriage cost and their influence on family feeling about daughters while the Etic part goes in to the economic value of a woman in terms of her role in agricultural production determining not only female participation but also the sex ratio and the system of control over and inheritance of property.

Figure-4.1: Production, Property and Population in India: a North – South Model
In all these respects north and south offer many contrasts. The northern region is associated with Brahmanical Hinduism, the south with pre-Hindu Dravidian culture. In general, the northern model is characterised by higher rates of survival for juvenile males than females, the southern model by similar rates of survival for children of both sexes, Miller argues that northern women being denied from access to property and excluded from wheat cultivation are less valuable than southern women who not only participate in rice cultivation but also have the access to property. It implies that north tends to exclude females from both property and production where as the south is more inclusive. From the emic perspective, the costs of marriage condition attitudes towards daughters as liabilities in the north, where as lower dowries (sometimes bride price) lead, to a greater appreciation of daughters as asset in the south. The prime cause in this explanation is the demand for female labour which in turn derived from the nature of agricultural production.

The north south dichotomy in Indian sex ratio have also been done by Dyson and Moore (1983) who have explored the consequences of traditional regional kinship pattern in India for women's empowerment and demographic behaviour (sex ratio). The northern kinship system characterised by patrilocal exogamy, asymmetrical status between bride giver and bride taker, curtailment of ties which a married woman can have with her natal kin and the exclusion of women from the inheritance of property subordinates women quite strongly. The southern kinship system, on the other hand, with its emphasis on cross cousin marriage, acceptance of close ties between a married women and her natal kin and the transmission of property to women is considered more female friendly. Thus, difference in the status of females which is culturally mediated plays an important role in determining their access to resources which in turn is reflected in terms of variation in sex ratio in the two regions: one harsh on females and the other favourable to them.
Looking at the spatial pattern of change in sex ratio in India, an attempt has been made to arrange states and Union territories in terms of usual ranks attained by the States/UTs for the last two censuses, namely 1991 and 2001.

The Table-4.1 reveals that the provisional sex ratio of the population at the national level of 933 females of the 2001 census is six points higher than the sex ratio of 927 recorded during 1991.

Table-4.1: Sex Ratio across major States and Union Territories in India, 1991 – 2001

<table>
<thead>
<tr>
<th>SI No.</th>
<th>State/Union Territories</th>
<th>1991</th>
<th>Rank</th>
<th>2001</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jammu &amp; Kashmir</td>
<td>896</td>
<td>25</td>
<td>900</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>Himachal Pradesh</td>
<td>976</td>
<td>4</td>
<td>970</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Punjab</td>
<td>882</td>
<td>27</td>
<td>874</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Chandigarh</td>
<td>790</td>
<td>34</td>
<td>773</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>Uttarakhand</td>
<td>936</td>
<td>16</td>
<td>964</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>Haryana</td>
<td>865</td>
<td>30</td>
<td>861</td>
<td>26</td>
</tr>
<tr>
<td>7</td>
<td>Delhi</td>
<td>827</td>
<td>32</td>
<td>821</td>
<td>28</td>
</tr>
<tr>
<td>8</td>
<td>Rajasthan</td>
<td>910</td>
<td>23</td>
<td>922</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>Uttar Pradesh</td>
<td>876</td>
<td>29</td>
<td>898</td>
<td>23</td>
</tr>
<tr>
<td>10</td>
<td>Bihar</td>
<td>907</td>
<td>24</td>
<td>921</td>
<td>18</td>
</tr>
<tr>
<td>11</td>
<td>Sikkim</td>
<td>878</td>
<td>28</td>
<td>875</td>
<td>24</td>
</tr>
<tr>
<td>12</td>
<td>Arunachal Pradesh</td>
<td>859</td>
<td>31</td>
<td>901</td>
<td>21</td>
</tr>
<tr>
<td>13</td>
<td>Nagaland</td>
<td>886</td>
<td>26</td>
<td>909</td>
<td>20</td>
</tr>
<tr>
<td>14</td>
<td>Manipur</td>
<td>958</td>
<td>11</td>
<td>978</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>Mizoram</td>
<td>921</td>
<td>20</td>
<td>938</td>
<td>14</td>
</tr>
<tr>
<td>16</td>
<td>Tripura</td>
<td>945</td>
<td>14</td>
<td>950</td>
<td>11</td>
</tr>
<tr>
<td>17</td>
<td>Meghalaya</td>
<td>955</td>
<td>12</td>
<td>975</td>
<td>6</td>
</tr>
<tr>
<td>18</td>
<td>Assam</td>
<td>923</td>
<td>18</td>
<td>932</td>
<td>16</td>
</tr>
<tr>
<td>19</td>
<td>West Bengal</td>
<td>917</td>
<td>21</td>
<td>934</td>
<td>15</td>
</tr>
<tr>
<td>20</td>
<td>Jharkhand</td>
<td>922</td>
<td>19</td>
<td>941</td>
<td>13</td>
</tr>
<tr>
<td>21</td>
<td>Orissa</td>
<td>971</td>
<td>7</td>
<td>972</td>
<td>7</td>
</tr>
<tr>
<td>22</td>
<td>Chattisgarh</td>
<td>985</td>
<td>2</td>
<td>990</td>
<td>3</td>
</tr>
<tr>
<td>23</td>
<td>Madhya Pradesh</td>
<td>912</td>
<td>22</td>
<td>920</td>
<td>19</td>
</tr>
<tr>
<td>24</td>
<td>Guizrat</td>
<td>934</td>
<td>17</td>
<td>921</td>
<td>18</td>
</tr>
<tr>
<td>25</td>
<td>Daman and Diu</td>
<td>969</td>
<td>8</td>
<td>709</td>
<td>31</td>
</tr>
<tr>
<td>26</td>
<td>Dadra and Nagar Haveli</td>
<td>952</td>
<td>13</td>
<td>811</td>
<td>29</td>
</tr>
<tr>
<td>27</td>
<td>Maharashtra</td>
<td>934</td>
<td>17</td>
<td>922</td>
<td>17</td>
</tr>
<tr>
<td>28</td>
<td>Andhra Pradesh</td>
<td>972</td>
<td>6</td>
<td>978</td>
<td>5</td>
</tr>
<tr>
<td>29</td>
<td>Karnataka</td>
<td>960</td>
<td>10</td>
<td>964</td>
<td>9</td>
</tr>
<tr>
<td>30</td>
<td>Goa</td>
<td>967</td>
<td>9</td>
<td>960</td>
<td>10</td>
</tr>
<tr>
<td>31</td>
<td>Lakhadeep</td>
<td>943</td>
<td>15</td>
<td>947</td>
<td>12</td>
</tr>
</tbody>
</table>
The most significant feature in 2001 census is that majority of the States/UTs register an overall increase in their sex ratio as compared to 1991, though it remain unfavourable to females in most of the states. The solitary exception in this field is Kerala where sex ratio has always been very much favourable to females throughout the last decade and in 2001 census, it increases to 1058 and can be very well compared with the developed countries of Europe and America.

While the improvement in the overall sex ratio between 1991 and 2001 is noticed in a majority of states and Union territories; among the major states Kerala, Uttarpradesh, Uttaranchal and among Union Territories, Pondicherry and Andaman and Nicobar islands have registered more than 20 points increase. The most remarkable improvement is observed in case of Pondicherry where sex ratio has increased to a level of more than unity i.e. 1001, Bihar, Jharkhand, Rajasthan, Tamilnadu and West Bengal have also registered 10 to 20 points increase. In contrast, there has been a decline in sex ratio in Gujarat and Maharashtra on the one hand and in Haryana, Himachal Pradesh, Punjab, Chandigarh and Delhi on the other. It may be pertinent to note that the decline in the child sex ratio may have an adverse impact on the overall sex ratio in these areas. However, a very substantial decline in overall sex ratio of 260 points in Daman and Diu and 141 points in Dadra and Nagar Haveli require special explanation [Premi: 2001]

Moreover, when we consider the North Eastern region, it is observed that a rising trend is experienced by all the N.E. States except Sikkin. While Arunachal
Pradesh registers highest increase of 42 points, Nagaland, Manipur, Meghalaya between 20 to 30 points. In Assam sex ratio has increased by 9 points.

Though overall sex ratio in 2001 census has increased at the national and also at the state level, but this is really nothing to rejoice over. A matter of deep concern is the decline in the sex ratio of population in 0 – 6 age group or child sex ratio from 945 in 1991 to 927 in 2001. The child sex ratio actually reflects the recent changes in our society in its attitude and outlook towards the girl child. More importantly, it is an indicator of the likely future trends in sex ratio of the population as well as expressing the ground realities as they exist in the fabric of the society. However, what is most alarming is the decrease in the child sex ratio which reveals that the bias against the girl child is getting deeper across the country.

Inordinately low child sex ratio of below 850 are recorded in forty eight districts and includes all the districts of Punjab, Haryana, besides some districts of Himachal Pradesh and Gujarat and the country’s capital does not appear to be kinder to the girl child. As the census commissioner Mr. Jayant Kr. Banthia puts it "Development and social conditions donot always go hand in hand" [Census of India, 2001].

It is a matter of serious concern that the child sex ratio declined by 82 points in Punjab, 59 points in Haryana, 54 points in Himachal Pradesh and Chandigarh, 50 points in Gujarat and Delhi. The decline is so sharp that even the provisional census report 2001 questions whether the “sharp decline in the child sex ratio is indicative of an underlying trend of sex selective abortion”. The census commissioner rightly observes in his report "One thing is clear-the imbalance that has set in at this early age group is difficult to be removed and would remain to haunt the population for a long time to come. To say the least, demographically the sex ratio of 927 of the
population in the age group 0-6 does not appear to augur well for the future of the country” [Ibid].

Bose [2001] earlier classified the demographically backward states Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh as BIMARU States. Now, to take note of the alarming decline in the child sex ratio in 2001, he coined another acronyms DEMARU meaning killing daughters. Here D stands for daughter, E for eliminating, M for male, A for aspiring, R for rage and U for ultrasound, that is to say, daughter eliminating male aspiring rage for ultrasound. On the basis of a statistical cut off point of 50 points decline in the child sex ratio, he again classified Punjab, Haryana, Himachal Pradesh and Gujarat as DEMARU states [ibid]. Such a sharp decline in child sex ratio in DEMARU states reflects that less girls are allowed to be born even in prosperous states. Bose observes that son preference is not confined to Punjab and Haryana alone, it is all over India and is also creeping in the enlightened state of Kerala – but the ready availability of doctors and the paying capacity that is conspicuous in Punjab and Haryana is making all the difference. The consensus commissioner observes [2001]. “The social cultural bias against the girl child might have been possibly aggravated by recent medical support in terms of sex determination tests and require further field investigation”. If things continue like this, the child sex ratio is very likely to go down further in the years to come.

4.3. Sex Ratio Trend in India vis-a-vis Assam and Barak Valley

After having a detailed discussion on regional and state level analysis of sex ratio, it may be convenient to look at the sex ratio pattern for the Barak Valley region vis-à-vis Assam and India. Such an analysis from secondary sources is useful as far as gathering an overview is concerned. This is because though our main objective is to make an investigation of the behavioural pattern of sex ratio and its determinants in Barak Valley, still we have made an attempt to analyse the overall -123-
scenario of the nature of sex ratio trend in India as well as Assam so as to have a thorough background knowledge of the problem under study.

The sex ratios of India, Assam and Barak Valley for the last 100 years are given in the Table-4.2 which is also shown in figure-4.2.

Table-4.2: Sex Ratio trends, India, Assam and Barak Valley, 1901 – 2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>972</td>
<td>964</td>
<td>955</td>
<td>950</td>
<td>945</td>
<td>946</td>
<td>941</td>
<td>930</td>
<td>927</td>
<td>933</td>
</tr>
<tr>
<td>Assam</td>
<td>919</td>
<td>919</td>
<td>896</td>
<td>874</td>
<td>875</td>
<td>868</td>
<td>869</td>
<td>896</td>
<td>923</td>
<td>932</td>
</tr>
<tr>
<td>Barak Valley</td>
<td>931</td>
<td>921</td>
<td>919</td>
<td>903</td>
<td>897</td>
<td>897</td>
<td>908</td>
<td>923</td>
<td>936</td>
<td>941</td>
</tr>
<tr>
<td>Cachar</td>
<td>913</td>
<td>906</td>
<td>910</td>
<td>889</td>
<td>896</td>
<td>895</td>
<td>908</td>
<td>918</td>
<td>932</td>
<td>945</td>
</tr>
<tr>
<td>Hailakandi</td>
<td>913</td>
<td>919</td>
<td>922</td>
<td>902</td>
<td>897</td>
<td>891</td>
<td>904</td>
<td>923</td>
<td>929</td>
<td>933</td>
</tr>
<tr>
<td>Karimganj</td>
<td>965</td>
<td>943</td>
<td>930</td>
<td>923</td>
<td>899</td>
<td>902</td>
<td>911</td>
<td>930</td>
<td>946</td>
<td>944</td>
</tr>
</tbody>
</table>

Source: (1) Census of India, 1991 series 4, Assam. (2) Census of India 1991, series 1, (3) Census of India, 2001 series 1, India, * In 1981, census was not held in Assam.

Figure-4.2: Sex Ratio trends, India, Assam and Barak Valley, 1901 – 2001
The table-4.2 as well as figure 4.2 show the trend in sex ratio in Assam, Barak Valley and all the three districts of Barak Valley namely Cachar, Hailakandi and Karimganj vis-à-vis India. Sex ratio in all these areas were lower than Indian average upto 1971 census except Karimganj district where it was equal to national average in 1971 census. Though in India sex ratio is declining continuously over the century, but a rising trend is observed in Assam, Barak Valley, Cachar and Hailakandi district from 1961 census and in Karimganj from 1951 census onwards. Karimganj district recorded a favourable sex ratio in comparison to the other two districts throughout the period of our analysis and in 1991 census, it reached 946, being the highest among all the other districts of our study. However, according to the provisional census report of 2001, the sex ratio in Karimganj district has come down to 944, a decline by 2 points, though remain higher than national average. The table reveals that Cachar district registers highest sex ratio with 945 and Hailakandi – the lowest with 933 though equal to national average. In Assam, though sex ratio has increased to 932 but it is still lower than all India sex ratio figure of 933 which registers an improvement after persistent decline throughout the last century.

Table-4.3 gives the changes in sex ratio in absolute numbers from 1901 – 2001 for the above mentioned areas which is constructed with reference to the previous table.

Table-4.3: Changes in Sex Ratio 1901 – 2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>-8</td>
<td>-9</td>
<td>-5</td>
<td>-5</td>
<td>1</td>
<td>-5</td>
<td>-11</td>
<td>-3</td>
<td>6</td>
</tr>
<tr>
<td>Assam</td>
<td>0</td>
<td>-23</td>
<td>-22</td>
<td>1</td>
<td>-7</td>
<td>1</td>
<td>27</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>Barak Valley</td>
<td>-10</td>
<td>02</td>
<td>-16</td>
<td>-6</td>
<td>0</td>
<td>11</td>
<td>15</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Cachar</td>
<td>-7</td>
<td>4</td>
<td>-21</td>
<td>-7</td>
<td>-1</td>
<td>13</td>
<td>10</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Hailakandi</td>
<td>6</td>
<td>3</td>
<td>-20</td>
<td>-5</td>
<td>-6</td>
<td>13</td>
<td>19</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Karimganj</td>
<td>-22</td>
<td>-13</td>
<td>-7</td>
<td>-24</td>
<td>3</td>
<td>9</td>
<td>19</td>
<td>16</td>
<td>-2</td>
</tr>
</tbody>
</table>

With reference to previous table
The changes in sex ratio in India has been negative throughout the century except in 1951, 1981 (not shown in the table) and 2001 when there was 1, 3 and 6 points increase in sex ratio respectively. The highest reduction was in 1971 where sex ratio declined by 11 points. In 1991 census, it again reduced by 3 points. Though Assam has been placed among the states with sex ratio below the national average, still it is experiencing a positive change in sex ratio from 1961 census and its sex ratio has increased by 27 points in 1991 census. Along with Assam, Barak Valley and its three districts are also experiencing similar positive trend and their sex ratio has improved by 13, 14, 6 and 16 points respectively in 1991 census.

The census 2001 provided a relief by an increase in sex ratio by six points for India as a whole over that of 1991 census. The census of India 2001 observes “The sex ratio of the population in twentieth century has shown a secular declining trend in India except some marginal increases in the censuses of 1951, 1981 and now in 2001”. The overall improvement in sex ratio in favour of females may be explained by the fact that female death rates have become lower than the male death rates [Premi: 2001]. With the overall improvement in sex ratio in India, there has been an increase in sex ratio in Assam by 9 points and in Barak Valley by 5 points. According to the census of India, 2001, Assam “The increase in sex ratio is although a good sign, no definite reason can be spelt out for such increase at this stage in the absence of other related data”. In Barak Valley region, though Cachar and Hailakandi districts register an improvement by 13 and 5 points respectively, but most surprisingly Karimganj which has been experiencing an increase in sex ratio from 1951 census onwards records 2 points decline.

To know whether migration in any way is affecting the sex ratio pattern of Barak Valley, we can look into the various figures and statistics available with respect to the region. It indicates that the major factor of migration more particularly immigration from other countries (this aspect of immigration is relevant for our study
since Barak Valley is a border region) has a very minor or little impact on the overall sex composition of Barak Valley region. In this context, the following points can be highlighted. Firstly, we can consider the census figure of decadal variation in population which reveals a considerable fall in the growth rate of population in Barak Valley. In 1971 – 1991, it was 45.42% which reduced to 20.31% in 1991 – 2001 in comparison to 21.38% in 2001 in India. There are certainly other factors also responsible for this declining trend, but this can also be seen as an indicator of lesser significance of immigration on the overall population composition.

Secondly, we can analyse the 1991 census figure of the three districts of Barak Valley with respect to the size and composition of the immigrated population from other countries. A close scrutiny of which reveals that the sex ratio of the immigrant population from other countries stood at 961 in comparison to overall sex ratio of 936 in the region under study. Here it can be established that whatever migration has taken place, it is family migration and not a single sex i.e. male or female migration. As such, the composition of the migrated population has very little in itself to influence adversely the sex composition of overall population.

The third and may be the most important aspect is the size of the migrated population with respect to the overall size of the population in Barak Valley. As per 1991 census, the population of Barak Valley was 24,91496 and the volume of in immigrants from other countries was 5452, i.e., the percentage of the migrated portion with respect to the total population stood at a mere 0.2%. From this figure also, it can be concluded that such a negligible proportion can not have any significant or decisive impact on the overall sex ratio scenario of Barak Valley region. It is for these reasons, we have not taken migration as an explanatory variable to determine the variation of sex ratio in our quantitative analysis.
While India is experiencing a negative, fluctuating trend in the proportion of female to male population, a rising trend is experienced by almost all the regions under our consideration. This may be attributed to lower level of gender disparity in the valley because the socio, economic and cultural factors that lead to gender discrimination are less prominent in the region. Rather, females are enjoying higher socio-economic status as reflected by higher female literacy of 56.1% as against the all India female literacy rate of 54.16%. Practice of female infanticide and foeticide which have important bearing in India’s sex ratio do not operate with the same extent of force in the region. The region witnesses a better performance in sex ratio as against the all India figure. It is therefore highly important and also significant to make a thorough investigation of the factors responsible for the better performance of this ratio in this region, inspite of its economic backwardness. It is thus pertinent to examine, whether sex ratio which has a tremendous significance on the economic life of a nation is determined by purely economic factors or by socio economic factors since no satisfactory work on such lines have been undertaken so far inspite of the tremendous importance of this area of study, the present investigation seeks to fill in gap in this respect.

4.4. Trend of Sex Ratio at Birth in India

The low sex ratio in India led the earlier census commissioners to formulate many hypothesis and one of them was high sex ratio at birth. They were of the view that low sex ratio in India was due to differential registration by sex of vital events compared to the natural occurrence of the events. Sex ratio at birth (males per 100 females) is found to vary between 102 to 108 for different population. It has also been observed that population of Negroid origin have sex ratio at birth around 103 (Visaria: 1967) where as for white population the same has been found to vary around 107. For India, it is assumed and estimated that sex ratio at birth in the country is 105 male live births to 100 female births. The excess of male to female
births is assumed to be an insurance by nature for biological disadvantage experienced by male in comparison to his female counterpart. The census commissioner of 1911 computed sex ratio at birth to vary between 104 to 108.2 around 1911 in different regions of India. The vital statistics division, office of the Registrar General, Delhi estimated sex ratio at birth in one of the analytical reports based on Sample Registration Scheme (SRS) data and arrived at a sex ratio at birth of 108.4 for 1968 and 107.8 for 1969 for rural India.

Several researchers in India have analysed hospital records on births and have computed sex ratios for different regions at different points of time. Analysing data from Civil Registration System, Visaria (1969) found no ground to assume that sex ratio at birth in India was exceptionally masculine as according to him, it was within the normal range of 104 to 107.

There is however a possibility that the SBB has changed overtime [Rele and Jain: 1985, Sudha and Rajan: 1988, Ananthram: 1989, Premi: 1991, Mini.T.C: 1992, Singh: 1992, Kundu and Sahu: 1991, Raju and Premi: 1992, D'souza: 1993, Krishnaji: 2000]. By observing the sex ratio of Indian population, all of them have indicated that SRB is on the upper side of the limit of usual range in SRB. Some argue that increasing masculinity of SRBs may be caused by development particularly in the health sector since improved health conditions provide better life chances to male foetus which are biologically weak and prone to die [Sudha and Rajan: 1988, Premi: 1991, D'souza; 1993]. On the other hand, there are some who are of the view that the wide spread use of amniocentesis is contributing towards declining sex ratio through unnatural increase in sex ratio at birth. As the pre sex determination techniques (SDT) have been introduced in India during 70s, it has led to the abortion of female foetus in particular which affected the natural SRB further high [Sudha and Rajan: 1988, Singh: 1992, Kundu and Sahu: 1991, Raju and Premi: 1992, Krishnaji: 2000].
Several investigative reports have shown that in India between 1978 and 1982, about 78,000 female foetuses were aborted after SDT. It is also reported that in Delhi alone sex determination clinics conducted on an average 11,000 tests during the year 1988 [Pen: 1998]. Moreover, the practice of female infanticide in some of the districts of Tamilnadu accounted for 3,500 to 4,000 female infant deaths every year. The estimates of the magnitude of female infanticide as well as female foeticide are truly shocking, the national level when assessed will be more so. As a result, the SRB have been skewing further in favour of preferred male progeny. Hence, the SRB which is becoming favourable towards male has some bearing on the declining sex ratio.

Data on SRB in India is very difficult to get because of lack of sufficient and reliable information on it. The census of India does not publish this statistics. The Sample Registration System occasionally published such data which are shown for the period of 1981 – 83 to 1991 – 93 with the help of table – 4.4.

**Table-4.4: Sex Ratio at birth, India**

<table>
<thead>
<tr>
<th>Period</th>
<th>Sex ratio Males/ 100 females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981-83</td>
<td>109</td>
</tr>
<tr>
<td>1982-84</td>
<td>110</td>
</tr>
<tr>
<td>1983-85</td>
<td>110</td>
</tr>
<tr>
<td>1984-86</td>
<td>110</td>
</tr>
<tr>
<td>1985-87</td>
<td>110</td>
</tr>
<tr>
<td>1986-88</td>
<td>110</td>
</tr>
<tr>
<td>1987-89</td>
<td>110</td>
</tr>
<tr>
<td>1988-90</td>
<td>110</td>
</tr>
<tr>
<td>1990-92</td>
<td>111</td>
</tr>
<tr>
<td>1991-93</td>
<td>112</td>
</tr>
</tbody>
</table>

Source: Registrar General, India

Note: figures are based on the data from Sample Registration System.
The ratio was as high as 109 males per 100 females during 1981 – 83 which increased to 110 in 1982 – 84 and remained constant upto 1988 – 90. In 1990 – 92, there was further increment in the ratio to 111 and 112 in 1991 – 93. Premi (1991) is of the view that with the rise of one point in SRB, the overall sex ratio declines by 3 points in ten years, by 4 to 5 points in 20 years and by 6 to 7 points in 30 years when other conditions remain constant. Thus, assuming other factors to be constant, increase in SRB may bring down sex ratio considerably. Hence, an increase in SRB can atleast partly explain the decline in the overall sex ratio.

4.5. Sex Ratio Trend by Rural Urban Residence in India and Assam

In India, variation in sex ratio is found between rural and urban areas with more balanced sex ratio in rural areas and more masculine sex ratio in urban areas. This variation in sex ratio is due to variation in migrational streams between male and female in rural to rural, rural to urban and urban to urban migration.

In India, the predominance of females in rural to rural migration streams has traditionally been attributed to the practice of village exogamy and patrilocal residence. Moreover, the growing commercialisation of agriculture has resulted in a rapidly growing rural migrant labour force and women play an essential part in many agricultural operations such as sugarcane, harvesting, cotton picking and wood cutting. Women also play an important role in rural construction road works, dam building, digging irrigation canals [Singh: 1982].

In rural to urban migration streams, generally the male population of the villages migrate to urban areas in search of livelihood and means of employment other than agriculture to supplement the family income. Females are generally left behind in the villages to look after the odd jobs at home. As Gulati (quoted in Singh: 1992) put forward that "Generally migrational streams are age and sex selective.
Since, initially there are adult males who migrate in search of better economic opportunities and may be followed by other family members at later dates. Thus large scale migration of male workers certainly affects the sex composition at both the places of origin and destination. Sex ratio of urban population is normally masculine since the employment opportunities for women in organised sector are not available in comparison to men and socio cultural factors do not allow females to migrate alone and this lead to imbalance in rural urban migrational streams. Table-4.5 gives the sex ratio of the population by rural urban residence for India and Assam from 1901 – 1991 which has also been summerised in figure 4.3.

Table-4.5: Sex Ratio by rural urban residence, India and Assam, 1901-1991

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>979</td>
<td>975</td>
<td>970</td>
<td>966</td>
<td>965</td>
<td>965</td>
<td>963</td>
<td>949</td>
<td>938</td>
</tr>
<tr>
<td>Urban</td>
<td>910</td>
<td>872</td>
<td>846</td>
<td>838</td>
<td>831</td>
<td>860</td>
<td>845</td>
<td>858</td>
<td>894</td>
</tr>
<tr>
<td>Assam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>929</td>
<td>923</td>
<td>906</td>
<td>885</td>
<td>886</td>
<td>878</td>
<td>887</td>
<td>912</td>
<td>934</td>
</tr>
<tr>
<td>Urban</td>
<td>576</td>
<td>626</td>
<td>613</td>
<td>574</td>
<td>605</td>
<td>663</td>
<td>661</td>
<td>744</td>
<td>838</td>
</tr>
</tbody>
</table>

Source: Census of India 1991, series 1

Figure-4.3: Sex ratio trends by Rural Urban residence 1901-1991, India and Assam

It is observed from the table that in India rural sex ratio was as high as 979 in 1901 which steadily declined to 938 in 1991 census the highest decrease being recorded during 1961-71. The urban population also had recorded decrease in sex
ratio from 910 in 1901 to 894 in 1991, though there have been fluctuations after 1941 – increasing during 1941-51, declining during 1951-61 and again increasing upto 1991 census. The highest decrease in sex ratio for urban areas has been noticed during 1901-11.

So far Assam is concerned, its rural sex ratio was 929 in 1901 which steadily declined to 885 in 1931 census, then there was marginal increase in 1941 by 1 point but in 1951, it again declined to 878. But 1961 onwards, there was continuous increase in rural sex ratio. The urban sex ratio was as low as 576 in 1901 which rose to 838 in 1991 census. But during these periods, there was heavy fluctuation, increasing during 1901-11, declining during 1921-31, then again increasing during 1941-51. In 1961 census, urban sex ratio again declined by 2 points but from 1971 census, there was increase in sex ratio for urban areas.

If we compare the sex ratio of India and Assam by rural urban residence what we observe is that rural sex ratio is more or less similar for both with only 4 points more in India. But in case of urban sex ratio, there is 56 points gap between India and Assam. The lower sex ratio in the urban areas of Assam was obviously due to the fact that there was always a large floating male population in the towns and the conditions of life in urban areas were not suitable for the workers, especially wage labourers to bring their wives and families to the urban metropolies [Barooah: 1993].

Since migration plays an important role in influencing sex ratio by rural urban residence, we may take a look at the percentage distribution of migrants in different migration streams in India.
Table-4.6: Percentage of distribution of migrants in different migration streams

<table>
<thead>
<tr>
<th>Sex</th>
<th>Year</th>
<th>Rural to Rural</th>
<th>Rural to Urban</th>
<th>Urban to Urban</th>
<th>Urban to Rural</th>
<th>Total Migrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1961</td>
<td>56.7</td>
<td>25.7</td>
<td>13.0</td>
<td>4.6</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1971</td>
<td>53.5</td>
<td>26.0</td>
<td>14.0</td>
<td>6.5</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1981</td>
<td>45.6</td>
<td>30.0</td>
<td>17.4</td>
<td>7.0</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1991</td>
<td>43.4</td>
<td>31.6</td>
<td>17.8</td>
<td>7.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Female</td>
<td>1961</td>
<td>81.3</td>
<td>9.7</td>
<td>5.8</td>
<td>3.2</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1971</td>
<td>77.7</td>
<td>10.5</td>
<td>6.7</td>
<td>5.1</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1981</td>
<td>73.3</td>
<td>12.5</td>
<td>8.7</td>
<td>5.5</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1991</td>
<td>72.2</td>
<td>13.5</td>
<td>8.8</td>
<td>5.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Person</td>
<td>1961</td>
<td>73.7</td>
<td>14.6</td>
<td>8.1</td>
<td>3.6</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1971</td>
<td>70.3</td>
<td>15.3</td>
<td>8.9</td>
<td>5.5</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1981</td>
<td>65.2</td>
<td>17.6</td>
<td>11.2</td>
<td>6.0</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>1991</td>
<td>64.5</td>
<td>18.4</td>
<td>11.2</td>
<td>5.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>


The table-4.6 clearly shows that rural to rural migration is very much feminine. In 1991, when 72.2% of females moved from rural to rural areas, the corresponding percentage for the male is only 43.4. On the other hand, rural to urban migration is male dominated and the percentage of migrants in this migration stream is 31.6 for male and 13.5% for female. In case of both urban to urban and urban to rural migration, percentage of females is lower than that of males but it is much lower in urban to urban in comparison to urban to rural migration. This diverse pattern of female migration needs to be investigated at the regional, state and local level in order to get adequate insight of its impact on the sex ratio.

4.6. Sex Ratio at Different Age Group

When sex ratio in India is studied according to age group, it is found that female deficiency is more acute in childhood and reproductive periods. But with the process of ageing, they are placed in a better position because women in middle age and in early part of old age generally enjoy greater control over allocation of domestic resources, intra household distribution of foods and family management.
It is known that male sex is biologically weaker than female sex. Thus they face higher rate of mortality in the early years of life as is evident from the following table which shows the age wise sex ratio (males per 100 females) of children and total (all ages) for Assam.

Table-4.7: Age wise sex ratio of children and total for Assam

<table>
<thead>
<tr>
<th>Year</th>
<th>&lt;1</th>
<th>1-4</th>
<th>0-4</th>
<th>5-9</th>
<th>10-14</th>
<th>Total (All Ages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>98.50</td>
<td>99.70</td>
<td>99.11</td>
<td>101.80</td>
<td>104.70</td>
<td>111.49</td>
</tr>
<tr>
<td>1981</td>
<td>99.70</td>
<td>98.56</td>
<td>98.00</td>
<td>102.93</td>
<td>105.56</td>
<td>108.07</td>
</tr>
<tr>
<td>1991 (SRS)</td>
<td>99.11</td>
<td>102.93</td>
<td>105.56</td>
<td>106.12</td>
<td>109.84</td>
<td>104.28</td>
</tr>
<tr>
<td>1992-93 (NFHS)</td>
<td>86.00</td>
<td>98.56</td>
<td>96.00</td>
<td>109.84</td>
<td>102.69</td>
<td>104.28</td>
</tr>
</tbody>
</table>

Source: Nair, P. Mohanchandran: 1996

It is observed from the table that sex ratio is unfavourable to male in the early years of life particularly upto 4 years of age as males face greater disadvantage during those years. National Family Health Survey conducted in the year 1992-93 showed that the sex ratio was 86.00 in less than 1 year which rose to 96.00 for 0-4 years but after that sex ratio became more favourable to males for 5-9, 10-14 age group and for total (all ages) which stood at 109.84, 102.69 and 104.28 respectively. The ratio which was favourable to females in the early years became reversed in the later years mainly because of discriminatory attitudes against females in terms of intra family allocation of food and other family investments which pursue a woman throughout her life.

During the very early years of life, sex ratio is unfavourable to male infant because due to the operation of at biological or endogenous factors, perinatal and early neonatal mortality of males increase. As the age of infant increases, the socio-economic or environmental components assume greater importance and therefore the ratio of male female deaths is reduced in the later years. The variation in the environmental factors explains much of the inter country differentials in infant
mortality rates [Bhatia: 1983]. The ratio of male to female deaths is higher in industrialised developed countries. This pattern is reversed in developing countries like India where female mortality exceeds male mortality shortly after birth and the pattern is often sustained through the child bearing ages. It has been postulated that the marked reversal of sex differential in mortality during childhood and adolescence which brings about a variation in sex ratio in different age group is indicative of the sex biased behaviour that discriminates against female children.

Socio-economic and cultural factors still remain very much unfavourable towards females in India and therefore the impact of the biological disadvantage that the males suffer from is balanced by the inferior socio economic status of women. In most countries, cultural and social factors donot operate vigorously in favour of any one sex. In India, however, it has been found to be so with respect to male sex. The very unfavourable sex ratio in India indicates that the risk of female lives at most ages has not improved upon the risk of male lives. This emphasises the fact that demographically India has not entered the modern industrial age with its complementary characteristics of increasing risk of male lives and reduced risk of female lives.

4.7. Sex Ratio Trends in the Towns of Barak Valley

The urban masculinity is mostly related to economic factors. If the cities/towns grow by migration which is mainly connected with the development of trade, commerce, industry and transport amidst the prevailing prejudice against employment of women outside home, then it can be expected that the faster the towns grow, the more masculine would become their sex ratios. Female rural to urban migration is affected by distance and by town size and there is inverse relation between the two. Longer the distance and increase in the size of towns, lower is the movement of females form rural to urban areas and lower is the sex
ratio. The table-4.8 bears out this trend where sex ratio of all the towns in Barak Valley is given.

Table-4.8: Sex Ratio Trends in the Towns of Barak Valley, 1901-1991

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Towns in Cachar District</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Silchar (MB)</td>
<td>408</td>
<td>489</td>
<td>553</td>
<td>553</td>
<td>601</td>
<td>732</td>
<td>796</td>
<td>852</td>
<td>919</td>
</tr>
<tr>
<td>2. Lakhipur (TC)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>723</td>
<td>847</td>
<td>938</td>
</tr>
<tr>
<td><strong>Town in Hailakandi District</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Hailakandi (MB)</td>
<td>-</td>
<td>480</td>
<td>397</td>
<td>552</td>
<td>637</td>
<td>791</td>
<td>848</td>
<td>897</td>
<td>939</td>
</tr>
<tr>
<td>2. Lala (TC)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>903</td>
<td>931</td>
<td>954</td>
</tr>
<tr>
<td><strong>Town in Karimganj District</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Karimganj (MB)</td>
<td>640</td>
<td>617</td>
<td>415</td>
<td>456</td>
<td>527</td>
<td>695</td>
<td>761</td>
<td>878</td>
<td>923</td>
</tr>
<tr>
<td>2. Badarpur (TC)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>884</td>
<td>906</td>
<td></td>
</tr>
<tr>
<td>3. Badarpur Rly Colony (TC)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>884</td>
<td>825</td>
<td>935</td>
</tr>
<tr>
<td>4. Ramkrishna Nagar</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>977</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>All Towns in Barak Valley</strong></td>
<td>488</td>
<td>535</td>
<td>492</td>
<td>525</td>
<td>583</td>
<td>728</td>
<td>802</td>
<td>886</td>
<td>924</td>
</tr>
</tbody>
</table>

(2) Census of India: Series 4 Assam (paper 2 of 1991)

Figure: 4.4. Sex Ratio Trends in the Three Major Towns in Barak Valley, 1901-1991
Sex ratio without any exception in all the censuses reflected female deficiency in all the major three town of Barak Valley inspite of gradual increase in sex ratio from the beginning of the century. Sex ratio which was 489, 480 and 617 in Silchar (MB), Hailakandi (MB) and Karimganj (MB) respectively in 1911 gradually increased over the decades to 919, 939, 923 respectively in 1991 census. Though throughout the century, there was increase in the ratio in these three major towns, but increase was highest in Hailakandi (939), higher than national average. In Hailakandi, sex ratio was higher than other two towns from 1951 census onwards. In Karimganj, though sex ratio is lower than Hailakandi, but it is higher than Silchar town. Sex ratio is lowest in Silchar among all the towns of Barak Valley except Badarpur (TC).

It is thus observed that there is deficiency of female population in all the major towns of the valley but it is more pronounced in Silchar as it is the largest of all the three towns of the valley.

With the process of urbanisation and expansion of the town, there arises large scale migration of people who are coming here in search of livelihood. These are in the first instance mostly by men. It is true that when the men settles down, the women may move upto join them but this may not occur immediately and there is always a considerable time lag between male and female migration. With the expansion of the town in the future, it will have a diminishing sex ratio. However, with the slowing down of this process of migration, when the town reaches the stage of maturity of the growth rate of population, sex ratio is also expected to attain equality.

4.8. Sex Ratio Trends among various Religious Groups in India

Among the various social characteristics of a population, religion is important in the sense that it influences demographic behaviour to a large extent. Since
religion occupies an important position in the social structure of India, information on religion with reference to sex has been collected since the inception of census operations. Different religious groups in India are characterised by various sex ratios which is shown in the table-4.9 and also expressed in figure-4.5.

Table-4.9: Sex Ratio by Religion in India, 1901 – 1991

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hindus</td>
<td>971</td>
<td>964</td>
<td>957</td>
<td>953</td>
<td>944</td>
<td>949</td>
<td>942</td>
<td>930</td>
<td>933</td>
<td>925</td>
</tr>
<tr>
<td>Muslims</td>
<td>939</td>
<td>922</td>
<td>912</td>
<td>903</td>
<td>903</td>
<td>938</td>
<td>935</td>
<td>922</td>
<td>937</td>
<td>930</td>
</tr>
<tr>
<td>Christians</td>
<td>939</td>
<td>931</td>
<td>935</td>
<td>952</td>
<td>959</td>
<td>992</td>
<td>989</td>
<td>966</td>
<td>992</td>
<td>994</td>
</tr>
<tr>
<td>Sikhs</td>
<td>767</td>
<td>739</td>
<td>756</td>
<td>984</td>
<td>811</td>
<td>851</td>
<td>849</td>
<td>858</td>
<td>880</td>
<td>888</td>
</tr>
<tr>
<td>Jains</td>
<td>928</td>
<td>940</td>
<td>932</td>
<td>942</td>
<td>930</td>
<td>927</td>
<td>924</td>
<td>940</td>
<td>941</td>
<td>946</td>
</tr>
<tr>
<td>Buddhists</td>
<td>948</td>
<td>950</td>
<td>934</td>
<td>935</td>
<td>939</td>
<td>917</td>
<td>981</td>
<td>962</td>
<td>953</td>
<td>952</td>
</tr>
<tr>
<td>Jews</td>
<td>959</td>
<td>955</td>
<td>933</td>
<td>937</td>
<td>961</td>
<td>823</td>
<td>1005</td>
<td>1010</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Parsis</td>
<td>959</td>
<td>962</td>
<td>948</td>
<td>942</td>
<td>973</td>
<td>991</td>
<td>1038</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>All Religions</td>
<td>972</td>
<td>963</td>
<td>955</td>
<td>950</td>
<td>945</td>
<td>946</td>
<td>941</td>
<td>930</td>
<td>933</td>
<td>927</td>
</tr>
</tbody>
</table>


It is observed that the Sikhs community has the lowest number of females while the Christians in India displayed almost a balanced sex ratio (992). It is also noted that in the case of Hindus who constitute the majority of the population in India, sex ratio has been more or less equal to the national average in all the census years. In 1901, sex ratio of Hindus was 971 which declined to 933 in 1981 and 925 in 1991. The sex ratio for Muslim which has been lower than that of Hindus in all census years, steadily declined throughout the century except for a substantial increase in 1951 and in 1981. In 1991 sex ratio of Muslim was 930 which was higher than Hindu figure. In case of Sikhs, the sex ratio which was as low as 767 in 1901 and increased to 888 in 1991 was the lowest in the country. This may be due to inferior status of women in Sikh community perhaps due to very strong patriarchal structure of the Sikh community. The ratios for Christians and Buddhist have shown fluctuations over the years and in 1991, the ratios were much higher.
than that of Hindus. According to the 1961 census, the parsis and jews had an excess of females over males and this feature was observed in 1971 census as well.

Figure-4.5: Sex Ratio Trends among major religious groups in India 1901-1991

How far these differences in the sex ratio in various religious groups were related to the differences in their natural sex ratios was difficult to comment due to constraints of data. However, excessively low sex ratio among the Sikhs may in all probability have its explanation in the genetic factors. The high sex ratio among the Christians on the other hand may be associated with low female mortality rate among them and perhaps also due to better status of women in comparison to other
religious groups. The table further established that during 1971-81, the sex ratio of almost all the religious groups improved except Buddhists. The magnitude of improvement in sex ratio was of course highest among the Sikhs. Rising level of educational achievement particularly among the female members of these communities might have contributed in raising the status of women which in turn might have had a favourable impact on the sex ratio of these communities. It is also to be noted that high degree of urbanisation and the strongest impact of Green Revolution in Punjab and better performance with respect to human development might have also lead to improving the sex ratio among the Sikhs. However, the improvement in sex ratio of various other religious groups may have been the product of their declining female mortality rates and improving the status of females in General [Bhutani: 1995].

How far these variations in sex ratio among various religious groups is due to differences in religious identity is yet to be established. Bardhan (1982), Dreze and Sen (1995), Agnihotri [1997] are of the view that regions is more decisive than religion in shaping sex ratio. It is often suggested that the north and north western parts of the country which is geographically close to islamic culture has under Muslim rule for a long time and even now has a large muslim population. This allegedly may have resulted in lower status of women which is responsible for low sex ratio in those regions. However, Dreze and Sen 1995 argue that “the state of Kerala which has the highest female-male ratio among Indian states comes second in terms of the proportion of Muslims in the population. The state with the lowest proportion of Muslims in the population in Punjab which has had the lowest female male ratio among all Indian states until it was overtaken by Haryana in 1981. Haryana itself has an extremely small Muslim population (4% of the total population)”. Hence it can be said that sex ratio is more region specific than religion specific. However, in any case, this contentious issue require a much more detailed analysis.
4.9. Sex Ratio Trend among Three Social Groups in India and Assam

In India, sex ratio is not uniform among three social groups, namely, Scheduled Caste, Scheduled Tribe and non SC/ST or general category because each group represents a different pattern of sex ratio. Agnihotri (2000) has analysed the sex ratio behaviour of the social groups at the national and state level. Highest sex ratio is found among STs followed by SC and the general category which has the lowest sex ratio among the three social groups. Table-10 gives the sex ratio trends of three social groups for India and Assam from 1961 to 1991.

Table-3.10: Sex ratio by social groups, India and Assam, 1961-1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Total population</th>
<th>Scheduled Caste</th>
<th>Scheduled tribes</th>
<th>General Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1961</td>
<td>941</td>
<td>957</td>
<td>987</td>
<td>934</td>
</tr>
<tr>
<td>1971</td>
<td>930</td>
<td>935</td>
<td>982</td>
<td>924</td>
</tr>
<tr>
<td>1981</td>
<td>934</td>
<td>932</td>
<td>983</td>
<td>930</td>
</tr>
<tr>
<td>1991</td>
<td>927</td>
<td>922</td>
<td>972</td>
<td>923</td>
</tr>
<tr>
<td>Assam</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1961</td>
<td>869</td>
<td>883</td>
<td>918</td>
<td>862</td>
</tr>
<tr>
<td>1971</td>
<td>896</td>
<td>917</td>
<td>960</td>
<td>886</td>
</tr>
<tr>
<td>1981</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1991</td>
<td>923</td>
<td>919</td>
<td>967</td>
<td>916</td>
</tr>
</tbody>
</table>

Source: Agnihotri, S.B. 2000

As is evident from the table, during the last forty years, the problem of falling sex ratio has been more acute among SCs resulting in decreasing in gap between the sex ratio of SCs and sex ratio of general category. The decline in sex ratio of SCs at all India level during 1961-91 was by 35 points while it was 15 and 11 points respectively for STs and general category.

In Assam also, sex ratio is highest among STs followed by SCs and general category which has the lowest sex ratio among the three social groups. However, during the last 40 years, there is positive gain in sex ratio with respect to all the three categories. During 1961-91, the gain in the ratio was 26, 49 and 44 points.
respectively for SCs, STs and General category. Thus, in Assam, sex ratio of all the three social categories increased but the increase was least among the SCs.

The impact of changes in socio-cultural and economic factors on female, appear to be governed by the caste and class they belong to. In post independent India, SCs and ST group of the population have been trying for upward mobility in the social hierarchy. Along with increase in political power, SC people started adopting life style of higher caste people i.e. non SC/ST or general category people so as to gain better acceptability in the society. This process of adoption of life style of higher caste people was not so strong among ST people who are very much particular about preservation of their culture and identity throughout history. Consequently, these efforts of the ST group of the population might have led them to assign a higher status to their women leading to creation of a better sex ratio.

In the present structure of society, as we move from lower caste people to higher caste people we find that the position, status and even worth of women get undervalued whereas opposite is the case with their men-folk. As a result, when the people of SCs tried to move upward in social ladder they imposed many controls on the sexuality of women, who were earlier quite free in this sphere and abandoned their liberal marriage laws and adopted marriage code of upper caste, resulting into increased harshness towards women. Srinivas has termed this process of change in the life styles of upwardly mobile castes as “Sanskritization” (Gupta: 1997).

The process of Sanskritization among SCs resulted into privatisation of females and forced tight constraints on them affecting their work participation rates (WPR). In other caste, though there were no formal resolutions restricting the work of females outside the family, SC people withdrew their families from outside work and their work participation rates fell at a higher rate than among ST and non SCs/STs. The decrease in economic values of females among SCs which resulted
from greater decrease in FWPR among them also affected the allocation of resources within the family. In a recent study by Kishor (1995) examining the gender bias in child survival, it is found that survival chances of girl strongly depend on economic worth measured by FWPR and cultural worth measured by patrilocal exogamy.

There are however clear signs of the process of emancipation of females in non SC/STs. With the modernisation of the economy, more economic opportunities were available to females of non SC/ST category since they were prepared to take advantage of these due to higher rate of literacy among them and better economic status. In this process, the restrictions on their sexuality and their privatisation also weakened.

Invariably, a question which also arises in the study is why the process of ‘Sanskritization’ among ST category has not emerged as strongly as among SC category since both belong to economically weaker and socially distressed classes in the society. The fact that the tribals have never become the integral part of Hindu society and preservation of their separate culture and social identity by tribals even when they are completely surrounded by Hindu society is the main factor behind continued higher level of sex ratio among them among the three social categories. Thus the tribals could save themselves to a great extent from the process of Sanskritization and maintained their special pattern of life of social and economic equality between males and females as an integral part.

However, the decline in sex ratio among ST from 983 in 1981 to 972 in 1991 raises a doubt about historically more balanced gender relations among tribals. Maharatna [2000] is of the view that the gender equality among tribals instead of being preserved has been disappearing along with so called assimilation and modernisation process. It is not only that SC people have been assimilated long
before within mainstream society reflecting anti-female bias but a transformation has also been taken place among tribals towards anti female pattern due to increasing influences from neighbouring caste Hindus and their patriarchal norms and values. This is very unfortunate and in this context, preservation and wide publicity of gender equality and female autonomy of traditional tribal culture is the immediate need of the hour.

4.10. Conclusion

The data on sex ratio in Assam and Barak Valley is examined from various angles in comparison to India though due to non-availability of data, it is not always possible to discuss all the variables affecting sex ratio with reference to Assam and Barak Valley. The data indicates a male majority in almost all the spheres.

In India, the various development efforts made in the areas of women's education, health and nutritional status in the last decade have not been adequate enough to make any real impact on the deteriorating demographic situation. Higher mortality of females is a reflection of the discriminatory socio-economic practices with the family and society at large that lead to constantly declining ratio of female to males. The maternal mortality in India is among the highest in the world – 4 to 5 per 1000. In fact one mother dies every six minutes and what is worse over half the female deaths occur in the 15 to 20 years age group arising most often from pregnancy and related complications [Nayyar: 1991]. Death rates among female infants is also subsequently higher than that among males. If female infants particularly in the rural areas happen to survive the social neglect and economic rigours of babyhood, malnutrition and the lack of access to health services, the forced burdens of work both within and outside the household hasten the way to an early death. Thus, the death rate among women from the time of birth and running well into the reproductive years is much higher than the death rate among men in
the same age group. In this context, it can be stated very firmly than unless the socio-economic status of females in the society in terms of education and employment is improved, the proportion of females would continue to decline. Basu [1995] in her work on "Women's Role and Gender Gap" views that "where women are economically active and not restricted to the domestic domain, the gender gap in health and survival is smaller than it is for women who are cutoff from economic independence and from extra domestic work".

It is also imperative that governments both at the centre and the state level must reorient their development priorities to focus on strengthening the crucial components of the welfare activities aimed at women. A radical re-working of development strategies in areas such as female literacy, improved health care, delivery systems focussing on prevention and compulsory primary schooling for girls, gender equality in economic entitlements is immediately called for in this direction. Most importantly, the society will have to change its attitude drastically towards females if this disquieting trend is to be reversed.

Having analysed the theoretical and conceptual framework as well as behavioural aspects relating to sex ratio in India in the present chapter, the threads of data analysis are picked up further to examine the main correlates of the observed sex ratio patterns in India. The next chapter will through light on this.

REFERENCES:


