PATTERNS AND TRENDS IN SEX RATIO: WITH SPECIAL FOCUS ON RELIGION AND REGIONAL CONVERGENCE

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CERTIFICATE

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IF IT IS A GIRL.....

I call this the circle of life - and death.

If you are born a girl, a female, in India, you have:

The right to be born: (abort the foetus, if it is female)

The right to live: (kill the infant, if it is a girl)

The right to nutrition: (starve the baby, if it is a girl)

The right to health: (neglect ill health, if it is a girl)

The right to learn: (educate minimally, if it is a girl)

The right to a childhood: (train in housework and childcare, if it is a girl)

The right to choice: (marry off soon after puberty, if it is a girl)

The right to reproductive health: (insist on the birth of a boy, not a girl)

The right to be born: (abort the foetus, if it is female)....

---Anonymous.

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Lastly but not the least I dedicate my dissertation to "***The Missing Women***" of India.

Finally the responsibility for all the errors of judgment and presentation, remains mine.

Rajeev Sharma.

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CHAPTER – 1

INTRODUCTION

Statement of Problem

Ever since the Committee on the Status of Women in India (1975) discovered that the sex ratio has been falling since the beginning of the last century Indian demographers have been working hard to study and analyze its causes and implications (Bhat, 2002).

Sex composition is one of the basic demographic characteristics of the population. In any study of the population, analysis of the sex ratio plays a vital role. Sex ratio has been internationally defined as the numbers of males per hundred females but Indian Census defines sex ratio inversely, i.e. number of females per thousand males. The primary reason for measuring sex ratio differently in the former case is because of the deficit of males and whereas in the later case (India) is the decreasing proportion of female population in contrast to males. Right from the beginning of the census operations, the sex ratio in India is adverse to women (Srinivasan,1994; Seth, 1996; Reddy, 1996). The Census of India definition of Sex Ratio is followed in this study. According to the United Nations (UNDP, 2002), "Sex ratio is the result of interplay of several demographic factors in the Indian population such as the:

-Sex ratio at birth.
-Sex differential in mortality.
-Sex differential in migration.
-Sex differential in population enumeration.

Presently in, India, with a population of one billion, males heavily outnumber females by 36 millions. India's demographic scene in terms of its sex ratio has become ambiguous, particularly in respect of the female to male ratio. Thus on examining the sex ratio of any particular age group or of the whole population of a particular region, one can find many complications and inadequacies. Though the first census of the 21st century exhibits an improvement of sex ratio by 6 points over the 1991 sex ratio, improvement in this sex ratio, no doubt a matter of some satisfaction, but when it comes to the age specific sex ratio the figure becomes again deteriorating and puzzling. The decline in the sex ratio of 0-6 age group populations from 945 in 1991 to 927 in 2001 is a matter of serious concern.

The sex ratio in the country had always remained unfavourable to females. The sex ratio at the beginning of the twentieth century was 972 and thereafter showed continuous decline until 1941. In 1951 there was a marginal increase of one point, but thereafter it again dropped for two consecutive decades to reach 930 in 1971. In fact, between 1961 and 1971, the country saw the sharpest decline of 11 points in the sex ratio. Thereafter, it has fluctuated marginally around 930 in successive censuses. The proportions of Indians who were girls or women have continuously shrunk since 1901 (RGI, GOI, 2001).

The sex ratio of India's population has always been of topical interest for the demographers, social scientists, women's groups, research scholars and various planners and policy makers. Why is it that India has such an uneven composition of population as compared to most of the developed countries in the world? Several reasons are adduced to explain the consistently low levels of sex ratio and its further decline in the country. Following are the reasons for decline in sex ratio put forward by the Census Commissioner of India, 2001 ((RGI, GOI, 2001) for the low sex ratio in India: -

a) Neglect of the girl-child resulting in their higher mortality at younger ages.
b) High maternal mortality.

c) Sex selective female abortions (foeticide)

d) Female infanticide.

e) Change in sex ratio at birth.

According to Ashish Bose (1991) one could add to this list another factor – quality of Census enumeration, the differential under-count of males and females, the quality of age data and methodological aspects of successive censuses.

Satish Agnihotri in his paper, "Rising Sons and Setting Daughters", further elaborates this aspect. To quote him:

"The increase in the overall sex ratio by 6 points in the face of an 18 point decline in the child sex ratio is rather counter intuitive. For a comparable decline of 17 points in the child sex ratio between 1981 and 1991, the overall sex ratio had declined by 7 points. This has happened through a rise in the sex ratio of the population above 6 years. This increase, according to the preliminary report, is as high as 12 points – from 923 to 935. Similar pattern is reflected in most of the states. While the increase in the sex ratio in the 6 years plus age group has been modest in the southern states, it is substantial in Uttar Pradesh, Bihar, Uttaranchal and Jharkhand. Have females suddenly surfaced everywhere? Have their life chances gone up so dramatically? One has to grapple with the answers after the final totals become available. Prima facie however, such increase in the background of drastic decline in the child ratio appears implausible".

In this context Ashish Bose (2001) has further coined the acronym –DEMARU, where 'D' stands for 'daughters' and 'E' for 'elimination' in English and MARU stands for 'killing' in Hindi. He classifies Punjab, Haryana, Himachal Pradesh and Gujarat as DEMARU states.

Literature Review

The central concern of this work is the low and steadily declining proportion of women in the Indian population recorded by successive population Censuses in the 20th Century. The Indian sex ratio is amongst the lowest in the world. (In the Indian Census, as well as in the present study, sex ratio is defined as the number

of females per 1000 males. The term low sex ratio refers thus, to the high masculinity of the population. In the study by Visaria, major work on the Indian sex ratio, the later definition is used.) Not only does India share with a few other countries the dubious distinction of having one of the lowest sex ratio recorded—the Indian sex ratio has registered a lower figure at every successive census. The population of India has grown more and more masculine over the last century and the future also looks very bleak for females, as the Juvenile sex ratio (sex ratio of 0-6 years population) has also declined sharply in the 2001 census.

Administrators and scholars have attempted to understand this demographic puzzle at various points of time in the last half of 20th century. Several explainations have been advanced, tentatively and with certainty, but the weight of available evidence indicates that the most obvious factor responsible for this phenomenon is a mortality pattern that is highly unfavourable to women, in itself a demographic aberration.

The existing studies and demographic data have repeatedly pointed out towards declining sex ratio in India. The reality of missing females still remains a mystery wrapped in social and cultural taboos, son preference, female feoticides, female infanticides, maternal mortality, etc. They are indicators of the unequal status of women vis-à-vis men. Certain features of the present paper are based on the review of literature. The interdisciplinary nature of study and the hypothesis of different types of inquiry pursued within these disciplines is one such feature. Most of these strands are marked by vast literature of their own and contending schools of thought i.e. differential in mortality, gender stratification, regional diversity in India. Incorporating all these has proved the present understanding of the problem and it enlightened the new insights.

There have been, mainly, two kinds of work on sex ratio on the one hand, a number of scholars have approached the problem from a purely biological angle. They have postulated explainations for the levels of sex ratio in a given

population, isolated biological factors or aberrations. Other scholars, belonging as they were to a different school of thought, have given more importance to social or economic factors as possible correlates of the sex ratio (P.Visaria, 1971; B.Miller, 1981; S.Agnihotri, 1995, 2000; Bardhan, 1974, 1986 etc.).

In India, between 1901-2001, the sex ratio showed a constant decline (except between 1951-1961 and 1991-2001), from 972 to 933 female per thousand male, showing an increase of 6 points in the last decade. In sharp contrast, the sex ratio of the child population (0-6), juvenile sex ratio, declined sharply during this decade, from 945 in 1991 to 927 in 2001 --a decline of 18 points. The 2001 Census found 495 Million women and girls but 531 men and boys in India. In similar lines the number of 'missing' women are certainly large. The 'missing women' have been estimated at levels from 35 to 90 millions (Dreze and Sen, 1989). According to Amartya Sen(1989) the major cause of 'missing women' is the neglect of female health and nutrition.

This declining trend of Sex Ratio is a matter of serious concern and has resulted in various attempts to account for the observed phenomenon. The explainations offered are at two levels:

(a) National level.
(b) Regional level.

According to Premi (1991) there can be four possible reasons for decline in Sex ratio over time at national level.

(1) Higher emigration of females than of males and/or larger immigration of males.
(2) Sex ratio at birth is becoming more favourable to males.
(3) Female mortality is higher than male mortality and this differential has increased overtime.
(4) Greater under count of females in the census.
(5) Female selective termination of pregnancy leading to a decrease in the sex ratio at birth.

Viewed from the regional perspective the sex composition of India's Population varied greatly from one part of the country to another. Important feature of sex ratio is that it is considerably lower in North India, above the Vindhyanchal range, while it is substantially above the national average in southern states (Premi 1991). The North –South Divide comes out sharply if we compare the southern states of Kerala, Tamil Nadu, Karnataka and Andhra Pradesh with major northern states in Hindi belt i.e. Bihar, Uttar Pradesh, Rajasthan, Punjab and Haryana. The sex ratio of southern states is much higher than that for the Hindi Belt as a whole and this sharp difference is observable all through the last century. Kerela with the sex ratio of 1058 in census 2001, has the distinction of being the only state in the country with excess of females over males. According to Kundu (1991) at the state or district level, migration is the single most important factor explaining the temporal and cross sectional variation in sex ratio.

The Human development report 2002(UNDP), shows India's Gender related Development Index (GDI) as 0.560 with the rank of 105. We may feel comfortable compared to Pakistan (rank 116), Bhutan (119), Bangladesh (123), but compared to Sri Lanka (76) and China (79) we are far below. One can feel happy that over the years GDI in India is inching forward gradually. In 1997 its rank was 118 and in 2001it was 115, undoubtedly there has been some progress though still we need further improvements to match the developed world in women's empowerment. According to S. Raju et al (1999) the proportion of women and girls in the population is a measure of their survival rate and well-being.

Sex ratio at birth is found to vary between 102-108 for different populations. It has also been found that Negroid population has sex ratio at birth around 103 (Visaria 1967), where as white population have around 107). For India, the sex ratio at birth is assumed to be around 105. The access of male to female births is assumed to be insurance by nature for biological disadvantage experience by males in comparison to females (Madigan, 1957).

A monotonically declining sex ratio over a period of time is ominous for the very existence of any society. For example in India, Punjab, which had substantially low sex ratio, gave rise to illegal traffic of females (Wattal 1934). Pakrasi has studied the prevalence of female infanticide in Northwestern region of India in detail, 1970. Paucity of females in a particular region gives rise to early marriage as many bridegroom feel insecure in getting the bride at later age. In contrast a bride's parents try to marry of their daughters early due to low cost factor (Gulati, 1969). Early Marriage at young age not only gives rise to higher birth rate but also high death rate in the form of high infant mortality rate and high maternal mortality rate.

Visaria's analyses, 'Sex Ratio of the Population of India" (1971) is acclaimed as the first landmark in this debate. Earlier analyses, especially in different census reports lacks Visaria's depth and insight. Visaria clearly established that the high Female Mortality Rate (FMRs) in India arises mainly due to sex differential in the mortality, factors like migration, under-enumeration of female or Sex ratio at birth having only marginal effect. This analysis is in a position to highlight the causes and correlation between the mortality differentials and the high FMRs. Earlier analyses done by the Census reports (Natarajan, 1972) lacked Visaria's depth and rigour. Visaria clearly established that the low sex ratio in India was mainly due to the sex differentials in mortality. According to him effect of factors like migration, under-enumeration of females or sex ratios at birth was only marginal. According to Pravin Visaria (1971) Sex ratio at birth is one of the 'initial conditions' which determines the sex ratio of the overall population. . It is nearly constant – within a range of 1040-1070 male live births per 1000 female live birth - in the absence of any sex-selective human intervention. Visaria, has examined the issue of under-enumeration in detail using the 1951 & 1961 data from post enumeration checks and direct comparison of the census population figure with direct observations from well-known Khanna study.

Barbara Miller also followed this after a decade. In her study she highlighted the socio-cultural discrimination against female children, which was found to be pronounced in certain regions in India, the preliminary reason being higher girl child mortality. Miller emphasized on the effect of Female labour Participation (FLP) on sex ratios. Miller (1981) included the role of prosperity in her analysis of sex ratios by differentiating the 'propertied' and 'unpropertied' classes, showing the pattern of low sex ratios among the propertied groups in the north. She identified dowry as on of the major culprit, which created the perception of the girl child as a liability. This 'work' as determinant of 'worth' line of inquiry has been followed by Murthi et al. (1995). Bardhan (1974) had earlier highlighted the importance of FLP in his wheat-rice divide in sex ratio patterns. He argued that the wheat growing regions in north-western India required much less female labour participation compared to the rice growing south-east, consequently, women were valued less in the north-western India, leading to a lower status and higher discrimination against them. Whereas in the south-east females are valued more on account of their high participation in agricultural activities, facing less discrimination. According to Bardhan (1974) this was the major cause of the north-south divide observed in the sex ratio patterns in India. This North-South divide was later highlighted by Sopher (1980) by the district level map of juvenile sex ratios and Miller (1981) by her analysis of the relation between sex ratios and female labour participation.

The North-South divide was brought to the center stage by Dyson and Moore (1983) by highlighting the role of cultural factors in determining the status of women. According to them the north and south are characterized by two different cultural and kinship systems. The 'male centered' kinship system (Kishor, 1993) in the north undervalues and subordinates females while the southern kinship system values females more. This culture as determinant of status argument has been followed by Basu (1992), Dasgupta, M (1987, 1995) and Papnek (1990). The distinct sex ratio divide between the north-western and south-eastern India is part of a wider cultural division recognized as the Indo-Aryan (north) – Drvadian

(south) divide (Miller, 1984). This division is further reflected in the kinship system and crop patterns (Bardhan, 1974).

Alka M Basu (1989) divides women into two relatively similar cultural groups namely north India and south India on the basis of known significant differences in demographic indices in the two regions. Similarly Bardhsn (1974), Miller (1981) and Schultz (1982) have noted the positive association between a region's sex differential in survival and respectively its (a) dependence on predominantly dry wheat cultivation which traditionally has had less use for women's labour in agriculture; (b) women's inferior bargaining position in the marriage contract; and (c) their lower levels of economic independence. All these factors are more common in North than in South India and suggest strongly that women in North India score less on our indicators of status as well.

Bardhan (1986) emphasized the need to integrate the cultural and economic explanations of variations in sex ratios. In depth studies integrating the cultural and economic factors have been undertaken recently (Basu, 1992; Kishor, 1993).

Asok Mitra (1979) discussed at length the possibility of undercounting of females in the different Censuses and went on to examine the nature and extent of higher female mortality under normal conditions and under famines. He analyzed the underlying causes such as the neglect of girls and the risks associated with frequent child bearing. Finally, he paid attention to the economic and cultural environment that generates discrimination against females. The Sex ratio has since been one of the most crucial and pungent variables that are being used to determine the inequality between males and females ***from the womb to the tomb*** as the saying goes (Devaki Jain, 2000).

Agarwal (1994) has emphasized the role of inheritance. She traces the roots of women's status, to property rights and the inheritance system. According to her the North-South divide is closely related to the issue of property rights, which

lower their status and consequently their access to resources. In the southern or the eastern system, women have significant property rights and therefore enjoy a better status than their northern counterparts.

Sex ratio at birth is considered as the initial condition, which determines the sex ratio of the overall population. Visaria (1971) discussed in his study, that it is nearly constant-within the range of 104-107 male live births per 100 female live births- in the absence of any sex selective humane intervention. The low value of 104 for northern zone and higher value of 108 for the central zone is attributed a relatively. Pakrashi and Haldhar (1973) reported unusually high secondary sex ratio (120) among the first-born children. This sharp drop among subsequently born children is close to the 104-108 ranges.

According to Satish Agnihotri (2000) most analyses of sex ratio patterns in India use data not corrected for migration. At the state level, effects of sex-selective migration are insignificant (Agnihotri, 1995). Female migration in India is mostly on account of marriage and most long distance migration is heavily male dominated and arises out of economic necessities (Desai, 1969; Srivastava, 1979). Most of the literature, which includes Agnihotri (2000), has emphasized the absence of sex selective migration as the primary reason for using the juvenile age group data. However the focus on juvenile age group is important for one more reason. This is the age group where the female disadvantage is more pronounced in India (Bennett, 1991; Chatterjee, 1990; Hariss, 1989). Therefore the pattern of discrimination against females can be effectively studied through the sex ratios in this age group.

The concept of 'status' of women is frequently used in the literature on gender inequalities. Basu (1992) identified three separate but interdependent components of women status. The emphasis placed on women's interaction with the outside world has to be understood in the context of the gendering of space.

Sex ratio is an important indicator of gender relations in a society. The overall status of females vis-à-vis that of males varies from one social group to another.

Overall population in any given region is not homogenous and sex ratios among its different substrata differ not just by age but by socio-cultural factors like class, caste or religion (Agnihotri, 2000). Miller opted for a class-based analysis of sex ratios using the 1931 census data. Agnihotri has done caste based analysis of sex ratios, namely, Scheduled Tribes, Scheduled Castes and the rest of the population (1996, 2000). P.N.Mari Bhat (2000) argues that overtime there has been a convergence of the sex ratios of adults and children, and sex ratios declined in regions and social groups where the adult sex ratios were higher than the child sex ratios.

It has been generally found that male dominated social ethos are more discernible among the higher caste Hindus as compared to Scheduled Castes or Scheduled Tribes. The scheduled tribes enjoy a more equitable gender relations than the other two groups. One would, therefore, expect corresponding differences in Sex Ratio from one social group to another. A perusal of census figures over the past few decades does confirm this pattern (Agnihotri, 1995).

According to Satish Agnihotri (2000) most analyses of sex ratio patterns in India use data not corrected for migration. At the state level, effects of sex-selective migration are insignificant (Agnihotri, 1995). Female migration in India is mostly on account of marriage and most long distance migration is heavily male dominated and arises out of economic necessities (Desai, 1969; Srivastava, 1979). masks many of the peculiarities in its variation among different social groups over time and space. A disaggregated analysis of Sex Ratio in terms of different social groups can, thus, be of great help in formulating measures to correct imbalances in Sex Ratio in any area. Satish Agnihotri (1995, 2000) argues that for truly appreciating the complexity of the issues relating to sex ratios, one must examine the trend in sex ratios disaggregated by regions and social groups.

S. Raju (1999) dismisses religion or poverty as the common explanations for the low sex ratio. She emphasizes on the regional causes of low sex ratio. The regional contrast in the survival of girls is much more sharp then any contrast to religious identity. Kerala, with the highest proportion of girls and women, has many Muslims, while Punjab and Haryana, with the lowest proportion of girls and women, have only a modest Muslim presence. According to K. Srinivasan (1992) the sex ratio has declined specially in the Hindi speaking states of north India especially among the states where the Rath Yatra was conducted. The low sex ratio prevailing in these states might be due to the heavy under-reporting of females during Census enumeration coupled with sex differentials in migration and mortality conditions. Kerala in South India and Himachal Pradesh in North India have shown a sex ratio favourable to females of 1058 and 970 respectively during 1991-2001 decade. The higher status of women revealed by a high female literacy, better utilization of health facilities by the women and steep reduction in female mortality and better awareness brought among the women are considered to be some of the important reasons for higher female sex ratio prevailing in South India. The peculiar matrilineal and other kinship networks of family systems in Kerala gave excessive importance to females and caused upliftment in the status of women which has indirectly helped significantly to the higher sex ratio prevailing in the States of South India. With regard to the North Indian States, the practice of wide spread female infanticide and mortality in northwestern parts of north India and female mortality due to early age at marriage is considered to be the other important reasons for low female sex ratio observed in these regions.

Area of Study

The sex ratio in India is characterized by wide regional disparities in its distribution pattern, spatially as well temporally, the major reason being physical

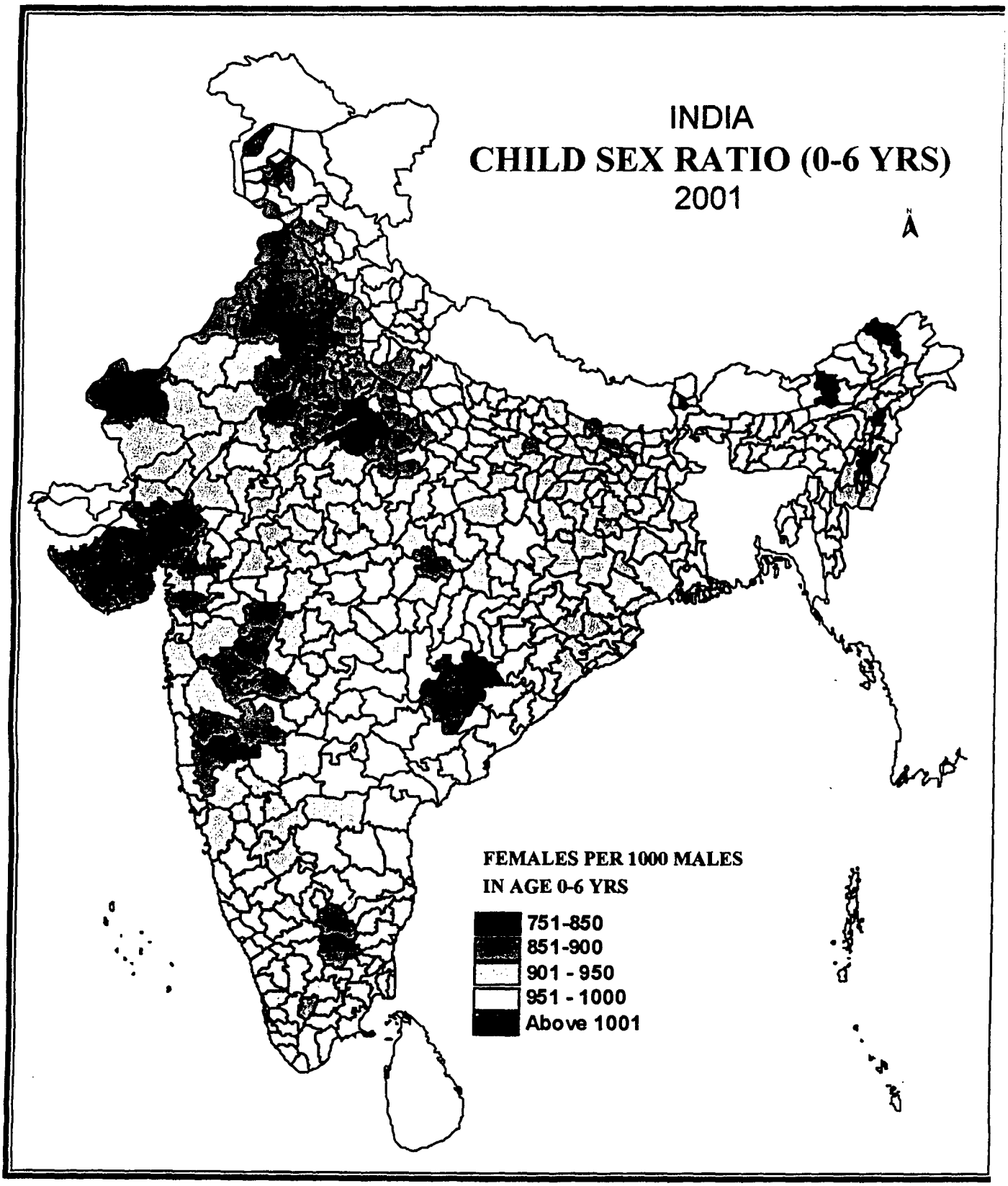
variation, difference in the history of the region as well as different socio-economic and cultural factors.

On the one hand we have states like Haryana and Punjab at the very bottom of sex ratio table with 861 and 874 sex ratio respectively in 2001 Census and on the other hand there is Kerala with the highest sex ratio in India and only positive one with 1058 sex ratio along with other south Indian states with high sex ratio. Further, when we move from state level to district level pattern or sex ratio, we find an interesting phenomena emerging, a belt of contiguous districts below national average is emerging in Northwestern region of India (Map 1.1). One more interesting point noted in this region is that it comprises developed areas of India, i.e. Punjab and Haryana respectively, the agriculturally well developed areas of India still they have very low sex ratio. The spatial distribution of sex ratio reveals that Punjab, Haryana, Chandigarh, Gujrat etc. are highly masculine states, on the contrary the states of Kerala, Tamil Nadu, Goa etc. have a very high sex ratio.

The north-western region of India has posed some challenging questions to demographic and social scientists such as-

- Why contiguous belt of low sex ratio is emerging in the north western region?
- Is it a historical phenomenon or a recent one?
- Is it some deep-rooted social, economic and cultural constraints in Indian society, which are responsible for this phenomenon?
- Why is the sex ratio lower in this region as compared to south India?

In the light of above discussion, the low sex ratios and the related tangled questions assume importance. For the present study Punjab, Haryana, Kerala and Tamil Nadu have been selected for a detailed comparative study on the trends and patterns of sex ratio on district level and to analyze the inherent causes and implications there of.



ata Source: RGI, Census of India, 2001

MAP 1.1

Objectives of the Study

(a) To trace the historical evolution trends and patterns of sex ratio.

(b) To further classify and subdivide the area of study on the basis of degrees of sex ratio patterns.

(c) To explain the observed pattern of sex ratio with the help of socio-demographic variables.

(d) To compile, tabulate and analyze the disaggregated sex ratios based on religious communities for India on state level and for the area of study on district level. The objective of the study is to outline the trends and patterns of sex ratio of different major religions in states/UTs of India.

(e) To test the hypothesis of North-South Divide of sex ratio distribution in India and look for recent developments in the form of North-South Convergence, with a definite pattern of low sex ratio districts found in south India and high sex ratio districts found in north India.

(f) To look in to the regional patterns and variations low sex ratio.

(g) To probe further into the question of low sex ratio in India at macro level and for Punjab, Haryana, Kerala and Tamil Nadu at micro level and try to trace the historical pattern there of.

Though, there exists an abundant literature on sex composition of population in India, this dimension has consistently been neglected. Agnihotri (1995 and 1996) has, therefore, rightly argued for the analysis of Sex Ratio at disaggregated level.

The mainly North-South divide was highlighted by Sopher (1980) through his district level map of juvenile sex ratio and Miller through the analysis of the relationship between female mortality rates and female labour participation. Dyson and Moore (1983) highlighted the role of cultural factors in determining the status of women. According to Miller, (1984), "the distinct sex ratio divide between the northwestern and southeastern region of the Indian subcontinent is

part of a wider cultural division recognized as the Indo-Aryan (north)-Dravidian (south) divide.

The religion of a person in the Indian census has been recorded since the first census of 1872. Sects of religions were classified and data projected in censuses prior to 1951. Onwards 1951, the data on religions as per the individual slip was traditionally collected by the census organization to project the major religions namely Hindu, Muslims, Christians, Sikhs, Buddhists, and Jains.

Socially and culturally all these religions are quite different from each other. Differences in sex ratio patterns among these religious groups have not attracted serious attention in the contemporary research work on sex ratio.

It is often suggested that North and Northwestern parts of Indian subcontinent are an extension of the broad cultural region of western Asia and the impact of Islamic culture was consolidated in these areas over the centuries of Muslim rule. This may have resulted in the different status of women among Muslim and non-Muslim women and the higher incidence of female child mortality. According to Sopher (1980), A Syllogism goes like this; The Muslim population is highly masculine; there is a much larger proportion of Muslims in the northern population than in southern population hence the northern population will be more masculine than the southern one. On the basis of this we put forth a hypothesis that in certain community where female status is low sex ratio will be adverse to females.

The high status of women in south and low status in north India could be inferred from the kinship pattern. The status of women is a strong determinant in sex ratio where female infanticide, sex determination tests, Sati etc. are commonly practiced. In these regions the status of women is low and it shows that sex ratio will not be in favour of females. The foremost case in point is of Punjab and Haryana where these evils have roots for many centuries. This may be one of the

reasons that in this region sex ratio is low as compared to the southern region of India.

It begins to appear that although material correlates of women's subordination can be a glimpsed, (for eg. Women's dwindling work opportunities in social institutions that emphasize male superiority over females) the ideology of female inferiority is itself a force to be reckoned with. Engles and Evelyn Reed accept the theory of progression of human society from matriarchal system to patriarchal ones. According to Gough, Kathleen (1975), "This progression occurred gradually under the influence of ecology, sexual division of labour and the growth of class society". In case of India generally it is argued that women had a relatively secured social position in early Vedic times. With the consolidation of state power and hardening of castes Hindu society women's position deteriorated. The laws of Manu and the dictates of Kautilya's Arthashashtra both reveal this deterioration. The central concern of this work-the relative proportion of the sexes in India—gives rise logically, to a number of questions. If we begin with the assumption that this, like other aspects of population composition, bears a close relationship to the material forces of societal being certain key issues emerge around which our inquiry takes shape.

Research Proposition

The following hypotheses have been proposed for the present study: -

(1) Effects of certain religious communities on sex ratio.

(2) Process of Regional Convergence of the North-South Divide in terms of Sex ratio is underway. A kind of regional convergence is taking place with new forms of bias against females emerging in South. North-South divide in respect of economic and social aspects is wearing thin.

Database

This study will be based on the secondary sources of data. Data pertaining to sex ratio and various dimensions of socio-economic worth of females will be collected from a number of census reports and other relevant source materials. Data for social characteristics of population (religion) will be collected from social and cultural tables of census of India 1971, 1981 and 1991. As the data on religion is not available for 2001 as of now so this census is not included for the data collection of religious sex ratio. Sex ratio will be collected from provisional population total paper 1 of 2001 series 1, Census of India and Provisional population Total paper 2 of 2001 series 1, Census of India. For landholding statistical abstract of various states have been consulted. Further Census Atlas and District profiles of Punjab, Haryana, Kerala and Tamil Nadu will also be extensively used.

Census of India, 1991

- Census Atlas, Part XI, Series 8, Census of India 1991, Directorate of Census Operation Haryana.
- Census Atlas, Part XI, Series, Census of India 1991, Directorate of Census Operation Kerala.
- Census Atlas, Part XI, Series 8, Census of India 1991, Directorate of Census Operation Punjab
- Census Atlas, Part XI, Series 23, Census of India 1991, Directorate of Census Operation Tamil Nadu.
- Provisional Population Total paper 1 of 2001 series 1, Census of India.
- Provisional Population Total paper 2 of 2001 series 1, Census of India.
- Rapid Household survey – RCH Project 1998-99 (NFHS).
- Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

- Census of India 1981, Series 1, India, Paper 3 of 1984, Household Population by Religion of Head of Household (Table-HH 15), Census of India.
- Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.
- District Profile 1991: -
  - Haryana
  - Kerala.
  - Punjab.
  - Tamil Nadu.

Methodology

In the present study the methodology adopted for mapping and data analysis is as follows:

Various types of graphical and analytical methods and techniques including Correlation have been adopted. Both quantitative and qualitative methodologies have been considered. For statistical analysis and to ascertain the relationship of General sex ratio with other religious sex ratios, the coefficients of correlation and bivariate correlation between them have been attempted.. Wherever appropriate, data tables have been depicted through graphs and diagrams. State wise comparative study will be undertaken for the analysis of regional pattern and trends in sex ratio. For the spatio-temporal distribution, sex ratio from 1901-2001 at state level has been shown with the help of choropleth maps.

Plan of Study

In this study an attempt will be made to find out the trends and patterns of sex ratio in India over the last century. Further disaggregated study of sex ratio of religious communities on the lines of the disaggregated study of sex ratio has been done for India on state level as well as for the area of study on a district level. The study has been divided into 5 chapters.

Conceptual background of the present work will be outlined in the Chapter I. It will deal with the introduction part of study i.e., background of the research problem, objective and hypothesis, area of study and database and methodology. The basic reason, idea behind this study, what this study is trying to do and the hypothesis that are tested in this study are presented. This chapter will also deal with the review of literature on the sex ratio in India and its relevant topics.

Chapter II will look into the causes and implications of low and constantly declining sex ratio in India as envisaged by social scientists and demographers worldwide.

Chapter III looks at the spatio-temporal distribution of general sex ratio as well as the computed specific religious sex ratios in India over the last century using state level data as a unit. This chapter will contain Patterns and Trends of Sex Ratio in India as a whole and also vis-à-vis the Northern Plain, Central India and Southern India.

Chapter IV will look into the area of study in detail beginning with a short demographic profile of the area and analysing in detail the general sex ratio and religious sex ratios at district level. A detailed comparative study to be undertaken in order to find out concrete trends and patterns and the relations of both the sex ratio discussed above. Chapter three and four will also explore the statistical relation between general sex ratio and religious sex ratios for India and the selected states respectively. These two chapters form the crux of the study and will present the detailed analysis of Religious sex ratios at the National, State and district level for the selected four states. Detailed study of Convergence of North-South divide with respect to the sex ratios will also be undertaken in these chapters.

The V and the final chapter of the study will present the summary of the study and the conclusions drawn from the analysis of the trends and patterns of the sex ratio in the area of study.

In the end will be the appendix forming different data tables, Maps and diagrams used in the study along with the bibliography.

CHAPTER-2

CAUSES AND IMPLICATIONS OF DECLINING SEX RATIO IN INDIA

Historical Trends of Sex Ratio in India

In India, interest in the paucity of the number of women compared to men is as old as census-taking itself. All the Census Commissioner had shown a keen interest in the sex ratio of India and its provinces; in each census report from 1871-72 to 1931, there is a separate chapter on "sex proportion" or "sex" in which an interpretation of the relative number of males and females is presented (.Kanitkar, 1991). The results of the 1871-72 census of British India indicated that there were 98 million males and 92.5 million females—leading to a sex ratio of 940 females per 1000 males. This finding shocked the British census officials as it was contrary to the situation in England and Wales; the 1871 census of England and Wales reported "nearly 105 females to every 100 males". Initially, the census authorities attributed the observed deficit of females in India to the undercounting of females. Thus, the India Office Memorandum on the Census of British India for 1871-72 states that "....perhaps the excess of males is to a large extent only apparent being due either to the omission of females owing to the low estimation in which they are held or due to their systematic concealment in consequence of the reticence practiced in the oriental country on all matters connected with female relations" (D.Natarajan, 1972, p.86).

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The 1871-72 Census of India being the first census, created several doubts in the minds of Indians about the objectives of census-taking in India. The rumour that the object of census-taking in India was to secure women for the European soldiers, might have led to the "concealment of females in the census" (D.Natarajan, 1972). The census of 1881 also found a deficit of females—the

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sex ratio being 954 females per 1000 males. This apparent imbalance was again attributed to the omission of females in India.

One learned women in India, Pandita Ramabai Saraswati observed after the results of the 1881 census that there was a deficit of over five million women. She was knowledgeable enough to realize that numerical paucity fo women in India was an unnatural phenomenon and tried to pinpoint the causes: "Chief among the causes which have brought about this surprising numerical difference between the sexes may be named, after female infanticide in certain parts of the country, the imperfect treatment of the diseases of women in all parts of Hindustan, together with a lack of proper hygienic care and medical attendance" (P.Ramabai, 1976, p.14). What Pandita Ramabai Saraswati observed a hundred years ago, has not changed much, except perhaps in the case of female infanticide.

Later censuses, however, did not evade the fact that there was a numerical deficiency of females in India by attributing the deficit to the under-reporting of women. The 1981 Census Commissioner of India states, "We must enquire, accordingly, whether there are any special reasons for believing that the deficiency of women is a fact and due to social causes such as the neglect if not the actual murder of young girls, or to a normally greater mortality amongst this sex than amongst the males, or finally to an initial shortness of supply".[1]

The chapter on "Sex" in the Census of India 1891, however, opens with the statement, "Of the many problems that come to light in the course of reviewing the results of the Census of an India province, none is more perplexing than that of having to account for the varying proportion of the two sexes in different parts of the country"[2]. Exactly after a hundred years also, the most "perplexing" aspect of the 1991 census is the sex ratio. The chapter concludes by stating, "In

[1] Natarajan, D. (1972), "*Census of India, 1971 : Changes in Sex Ratio*" , Census Centenay Monograph No. 6, RGI, New Delhi.
[2] Ibid.

conclusion, the information on sex distribution in India furnished by the census inquiries indicates that, as in most other countries, more boys are born than girls, but owing to the very much higher mortality amongst the former during the first year of life, the latter predominate in number until their vitality begins to be affected by special sexual influences from which the males is free, so that throughout almost the whole of the prime life, the females are to a greater or a less degree in defect, and the balance swing back only towards the end of life when the total number is insufficient to restore numerical equilibrium"[3].

After discussing the possibility of the "concealment of women" in the census returns, Sir Edward Gaits—the Census Commissioner of the 1901 census concluded that the concealment—intentional or otherwise—had a relatively small influence on the figures. Sir Edward who was also the Census Commissioner of the 1911 census, stated that under-enumeration might have been the case before 1881 when censuses were conducted in a "perfunctory" manner. However, for later censuses, arrangements for census taking were made with utmost care, the enumerators were properly trained, and the work done by them was carefully checked. Special stress was laid on the importance of enumerating every single person and the inspecting officers paid particular attention to the necessity of securing a complete enumeration of females. However, while not denying the possibility of a few females having been omitted from the records, Sir Edward concluded that the "relatively high mortality amongst females was sufficient to account for the differences"[4].

Sir Edward also invited attention to contrasting sex ratios of Western European countries and India. The former ranged from 1003 females per 1000 males in Ireland to 1068 females per 1000 males in England and Wales, while that of India was 963 females per 1000 males. Sir Edward dismissed the theory of omission by quoting local variations in the sex proportion. He pointed out that

[3] Ibid.
[4] Ibid.

there was no difference in the attitude towards women in the "United Provinces and in Bihar and yet in the natural population of the former there were only 902 females per 1000 males against 1009 in the latter". Later, Sir Edwards tried to investigate the reasons for the sex ratio which was unfavourable to Indian women, and enumerated a number of factors. Prominent among them are: son preference, unequal treatment given to boys and girls, female infanticide, neglect of female infants, early marriages, death consequent to child-birth, bad treatment to women and to some extent, hard work.

The 1921 census report took notice of the fall in the sex ratio during the past 20 years throughout the country. The decline was attributed chiefly to the absence of famine mortality" which selects males and the heavy mortality resulting from the epidemics of plague and influenza which had selected heavily on females. The sex ratio of 1931 showed a further decline and reached 950. Mr. Hutton, the then Census Commissioner, took notice of this steady fall in the sex ratio, which had been going on since 1901. In a comprehensive analysis of the sex ratio in India, Mr. Hutton states that, "the comparative neglect of girls in infancy, the strain of childbearing during adolescence, and son of girls in infancy, the strain of childbearing during adolescence, and son preference are some important factors responsible for the paucity of women.

The 1931 report draws attention to the fact that in Cochin State, a steady rise in the age at marriage consequent to the rapid progress in female education and the gradual displacement of primitive methods of midwifery by modern and scientific methods had contributed to an appreciable decline in the death rate among young mothers. The report further concludes, " The gradual rise in the sex ratio is but the natural outcome of these improved conditions"[5].

Analysing the sex ratio by various communities, the report brings out a surprising finding—that among Hindus, the ratio of females to males increases

[5] Ibid.

inversely with the socioeconomic standing of the community. Thus, in Bombay Presidency, the sex ratios for the advanced, intermediate, and backward classes were 878, 935 and 956 (aboriginal tribes) respectively, and 953 for other backward classes. For the depressed classes, it rose to 982 females per 1000 males.

The subject of sex ratio in independent India finds a place in the 1951 census report. According to the Census Commissioner of India, differences in the sex ratio are to be sought in two facts, "First, males and females are not born in equal numbers; and second, they do not die in equal numbers either in infancy and childhood or in old age or in any particular age group or at all ages taken together".

The 1961 census count also revealed that the long-term trend of a declining sex ratio in India has continued unabated. Asok Mitra (1961), the then Census Commissioner of India, observed, "The deteriorating sex ratio reflects on our social health, for it indicates that the risk to female lives at most ages has not improved against that to male lives; on the contrary, it seems to emphasize that demographically we have not yet entered upon the modern industrial age with its complimentary characteristics of increased risks to male and reduced risk to female lives" (P.Visaria, 1968). A detailed systematic analysis of the sex ratio in India, emphasizing the reasons underlying the deficit of females observed from 1901 to 1961 was undertaken by Visaria. This publication is the first analytical investigation into the peculiarities of the sex ratio observed in India and the factors underlying the shortage of women. The results of the 1971 census if India have made known that the declining trend in India's sex ratio has continued during 1961-71.

The sex ratio according to the 1971 census was 930 females per 1000 males and showed that it has declined from that of 1961 which was 941 females per 1000 males. The sex ratio of 1981—934 females per 1000 males recorded a marginal

increase, and it was expected that this increased trend would continue. The population projection for India 1981-2001 envisaged that the sex ratio in 1991, 1996 and 2001 would be 940, 942 and 944 respectively.

The 1991 census has revealed that the sex ratio of the Indian population is 927 females per 1000 males and the 2001 census has revealed that the sex ratio of the Indian population is 933 females per 1000 males. This has sent waves of shock to various groups in society. The five-point drop has evoked concern among demographers and several women's organizations. The decline in the sex ratio as observed in 1991 is perplexing as data from the Sample Registration System during the eighties show that the high female mortality thus far prevalent, was declining and a slightly higher life expectancy for the girl baby than for the boy baby was indicated. During 1981-91, maternal and child health care services received considerable attention: literacy and educational attainment of women increased, legal measures to control atrocities on women were introduced and the feminist movement was very active. The most shocking and puzzling observation was the very large decline in the sex ratio of the population of Bihar. In 1981, the observed sex ratio in Bihar was 946 females per 1000 males and in 1991 it fell to 912.

The ***two-child norm***, which has of late become a preferred method achieving population goals, though not approved by the National Population Policy 2000, is already being enforced in several States. This has created alarm among concerned sections, including those dealing with gender and health issues, as it has the potential to lower the proportion of girl children even further, resulting in a novel kind of sex selection. It is felt that population stabilization measures with incentives or disincentives are unlikely to result in more girl children, especially when son preference continues to be high, the dowry system continues to flourish and the investment in the girl child right from her birth, by both the state and a patriarchal society, continues to be very low[6].

[6] Frontline, November 21, 2001.

According to Jayant Kumar Banthia, Registrar-General and Census Commissioner of India, Punjab's overall sex ratio was always low. It had improved since 1901 but still remained low, on the other hand, Tamil Nadu's sex ratio, had declined sharply since 1901. But overall, northern states, especially the more prosperous ones, were found in a far more disadvantageous position. The situation is not so unfavourable in most of the BIMARU states where human development indicators are largely low and the girl child is equally, if not more, disadvantaged. According to Banthia the answer lies in the contrasts in infrastructure in the prosperous and BIMARU states. Better infrastructure has meant better access to technology and services in rural segments as well. In other words, the access to technology (especially Pre-Natal Diagnostic Tests that help in sex-determination) and services coupled with some purchasing power has cost the girl child dearly. According to Janyant Kumar Banthia, ***"The lack of infrastructure in some of these regions has allowed the girl child to survive"*** (J.K.Banthia, 2001**).** But where the difference is less between rural and urban infrastructure in terms of access to roads and general mobility, the disparity in sex ratio is higher. This scenario is observed in Haryana, Punjab, Himachal Pradesh, Delhi and Chandigarh. The net result is that the population control objective of the Government is achieved at the cost of the girl child, which decreases the over sex ratio. The Japanese experience in the 1950s and 1960s only tried to control fertility but did not tried to alter the composition of the families. Societies that tried to control the composition and size of their families through norms like the two-child one would at the same time ensure that at least one child was a boy.

According to Amartya Sen, " Given a preference for boys over girls that many male-dominated societies (like India) have, gender inequality can manifest itself in the form of the parents wanting the newborn to be a boy rather than a girl resulting in ***Natality Inequality***"[7]. With the availability of modern techniques to

[7] Frontline, November 9, 2001.

determine the gender of the foetus, sex-selective abortion has become common in India. Amartya Sen define this process as " ***High-tech Sexism***"[8].

Amartya Sen has further identified something of a social and cultural dived across India, splitting the country into two nearly contiguous halves, in the extent of anti-female bias in natality and post-natality mortality. He has used a benchmark figure of 948 sex ratio of Germany as the cut-off point below which one should suspect anti-female intervention. The use of this dividing line produces a remarkable geographical split of India. There are the States in the north and the west where the sex ratio is consistently below the benchmark figure, led by Punjab, Haryana, Delhi and Gujarat. On the other side of the divide, the States in the east and the south tend to have sex ratios that are above the benchmark figure with Kerala, Andhra Pradesh, West Bengal and Assam etc. The North has clear characteristics of anti-female bias in a way that is not present- or at least not yet visible – in most of the south. This contrast does not have any immediate economic explanation. The States with anti-female bias include rich ones (Punjab and Haryana) as well as poor States (Madhya Pradesh and Uttar Pradesh), and fast growing States (Gujarat and Maharashtra) as well as growth failures (Bihar and Uttar Pradesh). This suggests that we have to look beyond economic resources or material prosperity or GNP growth into broadly cultural and social influences.

Demographic research over the past two decades has confirmed that a preference, for sons over daughters remains entrenched in many countries throughout the world. In such settings, religious traditions and social norms coupled with economic discrimination against women and girls conspire to ensure that young boys have greater access to education, health care, and even food than do their sisters. Such neglect leads to markedly higher rates of illiteracy, malnutrition, and poor health among girls. In the worst cases, discrimination against girls takes the form of female infanticide, in which girl

[8] Ibid.

children are killed outright immediately after birth. These practices have evolved in recent years to include the use of modern technologies to determine the sex of children in the womb and the subsequent use of sex-selective abortion to avoid the birth of a girl child altogether. The result of such practices is evident in the growing imbalance in the survival of girls relative to boys in some countries like India where the Sex ratio is just 933 in 2001 and the juvenile sex ratio is further lower at 927 in 2001.

Such is the case in India, where the combined effects of historical discrimination against girl children and the use of advanced technology for sex selection are now clear. Data collected in the 2001 Census of India reveals that the juvenile sex ratio has declined steadily over the past decade, from 945 girls per 1000 boys ages 0-6 years old in 1991 to 927 girls per 1000 boys ages 0-6 years old in 2001. This decline has been attributed both to excess neonatal female mortality due to the spread of female infanticide, and to the rapidly expanding use of pre-natal diagnostic technology for the purposes of sex determination followed by use of sex-selection abortion.

The Roots of Gender Bias

The reasons behind what has been called "son mania" are both multifaceted and deeply imbedded in Indian culture (Ramanamma, 1980). They are also unfortunately inextricable entwined with a corresponding discrimination against daughters. In the ancient Indian text, the Atharva Veda, mantras are written to change the sex of the fetus from a girl to a boy. A son's birth is likened to "a sunrise in the abode of gods" and "to have a son is as essential as taking food at least one a day", whereas a daughter's birth is a cause for great sadness and disappointment (Ramanamma, 1980). Indian society is patrilineal, patriarchal and patrilocal. Sons carry on the family name. They are also charged with the task of supporting their parents in old age. Parents live as extended families with their sons, daughters-in-laws, and grandchildren. Daughters, on the other hand, become part of their husband's family after marriage and do not make any

further contributions to their birth parents. Indian sayings such as, "Bringing up a girl is like watering a neighbor's plant", exemplify the feeling of wasted expenditure on raising a daughter (Jeffery, 1984). Indian men are responsible for the funeral rites of their parents and are the only ones who can light the funeral pyre. Some feel that they will only be able to achieve moksha (transcending the circle of reincarnation via the performance of good deeds) through their sons. Thus the importance of having sons continues beyond mortal life in Indian tradition.

A very important factor contributing to son preference is that of economics. Daughters, for several reasons, are an economic liability to families whereas sons are a great asset. One of the most publicized reasons for this disparity is the dowry system. In may parts of India, particularly in the North, the parents of the bride must give money and gifts to the groom's family as part of the marriage agreement. Formerly, dowries were only expected in high caste marriages where the bride would not be expected to work in the fields and was thus presumed to be an economic burden on her husband. The bride's family, therefore, compensated the groom's family with a dowry. Presumably in an attempt to emulate higher castes, the custom of dowry giving has, over the past several decades, spread throughout the social structure in India. Lower castes, viewing dowry as a status symbol, have adopted the custom with even mire zeal than the upper castes the "Brahmanical form of marriage with dowry is often considered more prestigious and when castes attempt to upgrade themselves they frequently assume this form of marriage payment" (Miller, 1981).

The dowries, in present times, frequently cost the bride's family two to three times their yearly income. Refusal to offer a dowry seals a girl's fate as a spinster and shames the family name. Failure to deliver the offered dowry or honour further requests may result in a so-called "dowry death". Furthermore, in some groups, the gift giving continues after the marriage,

Another economic disadvantage of daughters in India is their relatively low earning potential. As in many other countries, although women work as hard or harder than their male counterparts, they make very little money. The long hours spent cooking, cleaning, and caring for the children are viewed as "sitting at home all day". Even the time spent in the fields is not considered significant since the men do much of the heavy lifting. Frequently illiterate, due to lack of schooling, women in India are generally unable to obtain high paying work and are therefore financially dependent on the men in the family. As a result, it is felt to be to a family's economic advantage to minimize the number of daughters.

Since many of the reasons behind son preference are economically based, it is ironic that the most extreme sex ratios are seen in the higher castes who tend to have most of the wealth (Miller, 1981). The reason for discrimination against daughters in these groups seems to be related more to issues of family pride than the concern over money. Indian culture requires that a girl marry into a family of a caste equivalent to or, preferably, higher than her own. She then adopts that caste as her own and is thus "elevated". Boys, conversely, are encouraged to marry below their castes to maximize dowry potential. As a result, it is frequently difficult to find an appropriate husband for a daughter of an upper class family, which has the potential for putting great shame on the household. In addition, some of the higher castes, such as the Rajputs, are Kshatriyas, or warriors. These groups take great pride in their fierceness. Daughters do not fit well into their culture and were potentially a source of vulnerability in the family. Sons, on the other hand, are a source of pride and strength the role of sons in exerting control over farm resources, in protecting the community against dacoits, and in the army of the state.... may have been factors militating for the generalized preference for sons (Machlachlan, 1982).

The Rajputs and other warrior castes are cited throughout the literature for their liberal use of infanticide prior to the advent of sex determination techniques

(Miller, 1981, Machlachlan, 1982, Freed, 1989). The need for men as protectors may also partially explain the geographic differences in the practices of infanticide and sex selective abortion (Machlachlan, 1982).

The history of northern India, where son preference is the strongest, is characterized by numerous foreign invasions requiring the men to fight. Women did not contribute to the defense and were thus a source of weakness in the community. The relatively unscathed south, on the other hand, did not have a similar need to protect itself against foreign invaders and has a correspondingly low incidence of infanticide and sex selective abortion (except in certain areas).

Another reason given for prevalence of sex selective abortion is India's attempt to control its population. Although the government has not adopted coercive methods since the "Emergency" in the 1970's under Indira Gandhi's rule, it has become increasingly unfashionable to have a large family in India. The ideal family size, particularly among the high socioeconomic classes, is two children . Given that at least one son is necessary, families with two daughters become increasingly anxious about the sex of their expected child. Studies have supported this theory, demonstrating that sex selective abortion occurs most frequently in families with two or more daughters (Ramanamma, 1980). Multiple survey have been undertaken to determine the general population's view towards the practice of sex selective abortion. In one study of middle class Indians in Punjab, 63% of women and 54% of men felt that amniocentesis should be undertaken if the couple has no son and more than two daughters. If that test shows that the fetus is female, 73% of women and 60% of men felt that it should be aborted. The top three reasons cited for aborting a female fetus include "a male dominated society" (23%), "social stigma attached to having a daughter" (19%), and " difficult to afford a dowry"(17%) (Singh, 1992). Several interesting conclusions can be drawn from this study. First of all is the startling finding that women are more likely than men in this middle class, fairly well-educated population to support sex selective abortion. This finding may be

secondary to the fact that these women can better empathize with both the ostracized, guilt-ridden mother with no sons as well as the unwanted daughter who may be made to suffer by virtue of her sex.

Another result of interest is that dowries were only the third most cited reason for aborting a female fetus. This has important implications for policy-making, since legislation to eliminate the dowry system, according to these data, would likely have only a moderate impact on the demand for sex selective abortion. Physicians in India have been strong supporters of sex selective abortions since their inception. Their arguments include that it is the family's right to make this personal decision that the mother will suffer if she has too many daughters, and that the daughter will have a very difficult life. Furthermore, doctors raise the concern that "barring of these test could lead to mushrooming of private clinics headed by quacks where sex-detection tests and abortions will be carried out clandestinely and prove to be extremely hazardous to the mother and fetus alike" . Equally worrisome is the possibility that it might lead to a resurgence of the still existing practice of female infanticide. Feminists say that a decreased ratio does not improve the status of women; it simply reflects it. Moreover, there are no indications that the declining ratio over the past century has elevated the position of women or eliminated dowries. In fact, despite the lowest sex ration in the past century, the status of women in India arguably has never been lower, as demonstrated by recent incidents of bride burning, dowry deaths and female infanticide.

Implications of Sex Selective Abortion

A continuing decline in the sex ratio secondary to sex selective abortion has many potentially serious consequences. According to Amartya Sen the data from the 1991 Census of India, shows that there are approximately 35-45 million missing Indian women. This figure is calculated by determining the number of women that would be expected in any population given the number

of men and the usual sex ratio. The actual number of women determined by census is then subtracted from this figure resulting in the number of "Missing women". This number may be due to a decreased birth rat of female infants, increased mortality of women throughout their life cycle, census measurement errors, or a combination of any of the preceding. At the present rate of decline, an anticipated additional 5 million women will be unaccounted for by the end of this decade. Although there are no historical models by which to learn about the implication of a lack of women relative to men, one fairly obvious social consequence is that there are not enough women for the men to marry; for example in Haryana wife sharing and bride buying are becoming quite common in recent times. This paucity of potential brides might result in girls being married at a younger age. Increasing numbers of child brides will further contribute to the poor status of women, as they will be less likely to finish school or develop job skills before marriage. Young brides and their children are also more likely to suffer from the increased morbidity associated childbirth. Another potential consequence of a surplus of unmarried men is an increase in acts of sexual violence against women. Although grossly under-reported, sexual violence is already a serious problem in the country particularly in cities where men migrate from the villages without their wives and families to find work. These men who are separated from their wives, frequently for years, may resort to using of commercial sex workers or to engaging in sexual violence.

Women are also a vital part of India's labour force. As anyone who has spent time in an Indian village can attest, women perform a majority of the work. In addition to keeping the house, they spend many hours in the field and are generally working long after the men are asleep. Moreover, as an important part of the medical profession, women deliver the majority of babies and provide most of the nursing care. Other professions, such as teaching, rely heavily on women. It is unclear what kind of impact a continued decline in the sex ratio will have on the Indian economy, but one might assume the loss of women would have serious negative consequences.

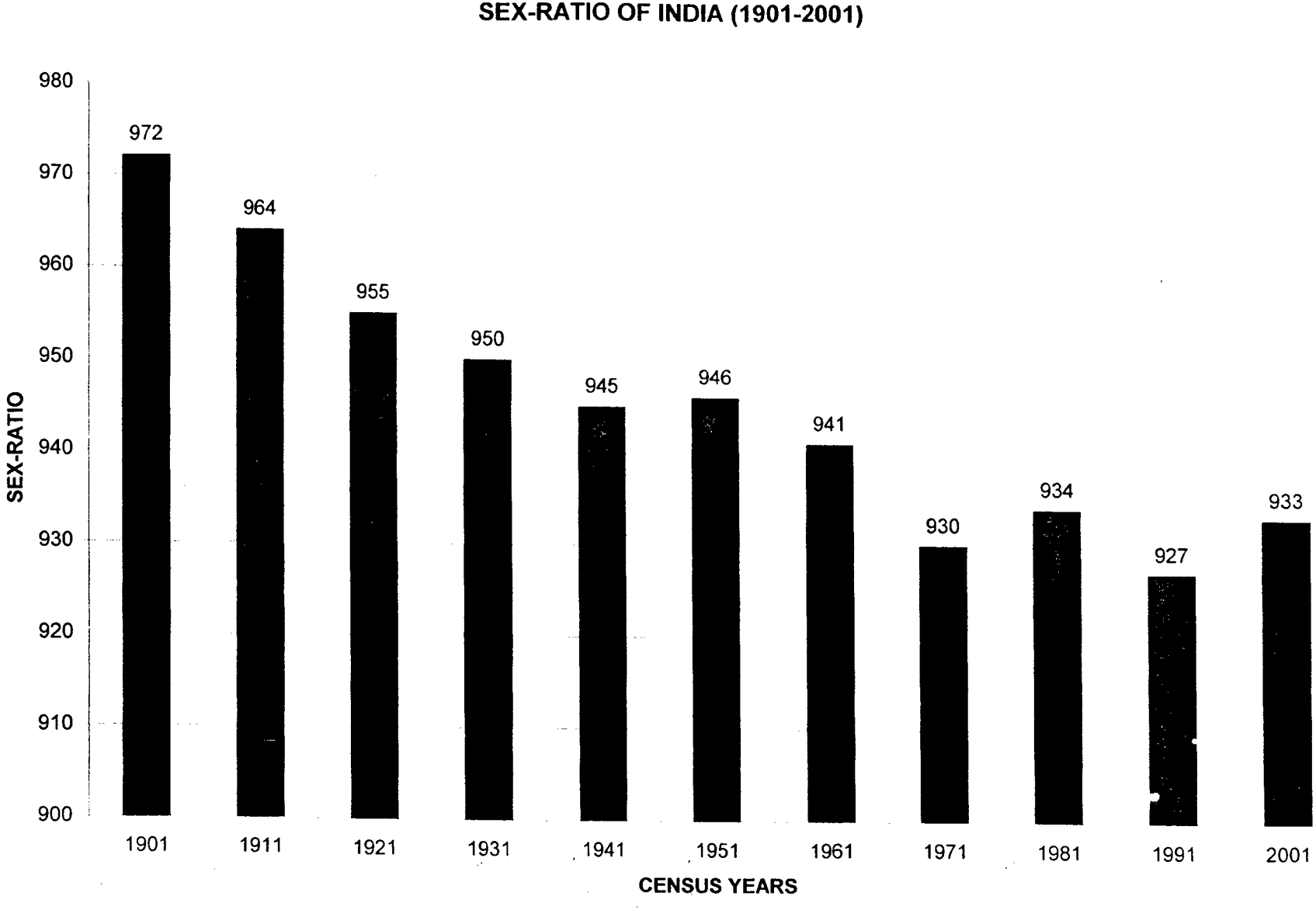
CHAPTER - 3

HISTORICAL TRENDS & PATTERNS OF SEX RATIO IN INDIA, 1901-2001

Introduction

During twentieth century India witnessed many positive changes on the demographic front. The mortality transition that started in 1920's and the fertility transition that started in 1970's are well under progress. The life expectancy at birth in India has increased from 23.8 years in 1901-11 to 61.1 years in 1993-97 and the birth rate has declined from 49.2 in 1901-11 to 26.1 in 1999. However, the demographic transition was also accompanied by some undesirable demographic trends. With an advancement of mortality transition the sex differentials in the mortality widened. The difference in the male and female life expectancy, which was in the favour of females, as the case in most of the populations, in the beginning of twentieth century, became favourable to males for the larger part of the century. The fertility decline brought on the surface the strong preference for sons and resulted into changed sex ratio at birth with increased proportion of male babies. Through out the twentieth century India experienced a continuous decline in the proportion of female population. The Sex ratio of India, which was already masculine at the beginning of the twentieth century, decreased from 972 in 1901 to 930 in 1971 and remained fluctuating between 930 to 933 thereafter (Figure 3.1). The highly masculine sex ratio of India and the increasing trend in it was always explained with the help of higher male life expectancy and the widening gap between male and female life expectancy. However, during the last decade there is growing consensus on the possibility of increase in the sex ratio at birth due to strong son preferences in the Indian society.

The steadily deteriorating sex ratio over the last one hundred years and particularly since the beginning of the current century in India has been the subject of much speculation and investigation. India shares a distinctive feature


SEX-RATIO OF INDIA (1901-2001)
SEX-RATIO
980
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972
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930
934
927
933
1901
1911
1921
1931
1941
1951
1961
1971
1981
1991
2001
CENSUS YEARS

Figure 3.1

of the South-Asian and Chinese populations with regard to the sex ratio, with a continuous deficit of females to males- the opposite of Non-Asian countries. In India the deficit of females is largely attributed to women's lower status in the society, which has contributed to their higher mortality in all ages up to 45. In many states, especially the larger Hindi speaking ones, the sex ratio being quite low between 1981 and 1991. The sex ratio has however slightly increased in 2001 by a mere six points. Surprisingly even Maharashtra, considered as one of the most progressive states in the country with better status for women, recorded a sex ratio of 922 in 2001, compared to 924 in 1991. Kerala is the only state with higher number of females throughout the century (1058 females per 1000 males in 2001). Only in 8 out of the 28 states, in which the census was conducted, the sex ratio was found to be lower. Except Kerala, there is a deficit of females to males in all other states since 1951. This decline in the sex ratio for the country as a whole, and in many states during the previous decade, is perplexing and against the basic demographic logic. The more recent fall in the sex has re-introduced fears about difference in mortality between the sexes, which previously had been also feared by the apparent drop in the ratio in 1981. Several authors have expressed this continuing disparity between males and females in terms of total missing females. In a highly populated country, the result of such calculation can give impressive estimate of females who are missing. For example, Coale (1991) estimated 22.8 females are missing in India; Sen's (1989) estimate is almost double this figure. Competing arguments alternatively suggest under enumeration, highly masculine sex ratio at birth, or excess female mortality throughout the life course as the factors underlying the overall sex ratio. Little attempt has been made, however, to explore the combination of these factors that possibly could produce the reported Indian sex ratio. Mayor (1991) recently highlighted a distinct lack of research in the historical trend in demographic factors that might result in changes of sex ratio over time. He suggested that these factors have a potentially large effect on sex ratios in a country undergoing demographic transition.

Pattern of Sex Ratio in India

States in India are demographically and culturally very diverse as a result of which large regional differences in the sex ratios are observed at the state level. Different trends in the sex ratio are observed in individual states. Generally the sex ratios in the northwestern states are highly masculine, whereas ratio in the southern states are more favourable to females. Sex ratio in India at birth also slows state and regional differences. The states generally follow a regional pattern in their estimated sex ratio at birth, similar to those observed for the overall sex ratio. Although some states in the southwest and the extreme northeast have reported sex ratio at birth values within the normal range like the one reported in other regions of the world. In contrast, several southern states, some extreme northeastern states like Gujarat, Bihar display sex ratios at birth values lower than the average values, found in the other regions of the world. Given evidence from the other parts of the world, it seems clear that the sex-selective abortion and regional differences in under-reporting of female births play a major role in determining the sex ratio in India.

Regional Pattern of Sex Ratio in India

Spatial distributions of sex ratio reveal that most parts of the country exhibit ratios that are not abnormally masculine. The few masculine regions are found within the north, northwestern zone, such as urban Punjab, Jammu and Kashmir, Chandigarh, and also urban Gujarat in the west, and surprisingly the Lakshadweep Island, off India's southwest coast. The masculine sex ratio at birth is not only noticed in the urban areas of the north and north-western zone (Himachal Pradesh, Punjab, Haryana, Rajasthan, Delhi), but also in the corresponding rural areas and a spill over effect from this zone to the urban areas of Central and Western zone states namely Gujarat, Maharashtra, Madhya Pradesh, Uttar Pradesh and Bihar. The southern state sex ratio at birth appears to be normal only in Kerala and Tamil Nadu.

On a regional basis, sex ratio is lower in many parts of north India, particularly in the northwest India. But the situation is quite different in case of many parts of south India, which has recorded a higher sex ratio during the 2001 census. According to Dr Srinivasan, a leading demographer of India, sex ratio has declined substantially in the big Hindi speaking states of north India. The low sex ratio prevailing in these states might be due to the heavy under-reporting of females during census enumeration coupled with sex differentials in migration and mortality conditions. Kerala in south India and Himachal Pradesh in north India have shown a sex ratio favourable to females ranging between 1058 and 976 respectively during the 1991-2001 decade. The higher status of women, steep reduction in female mortality and better awareness among them are considered to be some of the important reasons for higher female sex ratios prevailing in the country. The peculiar matrilineal and other kinship network of family systems in Kerala gave excessive importance to females and caused the upliftment in the status of women, which has indirectly helped to shoot up the sex ratio prevailing in Kerala. With regard to north Indian states, the practice of widespread female infanticide and mortality in the northwestern parts of north India and female mortality due to early age at marriage is considered to be the other important reason for low female sex ratio observed in these places.

States like Himachal Pradesh, Uttaranchal, Manipur, Mizoram, Meghalaya, West Bengal, Jharkhand, Orissa, Chattisgarh, Goa, Kerala, Tamil Nadu, Pondicherry have shown sex ratio above the national average in the present census(2001). Contrary to this rends of sex ratio, states like Assam, Haryana, Punjabv, Rajasthan, Utter Pradesh, Andaman and Nicobar Islands, Chandigarh and Delhi have shown sex ratio below the all India average (Figure 3.2). This discrimination and neglect of females and limited freedom given to then coupled with the lack of economic independence, social, cultural and Psychological restrictions imposed on their movement, have resulted in the prevailing decline in sex ratio of women in these states.

Table3.1 Sex Ratio of India (Female per 1000 males), 1901-2001

S.N	States/UT's	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001
	INDIA	**972**	**964**	**955**	**950**	**945**	**946**	**941**	**930**	**934**	**927**	**933**
1	Jammu & Kashmir	882	867	870	865	869	873	878	878	892	896	900
2	Himachal Pradesh	884	889	890	897	890	912	938	958	973	976	970
3	Punjab	832	780	799	815	836	844	854	865	879	882	874
4	Chandigarh	771	720	743	751	763	781	652	749	769	790	773
5	Uttaranchal	918	907	916	913	907	940	947	940	936	936	964
6	Haryana	867	835	844	844	869	871	868	867	870	865	861
7	Delhi	862	793	733	722	715	768	785	801	808	827	821
8	Rajasthan	905	908	896	907	906	921	908	911	919	910	922
9	Uttar Pradesh	938	916	908	903	907	908	907	876	882	876	898
10	Bihar	1061	1051	1020	995	1002	1000	1005	957	948	907	921
11	Sikkim	916	951	970	967	920	907	904	863	835	878	875
12	ArunachalPradesh	N.A	N.A	N.A	N.A	N.A	N.A	894	861	862	859	901
13	Nagaland	973	993	992	997	1021	999	933	871	863	886	909
14	Manipur	1037	1029	1041	1065	1055	1036	1015	980	971	958	978
15	Mizoram	1113	1120	1109	1102	1069	1041	1009	946	919	921	938
16	Tripura	874	885	885	885	886	904	932	943	946	945	950
17	Meghalaya	1036	1013	1000	971	966	949	937	942	954	955	975
18	Assam	919	915	896	874	875	868	869	896	910	923	932
19	West Bengal	945	925	905	890	852	865	878	891	911	917	934
20	Jharkhand	1032	1021	1002	989	978	961	960	945	940	922	941
21	Orissa	1037	1056	1086	1067	1053	1022	1001	988	981	971	972
22	Chattisgarh	1046	1039	1041	1043	1032	1024	1008	998	996	985	990
23	Madhya Pradesh	972	967	949	947	946	945	932	920	921	912	920
24	Gujarat	954	946	944	945	941	952	940	934	942	934	921
25	Daman & Diu	995	1040	1143	1088	1080	1125	1169	1099	1062	969	709
26	Dadra & N. Haveli	960	967	940	911	925	946	963	1007	974	952	811
27	Maharashtra	978	966	950	947	949	941	936	930	937	934	922
28	Andhra Pradesh	985	992	993	987	980	986	981	977	975	972	978
29	Karnataka	983	981	969	965	960	966	959	957	963	960	964
30	Goa	1091	1108	1120	1088	1084	1128	1066	981	975	967	960
31	Lakshadweep	1063	987	1027	994	1018	1043	1020	978	975	943	947
32	Kerala	1004	1008	1011	1022	1027	1028	1022	1016	1032	1036	1058
33	Tamil Nadu	1044	1042	1029	1027	1012	1007	992	978	977	974	986
34	Pondicherry		1058	1053			1030	1013	989	985	979	1001
35	Andman Is.	318	352	393	495	574	625	617	644	760	818	846

Source: 1. Census of India 1991. Final Population Totals, Series 1, Paper 2 of 1992.

2. Census of India 2001. Provisional Population Totals, Series 1, Paper 1 of 2001.

- N.A. – Not Available.

India's population has been marked with a growing deficit of females ever since the turn of the last century. Sex ratio, measured in terms of number of females per thousand males in the population, has recorded a continuous decline in the country throughout the 20th century except on two occasions (Table3.1). First, when the 1951 census revealed an improvement in the sex ratio by one point over 1941, and the second, when the 1981 census saw an improvement of four points over 1971 census data. As far as the improvement in sex ratio in 1981 over 1971 is concerned, demographers have called it a statistical phenomenon and, therefore, not real (Raju and Premi, 1992:911). They argued that a relatively greater extent of female undercount at the time of 1971 census had artificially led to an improvement in 1981. Thus, if a marginal increase by one point at the time of 1951 census is ignored sex ratio in the country appears to have continuously declined at least up to 1991. The 2001 census has revealed another improvement in sex ratio from 927 in 1991 to 933 in 2001. This increase by six points has brought some relief to the scholars. However, what is still worrisome for many is the fact that sex ratio among children in the age group 0-6 years has undergone a drastic decline from 945 in 1991 to 927 in 2001.

The decline in sex ratio in 1991 had come as a rude shock to the demographers who had expected a reversal in the trend in view of the improvements in the both quality of census coverage and mortality conditions of females vis-à-vis male. The decline was therefore, attributed to increasing preponderance of males at birth, which in turn was attributed to growing incidence of female foeticide. Although, initially this proposition was contested by some demographers (see for instance Rajan et al 1991 &b 1992), there is a general unanimity among scholars regarding the adverse affects of modern facilities for sex determination techniques on sex composition of population in several parts of the country. The

decline in child sex ratio as revealed in 2001 census indicates further strengthening of the phenomenon.

An enquiry into the spatial pattern of sex ratio in India indicates that the northwestern region is the single largest pocket with a serious deficit of females in its total population. Not only this, some of the states like Himachal Pradesh, Punjab, Haryana and Delhi have recorded further increase in the deficit of females in 2001 despite an improvement in sex ratio in the country as a whole. Moreover, these states have recorded a tremendous decline in the child sex ratio also. In Punjab sex ratio in the age group 0-6 declined by 82 points, followed by Haryana (59 points), Himachal Pradesh (52 points) and Delhi (50 points). Facilities for sex determination techniques are said to have existed in this region for quite some time now. A persistently low sex ratio in this part has generally been attributed to male selective in-migration during the recent decades, but that does not explain the decline in sex ratio among children in the region.
The existing studies and demographic data have repeatedly pointed out towards declining sex ratio in India. (Table 3.1)

The reality of missing females still remains a mystery wrapped in social and cultural taboos, son preference, female foeticide, female infanticide, maternal mortality, etc. They are indicators of unequal status of women vis-à-vis men.

The data on sex ratio and its projections are available for 15 decades. In India, between 1901-2001, the sex ratio showed a consistent decline (except between 1951 and 1961), from 972 to 933 female per thousand male.

Even of the nine states which started with a more favourable sex ratio towards female in 1901 like Bihar (1054), Goa (1091), Kerala (1004), Manipur (1057), Meghalaya (1036), Mizoram (1113), Orissa (1037), Tamil Nadu (1044), Lakshdweep (1063), all except Kerala, ended up with a lower number of female per thousand male by the end of the century (2001).

In 2001, the low sex ratio (less than 900 female per thousand male) prevailed not only in the Hindi belt alone, but also extended to several other States like Arunachal Pradesh (859), Nagaland (886), Punjuab (882), Sikkim (878), Andaman and Nicobar Islands (818).

Table3.2 Sex Ratio in India by Zones (Female per 1000 males), 1901-2001

Census Years	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001
INDIA	972	964	955	950	945	946	941	930	934	927	933
North Indian Plain	897	872	866	864	865	880	875	881	890	889	894
Central India	1003	999	995	990	983	974	963	953	953	943	944
Southern India	1028	1020	1025	1014	1014	1026	1007	981	983	975	982

Source: 1. Census of India 1991. Final Population Totals, Series 1, Paper 2 of 1992.

2. Census of India 2001. Provisional Population Totals, Series 1, Paper 1 of 2001.

Zones of India : -

Northern Indian Plain – J&K, Himachal Pradesh, Punjab, Chandigarh, Uttaranchal,, Haryana, Delhi, Rajasthan, Uttar Pradesh, Bihar, West Bengal.

Central India – Jharkhand, Orissa, Chattisgarh, Madhya Pradesh, Gujarat, Maharashtra.

Southern India – Andhra Pradesh, Karnataka, Goa, Lakshadweep, Kerela, Tamil Nadu.

For the purpose of Study of the process of Convergence of North-South with respect to the declining Sex ratios, we have classified India into three zones as given above. The table 3.2 shows the Sex ratio in India by the three zones, namely, North Indian Plain, Central India and Southern India for the period of 1901-2001. The table clearly indicates that even though the Sex ratio in North Indian Plain has been the lowest all over the last century but relatively it has remained more or less static from 897 in 1901 to 894 in 2001. Figure 3.3 shows the movement of sex ratio in the North Indian Plain States during 1901-2001. All along the sex ratios have remained lower than the all India average. The states of Himachal Pradesh, Uttar Pradesh, Uttranchal have remained at above 900 sex

SEX-RATIO OF INDIA, 2001

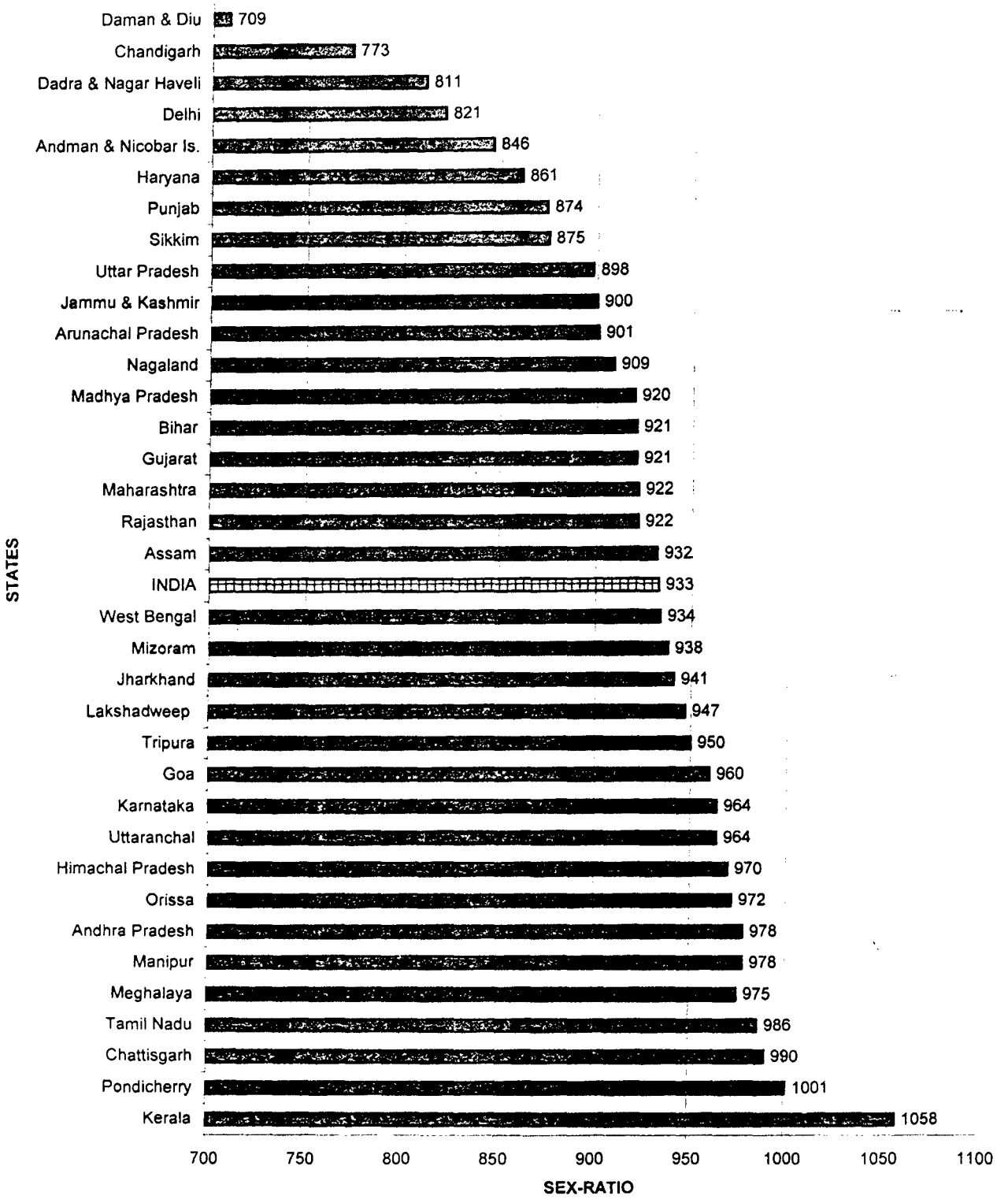

Figure 3.2

SEX-RATIO OF NORTH INDIAN PLAIN, (1901-2001)

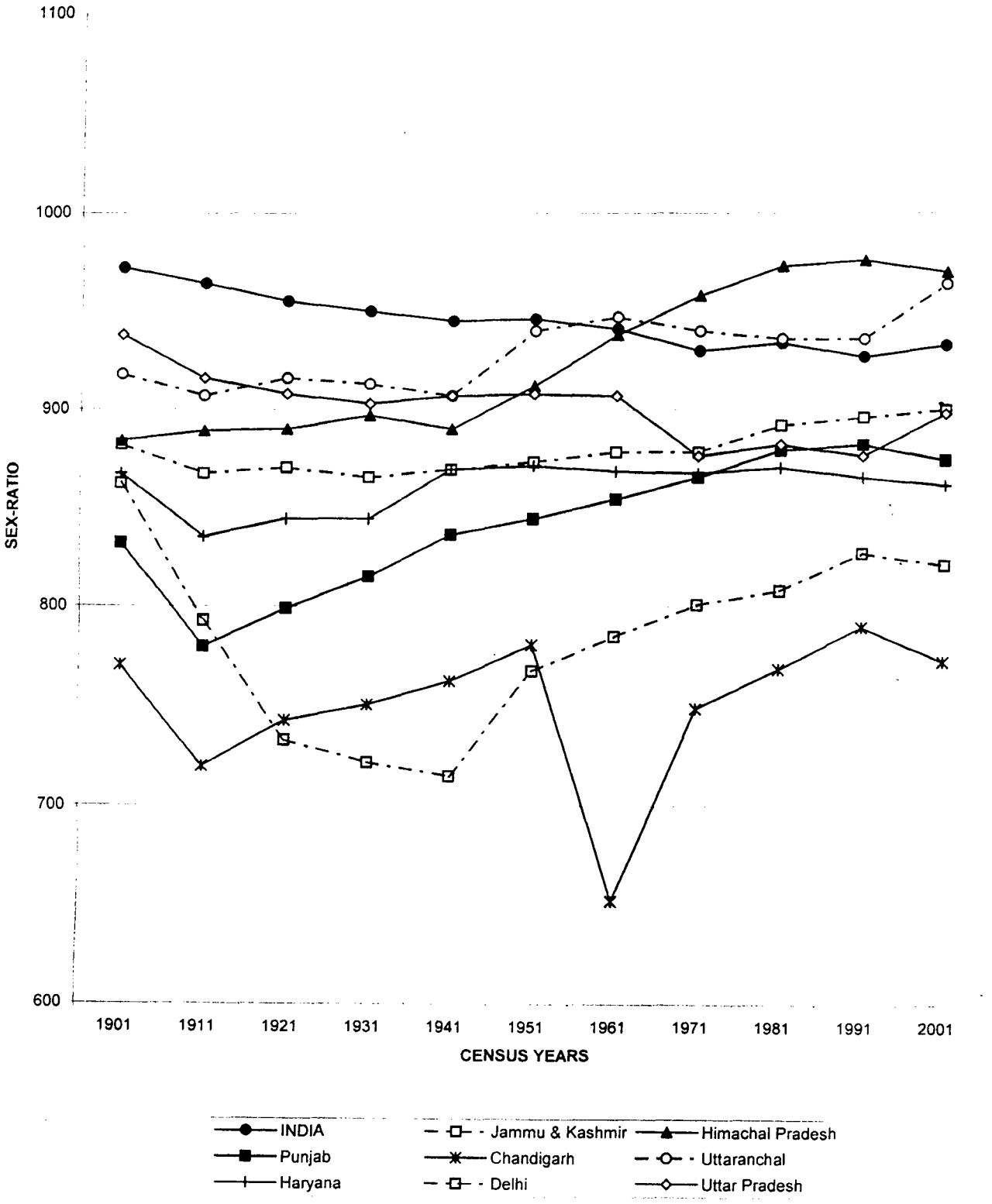

Figure 3.3

ratio. But on the other hand the States of Haryana, Punjab, J&K, Delhi and Union Territory of Chandigarh have always remained below 850 sex ratio.

On the other hand the Sex ratio of Central India, that is the Border States between the North and South, have shown the largest decline during the last century from 1003 in 1901 to 944 in 2001, thus decreasing the difference between North and South India.

Even the sex ratio of the Southern India has shown a constant decline over the last century from 1028 in 1901 to 982 in 2001. All along the sex ratios have remained higher than the all India average. Kerala has remained at above 1000 sex ratio. All the other states also have remained above 950 sex ratio (Figure 3.4)

According to figure 3.5 showing the Decadal sex ratio of India and zones the highest sex ratio is found in the Southern India and the lowest sex ratio in Northern Indian Plain (Figure 3.5). But a marked change over the last century is the gradual decline in the Central belt dividing North-South, the secular decline in the sex ratio of Southern India and a relative increase in the sex ratio of the North Indian plain, very much proving the ongoing process of convergence of North-South divide.

Analysis of Maps representing the Sex ratio of India during the last century also clearly show a trend of relative decline in Sex ratio in the Central India and the Southern India (Map 3.1 to 3.6 on page no. 116 to 121 at the end).

Religion Specific Sex Ratios

Sex ratio is often considered as a manifestation of gender relations in a society. Ours is s male dominated society where human relations are governed by patriarchal structures. Male dominated social ethos discriminate against females in several ways. This is manifested in the sex differentials in mortality rates, both during childhood and childbearing age groups. In the Indian context,

SEX-RATIO OF SOUTHERN INDIA, (1901-2001)

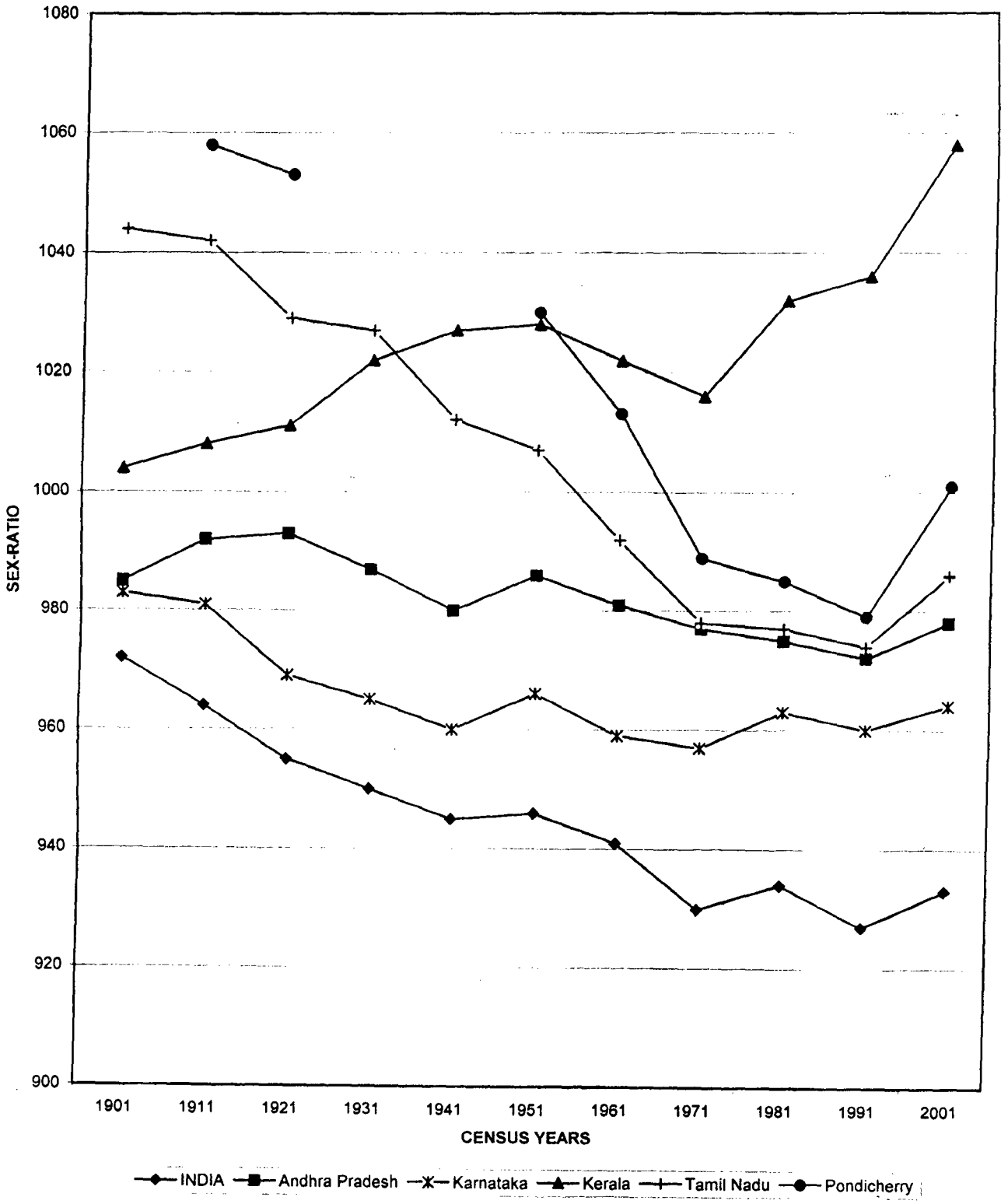

Figure 3.4

DECADAL SEX RATIO OF INDIA & ZONES, 1901-2001

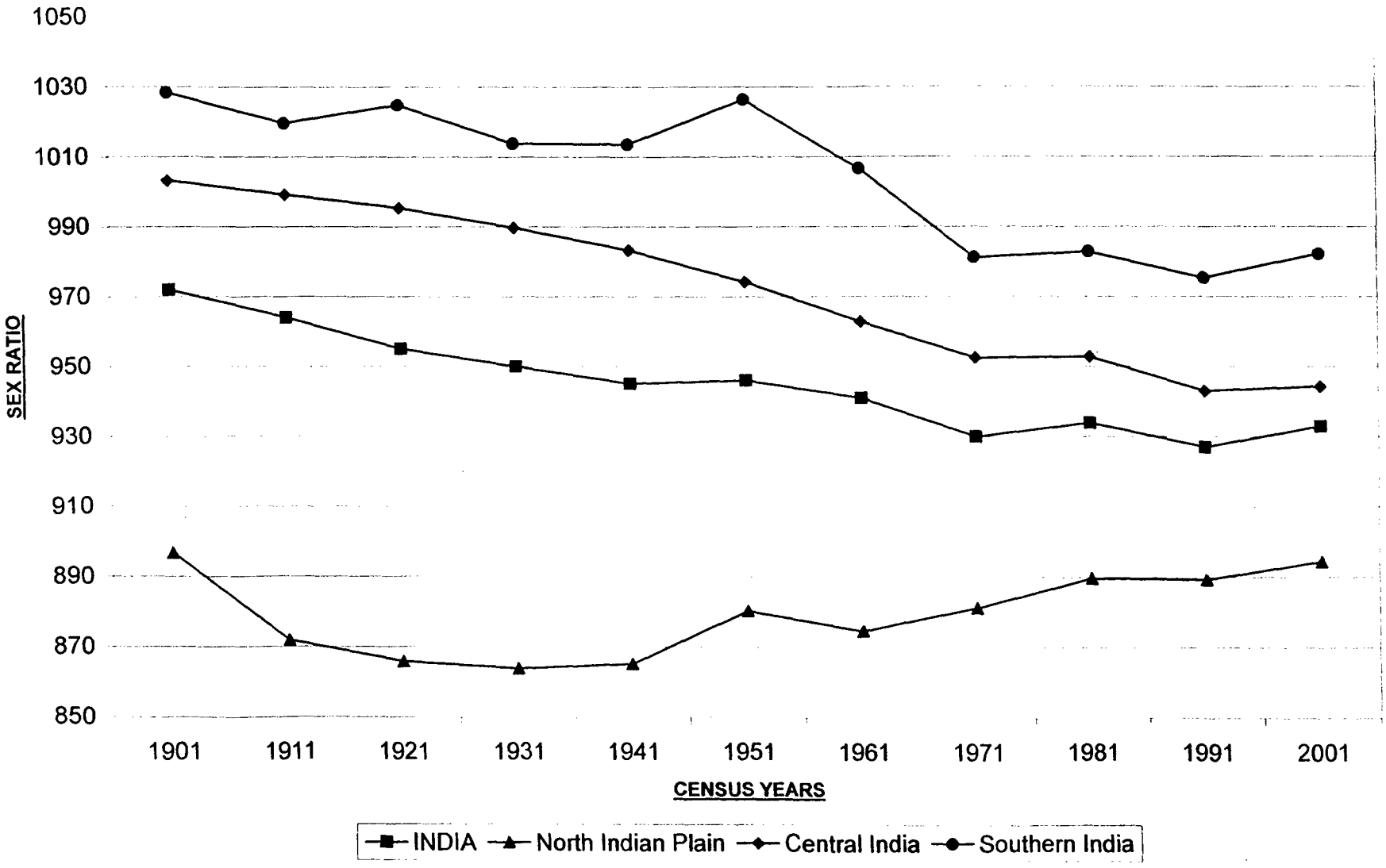

Figure 3.5

sociological evidences indicate varying gender relations in different social groups. It is argued those male dominated ethos's are more prominent among the upper caste Hindus than that other social segments[1] The scheduled tribes enjoy a somewhat more equitable gender relations than that in general population. The scheduled castes come somewhere in between the two.

One would, therefore, expect a corresponding difference in sex ratio among these social groups. An analysis of the census data over the recent past does confirm this situation (Agnihotri, 1995:2074). The scheduled tribes are found to have reported a constantly higher sex ratio followed by scheduled castes while the 'general population' (the non-ST and non-SC) has shown the lowest figure until recently. Remarkably, with a rapid narrowing down of the difference in the ratio of SC and the general population, the latter has moved ahead of the former, though marginally, on the eve of 1991 census.

In a society characterized by male dominated social ethos, sons are prized more, particularly as a security in old age and as entities who augment parental wealth through dowry. Daughters, on the other hand, are treated as burden because they are seen as liabilities that deplete family resources by taking away dowry. The quest for male children in association with the fear of abuse and violence later in life resulted in the practice of female infanticide in the past in some parts of the country. With the advent of the modern techniques of sex determination, female infanticide seems to have given way to female foeticide. It is frightening to note that there are indications of the prevalence of female infanticide even in the present time in some parts of the country[2]. As noted in the case of all age sex ratio, child sex ratio in India also displays significant variation from one religious group to another.

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[1] Hassan, Mohammad Ixhar (2002), "*Sex Ratio in Haryana's Population – Disaggregated Spatial Analysis*", Geographical Review of India, Volume 64, No. 3.
[2] Ibid.

The religion of person in the Indian census has been recorded since the first census of 1872. Sects of religions were classified and data projected in censuses prior to 1951. Onwards 1951, the data on religions as per the individual slip was traditional for the census organization to project the major religions namely Hindus, Muslims, Christians, Sikhs, Buddhists, and Jains. It is only in the 1981 census, the data presented on religions are based on (I) information on the religion of the head of the household.

Keeping in mind the limitations of the 1981 data on religions, an attempt has been made to analyze the major religions for the period 1901-1991. Further, some variables have been used to determine the sex ratios of religions in terms of proportions of total, rural and urban are discussed for each religion. In addition, sex ratios are analyzed along with relevance of their urbanization in terms of ratios of urban proportions to rural population in the religions for a perspective.

Religion Specific Sex Ratio of India

This topic was primarily studied by Pravin Visaria in his discourse on sex Ratio for the period between 1891-1961. In the present study the Religion Specific Sex Ratios have been studied for the period between 1901 to 1991, and as the 2001 Census data was not available as of now, so 2001 was excluded. The Table 3.3 and Figure 3.6 clearly show the sex ratios of the population professing different religious faiths in India, according to the census data for the 1901-1991. The following are the main features of the situation: -

- The Sikhs appear to be the most masculine group showing the largest deficit of female to male population despite a steady increase in the sex ratio during 1901 to 1991. Between 1901-91 the Sikh sex ratio rose from a dismal low of 767 to 888, a net rise of 121 points.

Table3.3 Religion Specific Sex Ratio of India (Females per 1000 males), 1901-2001

RELIGION	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991
HINDU	970	964	956	953	944	947	941	930	933	925
MUSLIM	938	921	912	903	903	901	909	922	937	930
SIKH	767	739	736	783	811	851	849	859	880	888
CHRISTIAN	938	931	935	952	958	992	982	986	992	994
INDIA	972	964	955	950	945	946	941	930	934	927

Source : Computed from Census of India 1961, Volume I, Monograph No.10, "The Sex Ratio of the Population of India", by Dr.Pravin M.Visaria. o/o RGI, New Delhi.

Census of India 1991, Series 1, India. Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1981, Series 1, India, Paper 3 of 1984, Houschold Population by Religion of Head of Household (Table-HH 15), Census of India.

Census of India 1971, Series 1, India. Paper 2 of 1972, Religion (Table C-VII), Census of India.

- The Muslims have held the second rank with respect to the deficit of females from 1901 to 1971. From 1971 onwards the community have improved upon its sex ratio and in 1991 it stood above the General Sex Ratio and Hindu Sex Ratio of India. The Muslim sex ratio has fluctuated between 938 in 1901 to 930 in 1991, actually showing a net decrease of 8 points.
- The Sex ratio of Hindus, the largest religious group in India, has always been very close to the General Sex ratio of India and much higher then the Sikh and Muslim sex ratio. The Hindu Sex ratio over the period between 1901 to 1991 has shown a continuous decrease from 970 in 1901 to 925 in 1991, a net decrease of 45 points and is now lower then the Muslim sex ratio of 930 and the General sex ratio of 927 in 1991.
- The sharp increase in the sex ratio of Christians in India over 1911-51 probably reflects a progressive decrease in the number of British male

SEX RATIOS OF RELIGIOUS GROUPS OF INDIA, 1901-1991

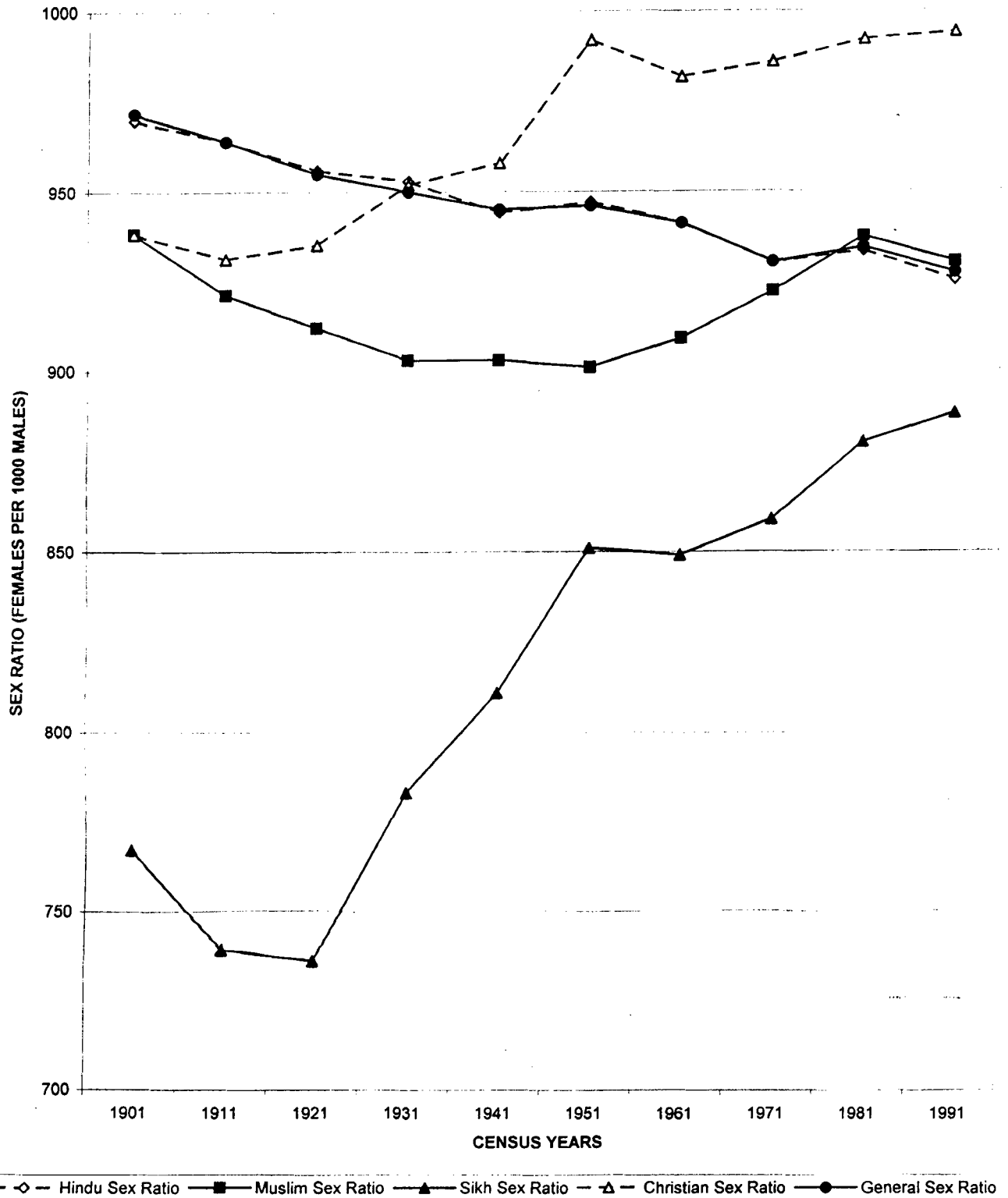

Figure 3.6

personnel stationed in India[3]. According to Visaria (1961) it could be also due to the progressive inclusion among Christians of the converted tribals among whom one observes a rather high sex ratio, as also ascertained later by Satish Agnihotri in his work on the disaggregated sex ratio of Scheduled Tribes and Scheduled Castes. From the second lowest sex ratio of 938 in 1901 to the highest sex ratio of 994 in 1991, the Christian sex ratio has increased by 56 points over the last century. Now in 1991 it ranks at first position with respect to other religious groups as well as the General sex ratio of 927. In recent times the most common reason cited by sociologists for the spectacular increase in the Christian sex ratio is the high literacy rate among the Christians all over the country and the resultant mass consciousness among the community of the importance of the balance between the male and female population. Another reason cited is the comparative equality of sexes in the Christian religion.

Figure 3.6 depicting the sex ratio of religious groups of India from 1901 to 1991 clearly indicates that the Sikh sex ratio has all along been the lowest from 1901 to 1991, but it also shows a constant increase from 1921 onwards to 1991.

Furthermore the above Religion Specific sex ratios have been disaggregated at General, Urban and Rural level for the three zones and the whole country. Tables 3.4 to 3.6 show the General Religion specific Sex Ratio in India by zones for the period of 1991-1971. Tables 3.10 to 3.12 show the Urban Religion specific Sex Ratio in India by zones for the period of 1991-71. Similarly tables 3.16 to 3.18 show the Rural Religion specific sex ratio in India by zones for the period of 1991-71. For the purpose of Study of the process of Convergence of North-South with respect to the declining Sex ratios, we have classified India into three zones as given earlier.

[3] Census of India 1961, Volume I, Monograph No.10, "The Sex Ratio of Population of India", By Pravin M. Visaria, o/o RGI, New Delhi.

North Indian Plain

General religion specific sex ratio: -

The Hindu Sex ratio (HSR) has decreased from 883 in 1971 to 867 in 1981, showing a slight improvement in 1991 with a sex ratio of 878. The Muslim Sex ratio (MSR) also decreased from 855 in 1971 to 814 in 1981 and again showed improvement in 1991 with a sex ratio of 854. The Christian sex ratio (CSR) has shown continuos improvement from 894 in 1971 to a healthy 957 in 1991. It has always remained the highest and above the average sex ratio of the region. The Sikh Sex ratio (SSR) has continuously lagged behind from 818 in 1971 to 873 in 1991 showing some relative improvement over a period of time but overall remaining the lowest sex ratio.

Urban religion specific sex ratio: -

The Urban HSR has slightly improved from a lowly 791 in 1971 to 842 in 1991 but still quite low. The Urban MSR has also slightly improved from a lowly 733 in 1971 to 803 in 1991. Even the Urban CSR has declined from 1003 in 1971 to 929 in 1981, but again improved to a healthy 995 in 1991. The Urban SSR has remained the lowest over the period of time but improving slightly from 807 in 1971 to 873 in 1981 and further to 875 in 1991.

Rural religion specific sex ratio: -

The Rural HSR has continuously declined from 885 in 1971 to 852 in 1991. The Rural MSR has also declined from 893 in 1971 to 845 in 1981, showing some improvement with 862 sex ratio in 1991. The Rural CSR has continuously improved from 817 in 1971 to 909 in 1991, still much lower than the all India average. The Rural SSR showed some improvement from 810 in 1971 to 849 in 1981, but again decreased to 834 in 1991.

The table's no. 3.7 to 3.9 show the Correlation matrixes for the General Religion specific sex ratios in India by zones for 1991-71. The correlation results clearly show a strong positive correlation between General HSR, General MSR and the GSR. But this strong positive correlation is on the decline over the period of time from 1971 to 1991. On the other hand the General SSR is all along negatively correlated to the GSR.

The table's no. 3.13 to 3.15 show the Correlation matrixes for the Urban Religion specific sex ratios in India by zones for 1991-71. The correlation results clearly show a strong positive correlation between Urban HSR, Urban MSR and the Urban GSR. But this strong positive correlation is on the decline over the period of time from 1971 to 1991. On the other hand the Urban SSR has moved on from a positive relationship to a negative relationship with Urban GSR over the period of time.

The table's no. 3.19 to 3.21 show the Correlation matrixes for the Rural Religion specific sex ratios in India by zones for 1991-71. The correlation results clearly show a strong positive correlation between Rural HSR, Rural MSR and the Rural GSR. But this strong positive correlation is on the decline over the period of time from 1971 to 1991. On the other hand the Rural SSR is all along negatively correlated to the Rural GSR.

Table3.4 General Religion Specific Sex Ratio in India by Zones (Females per 1000 males), 1991

	GSR	HSR	MSR	CSR	SSR
India	927	925	930	994	888
North Indian Plain	881	878	854	957	873
Central India	916	942	928	982	823
Southern India	982	974	965	1023	937

Table3.5

	GSR	HSR	MSR	CSR	SSR
India	934	933	937	992	880
North Indian Plain	862	867	814	921	877
Central India	940	940	931	941	841
Southern India	987	988	989	999	670

Table3.6 General Religion Specific Sex Ratio in India by Zones (Females per 1000 males), 1971

	GSR	HSR	MSR	CSR	SSR
India	930	930	922	986	859
North Indian Plain	881	883	855	894	818
Central India	936	938	899	942	760
Southern India	975	985	976	991	552

Source: -Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1981, Series 1, India, Paper 3 of 1984, Household Population by Religion of Head of Household (Table-HH 15), Census of India.

Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.

- GSR – General Sex Ratio.
- HSR – Hindu Sex Ratio.
- MSR – Muslim Sec Ratio.
- CSR – Christian Sex Ratio.
- SSR – Sikh Sex Ratio.

Table3.7 Correlation Results for General Religion Specific Sex Ratio in India, 1991.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.392	.450	.123	-.303
HSR	.392	1.000	.659	.543	.549
MSR	.450	.659	1.000	.004	.190
CSR	.123	.543	.004	1.000	.406
SSR	-.303	.549	.190	.406	1.000

Table3.8 Correlation Results for General Religion Specific Sex Ratio in India, 1981.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.464	.558	.661	-.026
HSR	.464	1.000	.687	.388	.618
MSR	.558	.687	1.000	.364	.411
CSR	.661	.388	.364	1.000	.213
SSR	-.026	.618	.411	.213	1.000

Table3.9 Correlation Results for General Religion Specific Sex Ratio in India, 1971.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.567	.556	.442	-.264
HSR	.567	1.000	.772	.670	.362
MSR	.556	.772	1.000	.402	.216
CSR	.442	.670	.402	1.000	.370
SSR	-.264	.362	.216	.370	1.000

Table3.10 Urban Religion Specific Sex Ratio in India by Zones (Females per 1000 males), 1991

	GSR	HSR	MSR	CSR	SSR
India	894	887	981	100	887
North Indian Plain	852	842	803	995	875
Central India	885	879	902	961	841
Southern India	963	949	953	1028	684

Table3.11 Urban Religion Specific Sex Ratio in India by Zones (Females per 1000 males), 1981

	GSR	HSR	MSR	CSR	SSR
India	880	871	902	982	873
North Indian Plain	834	824	778	929	873
Central India	880	868	918	921	858
Southern India	963	960	967	1006	686

Table3.12 Urban Religion Specific Sex Ratio in India by Zones (Females per 1000 males), 1971

	GSR	HSR	MSR	CSR	SSR
India	858	849	873	970	841
North Indian Plain	797	791	733	1003	807
Central India	844	834	867	898	759
Southern India	953	977	949	999	571

Source: -Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1981, Series 1, India, Paper 3 of 1984, Household Population by Religion of Head of Household (Table-HH 15), Census of India.

Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.

- GSR – General Sex Ratio.
- HSR – Hindu Sex Ratio.
- MSR – Muslim Sec Ratio.
- CSR – Christian Sex Ratio.
- SSR – Sikh Sex Ratio.

Table3.13 Correlation Results for Urban Religion Specific Sex Ratio in India, 1991.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.486	.528	.106	-.351
HSR	.486	1.000	.726	.294	.435
MSR	.528	.726	1.000	-.127	.204
CSR	.106	.294	-.127	1.000	.147
SSR	-.351	.435	.204	.147	1.000

Table3.14 Correlation Results for Urban Religion Specific Sex Ratio in India, 1981.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.572	.642	.448	.000
HSR	.572	1.000	.819	.284	.342
MSR	.642	.819	1.000	.205	.241
CSR	.448	.284	.205	1.000	.480
SSR	.000	.342	.241	.480	1.000

Table3.15 Correlation Results for Urban Religion Specific Sex Ratio in India, 1971.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.986	.938	.904	.708
HSR	.986	1.000	.950	.863	.669
MSR	.938	.950	1.000	.803	.715
CSR	.904	.863	.803	1.000	.792
SSR	.708	.669	.715	.792	1.000

Table3.16 Rural Religion Specific Sex Ratio in India by Zones (Females per 1000 males), 1991

	GSR	HSR	MSR	CSR	SSR
India	939	937	945	991	889
North Indian Plain	860	852	862	909	834
Central India	933	963	957	998	666
Southern India	992	985	976	1021	530

Table3.17 Rural Religion Specific Sex Ratio in India by Zones (Females per 1000 males), 1981

	GSR	HSR	MSR	CSR	SSR
India	952	951	955	997	881
North Indian Plain	854	857	845	754	849
Central India	967	967	953	965	722
Southern India	996	997	1011	997	577

Table3.18 Rural Religion Specific Sex Ratio in India by Zones (Females per 1000 males), 1971

	GSR	HSR	MSR	CSR	SSR
India	949	949	942	991	863
North Indian Plain	884	885	893	817	810
Central India	971	971	949	992	758
Southern India	983	994	1000	987	503

Source: -Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1981, Series 1, India, Paper 3 of 1984, Household Population by Religion of Head of Household (Table-HH 15), Census of India.

Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.

- GSR – General Sex Ratio.
- HSR – Hindu Sex Ratio.
- MSR – Muslim Sec Ratio.
- CSR – Christian Sex Ratio.
- SSR – Sikh Sex Ratio.

Table3.19 Correlation Results for Rural Religion Specific Sex Ratio in India, 1991.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.437	.428	.158	-.358
HSR	.437	1.000	.643	.495	.349
MSR	.428	.643	1.000	-.062	.019
CSR	.158	.495	-.062	1.000	.066
SSR	-.358	.349	.019	.066	1.000

Table3.20 Correlation Results for Rural Religion Specific Sex Ratio in India, 1981.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.462	.467	.674	-.129
HSR	.462	1.000	.592	.348	.506
MSR	.467	.592	1.000	.190	.229
CSR	.674	.348	.190	1.000	-.137
SSR	-.129	.506	.229	-.137	1.000

Table3.21 Correlation Results for Rural Religion Specific Sex Ratio in India, 1971.

	GSR	HSR	MSR	CSR	SSR
GSR	1.000	.557	.483	.541	-.256
HSR	.557	1.000	.729	.637	.299
MSR	.483	.729	1.000	.404	.148
CSR	.541	.637	.404	1.000	.161
SSR	-.256	.299	.148	.161	1.000

Source: -Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1981, Series 1, India, Paper 3 of 1984, Household Population by Religion of Head of Household (Table-HH 15), Census of India.

Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.

- GSR – General Sex Ratio.
- HSR – Hindu Sex Ratio.
- MSR – Muslim Sec Ratio.
- CSR – Christian Sex Ratio.
- SSR – Sikh Sex Ratio.

In the present Correlation analysis firstly all the states and Union territories of India are tabulated giving the state wise Total Sex Ratio, Hindu Sex Ratio, Muslim Sex Ratio, Christian Sex Ratio and the Sikh Sex Ratio for the period between 1971 to 1991. This data was further subdivided on the basis of the residence of the population, i.e., General, Rural and Urban. On this division the study has been made in three segments on temporal basis and another three segments on the spatial basis. These two segments were cross-tabulated for correlation purpose. The Correlation run was done with variables of Total Sex Ratio, Hindu Sex Ratio, Muslim Sex Ratio, Christian Sex Ratio and the Sikh Sex Ratio.

On closer observation of the Table 3.7 to Table 3.9 showing the Correlation results for the General Religion Specific Sex Ratio in India between 1971-91 one can conclude that both the HSR and MSR are positively correlated with GSR, All these correlation are growing weaker over the period of time. CSR is weekly and positively correlated with GSR. All these correlation are growing weaker over the period of time. But on the other hand SSR is negatively and weakly correlated with the GSR. Even this weak correlation is increasing over the period of time.

To come to the demographic implications of all this, notwithstanding the difference in detail and emphasis, a general picture of relative decline in sex ratio in southern India and a relative increase in sex ratio in northern India plain emerges. According to Alka Malwade Basu(1999) the northern states are moving towards greater gender equality in survival; while the southern states, while retaining its lower fertility and higher sex ratio lead, are rapidly moving towards the northern pattern of lower sex ratios. That is, *a kind of regional convergence is taking place*[4]. An identical picture emerges from the above analysis where in the General Sex ratios as well as the religion specific sex ratios show a north-south convergence over the last century.

[4] Basu, A M (1999), "*Fertility Decline & Increasing Gender Imbalance in India, including a possible South Indian Turn Around*", Development & Change, 30(2), 1999 (April).

CHAPTER – 4

SEX RATIO PATTERNS IN THE STUDY AREA

DEMOGRPHIC PROFILE OF INDIA

The population of India on the 1st March 2001 was 1027 million (102.7 crores). According to the Census of India the number of males in the 2001 was 531,277,078 and that of females, 495,738,169. This actually indicates that there are over 35 million fewer females than males. During the last decade, the absolute deficit of females increased by about three million. In most other nations there are more females than males.

This includes the population of Jammu & Kashmir, where the 1991 Census could not be conducted while the enumeration was done in 2001. IN the last decade (1991-2001), the population of India has increased by 181 million. The decadal growth rate was 21.3 percent compared to 23.9 percent during the previous decade. The density of population in India is 324 people square km in 2001 as compared to 267 in 1991. The sex ratio is 933 in 2001 as compared to 927 in 1991. The child sex ratio (0-6 age group) is 927 in 2001 as compared to 945 in 1991. The sharpest decline in the sex ratio of the child population was Punjab, Haryana, Himachal Pradesh, Uttaranchal, Gujarat, and Maharashtra. Literacy rate (for population 7 and above) is 65.4 percent in 2001, whereas the male literacy is 75.9 percent against the female literacy rate of 54.2 percent.

Punjab

Roughly triangular in shape, Punjab spreads between 29 degrees and 33 minutes and 32 degrees and 31 minutes North latitude and 75 degrees 53 minutes to 76 degrees 56 minutes east longitude, covering an area of 50,362 sq. km. It constitutes 1.53 percent of the country's total area. The distribution of population in an area is linked with its physiography. Punjab

is primarily a plain area, covered by the Shivaliks in the North and is infested by chaos.

The table 4.1 depicting the demographic indicators of Punjab, the state has a density of 482 persons per square km, which is significantly higher than that of the country's density of 324 person per sq. km. in 2001. Punjab constitutes one of the densely populated parts of the country. Within the state, the density of population varies considerably. Ludhiana (804), Jalandhar (742), Amritsar (603), Gurdaspur (588), Rupnagar (540), which shows much higher population density, is much higher than state's average. On the other hand, the districts like Firozpur (329), Muktsar (297), Mansa (317) shows the lower density of population, very much similar to the country's average and very less than state's average. The overall regional pattern in Punjab exhibits that the southern and southwestern part of the state is relatively less densely populated than its North and the northeastern part of the state.

Punjab registered a growth rate of 19.76 percent during 1991-2001. This is significantly lower than that of the country as a whole, which is 21.34 percent. However the decadal growth rate has shown decreasing trend than 1981-1991, which was 20.81 percent. Within the state there is a spatial variation of growth rate. The districts like Ludhiana (24.79), Rupnagar (23.39), Amritsar (22.72), shows very high decadal growth rate of population, whereas on the other hand districts like Nawanshahar (10.43), Hoshiyarpur (13.81), Moga (13.93), and Kapurthala (16.64) shows a considerably lower growth rate, which is much lower than the state average. The overall scenario is that the district falling under the BARI Doab (area between Beas & Ravi River) and the BIST Doab (area between Beas & the Sutlej River) witnessed comparatively lower growth rates. On the other hand, high growth is the characteristics of the more urbanized and industrialized districts of Ludhiana, Rupnagar, Amritsar and others.

Traditionally the sex ratio in India is adverse to women. But according to the 2001 census, it has been slightly improved by 6 points and became 933

Demographic Indiacators of Punjab

		Population Density		Decadal Growth Rate		Sex Ratio		Literacy Rate		% of Urban Population		CBR		TFR		IMR
		1991	2001	1981-91	1991-01	1991	2001	1991	2001	1991	2001	1991	98-99	1991	98-99	1991
	Punjab	**403**	**482**	**20.81**	**19.76**	**882**	**874**	**59**	**69.65**	**30**	**33.95**	**27**	**N.A.**	**3.80**	**N.A.**	**56**
1	Gurdaspur	492	588	16.07	19.33	903	888	62	74.19	23	25.46	29	25.10	3.71	2.90	75
2	Amritsar	492	603	14.46	22.72	873	874	58	67.85	34	40.00	30	26.80	3.96	3.00	49
3	Kapurthala	396	461	18.60	16.34	896	886	63	73.56	26	32.59	27	25.60	3.34	2.60	86
4	Jalandhar	626	742	17.30	18.40	897	882	69	77.91	36	47.45	29	22.00	3.64	2.60	53
5	Hoshiarpur	386	439	16.39	13.81	924	935	72	81.40	16	19.66	28	17.90	3.67	2.70	76
6	Nawsnshahr	420	463	16.39	10.43	900	913	64	76.86	N.A.	13.80	N.A.	18.50	N.A.	2.90	N.A.
7	Rupnagar	438	540	28.29	23.69	870	870	68	78.49	26	32.46	31	20.00	3.99	2.60	60
8	Fatehgarh Sahib	386	457	17.01	18.65	871	851	63	74.10	N.A.	28.08	N.A.	18.80	N.A.	2.60	N.A.
9	Ludhiana	645	804	36.53	24.79	844	824	67	76.54	50	55.80	24	21.80	3.01	2.50	45
10	Moga	351	400	18.61	13.93	884	883	50	63.94	N.A.	20.04	N.A.	21.60	N.A.	2.60	N.A.
11	Firozpur	273	329	24.00	20.42	895	883	49	61.42	24	25.81	32	29.00	4.16	3.00	61
12	Muktsar	250	297	19.55	18.68	880	886	46	58.67	N.A.	25.52	N.A.	23.50	N.A.	2.50	N.A.
13	Faridkot	310	376	22.79	21.42	883	881	50	63.34	25	33.89	30	24.20	3.84	2.70	53
14	Bhathinda	291	349	20.49	19.89	884	865	46	61.51	23	29.78	31	24.00	3.92	2.80	72
15	Mansa	265	317	18.04	19.83	873	875	37	52.50	N.A.	20.68	N.A.	23.50	N.A.	2.50	N.A.
16	Sangrur	336	398	21.36	18.57	870	868	46	60.04	25	29.26	31	21.10	3.97	2.80	53
17	Patiala	421	507	21.53	20.31	882	864	58	69.96	30	34.98	32	23.30	3.97	2.60	64

Source : Census of India, Paper I of 1991. 2001.
R.C.H. Survey 1998-99

Table 4.1

females per 1000 males in the country as such. The situation became rather poor in Punjab in 2001, where it declined up to 874 against 882 in 1991. In fact among the states/Union Territory's in India, Punjab ranks quite low in this regard. Only Chandigarh, Haryana, Delhi, Daman & Diu, and Dadra & Nagar Haveli have sex ratio lower than that of Punjab. Although within the state, some of the districts show higher sex ratio like Hosiarpur (935), Nawanshahar (913), Gurdaspur (888), Kapurthala (886) which have little bit higher than the state average, but many districts show lower sex ratio than the state average itself. Although the state average showed earlier improving sex ratio of 879 in 1981 and 882 in 1991, but presently it is showing an 8-point decline. The overall pattern shows that in the northern region it shows higher ratio than the southern part of the state.

The literacy rate of Punjab according to the 2001 census has been worked out by taking estimated population person aged 7 and above. There is, however on the whole, a significant increasing trend discernible in the proportion of literate in the state, showing quite a leap forward from census to census. The comparative picture clearly emerges from the Table 4.1. The comparative picture shows a very significant growth rate in literacy rate of the state in male as well as female group. Within the state, the disparity shows in significant manner. The district like Hoshiarpur (81.40), Ramnagar (78.49), Jalandhar (77.91), Nawanshahar (76.86), Gurdashpur (74.19), shows very high literacy rate. On the other hand, districts like Mansa (52.80), Muktsar (58.67), Sangrur (60.40), and Bhatinda (61.51), shows lower literacy rate, which is lower than the state average. The data shows a very significant disparity level within the state regarding the literacy rate.

In Punjab the Crude Birth Rate among the states also vary significantly. The districts like Hoshiarpur, Fatehgarh, Sangrur, shows low crude birth ratio. Whereas districts like Firozopur, Amritsar, Hoshiarpur, Gurdashpur, Jalandhar shows significantly high crude birth rates. The gap between both

of these groups is a 10-point gap. It can be inferred from this, that the districts, which show high literacy rate, can also show low crude birth rates.

After analyzing the data collected on the total fertility rate, we found that the districts show the similar pattern like the crude birth rate. The districts showing high literacy show slow total fertility rate, and those districts shat show low literacy has high total fertility rate. This is due to the effect of awareness programme, and education in the state. The districts like Firozpur, Amritsar, Sangrur show higher total fertility rate of nearly 3.0, but on the other hand districts like Mansa, Muktsar, Ludhiana show lower total fertility rate of 2.5.

The General Marital Fertility Rate (GMFR) data shows somewhat different pattern. Districts like Firozpur, Amritsar, Gurdaspur show high General Marital Fertility Rate, and also show higher literacy rate and Crude birth rate as total fertility rate. Sangrur however shows high literacy rate, Crude birth rate as well as total fertility rates, but shows the low General marital fertility rate of 120.0. On the other hand, districts like Kapurthala, Rupnagar, Fatehgarsahib, show the low General marital fertility rate. They also show the lower literacy rate and low Crude birth rate, as well as total fertility rates. However, districts like Hoshiarpur, Jalandhar show a different pattern of high literacy rate and Crude birth rate as well as total fertility rate, but shows low literacy rate, Crude birth rate, low total fertility rate and low General Marital Fertility rate.

The table 4.2 showing the religion specific sex ratio by residence, that is total, urban and rural, for Punjab for 1971 and 1991. All the religious sex ratios of the state show a slight increase from 1971 to 1991. The total sex ratio remains the highest and the Sikh sex ratio remains the lowest. The rural sex ratios are comparatively higher then the total sex ratio and the urban sex ratio which remains the lowest, maybe due to the better medical facilities and options for killing the girl child.

Table 4.2, Religion Specific Sex Ratios by Residence, Punjab, 1971 and 1991

S.No.	Districts		1991 TSR	1991 HSR	1991 MSR	1991 CSR	1991 SSR	1971 TSR	1971 HSR	1971 MSR	1971 CSR	1971 SSR
	Punjab	**T**	**882**	**867**	**824**	**877**	**891**	**865**	**864**	**853**	**886**	**865**
		R	**888**	**883**	**847**	**876**	**891**	**868**	**874**	**843**	**877**	**865**
		U	**868**	**853**	**789**	**884**	**895**	**856**	**850**	**869**	**933**	**866**
1	Gurdaspur	T	903	915	832	874	896	890	897	940	873	885
		R	905	923	850	873	898	893	904	899	874	886
		U	895	900	749	880	887	881	882	1042	864	872
2	Amritsar	T	873	837	379	871	883	856	825	769	893	865
		R	871	689	284	869	880	866	868	790	880	866
		U	876	861	468	880	893	831	811	758	954	861
3	Firozpur	T	894	886	663	884	901	870	879	824	877	867
		R	896	888	646	879	901	869	870	829	852	869
		U	887	883	675	892	902	875	891	773	929	846
4	Ludhiana	T	844	772	643	910	889	846	808	792	888	866
		R	879	786	856	883	888	859	838	806	823	864
		U	812	771	462	914	890	823	793	727	906	878
5	Jalandhar	T	899	882	753	888	926	883	872	826	965	895
		R	907	879	814	908	934	885	872	884	966	895
		U	885	884	587	858	894	878	872	583	964	898
6	Kapurthala	T	896	846	735	838	928	889	859	814	858	909
		R	910	854	765	884	932	905	881	922	874	915
		U	857	838	627	637	902	840	831	404	707	865
7	Hoshiarpur	T	919	911	704	879	935	899	893	871	884	910
		R	925	920	715	868	936	904	898	868	866	912
		U	890	877	605	987	926	868	862	906	1097	879
8	Rupnagar	T	870	862	801	842	877	853	872	831	1097	838
		R	870	871	806	773	871	854	879	835	842	839
		U	870	845	777	887	903	848	851	813	1485	831
9	Patiala	T	880	875	863	918	883	847	845	810	887	849

		R	874	865	861	885	878	844	847	814	845	843
		U	895	886	806	982	908	855	843	780	996	88
10	Sangrur	T	870	856	898	858	871	840	860	872	910	830
		R	867	846	903	900	868	832	845	854	907	827
		U	881	864	893	820	895	874	884	889	917	853
11	Bhathinda	T	880	890	841	1101	879	855	868	782	808	851
		R	881	922	887	1148	878	851	852	798	718	851
		U	875	872	605	1012	882	868	881	656	940	846
12	Faridkot	T	882	864	751	869	887	N.A.	N.A.	N.A.	N.A.	N.A.
		R	880	821	808	954	886	N.A.	N.A.	N.A.	N.A.	N.A.
		U	887	882	546	826	896	N.A.	N.A.	N.A.	N.A.	N.A.

Source: -

Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.

- GSR – General Sex Ratio.
- HSR – Hindu Sex Ratio.
- MSR – Muslim Sec Ratio.
- CSR – Christian Sex Ratio.
- SSR – Sikh Sex Ratio.
- T – Total
- R – Rural
- U – Urban

The table 4.3 shows the Correlation matrix of Punjab for1991 by using the district wise data for total sex ratio, population density, percentage of urban population, literacy rate, crude birth rate and infant mortality rate. The sex ratio shows a very high positive correlation with infant mortality rate and weaker positive correlation with literacy rate and crude birth rate. On the other hand it shows a very high negative correlation with percentage of urban population and a weaker negative relation with population density. This analysis proves the fact that the sex ratio is quite lower in the rural areas of Punjab.

Table 4.3, Correlation Matrix of Punjab, 1991

	TSR	P.D.	% U.P.	L.R.	CBR	IMR
TSR	1.000	-.253	-.712	.209	.158	.671
P.D.	-.253	1.000	.761	.708	-.627	-.366
% U.P.	-.253	1.000	.761	.708	-.627	-.366
L.R.	.209	.708	.235	1.000	-.592	.128
CBR	.158	-.627	-.521	-.592	1.000	.002
IMR	.671	-.366	-.659	.128	.002	1.000

TSR – Total sex ratio.

P.D. – Population Density.

% U.P. – Percentage of Urban Population.

L.R. – Literacy rate.

CBR – Crude Birth Rate.

IMR – Infant Mortality Rate.

Haryana

In Haryana, the economy is predominantly agricultural, the distributional pattern of rural population of the state is mainly affected by productivity of the soil. In Ambala and Yamunanagar districts, the population is concentrated along the river, where small patches of cultivable land and water for irrigation are available. The districts like Sirsa, Hisar, Bhiwani, and Rohtak, which have sand dunes and brackish water level, are sparsely populated.

The population density of the state is influenced by many important factors i.e. productivity of soil, topography, climate, industrial development, urbanization and irrigational facilities. The table 4.4 depicting the demographic indicators of Haryana shows that the State has variable population density. Districts like Faridabad (1020), Panipat (763), Ambala (644), Sonipat (603) and Gurgaon (599) show very high population density, which are much higher than the state average (477). These districts are economically developed and industrialized, hence the population density here is very high. On the other hand, the picture is completely different in case of

Demographic Indicators of Haryana

		Population Density		Decadal Growth Rate		Sex Ratio		Literacy Rate		% of Urban Population		CBR		TFR		IMR
		1991	2001	1981-91	1991-01	1991	2001	1991	2001	1991	2001	1991	98-99	1991	98-99	1991
	Haryana	**372**	**477**	**27.41**	**28.06**	**865**	**861**	**55.85**	**68.59**	**24.79**	**29.00**	**31.65**	**N.A.**	**4.31**	**N.A.**	**52**
1	Panchkula	346	523	57.61	51.16	839	823	66.00	76.54	N.A.	44.47	N.A.	21.50	N.A.	2.40	55
2	Ambala	512	644	22.31	25.69	903	869	66.57	76.20	35.85	35.19	28.18	20.80	3.50	2.60	61
3	Yamunanagar	456	556	27.41	21.84	883	863	60.60	72.20	33.82	40.00	32.47	23.80	4.30	2.80	35
4	Kurukshetra	437	541	23.40	23.72	879	866	58.44	70.04	24.25	26.06	29.98	23.00	3.80	2.80	81
5	Kaithal	337	408	20.92	20.95	853	854	42.85	59.50	14.74	19.36	31.03	23.10	4.20	2.90	44
6	Karnal	411	506	24.76	23.13	864	864	54.50	68.20	27.60	26.56	32.94	23.80	4.40	2.60	54
7	Panipat	551	763	37.65	38.57	852	830	57.13	69.75	27.16	40.51	33.46	26.90	4.60	3.10	54
8	Sonipat	493	603	24.53	22.36	840	839	62.06	73.71	23.78	25.13	30.81	23.30	4.20	2.90	72
9	Jind	363	440	23.03	21.35	838	853	46.81	62.80	17.27	20.34	32.74	23.30	4.50	3.00	47
10	Fatehabad	255	318	26.08	24.76	877	886	43.04	58.16	N.A.	17.63	N.A.	N.A.	N.A.	N.A.	N.A.
11	Sirsa	211	260	27.79	22.96	885	882	46.32	61.20	21.16	26.36	31.21	25.90	3.90	2.90	65
12	Hisar	304	386	22.67	27.06	853	852	50.49	65.85	21.18	34.96	33.75	24.30	4.40	2.90	54
13	Bhiwani	243	298	22.80	22.45	878	880	54.07	68.17	17.49	18.97	30.88	23.80	4.20	3.00	51
14	Rohtak	445	539	17.79	20.99	849	847	63.69	74.56	21.63	35.06	31.33	25.60	4.40	2.90	48
15	Jhajjar	390	484	21.37	24.09	861	848	63.36	72.48	N.A.	21.98	N.A.	N.A.	N.A.	N.A.	N.A.
16	Mahedergarh	367	437	27.91	19.09	910	919	57.87	70.43	12.70	13.46	32.85	26.70	4.40	2.90	47
17	Rewari	386	483	25.62	25.24	927	901	64.93	75.75	5.26	17.82	30.82	23.90	4.00	2.90	61
18	Gurgaon	414	599	32.67	44.64	871	874	52.61	63.64	20.51	22.28	40.23	32.10	5.70	3.30	84
19	Faridabad	687	1020	49.81	48.47	828	839	59.77	70.79	48.66	55.63	34.92	31.60	N.A.	3.40	56

Source : Census of India, Paper I of 1991, 2001.
R.C.H. Survey 1998-99

Table 4.4

the districts like Sirsa (260), Bhiwani (298), Fatehabad (318) and Hisar 9386), which show much lower density than the state average. Therefore it is quite obvious that the density is affected by the above-mentioned factors, in which geographical location as well as economic development plays a very important role. There is a wide regional variation in the decadal population growth rate in the state. Some districts where the decadal growth rate has decreased from the previous census, also exhibits growth rates much higher than the state average. These districts comprise of Panchkula (51.16), Faridabad (41.47), Gurgaon (44.4) and Panipat (38.57) in 2001 census where as the state average in 2001 stood at (28.06). On the other hand the district like Mehendragarh (19.09), Rohtak (20.99), Kaithal (20.95), Jind (21.35), Sonipat (22.36) show a low growth rate of population in 2001, also lower than the state average. Higher increase in Panchkula attribute to the rapid growth rate of Panchkula urban estate, which is in close proximity of the Union Territory Chandigarh. High increase of growth rate in Faridabad & Gurgaon region is due to industrial expansion of the National Capital Region of Delhi.

According to the Census 2001, Haryana is a female deficit state. The sex ratio in the state is among one of the lowest in the India, which is 861 female per 1000 male. Haryana exhibits consistently falling sex ratio since 1981. In 1981 it was 870 and 1991 it became 865 and in the present census it came down up to 861. The development in agriculture and household industries based upon agricultural products invites migration of selective male population. Mahendragarh (919), Rewari (901), Fatehabad (886), Ambala (869) show higher sex ratios than the other districts which show lower sex ratios like Panchkula (823), Panipat (830), Sonipat (839), while some other districts show very low sex ratio which is even lower than the state average. These are either agriculturally or industrially developed.

The total literacy figure of Haryana is similar to the national average. Male and female literacy, however is a significant disparity in literacy. The

districts like Panchkula (76.56), Ambala (76.20), Rohtak (74.56), Rewari (75.75) show higher literacy rate but on the other hand there are some districts which show the lower literacy rate like Kaithal (59.50), Sirsa (61.20), Jind (62.80). This regional variation is marked due to the variation in economic development and industrialization in the region. The districts, which has proximity to the urban area, show good literacy rates, while, on the other hand districts having high rural population show lower literacy rates.

Haryana shows a significant variation in crude birth rate distribution. The state follows the general pattern that the districts having high literacy rate also have the low crude birth rates, but some districts show the different nature in the state. For example the districts like Panchkula, Rewari, Rohtak, Ambala, where urban influence exists, have high literacy rate and lower crude birth rate. A different pattern emerges in district like Faridabad. Gurgaon that have higher literacy rate, at the same time also high crude birth rates. Again districts like Jind, Kaithal, Fatehabad have comparatively lower literacy show higher crude birthrate. From the above data pattern it is revealed that crude birthrate in Haryana in influenced by social indicator like literacy rate.

Haryana also shows the similar pattern like Punjab in total fertility rate. Within the state the districts also have significant variation regarding total fertility rate. The districts having high literacy rate also show lower total fertility rate. But the picture is different for some districts in the state. Districts like Gurgaon and Faridabad have higher literacy as well as high total fertility rates. Again other districts shows inverse relationship with literacy rates.

In Haryana, the highly urbanized districts which show high literacy but lower General marital fertility rate are the districts like Gurgaon, Faridabad, Rewqri, which shows similar trend as in the earlier indicators, but on the other hand, some districts that show comparatively lower literacy rate exhibit higher General Marital Fertility Rate. Thus we can correlate that literacy and child birth rates, total fertility rates, General Marital Fertility Rates show

inverse relationship in the general trend, but in some districts they show different picture.

The table 4.5 showing the religion specific sexes ratio by residence, that is total, urban and rural, for Haryana for 1971 and 1991. The total sex ratio, Christian sex ratio and the Sikh sex ratio have very shown a very slight increase during 1971-91. The Christian sex ratio remains the highest and the Hindu sex ratio remains the lowest. The rural sex ratios are comparatively lower then the total sex ratio and the urban sex ratio which remains the lowest, maybe due to the proximity of better medical facilities and options for killing the girl child due to the relatively smaller size of the state and better transport facilities as well as the better economic conditions because of the success of Green Revolution in the State.

Table 4.5, Religion Specific Sex Ratios by Residence, Haryana, 1971 and 1991

			1991					1971				
S.No.	Districts		TSR	HSR	MSR	CSR	SSR	TSR	HSR	MSR	CSR	SSR
	Haryana	**T**	**865**	**863**	**872**	**931**	**896**	**867**	**865**	**874**	**882**	**875**
		R	**864**	**861**	**883**	**868**	**891**	**870**	**869**	**881**	**816**	**870**
		U	**868**	**867**	**779**	**967**	**917**	**853**	**849**	**722**	**947**	**897**
1	Ambala	T	885	884	845	1132	896	859	857	820	1094	880
		R	865	865	858	1056	871	852	853	831	908	859
		U	922	918	768	1161	955	875	866	719	1168	921
2	YamunaNagar	T	883	881	855	1001	927	N.A.	N.A.	N.A.	N.A.	N.A.
		R	885	883	864	985	942	N.A.	N.A.	N.A.	N.A.	N.A.
		U	880	878	794	1009	909	N.A.	N.A.	N.A.	N.A.	N.A.
3	Kurukshetra	T	879	876	838	833	900	N.A.	N.A.	N.A.	N.A.	N.A.
		R	883	879	841	902	900	N.A.	N.A.	N.A.	N.A.	N.A.
		U	867	865	823	746	895	N.A.	N.A.	N.A.	N.A.	N.A.
4	Kaithal	T	852	846	875	840	916	N.A.	N.A.	N.A.	N.A.	N.A.
		R	848	840	875	844	916	N.A.	N.A.	N.A.	N.A.	N.A.

		U	878	877	883	778	911	N.A.	N.A.	N.A.	N.A.	N.A.
5	Karnal	T	865	862	866	983	893	854	851	834	801	883
		R	856	854	887	716	880	853	849	839	799	891
		U	887	884	721	1073	901	859	857	792	812	885
6	Panipat	T	854	855	781	965	887	N.A.	N.A.	N.A.	N.A.	N.A.
		R	848	848	816	960	875	N.A.	N.A.	N.A.	N.A.	N.A.
		U	871	876	714	987	919	N.A.	N.A.	N.A.	N.A.	N.A.
7	Sonipat	T	841	840	861	624	835	N.A.	N.A.	N.A.	N.A.	N.A.
		R	831	830	863	730	712	N.A.	N.A.	N.A.	N.A.	N.A.
		U	873	873	854	599	897	N.A.	N.A.	N.A.	N.A.	N.A.
8	Rohtak	T	851	852	787	738	870	882	882	860	582	925
		R	843	844	815	476	666	885	885	875	952	770
		U	881	881	683	864	939	865	862	729	474	976
9	Faridabad	T	828	823	858	873	909	N.A.	N.A.	N.A.	N.A.	N.A.
		R	842	835	877	757	913	N.A.	N.A.	N.A.	N.A.	N.A.
		U	813	812	782	875	909	N.A.	N.A.	N.A.	N.A.	N.A.
10	Gurgaon	T	871	858	896	678	812	860	855	890	644	837
		R	867	847	898	495	438	868	862	894	840	790
		U	886	888	837	876	943	825	828	697	576	858
11	Rewari	T	927	928	764	691	830	N.A.	N.A.	N.A.	N.A.	N.A.
		R	940	940	826	487	672	N.A.	N.A.	N.A.	N.A.	N.A.
		U	859	860	472	836	849	N.A.	N.A.	N.A.	N.A.	N.A.
12	Mahendragarh	T	910	912	896	500	754	900	901	863	1429	857
		R	911	913	919	0	418	904	904	861	500	685
		U	901	901	711	800	976	872	870	906	1800	933
13	Bhiwani	T	880	880	853	1000	810	N.A.	N.A.	N.A.	N.A.	N.A.
		R	881	881	868	667	795	N.A.	N.A.	N.A.	N.A.	N.A.
		U	875	875	663	1028	846	N.A.	N.A.	N.A.	N.A.	N.A.
14	Jind	T	838	837	841	738	868	859	860	798	857	826
		R	834	833	843	500	866	861	863	796	652	809
		U	859	858	822	1056	876	845	842	852	1105	897
15	Hissar	T	861	859	846	1122	897	866	865	857	1062	869
		R	861	858	867	843	899	871	871	873	768	871
		U	864	863	651	1395	883	837	834	603	1789	841
16	Sirsa	T	885	883	857	975	888	N.A.	N.A.	N.A.	N.A.	N.A.

		R	887	887	886	986	887	N.A.	N.A.	N.A.	N.A.	N.A.
		U	876	874	773	953	896	N.A.	N.A.	N.A.	N.A.	N.A.

Source: -

Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.

- GSR – General Sex Ratio.
- HSR – Hindu Sex Ratio.
- MSR – Muslim Sec Ratio.
- CSR – Christian Sex Ratio.
- SSR – Sikh Sex Ratio.
- T – Total
- R – Rural
- U – Urban

The table 4.6 shows the Correlation matrix of Haryana for 1991 by using the district wise data for total sex ratio, population density, percentage of urban population, literacy rate, crude birth rate and infant mortality rate. The sex ratio shows a high positive correlation with literacy rate and weaker positive correlation with infant mortality rate. On the other hand it shows a high negative correlation with population density, percentage of urban population and crude birth rate. This analysis proves the fact that the sex ratio is quite lower in the rural areas of Haryana. .

Table 4.6, Correlation Matrix of Haryana, 1991

	TSR	P.D.	L.R.	% U.P.	CBR	IMR
TSR	1.000	-.328	.327	-.306	-.230	.079
P.D.	-.328	1.000	.589	.774	.005	.080
L.R.	.327	.589	1.000	.409	-.327	.114
% U.P	-.306	.774	.409	1.000	-.095	.004
CBR	-.230	.005	-.327	-.095	1.000	.235
IMR	.079	.080	.114	.004	.235	1.000

TSR – Total sex ratio.

P.D. – Population Density.

% U.P. – Percentage of Urban Population.

L.R. – Literacy rate.

CBR – Crude Birth Rate.

IMR – Infant Mortality Rate.

The situation has been particularly alarming in Punjab and Haryana despite the prosperity and high per capita income levels that prevail there. The juvenile sex ratio in these States has been declining with each successive Census. In fact, Census 2001 showed a marked decline in the juvenile sex ratio in both these States as well as in some others including Himachal Pradesh. The decline had become evident in Census 1991, but apparently the fall in the number of female children had become much sharper in the last one decade as was reflected in Census 2001.

Social scientists, members of women's organisations and demographers (including the late Asok Mitra) have over a period of time expressed concern over India's declining sex ratio. Census 2001 revealed that it was not the BIMARU States (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh) that were showing sharp declines in sex ratio but some of the more prosperous ones. The inter-State variations were also pronounced. The magnitude of the decline - 82 points in Punjab, 59 in Haryana, 54 in Himachal Pradesh, 50 in Gujarat, 42 in Uttaranchal and 29 in Maharashtra - was much higher than in the previous decade. The links among foetal sex determination technology, the level of access to it and the sex ratio have now become clearer.

The PNDT Act, 1994 that came into force on January 1, 1996, was enacted primarily to check sex-selective foeticide. Initially, the Central government and most State governments hardly took any steps to implement the provisions of the Act. Following a petition filed in the Supreme Court, the State governments and Union Territories were directed by the court to supply quarterly reports to a central supervisory board regarding action taken towards the implementation of the Act. Once again, several States either dragged their feet in furnishing the reports or failed to initiate prompt action as per the guidelines.

Punjab too has been no exception. Until as late as December 2001, there was not a single case of prosecution of a diagnostic center conducting sex-determination tests. A few prosecutions had been launched in West Bengal, Bihar, Chandigarh, Tamil Nadu and Haryana. In Punjab, some action has been initiated in the last few months. In most of the identified instances, cases against erring ultrasound centers in the State are yet to be registered. Four out of the 14 female foeticide cases reported so far have been registered while in eight cases action under the PNDT Act has been initiated by the Appropriate Authority. Three cases were booked under the MTP Act - in two of the cases, instruments that were employed to conduct abortions were recovered while in a third case, the woman who underwent the procedure gave a statement. None of the doctors or ultrasonologists involved seemed to have been caught, while it appears that most of the action had been initiated against the women, thus exposing into focus the phenomenon of "victimizing the victim".

The adverse sex ratio in Punjab is not a recent phenomenon. Punjab has had the dubious distinction of having the most negative sex ratio ever since 1901. The declining sex ratio, especially in the 0 to 6 years age group, from 875 in 1991 to 793 in 2001, shows that the female gender is perceived as a liability and the male gender as an asset. It is the lack of a male child that is considered a curse rather than female foeticide. In other words, the abuse of female foeticide is taken to be the remedy.

Socio-cultural factors impinge on distorting the natural sex numbers. Historically, Punjab has had fewer women than was biologically designated. In 1901, the sex ratio was 832, while the Indian average was 972. Certain factors in Punjab were more predisposing in their influence on these numbers, than they were in the rest of India. In fact, among all states, Punjab represented the worst conditions for female survival, including Rajasthan. According to the 2001 census, every female in Punjab is "missing" or has not survived because of her gender.

The negative sex ratio is composite in its claim of unnaturally fewer females than males. Males could outnumber females either because women do not have the right to life itself (female foeticide) or are discriminated against in survival conditions after birth. It is the birth, infant, and child sex ratios that reveal the nature of discrimination the female faces. The sex ratios at birth and at different age groups reveal the play of socio-cultural factors in determining female life chances. Adverse sex ratio at birth indicates that even prior to birth, certain factors influence the sex of the foetus to be male — this could be at the time of conception, gestation or delivery. Thus it is only the sex ratio at birth that can point to the misuse of prenatal diagnostic techniques to determine male child preference. However, the decline in the sex ratio after birth (infant sex ratio and other age groups) stress the importance of neglect and care sans technology to influence the natural number of males and females. Misappropriation of "technology" is indicated in both the adverse sex ratio at birth as well as the sharper decline in the sex ratio at birth of subsequent years. In Punjab, the child sex ratio fell from 946 in 1981 to 854 in 1991 (figures for 2001 not available).

Regional sex ratios: Regional variations in the sex ratio reflect social impediments to the natural sex ratio. While the 2001 sex ratio of Punjab is among the lowest in the country, large variations within the districts exist. Ludhiana, with 824, has the least female representation while Hoshiarpur, with 935, has the most favourable sex ration. A look at the patterns of sex ratio over the century reveals that there has been a historical consistency among the regions with regard to sex ratio. For instance, Malwa, which is characterised as a feudal region, has the poorest sex ratio. In fact, historically, Ropar, Fatehgarh Sahib and Ludhiana share the lowest sex ratio. In contrast, the Doaba region has had the best sex ratio, always above the state average. Hoshiarpur, in particular, has the highest sex ratio. The Majha region comprising Gurdaspur and Amritsar has had sex ratios hovering around the state average. While the sex ratio is a cumulative indicator of women's

placement over time, the child sex ratio is indicative of trends in improvement or deterioration of the status of women.

An analysis of the sex ratio and child sex ratio reveals a distinct pattern based on cultural zones of Punjab. Districts comprising the backward region of Malwa, namely, Bathinda, Mansa, Sangrur, Fatehgarh Sahib, Patiala as also Ropar and pockets of the Majha area have both the most adverse sex ratio as well as an adverse child child sex ratio in 2001. Interestingly, in most of these districts (Fatehgarh Sahib, Patiala, Mansa, Sangrur and Ropar), the decline is far greater in the rural child sex ratio.

What is revealing is that the districts with the lowest child sex ratio are also the districts which have witnessed the largest decline in child sex ratio since 1991. These areas represent the most hostile conditions for women. It is perhaps here that pre-natal diagnostic techniques have been misused the most. Ludhiana is the only exception. While it has the most adverse sex ratio of 824, it has not had a significant decline in the child sex ratio in comparison with Punjab as a whole. Perhaps the low sex ratio is caused by single male migration to this industrial centre. Regional consistency now seems on the verge of a change. Gurdaspur and Amritsar in Majha and Kapurthala in Doaba are districts with the highest decline in the child sex ratio.

Extent of foeticide: The predominance of male child preference and the simultaneous rejection of the girl child is reflected in the adoption of methods to beget a male child and subsequent resort to female foeticide. In a 2001 survey, 33 per cent of households with couples in their reproductive age acknowledged having undergone sex determination tests. While in 2000, 17 per cent of the households mentioned abortion and 45 per cent mentioned the use of methods including traditional modes such as pilgrimage etc. to predetermine the male sex of the foetus. The 2001 study and other reports highlighted the adverse sex ratio and consequent need for legal stringency to curtail the use of pre-natal diagnostic techniques. Even the clergy decried the

practice and supported the ban on female foeticide. The respondents were reluctant to mention abortion, fearing legal and religious repercussions.

Strata & location variance: By far the largest user of pre-natal diagnostic techniques was the upper income group in which 53 per cent were found to have used these methods. Middle and lower income groups mentioned undergoing these tests to the extent of 39 per cent and 19 per cent respectively.

Male child preference: The use of sex determination tests were socially ratified as a reliable means for pre-selection of a male child. Thirty-two per cent of the respondents were of the view that these tests helped in the selection of a male child and another 24 per cent even mentioned that these helped in not having a female child and would ultimately increase female worth since it would create a "scarcity". Ten per cent of the females were of the view that it helped in family planning. It was mentioned that this method helped to restrict the size of the family by not packing the family with female children in the hope of giving birth to a male child.

The option of sex choice in the context of patriarchy is reflective of the unfavourable status of women. More importantly, only 10 per cent of the respondents cited the use of these tests to detect biological deficiencies in the foetus, thus undermining the positive use of the technology. The preference for the male child in the socio-cultural milieu of Punjab was found to be an important factor in the use of sex determination tests, constituting pre-birth gender violence. Justification for the male child preference is found in the importance accruing to the male child and the perception of the female child as a liability.

In a survey of Punjab, 81 per cent of the respondents were candid in mentioning the necessity for a male child, with female respondents registering a higher preference of 84 per cent in comparison with 78 per cent male respondents. Cited reasons for preferring a male child were that he is an

old age insurance (72 per cent), a family bread winner (69 per cent), that he carries on the family name and that a son is a physical protection and support to the family. Studies have shown that the more patriarchal and male-centered the kinship structure, the more sons are perceived to be a major source of social and political power.

In contrast to the male child preference, perception of the girl child as a burden was also stated as an incentive to female foeticide. As many as 46 per cent of the respondents viewed a girl child as a social burden and 49 per cent stated that she was an "expense" to be avoided. Utilitarian justifications varied with the strata and even the region. For instance, in the urban areas of Ludhiana, Punjab's commercial capital, preference for the male child was stated as necessary to look after the business even when they accepted that the present generation of male children was not very respectful and caring of parents. And as an indicator of the male child preference, Ludhiana has the lowest sex ratio in Punjab.

The rural peasantry was of the opinion that the presence of a male child was a social deterrent to anti-social elements to harass the family. In particular, this came in handy to avoid harassment on account of dowry. The border areas of Amritsar were predominant in the belief that the birth of a male child gave resurgence to the masculinity of the patriarch. Focus Group Discussions (FGDs), narratives, and even case studies involving male respondents reiterated that "the birth of a male child makes one young again, while the birth of a female child makes one feel aged". This perceived burden of a girl child due to enhanced dowry payments and the need for safeguarding the girl from sexual abuse were added factors favouring the use of sex determination tests.

Right to life: The issue raised by the decline in sex ratio is not that the female's right to birth is violated rather the non-existence of the female's right to life. The historically adverse sex ratio as also the socio-cultural legitimacy of traditional methods (visits to hakims, deras, pilgrimages for

boon of a male child) that register the selection of male child over female is proof enough of lack of right to birth of the girl child. Consequently, the need is to enshrine the right of birth to the girl child and then the right to life. After right to birth, if the right to life is denied in terms of female infanticide, cultural neglect or the blatant use of violence as in dowry death all lead to the imbalance in the sex ratio. This calls for a holistic strategy that deals with unfavourable status of women.

Relative worth: Female foeticide occurs because there is a male child preference in society. This emanates from the perceived higher relative worth of the male to the female. There is a need to arrest the rapid decline in the child sex ratio. Some legal measures have been adopted by the Punjab Government, but these can be enforced only through social mobilisation and community support. Some sections would respond to the laws and initiate behavioural change by appealing to the rationality while to another section gender sensitisation along with increased worth of the girl child would diminish male child preference. However, for the large majority sensitisation would not succeed in undermining the male child preference. This section seems to undermine the norms, values and practices that have been historically institutionalised and promote male child preference.

Both individual adherence and institutionalisation of the gender ideology provide invisibility to gender violence. The widespread invisibility attached to gender violence and its various forms can be inferred from the prevalence of gender typed roles, values and norms, reflected in the justification for male child preference, affinity to female role of nurturers and caretakers and acceptance of gender practices such as dowry exchange. This widespread gender ideology produced partial and fragmented understanding of the assumptions, processes and even actions of the gender system. Moreover, this inadequate understanding isolates the events and acts from the assumptions and processes of the gender system and reduces them to mere

problematic aberrations. Thus, female foeticide is assumed to be the problem rather than male child preference.

Gender justice: There is a need to sensitise the community on gender justice and women's development — sensitisation to all forms of deprivation, discrimination and atrocities. Enactment of male child preference through traditional methods is invisible and not perceived as denial of right to life or as an act of violence against girl child.

Functions such as rearing children, earning for the family, performing household chores, participation in familial, social or political decision-making can be undertaken by members of either sex. Individual capacities can be harnessed according to the situation and need. Role fluidity will help combat the restricted and inferior social placement on the basis of sex. If women are to be productive earners, then they would be encouraged to imbibe market valued skills with high remuneration.

Given the increasing economic demands, earning an income has become necessary for all individuals. However, women even upon entering the wage market, have remained restricted to the primary role assumptions of child rearing and housekeeping. They earn only to supplement the earnings of the menfolk since the burden of household chores and child-care continue to be their sole responsibility. Earning only as a supplementary function results in marketing of existing skills which are domestic in nature. If women's potential as workers is harnessed according to their capacities i.e they learn skills before entering the workforce as part of their education like men and are encouraged to learn market valued skills, then, more women would join the labour force in various skilled categories with corresponding remuneration. This, then, promotes productive participation of women in all social spheres, creating an increased social worth for them.

Today, what is of concern is jot just the decreasing sex ratio but piecemeal intervention for gender development. To focus on female foeticide as a cause

of the adverse sex ratio amounts to trivialising the issue. The need of the hour is to counter male child preference, introduce role fluidity and ensure gender sensitisation.

A UNFPA study, based on data generated by the National Family Health Survey I and II conducted in 1990-92 and 1996-98 and the Sample Research Survey, has pointed out that sex selective abortions (SSAS) accounted for about one-third decline in total fertility rate in urban areas of Haryana while it contributed to 50 and 80 per cent decline in rural and urban areas of Punjab.

The number of SSAs, which are considered not only to be a violation of the basic human rights of a girl child to come into existence but also an indicator of the low status of women, was about 69,000 in Haryana and 57,000 in Punjab in 1990-92. These were 68 per cent and 42 per cent, respectively, of all induced abortions.

The estimated number of SSAs in 1996-98 was 62,000 in Haryana (81 per cent of total abortions) and 51000 in Punjab (26 per cent). Though the rural areas of the two states registered a decline in SSAs during this period, urban areas showed a sharp increase. In fact, female foeticide in urban areas of Haryana increased five times while in Punjab it rose by 18 per cent.

Preference of couples to have a male child and availability of technology for sex detection of the unborn child has contributed to the sex selective abortions in the two states.

This was reflected in the Census 2001 which pointed to a further decline in the sex ratio in 0 to 6 years, the report said and pointed out that this imbalance in the sex composition of society may lead to disastrous demographic and social consequences for the states.

The SSAs have artificially brought down the total fertility rate in the two states. Had there been no SSAs in the two states, the fertility rate would have

been 3.2 instead of 2.9 in Haryana and 2.9 instead of 2.2 in Punjab, the study pointed out. Abortions were more widespread among contraceptive users than among women who have never practised family planning. This could be due to the fact that women who use contraception other than sterilisation do not want to become pregnant and are more likely than non-contraceptive users to terminate a pregnancy, the UNFPA report said.

Contrary to the general perception, the preference for a male child was found to be stronger among literate than illiterate women. It also rose with the number of children and with the age of the mother. The desire to have a male child as the firstborn was stronger in Punjab, where the sex ratio at birth (SRB) was 131, than in Haryana with SRB 109. This was most probably due to the couple's aspiration to attain preferred sex composition within the small family norm, the study pointed out. Preference for a son following the birth of a daughter was almost equally strong in Haryana and Punjab with SRB being 151 and 154, respectively.

Expressing concern over the "shocking" findings and also the fact that a majority of abortions are being sought from illegal sources, the UNFPA has recommended that reproductive health communications and education should include specific messages highlighting the importance of girl children, gender equality, hazards of unsafe abortions and the illegality of pre-selection of sex followed by abortion.

Statutory laws like the MTP Act, 1992, and the Pre-natal Diagnostic Techniques Regulation and Prevention of Misuse Act, 1994 need to be strictly enforced. Existing loopholes should be plugged in the light of new technological developments and appropriate authorities set up under the Act should be more proactive in implementing its provisions, the study suggested.

Kerala

Kerala forms the southwestern most state of Indian subcontinent. It lies between 8 degree 17'30" to 12 degree 47'40" North latitude and 74 degrees 51'57" to 77 degrees 24'47" east latitude. Karnataka bound it in the north and northeast, in the south she is bounded by Tamilnadu State and in the west by the Lakshadweep Sea. The state has an area of 38.863 sq. km. Which account 1.18 percent of the total area of the country. Kerala is a distinct physical and cultural entity. Hemmed in between the mighty Sahyadri mountain and the coast and the Lakshadweep Sea on the west the land is a beautiful tract with a pleasant climate. The narrow strip of land has a long seacoast of about 580 km. The width of the state at the northern extreme is about 16km and it gradually increases towards the central region of the state. The maximum width reaches near Kodungaller with 102 km. Then it gradually tapers off at the southern most tip of Kerala. It has width of only 8 km. The state is accessible by land, sea and air from rest of the country.

The table 4.7 depicting the demographic indicators of Kerala shows that the state has a population density of 819 people per sq. km., which is much higher than the all India average of 324 people per sq. km. The population density within the state itself varies on a spatial basis. The districts, which are located near the coast, have higher densities than the districts located in the interior. The coastal districts have high density of population owing to their location than the interior areas.

Large tracts of tea plantation and dense forests cover the interior areas, which results in the poor population density. Districts like Alappuzha (1489), Thriuvananthapuram (1476), Kozhikode (1228), Ernakulam (1050), Malappuram (1022) shows very high population density due to their coastal location, while districts like Iddukki (250), Wayanad (369), Pathanamithitta (467) show lower densities of population due to their interior location and hilly topography.

Demographic Indicators of Kerala

		Population Density		Decadal Growth Rate		Sex Ratio		Literacy Rate		% of Urban Population		CBR		TFR		IMR
		1991	2001	1981-91	1991-01	1991	2001	1991	2001	1991	2001	1991	98-99	1991	98-99	1991
	Kerala	**749**	**819**	**14.32**	**9.42**	**1036**	**1058**	**89.81**	**90.92**	**26.44**	**25.97**	**24.67**	**N.A.**	**2.60**	**N.A.**	**42**
1	Kasargod	538	604	22.78	12.30	1026	1047	82.51	85.17	16.46	19.42	29.54	20.10	3.30	2.40	34
2	Kannur	759	813	16.63	7.13	1049	1090	91.48	92.80	51.02	50.46	23.66	21.30	2.50	2.40	34
3	Wayanad	315	369	21.32	17.04	966	1000	82.73	85.52	3.41	3.76	25.02	30.80	2.60	2.20	54
4	Kozhikode	1118	1228	16.69	9.87	1027	1058	91.10	92.45	38.42	38.25	28.68	20.10	3.10	2.10	37
5	Malappuram	872	1022	28.87	17.22	1053	1063	87.94	88.61	9.13	9.81	36.55	25.00	4.20	2.90	35
6	Palakkad	532	584	16.52	9.86	1061	1068	81.27	84.31	15.75	13.62	24.43	19.80	2.70	2.20	31
7	Thrissur	903	981	12.20	8.70	1085	1092	90.18	92.56	26.32	28.21	21.17	19.20	2.10	1.90	29
8	Ernakulam	963	1050	11.42	9.09	1000	1017	92.30	93.42	48.79	47.65	20.70	18.10	2.10	1.80	32
9	Iddukki	236	252	10.45	6.96	975	993	86.97	88.58	4.73	5.07	26.32	17.20	2.80	1.80	57
10	Kottayam	828	884	7.71	6.76	1003	1025	95.72	95.90	17.56	15.35	21.31	20.60	2.20	2.00	28
11	Alappuzha	1415	1489	7.28	5.21	1051	1079	93.87	93.66	30.62	29.36	19.62	18.00	2.00	1.80	25
12	Pathanamthitta	450	467	5.60	3.72	1062	1094	94.86	95.09	13.06	10.03	17.52	16.50	1.90	1.80	27
13	Kollam	967	1037	10.68	7.33	1035	1070	90.47	91.49	18.59	18.03	21.66	19.10	2.10	1.90	25
14	Thiruvananthapuram	1344	1476	13.50	9.78	1036	1058	89.22	89.36	33.59	33.76	22.44	17.10	2.30	1.90	38

Source : Census of India, Paper I of 1991, 2001.
R.C.H. Survey 1998-99

Table 4.7

The state registered a population growth rate of the 9.42 percent during 1991-2001, which is significantly lowest among all the State and Union Territories of India. It is very much lower than the national average of 21.34 percent also. Within the state there is variation in the population growth rate except districts like Malapurram (17.22), Wayanad (17.04), Kasargod (12.30) that shows higher population growth rate. More or less half of the districts of the state show the growth rate lower than the state average, which is 9.42 percent. Higher growth rate is found in the interior region and hilly district of the state, where the physiography is not favourable.

Kerala is known for higher sex ratio in the country. It had recorded the highest sex ratio in the country from decades. Sex ratio in Kerala is 1058, which is very much high than that of the national average of 933 females per 1000 males. Due to the many positive factors, Kerala occupi9es this position for a very long time. Kerala also enjoys very good literacy rate and awareness programs. Within the state, however, there is a variation in literacy. There are districts, which show very much higher sex ratio rather more than state average. Districts like Pathanamathitta (1094), Thrissur (1092), Kannur (1090), Alappuzha (1079), has very high sex ratios, but on the other hand Idukki (993), has the lowest sex ratio in the state. This is lower than state but very much higher than national average followed by Wayanad (1000), Ernakulam (1017) and Kottayam (1025). Thus, within the state there is a considerable variation of sex ratio exists.

Literacy rate in Kerala has been worked out as 90.92 percent, which is much higher than the national average of 65.38 percent. The state ranks highest among the states of India. Likewise, the percentage of literate in the total population (excluding 0-6 age groups) varies considerably. It is maximum in Kottayam (95.90) and minimum in Palakkad (84.31). IN seven districts, the literacy rate is higher than the state average. But there are five districts where the literacy rates are lower than the state average. In all respect all

districts of the state show their literacy rate to be higher than that national average. Higher the literacy rates tribute so many factors. The impact of colonial and foreign intrusion contributes the highest enhancement of literacy rate in the state.

Likewise literacy rate, crude birth rate also varies in the state. The districts where literacy rate is higher the crude birth rate automatically comes down and vice-versa. Highest crude birth rate has been recorded in the district of Malappuram, which shows 25.0, and literacy rate is 88.61. Lowest crude birthrates are seen in Kottayam where literacy rate is highest (95.90). Thus we can infer that crude birth rate in the districts is inversely proportion to the literacy rate.

Total fertility rate in the state is lower than the other states. Like crude birth rate it is also inversely proportional to literacy. The district, which has higher sex ratio, high literacy, has lower total fertility rate. The variation in total fertility rate is slightly lower than other states. It ranges from 1.8 to 2.4. Highest total fertility rate can be seen in the district of Kasargod, Kannur which shows 2.4 respectively and lower comes in the district of kottyam (1.8), Ernakulam (1.8), Pathanamthitta (1.8) and others. Thus it can be inferred that this indicator is dependent upon literacy rate and other developmental factor in the state.

The state of Kerala shows also a very poor variation in the General marital fertility rate in the state. The state shows a low range of General marital fertility rates with respect to other state. Highest General marital fertility rates are seen in the district of Malapurram (146.5) and lowest in the district of Pathanamthitta (99.1). So the state shows a low variation in General marital fertility rates. Likewise the other indicators i.e. crude birth rate, total fertility rate it also depicts inverse relation with the literacy rate and sex ratio. Less developed region show high General marital fertility rate and vice-versa. Thus the other put a direct or indirect impact on the above-mentioned indicator.

The table 4.8 showing the religious specific sex ratio by residence, that is total, urban and rural, for Kerala for 1971 and 1991. The total sex ratio, Christian sex ratio and the Sikh sex ratio have very shown a very slight increase during 1971-91. The Christian sex ratio remains the highest and the Hindu sex ratio remains the lowest. Both the rural sex ratios and the urban sex ratios are almost at par over the period of time. The Sikh sex ratios are very low more so because of the fact that generally only the male migrant workers of Sikh community are found in the state who have left their families back in their home state of Punjab. Over the period of time all the different religious sex ratios are increasing. For the state average the HSR and MSR are even higher then the state overall average.

Table 4.8, Religion Specific Sex Ratios by Residence, Kerala, 1971 and 1991

			1991					1971				
S.No.	Districts		TSR	HSR	MSR	CSR	SSR	TSR	HSR	MSR	CSR	SSR
	KERALA	**T**	**1036**	**1041**	**1048**	**1013**	**375**	**1016**	**1025**	**1009**	**999**	**342**
		R	**1037**	**1041**	**1057**	**1007**	**73**	**1020**	**1029**	**1019**	**996**	**151**
		U	**1034**	**1039**	**1023**	**1033**	**534**	**997**	**1004**	**965**	**1017**	**429**
1	Kasargod	T	1026	1021	1058	931	0	N.A.	N.A.	N.A.	N.A.	N.A.
		R	1023	1016	1059	927	0	N.A.	N.A.	N.A.	N.A.	N.A.
		U	1045	1044	1050	1029	0	N.A.	N.A.	N.A.	N.A.	N.A.
2	Kannur	T	1049	1055	1070	973	80	1017	1026	1023	952	97
		R	1028	1032	1074	967	0	1019	1026	1034	946	32
		U	1071	1074	1067	1032	89	1008	1024	977	1060	125
3	Wayanad	T	966	957	992	956	222	N.A.	N.A.	N.A.	N.A.	N.A.
		R	966	958	992	956	222	N.A.	N.A.	N.A.	N.A.	N.A.
		U	947	909	998	968	0	N.A.	N.A.	N.A.	N.A.	N.A.
4	Kozhikode	T	1027	1025	1037	977	783	991	997	990	949	333
		R	1028	1021	1058	946	0	990	992	1002	937	444
		U	1024	1032	1007	1086	1286	995	1011	961	1054	267
5	Malappuram	T	1053	1037	1064	960	0	1041	1058	1034	985	200

		R	1055	1038	1066	961	0	1042	1057	1035	990	N.A.
		U	1034	1033	1037	954	0	1031	1065	1018	858	1000
6	Palakkad	T	1061	1074	1038	999	200	1056	1075	1011	920	556
		R	1064	1077	1043	980	211	1062	1080	1019	906	200
		U	1046	1055	1011	1125	0	1021	1041	956	1004	1000
7	Thrissur	T	1085	1091	1123	1049	140	1081	1092	1101	1048	744
		R	1091	1097	1129	1047	54	1083	1095	1105	1042	150
		U	1069	1071	1100	1055	667	1067	1065	1068	1074	109
8	Ernakulam	T	1000	998	990	1008	607	983	977	946	1003	4
		R	998	1005	986	994	91	994	992	961	1004	16
		U	1002	991	992	1024	637	955	936	921	1001	N.A
9	Idukki	T	975	980	977	969	450	N.A.	N.A.	N.A.	N.A.	N.A.
		R	974	980	983	967	450	N.A.	N.A.	N.A.	N.A.	N.A.
		U	990	977	950	1043	0	N.A.	N.A.	N.A.	N.A.	N.A.
10	Kottayam	T	1003	1003	971	1007	83	976	975	938	982	333
		R	1004	1005	995	1003	23	976	975	949	981	375
		U	999	994	944	1026	250	977	974	904	999	N.A.
11	Alappuzha	T	1051	1059	1025	1039	10	1028	1035	971	1027	321
		R	1054	1062	1035	1040	0	1030	1036	987	1023	333
		U	1042	1051	1017	1035	125	1020	1030	949	1050	250
12	Pathanamthitta	T	1062	1061	1028	1069	400	N.A.	N.A.	N.A.	N.A.	N.A.
		R	1063	1062	1040	1066	375	N.A.	N.A.	N.A.	N.A.	N.A.
		U	1061	1053	1007	1092	500	N.A.	N.A.	N.A.	N.A.	N.A.
13	Kollam	T	1035	1038	1026	1040	73	1001	1008	966	1001	2643
		R	1039	1039	1033	1048	11	1002	1010	967	999	556
		U	1022	1033	1000	1012	1500	988	983	958	1021	6400
14	Thiruvanantha puram	T	1036	1044	1043	1000	236	1008	1017	992	980	302
		R	1040	1048	1063	998	99	1012	1022	999	981	N.A.
		U	1028	1037	1004	1004	563	996	1004	970	979	333

Source: -

Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.

- GSR – General Sex Ratio.
- HSR – Hindu Sex Ratio.

- MSR – Muslim Sec Ratio.
- CSR – Christian Sex Ratio.
- SSR – Sikh Sex Ratio.
- T – Total
- R – Rural
- U - Urban

Kerala is the only state in India with more females than males but the reverse gender ratio in the 0-6 age group - particularly in urban areas - is a matter of concern, experts say."This is a cause for concern. It is happening because of discrimination against the girl. Things would go out of hand if something is not done," warns S. Irudayarajan of the Centre for Development Studies. Irudayarajan says what was more worrying was that the disparity was greater in urban rather than rural areas. While large-scale female foeticide was not evident in the state, there were indications in the census data between 1991-2001 of a definite difference in sex ratio. Though the 1981-91 census had given indications of a decline in the number of girl children in some districts, it was then widely believed that this was a reflection of fertility control and family planning. But the analysis of the Primary Census Abstract (PCA) of the 2001 census shows sharp difference in sex ratio in many places indicating that some kind of sex selective manipulation could be at work. Even among the Nair community, known the world over for its matrilineal tradition, there is now a preference for male children compared to earlier generations. Though there is no evidence of large-scale pre-natal scanning for the purpose of sex selection among Nairs, there have been stray instances of the practice.

The table 4.9 shows the Correlation matrix of Kerala for 1991 by using the district wise data for total sex ratio, population density, percentage of urban population, literacy rate, crude birth rate and infant mortality rate. The sex ratio shows a high positive correlation with population density, percentage of urban population and literacy rate. On the other hand it shows a high negative correlation with infant mortality rate and weaker negative correlation with

crude birth rate. This analysis proves the fact that the sex ratio is quite higher specially in the urban areas of the state and is effected positively by the population density and literacy rate. One of the major cause of the slight decrease of sex ratio seems to be the infant mortality rate.

Table 4.9, Correlation Matrix of Kerala, 1991

	TSR	P.D.	L.R.	% U.P.	CBR	IMR
TSR	1.000	.381	.194	.246	-.110	-.721
P.D.	.381	1.000	.497	.618	-.156	-.536
L.R.	.194	.497	1.000	.441	-.517	-.512
% U.P.	.246	.618	.441	1.000	-.278	-.370
CBR	-.110	-.156	-.517	-.278	1.000	.377
IMR	-.721	-.536	-.512	-.370	.377	1.000

Tamil Nadu

Tamil Nadu, a land of art and culture, which was part of the Madras Presidency, came into existence on 1st November 1956, when the state reorganization took place on the basis of language. The name Tamilnadu was given to the then Madras State on 14th January 1969. The state lies between 8 degrees 5' to 13 degrees 35' North latitude and between 76 degrees 15' to 80 degrees 20' East longitude in north. Bay of Bengal in the east, Indian Ocean bound it in the south and Kerala in the west. The total area of the state is 1,30,058 sq. km.

The table 4.10 depicting the demographic indicators of Tamilnadu indicates that the state has an average of 478 person per sq. km compared to the national average, which is 324 persons per sq. km in the 2001 census. Within the state itself there is a large variation of population density. The highest concentration of population is recorded in Chennai district 24,231 people per sq. km, which is treated as a single unit. Since Chennai district has a large number of commercial and manufacturing unit and having high influx of migrants, it is one of the biggest metropolises in India. Leaving Chennai district, Kanyakumari claims the highest population density in the

Demograhic Indicators of Tamilnadu

		Population Density		Decadal Growth Rate		Sex Ratio		Literacy Rate		% of Urban Population		CBR		TFR		IMR
		1991	2001	1981-91	1991-01	1991	2001	1991	2001	1991	2001	1991	98-99	1991	98-99	1991
	Tamil Nadu	**429**	**478**	**15.39**	**11.19**	**974**	**986**	**62.66**	**73.47**	**34.20**	**43.86**	**26.44**	**N.A.**	**3.10**	**N.A.**	**64**
1	Thiruvallur	654	800	31.53	22.35	957	970	66.22	76.54	N.A.	54.48	N.A.	N.A.	N.A.	N.A.	N.A.
2	Chennai	22077	24231	17.24	9.76	934	951	81.60	80.14	100.00	100.00	24.61	18.70	2.70	1.90	32
3	Kancheepuram	545	647	26.14	18.84	962	972	66.53	77.61	N.A.	53.48	N.A.	N.A.	N.A.	N.A.	N.A.
4	Vellore	498	573	15.14	15.09	978	997	60.87	73.07	N.A.	37.85	N.A.	N.A.	N.A.	N.A.	N.A.
5	Dharmapuri	252	294	21.61	16.66	942	938	46.02	59.23	9.41	15.77	28.12	23.10	3.50	2.40	59
6	Tiruvanamalai	330	352	14.40	6.80	983	996	53.07	68.22	12.10	18.36	26.70	20.00	3.40	2.50	58
7	Viluppuram	380	406	16.08	6.83	969	983	48.36	64.68	N.A.	14.49	N.A.	N.A.	N.A.	N.A.	N.A.
8	Salem	493	573	13.43	16.28	925	929	52.76	65.72	28.96	46.35	23.34	21.00	2.70	2.30	54
9	Namakkal	386	436	12.79	13.08	960	967	54.37	67.66	N.A.	36.75	N.A.	19.60	N.A.	2.00	N.A.
10	Erode	283	314	12.17	10.94	958	971	53.80	65.51	N.A.	46.20	N.A.	19.90	N.A.	1.90	N.A.
11	The Niligiris	279	300	12.70	7.69	963	1015	71.70	81.44	49.91	59.51	24.94	17.90	2.50	2.10	41
12	Coimbatore	470	566	14.65	20.40	952	959	66.35	76.95	53.20	66.03	22.53	19.50	2.50	1.90	46
13	Dindigul	291	317	12.54	8.99	976	986	56.68	69.83	21.38	35.02	24.29	19.90	2.70	2.10	68
14	Kapur	284	311	12.87	9.32	999	1010	56.06	68.74	N.A.	33.19	N.A.	N.A.	N.A.	N.A.	N.A.
15	Tirchirappalli	499	542	15.57	8.76	982	1000	68.67	79.16	26.73	46.65	26.25	20.40	3.10	2.20	59.00
16	Perambur	258	278	17.92	7.97	975	1007	51.81	65.88	N.A.	14.54	N.A.	N.A.	N.A.	N.A.	N.A.
17	Ariyalur	328	358	11.16	9.06	975	1007	48.98	64.88	N.A.	11.38	N.A.	N.A.	N.A.	N.A.	N.A.
18	Cuddalore	582	626	16.13	7.43	967	985	58.59	71.85	N.A.	33.00	N.A.	N.A.	N.A.	N.A.	N.A.
19	Nagapattinam	507	548	11.68	7.95	993	1014	65.75	76.89	N.A.	22.15	N.A.	N.A.	N.A.	N.A.	N.A.
20	Thiruvarur	508	538	12.04	5.92	987	1013	66.15	76.90	N.A.	20.24	N.A.	N.A.	N.A.	N.A.	N.A.
21	Thanjavur	605	649	11.13	7.38	996	1020	66.13	76.07	22.94	33.92	25.87	17.80	3.00	2.30	40
22	Pudukkottai	285	312	14.72	9.43	1005	1015	57.63	71.96	14.27	16.93	31.58	23.80	4.00	2.50	58
23	Sivaganga	263	275	10.72	4.32	1033	1035	62.95	72.66	N.A.	28.18	N.A.	20.80	N.A.	2.40	N.A.
24	Madurai	686	733	17.51	6.75	964	978	69.08	78.65	44.99	55.94	27.78	19.60	3.30	2.40	55
25	Theni	342	357	12.98	4.33	964	979	60.26	72.01	N.A.	54.10	N.A.	23.00	N.A.	2.30	N.A.
26	Virudhunagar	365	409	16.71	11.92	994	1011	62.91	74.23	N.A.	44.38	N.A.	21.10	N.A.	2.40	N.A.
27	Ramanathapuram	271	287	12.11	5.73	1011	1033	61.65	73.05	21.98	25.34	27.40	21.40	3.50	2.40	53
28	Toothukudi	315	339	7.80	7.54	1051	1049	73.02	61.96	N.A.	42.28	N.A.	N.A.	N.A.	N.A.	N.A.
29	Tirunelveli	367	411	12.53	11.97	1034	1042	65.58	76.97	31.72	46.48	28.55	19.90	3.60	2.30	72
30	Kanyakumari	950	992	12.43	4.34	991	1013	82.06	88.11	16.92	65.10	25.22	19.30	3.10	2.00	30

Source : Census of India, Paper I of 1991, 2001.
R.C.H. Survey 1998-99

Table 4.10

state of 992 persons per sq. km, followed by Thiruvalur (880), Madurai (733), Thanjavur (649) and Kanchipuram (647). All the districts have great historical significance, which attributes to the high population density. On the other hand districts like Dharmapuri (294), Ramnathpuram (287), Perambalur (278) and Shivaganga (275) show very low population density rather lower than the state average as well as the national average also. Thus there is a significant variation in population density in the state of Tamil Nadu.

Among the states of India after Kerala, Tamilnadu shows the lowest decadal growth rate of population during 1991-2001. Its decadal growth rate of population was 11.19 percent. But within the state of Tamilnadu significant variation exists in the decadal growth rate of population. Districts like Thiruvallur (22.25), Coimbatore (20.40), Kanchipuram (18.84), Dharmapuri (16.66) and Vellore (15.09) show very high growth rate of population. But the other districts show comparatively lower decadal growth rate of population rather lower than the state average also. Shivganga shows the lowest decadal growth rate of population (4.32) followed by Theni (4.33), Ramnathpuram (5.73) and Kanyakunari (4.34). This wide variation is reflective of the differential development of the areas in the state.

The state of Tamilnadu shows a high sex ratio of 986 female per 1000 male population, which is higher than the national average 933. Within the state itself there is a considerable variation of sex ratio. Some districts show very high sex ratio higher than the state average. Districts like Toothukudi has recorded highest sex ratio (1049) followed by Tiruneveli (1042), Shivganga (1.35), Ramnathpuram (1033). ON the other hand districts like Chennai (951), Salem (929), Dhrampuri (938) recorded lower sex ratio in the state. Among the lowest, Salem recorded a figure of 929 in the state, which is lower than the state average as well as national average.

According to 2001 census the state has the literacy rate 73.47 percent. There is a remarkable variation of literacy rate among the state. There are 15 out of

30 districts that have the literacy rate lower than the state average. Kanyakumari records very high literacy rate of 88.11 percent followed by the Chennai (84.77), Nilgiri (81.44), and Tothukoddi (81.96). On the other hand among the lowest literacy rate the district Darampuri occupies the key position with a literacy of 59.23 followed by Villupuram (64.68), Erode (65.51) that have the literacy which is lower than the state average as well as the national average also.

The state of Tamilnadu shows lesser variation regarding the crude birth rate in the state. Here also crude birth rate is inversely proportionate to the literacy rate and sex ratio. The highest crude birth rate is noticeable in Pudukkotai (22.8), followed by Vellore (23.1), Theni (23.0) and the lowest is noticeable in the districts of Nilgiri (17.9), followed by Thanjavur (17.8) and Chennai (18.7).

The state also shows the low variation in total fertility rate. The variation ranges from 1.9 to 2.5 only. At the district level the highest variation is found in the district of Tiruvanamalai and Pudukkottai which is 2.5 followed by Ramnathpuram (2.4), Madurai (2.4), Shivganga (2.4) and Dharampuri (2.4). The lowest total fertility rate can be seen into districts of Chennai (1.9), Erode (1.9) and Coimbatore (1.9). Among the later districts like Ramnathpuram has the higher literacy rate as well as lower ses ratio for females, but the other districts have comparatively lower literacy rate as well as sex ratio but total fertility rate is lower. Thus a mixed picture is observed.

In Tamilnadu the variation of General marital fertility rate is narrow. General marital fertility rate ranges between 93.8 to 136.9. Therefore hardly a 50 – point variation in General marital fertility rate is noticeable at the district level data. The higher General marital fertility rate can be seen in the district of Pudukkottai (136.9) followed by Ramnathpuram (130.3) and Thiruvanamalai (122.0).

The table 4.11 showing the religion specific sexes ratio by residence, that is total, urban and rural, for Tamil Nadu for 1971 and 1991. The total sex ratio, Christian sex ratio and the Sikh sex ratio have very shown a very slight

increase during 1971-91. The Christian sex ratio remains the highest and the Hindu sex ratio remains the lowest. Both the rural sex ratios and the Urban sex ratios are almost at par over the period of time. The Sikh sex ratios are very low more so because of the fact that generally only the male migrant workers of Sikh community are found in the state who have left their families back in their home state of Punjab. Over the period of time all the different religious sex ratios are increasing. For the state average the HSR and MSR are even higher then the state overall average.

Table 4.11, Religion Specific Sex Ratios by Residence, Tamilnadu, 1971 and 1991

			1991					1971				
S. No.	Districts		TSR	HSR	MSR	CSR	SSR	TSR	HSR	MSR	CSR	SSR
	Tamil Nadu	**T**	**974**	**971**	**999**	**1006**	**719**	**978**	**976**	**994**	**995**	**586**
		R	**981**	**977**	**1041**	**1010**	**545**	**990**	**987**	**1063**	**1002**	**552**
		U	**960**	**956**	**975**	**999**	**780**	**951**	**949**	**951**	**983**	**590**
1	Madras	T	934	936	899	964	791	904	914	804	921	831
		R	0	0	0	0	0	0	0	0	0	0
		U	934	936	899	964	791	904	914	804	921	831
2	Chengalpattu-MGR	T	960	960	947	964	786	948	951	885	915	386
		R	976	976	967	984	661	965	967	910	926	220
		U	940	939	938	953	823	916	921	868	905	410
3	North Arcot-Ambedkar	T	978	976	989	1023	529	971	969	986	994	946
		R	972	972	976	968	218	972	971	994	965	917
		U	992	987	992	1079	970	969	960	983	1057	969
4	Dharmapuri	T	942	942	936	958	860	969	970	927	1002	636
		R	941	941	939	961	962	970	971	928	995	100
		U	948	953	931	943	660	952	956	926	1035	600
5	Tiruvannamalai-Sambuvarayar	T	983	983	985	1001	1160	N.A.	N.A.	N.A.	N.A.	N.A.
		R	984	983	993	1009	1186	N.A.	N.A.	N.A.	N.A.	N.A.
		U	981	983	974	945	1000	N.A.	N.A.	N.A.	N.A.	N.A.

6	South Arcot	T	968	967	983	984	464	969	969	962	985	687
		R	970	969	986	988	131	972	971	963	994	667
		U	958	955	977	968	1013	954	954	960	946	698
7	Salem	T	937	936	942	977	613	963	964	915	957	463
		R	931	930	964	974	765	967	967	952	943	583
		U	950	951	932	980	579	953	956	899	977	414
8	Periyar	T	958	956	962	1016	690	N.A.	N.A.	N.A.	N.A.	N.A.
		R	960	959	981	1015	615	N.A.	N.A.	N.A.	N.A.	N.A.
		U	952	949	954	1018	750	N.A.	N.A.	N.A.	N.A.	N.A.
9	Nilgiri	T	983	975	1000	1026	786	944	936	920	1010	739
		R	994	994	1019	979	778	961	965	911	951	444
		U	972	953	993	1052	787	927	900	924	1047	765
10	Coimbatore	T	952	953	935	968	720	957	959	900	956	652
		R	966	966	959	952	756	974	974	949	976	857
		U	940	939	931	972	708	926	929	886	946	595
11	Dindigul-Anna	T	976	974	991	1001	444	N.A.	N.A.	N.A.	N.A.	N.A.
		R	979	976	1024	998	714	N.A.	N.A.	N.A.	N.A.	N.A.
		U	967	962	964	1009	350	N.A.	N.A.	N.A.	N.A.	N.A.
12	Tiruchirappalli	T	984	982	1005	1001	814	992	992	978	999	211
		R	988	987	1000	1002	814	1000	999	1025	1006	571
		U	972	964	1008	1000	815	962	964	946	985	199
13	Thanjavur	T	993	983	1113	1012	595	994	985	1120	1004	911
		R	993	984	1138	997	357	994	986	1132	995	500
		U	994	978	1078	1058	650	993	977	1097	1033	1048
14	Pudukkottai	T	1005	1004	1027	1003	400	N.A.	N.A.	N.A.	N.A.	N.A.
		R	1008	1006	1048	999	500	N.A.	N.A.	N.A.	N.A.	N.A.
		U	991	991	976	1024	333	N.A.	N.A.	N.A.	N.A.	N.A.
15	PasumponMuthuramalinga Thevar	T	1032	1030	1026	1067	667	N.A.	N.A.	N.A.	N.A.	N.A.
		R	1046	1043	1070	1080	778	N.A.	N.A.	N.A.	N.A.	N.A.
		U	996	993	1008	1009	556	N.A.	N.A.	N.A.	N.A.	N.A.
16	Madurai	T	395	963	961	992	746	986	987	961	1002	938
		R	970	970	986	974	375	998	998	1019	970	833
		U	957	955	952	1001	800	964	962	928	1037	979
17	Kamarajar	T	994	994	1000	996	500	N.A.	N.A.	N.A.	N.A.	N.A.
		R	1002	1002	1058	990	0	N.A.	N.A.	N.A.	N.A.	N.A.

		U	980	980	951	1004	600	N.A.	N.A.	N.A.	N.A.	N.A.
18	Ramanathapuram	T	1012	994	1133	987	34.5	1042	1029	1232	1033	333
		R	1018	1001	1161	995	71.4	1053	1040	1322	1039	1250
		U	991	966	1084	948	0	1011	998	1127	1009	150
19	Chidmabarnar	T	1051	1039	1212	1072	455	N.A.	N.A.	N.A.	N.A.	N.A.
		R	1074	1063	1270	1108	0	N.A.	N.A.	N.A.	N.A.	N.A.
		U	1019	999	1186	1037	833	N.A.	N.A.	N.A.	N.A.	N.A.
20	Tirunelvell-Kattabomman	T	1034	1027	1042	1084	388	1042	1056	1118	1071	238
		R	1042	1034	1085	1084	182	1051	1041	1168	1088	0
		U	1018	1011	1023	1082	813	1023	1008	1092	1037	500
21	Kanayakumari	T	991	987	991	997	0	972	969	966	977	440
		R	989	985	992	993	0	969	965	945	975	N.A.
		U	1001	994	990	1018	0	990	989	1001	988	440

Source: -

Census of India 1991, Series 1, India, Part IV-B(ii), Religion (Table C-9), Census of India.

Census of India 1971, Series 1, India, Paper 2 of 1972, Religion (Table C-VII), Census of India.

- GSR – General Sex Ratio.
- HSR – Hindu Sex Ratio.
- MSR – Muslim Sec Ratio.
- CSR – Christian Sex Ratio.
- SSR – Sikh Sex Ratio.
- T – Total
- R – Rural
- U - Urban

The table 4.12 shows the Correlation matrix of Tamil Nadu for 1991 by using the district wise data for total sex ratio, population density, percentage of urban population, literacy rate, crude birth rate and infant mortality rate. The sex ratio shows a high positive correlation with literacy rate and a weaker positive correlation with crude birth rate. . On the other hand it shows a high negative correlation with percentage of urban population, population density and infant mortality. This analysis proves the fact that the sex ratio is quite

lower especially in the urban areas of the state and is effected negatively by the population density and infant mortality rate. . One of the major causes of the decrease of sex ratio seems to be the urbanization process.

Table 4.12, Correlation Matrix of Tamilnadu, 1991

	TSR	P.D.	L.R..	% U.P.	CBR	IMR
TSR	1.000	-.300	.200	-.315	.011	-.048
P.D.	-.300	1.000	.419	.700	.206	.054
L.R.	.200	.419	1.000	.518	.432	.076
% U.P.	-.315	.700	.518	1.000	.726	.586
CBR	.011	.206	.432	.726	1.000	.806
IMR	-.048	.054	.076	.586	.806	1.000

The population sex ratio for Tamil Nadu has increased from 974 females per 1,000 males in 1991 to 986 in 2001.However, Tamil Nadu's child sex ratio - defined as the number of girls per 1,000 boys in the age group of 0-6 years - shows a decline from 948 in 1991 to 939 in 2001. The decline in child sex ratios in some districts of the State is quite alarming.

Now for the disaggregated picture at the district level. The decadal percentage increase in population is lower between 1991 and 2001 as compared to 1981-1991 for most districts as it is for the State as a whole. The only exceptions are Coimbatore, Salem and Namakkal. This compares with eight districts reporting an increase in the decadal percentage increase in population between 1981 and 1991 as compared with 1971-1981. An examination of decadal increases since 1901 shows that in 18 out of the State's current 30 districts, the intercensal percentage increase has been declining in every decade during the period 1971-2001. For 15 of these 18 districts, this is true for the period 1961-2001.

Population sex ratios have increased between 1991 and 2001 in practically all districts of Tamil Nadu. The only exceptions are Dharmapuri, where it has declined from an already low figure of 942 to 938, and Thoothukudi, where it

has declined marginally from a high of 1,051 to 1,049 - still the highest in the State. As many as 17 out of 30 districts report a sex ratio in excess of the State average of 986. The southern districts - with the significant exceptions of Madurai and Theni - report sex ratios in excess of 1,000, while Chennai and its neighbouring districts of Tiruvallur and Kancheepuram as well as Coimbatore report somewhat lower sex ratios, reflecting in considerable part male in-migration from other districts for employment in industry. But there are at least two districts where sex ratios are considerably lower than the State average - Dharmapuri (938) and Salem (929) - for reasons other than sex selective migration. This becomes immediately evident if we look at child sex ratios(CSRs). While the Census Paper for Tamil Nadu does not give the district-wise CSRs for 2001, it gives the break-up of the population aged 0-6 years by sex, thus enabling one to work out the CSRs. Data on CSRs for 1991 for the 21 districts existing then have been worked out from the 1991 Census papers.

The CSR for Tamil Nadu declined from 948 in 1991 to 939 in 2001. Several districts have also shown declines. While in 1991, 12 out of the then existing 21 districts had a CSR greater than 960, in 2001 only nine out of the current 30 districts have a CSR exceeding 960. Seven districts have a CSR below 930 in 2001: Salem (826), Dharmapuri (878), Theni (893), Namakkal (896), Karur (923), Madurai (927) and Dindigul (929). These are also the districts where there is considerable evidence from the field of widespread practice of female infanticide (Frontline, July 11, 1997 and October 9, 1998). Besides these districts where the CSR is low, the district of Vellore has shown a sharp decline in CSR from 962 to 937. It is a fact that female infanticide is widespread in the Tirupathur division of this district as well as in some blocks of neighbouring Tiruvannamalai district.

The decline in CSRs is more widespread than it may appear at first sight. If one takes a look at the 1991 CSRs of the districts of Chengai (now, Tiruvallur and Kancheepuram), Viluppuram (now, Viluppuram and

Cuddalore) and Tiruchirapalli (now, Karur, Perambalur, Ariyalur and Tiruchirapalli), and the CSRs in 2001 of the new districts carved out of them, this becomes evident. In all the cases, the CSR of each one of the newly constituted districts in 2001 is lower than that in 1991 of the district out of which it was carved.

Perhaps the most worrying message of the 2001 Census for Tamil Nadu is that unless efforts on a mass scale are urgently taken to address the issues of patriarchy, son preference and the neglect or worse in relation to the female foetus, infant and child, the decline in birth rates which are often celebrated unthinkingly by policymakers may well have been bought at the cost of grave gender inequality, with its own devastating long-run consequences. Universalisation of the small family norm without a concomitant attack on son preference, and in the context of a largely commercialised medical profession for whom ethical concerns are not high on the agenda, and an overall permissive atmosphere where State or community intervention is generally frowned upon, can be disastrous for the gender balance of a population.

Female infanticide in Tamil Nadu, South India, has recently received widespread attention within India and abroad. The paper contains reflections based on over a decade of fieldwork and study of this phenomenon, and information gathered from NGOs, activists and officials. It discusses the recent history of the practice of female infanticide, and the circumstances, which forced the state government in 1992 to acknowledge its existence. Activities to prevent female infanticide, such as the 'Girl Child Protection Scheme' and coercive actions against those committing female infanticide, by the state government and non-governmental organizations are critically reviewed. The unwantedness of girl children manifests itself not only in female infanticide, but also in selective abortion of female fetuses and neglect of girl children, leading to excess female child mortality. Prevention and eradication of female infanticide calls for sustained and long-term efforts

to ameliorate the subordinate status of women. Under the circumstances, the tendency of several governments to deny, the phenomenon, remain silent about it, or engage in interventions which stand little chance of succeeding, is cause for concern.

In impoverished villages and communities in Tamil Nadu, that have no access to family planning measures, female infanticide is almost socially accepted. According to government officials the number of cases of female infanticide in Tamil Nadu stands at 3,000 each year. Three districts of Dharmapuri, Salem and Madurai have been identified by health officials as problem areas in the state. In Dharmapuri alone, close to 1,300 children are killed every year. Salem comes second with over 1,000 such killings. In Salem district, a second girl-child has very little chances of surviving. In impoverished villages and communities, with no access to family planning measures, the murder of a girl-child has acquired an almost social sanction. In almost all the villages in these districts, women adopt cold-blooded methods to kill off their female children. Some kill their babies by swaddling them in a wet cloth, or making them swallow rice and milk. Some cut their throats; others put the babies under a fan to suffocate them. Many of the women of Ommallur village in Salem district say they murdered their infants, barely a week after they were born, by feeding them sap from the poisonous calitropis plant.

"According to 2001 government statistics, the juvenile sex ratio (the ratio of children below six years) in Salem is 826.3 (for 1,000 men). This is the lowest ratio in the nation. The low female population here is due to the high rate of female infanticide.

CHAPTER – 5
CONCLUSION

This last chapter of this research work includes the summary and conclusions which are a collection of the brief of all the chapters and suggestions for the planning process which may be a significant help to bring some sort of awareness on the present crisis of sex ratio in India in the 21st Century.

In the Introductory chapter of this dissertation an attempt has been made to introduce the concept of declining sex ratio in India. It enlists the different available literature on sex ratio and tries to project this demographic problem of the country in the light of the socio cultural regionalization and the north – south divide.

In the second chapter, an attempt has been made to historically analyse the gradual decline in the sex ratio in India and the chapter concludes by a broad description of the different causes and implications of this decline in sex ratio.

In the third chapter, the spatial temporal pattern of general sex ratio in the region and states has been considered. The country has been divided into three broad regions, namely, the northern Indian plain, the central India and the southern India for the purpose of testing the hypothesis of the convergence of the north – south divide. Further correlation analysis has been also under taken. To go a step further then the regional analysis of sex ratio, we analyze the religion specific sex ratios on the state level by residence, that is total, urban and rural. All this work points towards the importance of region in deciding the course of sex ratio. On the other hand religion does not seem to be playing very important role and is moreover found to be effected by the region itself. On the

other hand a clear indication of a north – south convergence in respect of sex ratio is seen in this chapter.

In the fourth chapter, the area of study, namely, Punjab, Haryana, Kerala and Tamilnadu are studied in detail. The chapter begins with the demographic profile and history of the respective states on district level. Further study of religion specific sex ratios for all these states is undertaken which proves again the important causal effects of region on the patterns of sex ratio. Further a correlation run in undertaken between the sex ratio and the socio-demographic factors like literacy rate, percentage of urban population, infant mortality rate, crude birth rate and population density in these states. The result indicates a positive correlation between sex ratio and literacy rate and infant mortality rate but generally a negative correlation between sex ratio and percentage of urban population, population density and crude birth rate.

Finally in this chapter, a summary of the whole discussion and conclusions has been presented. The policy imperatives of the Government have been discussed to overcome the crisis of this catastrophic demographic situation in the Indian society.

According to the results of the present work the South Indian turn around in respect of the decline in sex ratio is very much in process which will obviously result in the convergence of the north-south divide.

The Indian government has opposed the practices of female infanticide and sex selective abortion, but has been slow and ineffectual in bringing about reform. The Dowry Prohibition Act was passed in 1961 approximately a decade before sex determination technology was introduced in India. Despite revisions in 1983 and 1985, this law has been poorly enforced and is thus completely

ignored. Many feel that the giving of dowries has actually become more prevalent in the past twenty years (Bummer, 1980). Under pressure from feminist groups; the Indian government prohibited prenatal sex determination testing in government hospitals. This measure had little or no effect other than encouraging the proliferation of private sex test clinics. The competition between these clinics actually served to make the services more affordable for lower middle class Indians. In 1988, the Indian government established a committee to study sex selective abortions and make recommendations on how best to deal with them. This committee introduced the Prenatal Diagnostic Techniques Regulation and Prevention of Misuse Bill in 1991.

The above legislation is certainly a valuable, albeit tardy, step towards eradicating the practice of sex selective abortion, but it clearly is not enough. The most important tool for change is improving the status of women through education. Education at the primary school level focused on women's rights and building girls self esteem, increased programs for literacy and job training, more opportunities for higher education for women, and public education campaigns about women's issues are the only ways to begin to effect true reform. As testimony to the improtance4 of education, states such as Kerala with the highest female literacy rate in India do not practice sex selective abortion and does have the highest sex ratio in the country. Kerala is further benefited by its matrilineal social structure and associated tradition of sexual equality; unfortunately, such cultural traditions are unique to Kerala and would not be amenable to policy and programmatic changes.

Conclusion

Although eradicating sex selective abortion and resultantly increasing the sex ratio may seem like a daunting task in a country with such limited resources, it is a vitally important one, morally, socially and economically. Women are the

pivots of the Indian family as well as the society. They are an essential part of India's past, present and future.

"Women (have) to be recognized because no less than the future of India (depends) on it" (Bummer, 1990). India has begun to address the problem of sex selective abortion with legislation as well as by participating in different International conferences related to the crux matter. A Platform for Action has been developed during such conferences, which includes issues, related to sex selective abortion and is to be used as a tool by women's groups and advocates.

Barbara Miller (1981) eloquently summarizes the cultural basis of sex selective abortion and infanticide in India: It *has often been noted that in Indian thought, the processes of creation and destruction are inseparable, that one is the necessary counterpart of the other, indeed, that creation can come only from destruction. Fertility and mortality, growth and decay, female and male are likewise conjoined in a dramatic dynamic that unfolds in this book* (The Endangered Sex). *For this is a story of how the birth of some inexorable brings the death of others, of how the survival of males feeds on the demise of females, of how the intense desire for sons is directly tied to the fatal neglect of daughters. The light and dark of Indian culture, the giving and taking, the benign and malign are simultaneously expressed in a twisted, tortured dance whose tempo continually increases. It is time for the dance to end.*

In dealing with this new – "High tech" – face of gender disparity, in the form of natality inequality, there is a need to go beyond just the agency of women, but to look also for more critical assessment of received values. When anti-female bias in action (such as sex-specific abortion) reflects the hold of traditional masculinist values from which mothers themselves my not be immune, what is needed is not just freedom of action but also freedom of thought – in women's ability and willingness to question received values. Informed and critical agency is important in combating inequality of every

kind. Gender inequality, including its many faces, is no exception (Amartya Sen, 2000).

To Sum Up

Though there has been a small change in the sex ratio in favour of women from the 1991 census to the 2001 census, the improvement is not significant, especially considering that the absolute deficit of females has increased by about three million. Also, despite this small improvement, the rapidly declining sex ratio among young children indicates that the overall sex ratio is headed for further decline and the deficit of females is almost certain to increase substantially in the near future. Even the so-called developed region in respect of sex ratio, southern India, is heading towards a possible decline in sex ratio. The maternal mortality rate remains among the highest in the world; foeticide of females is becoming far more common in more and more states; age of marriage and age at first pregnancy remains low; and women's status as reflected in access to health care and basic education remains low in absolute terms, and as compared to that of males

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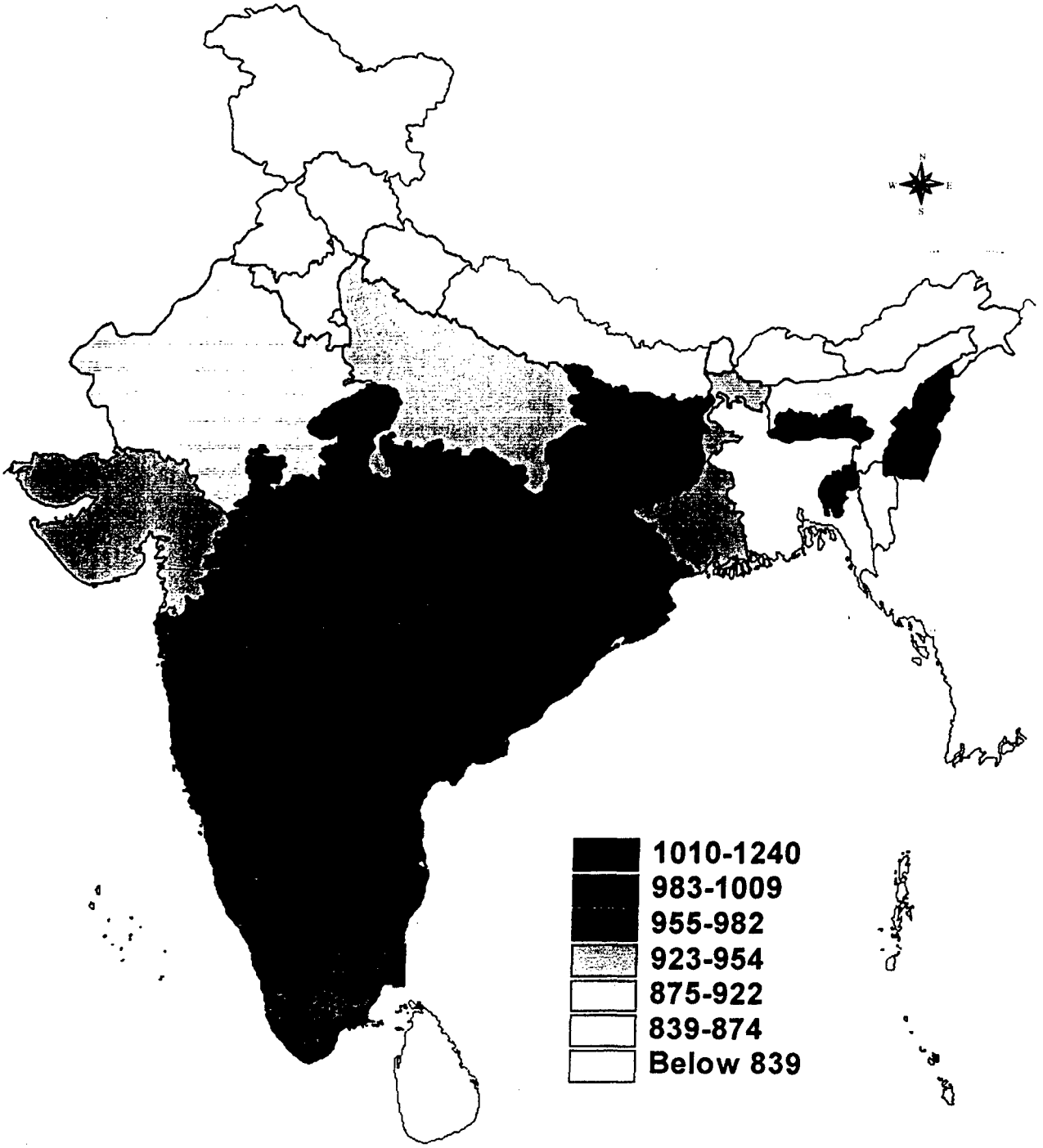
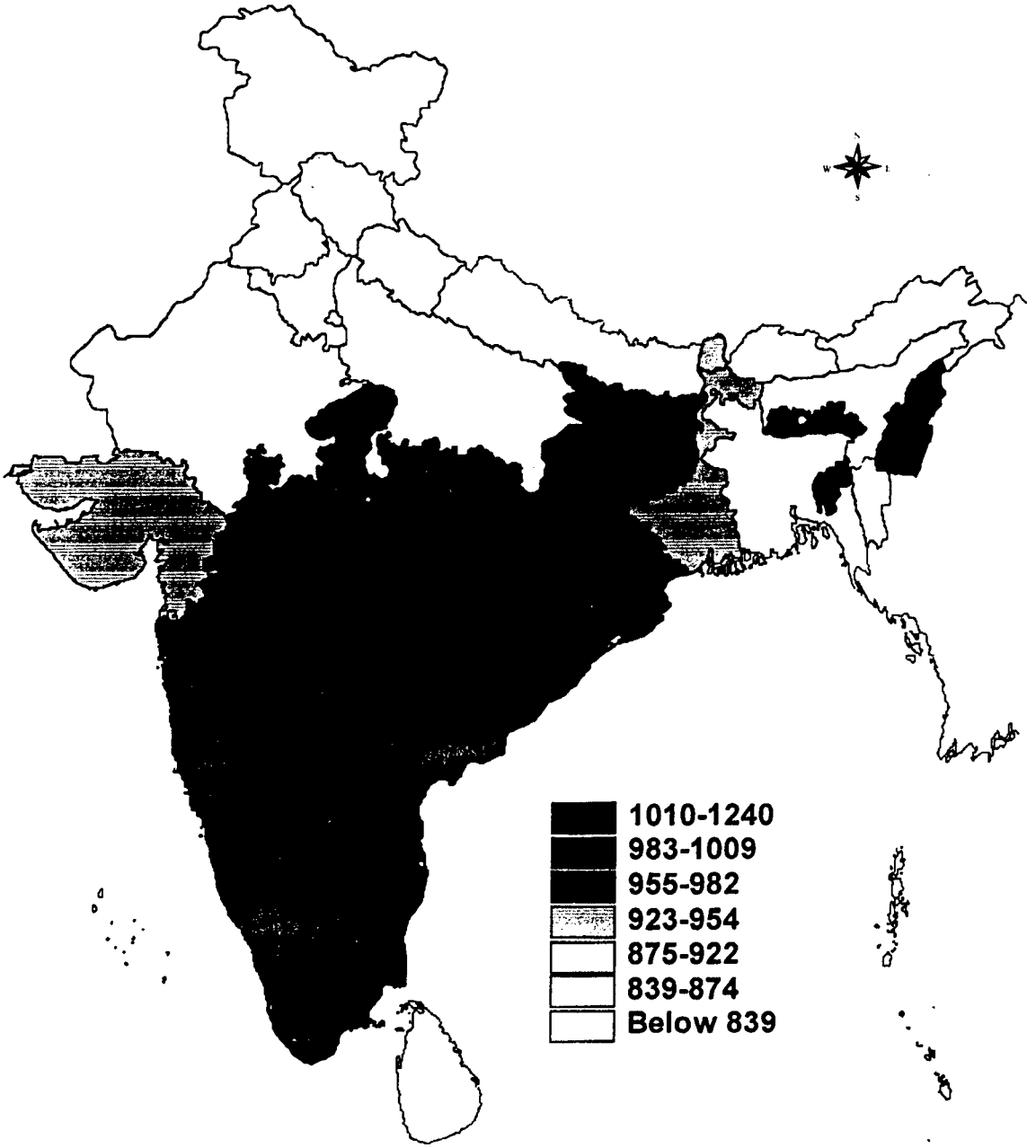
SEX RATIO OF INDIA, 1901



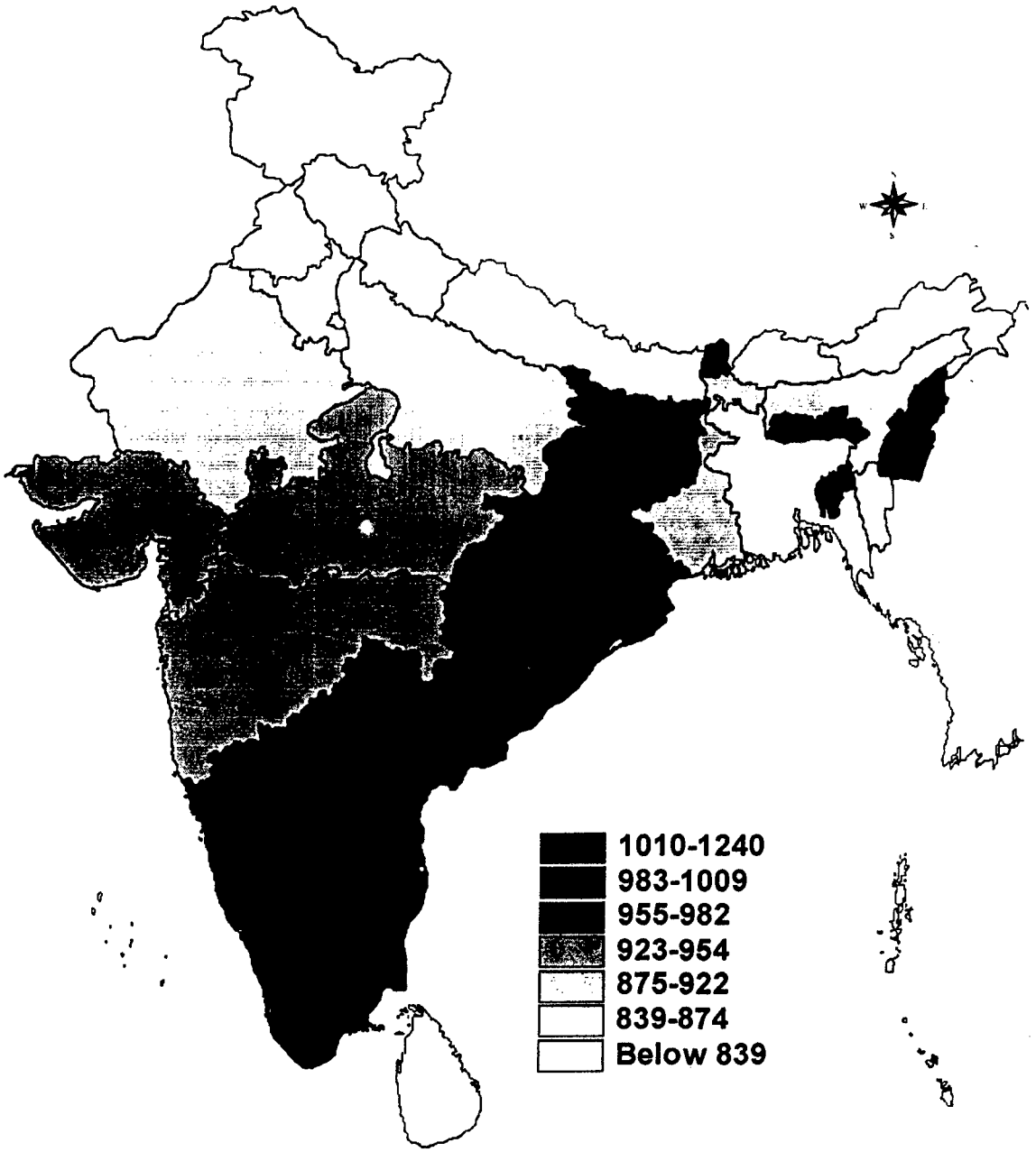
MAP 3.1

SEX RATIO OF INDIA,1911



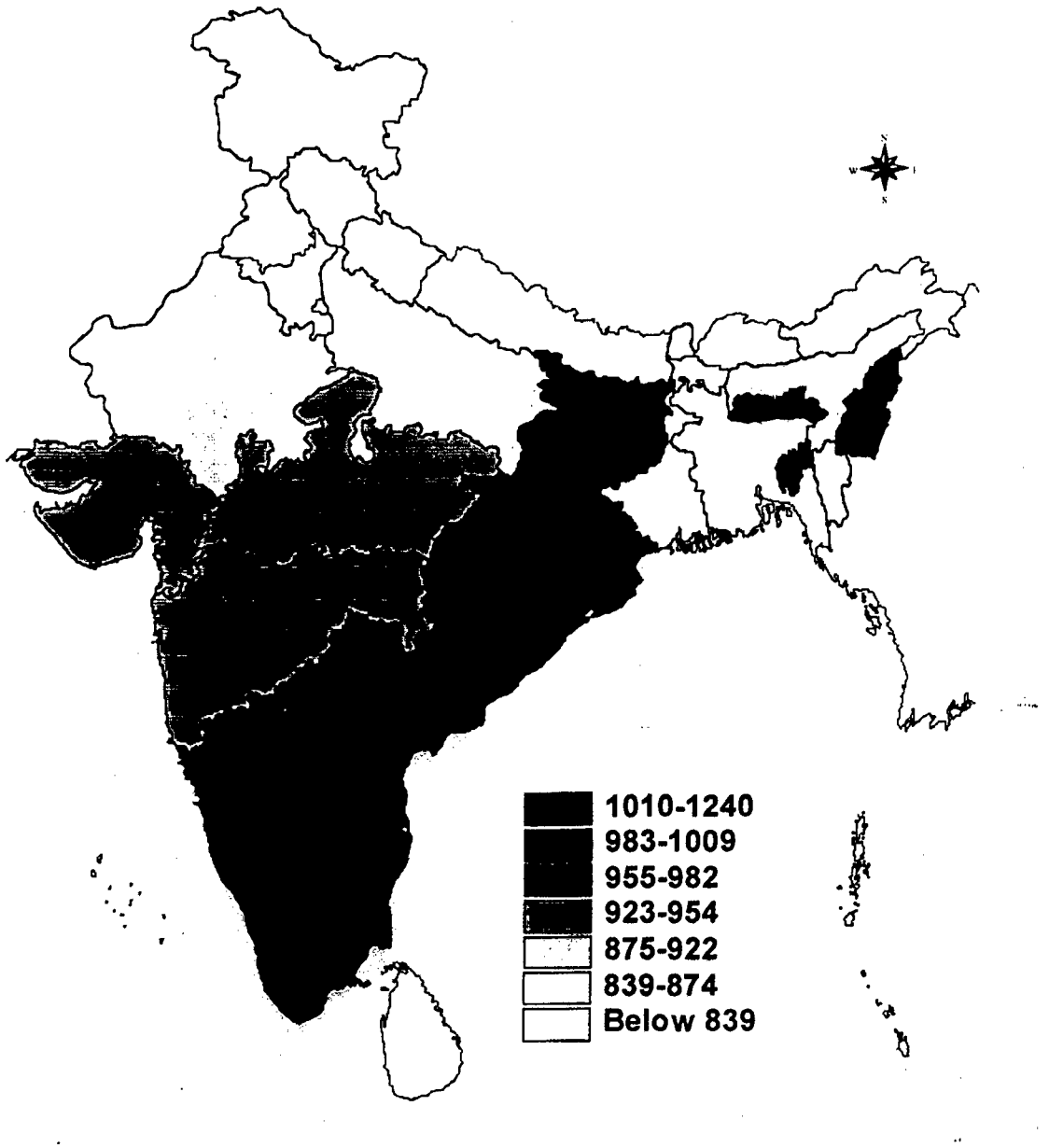
MAP 3.2

SEX RATIO OF INDIA, 1921



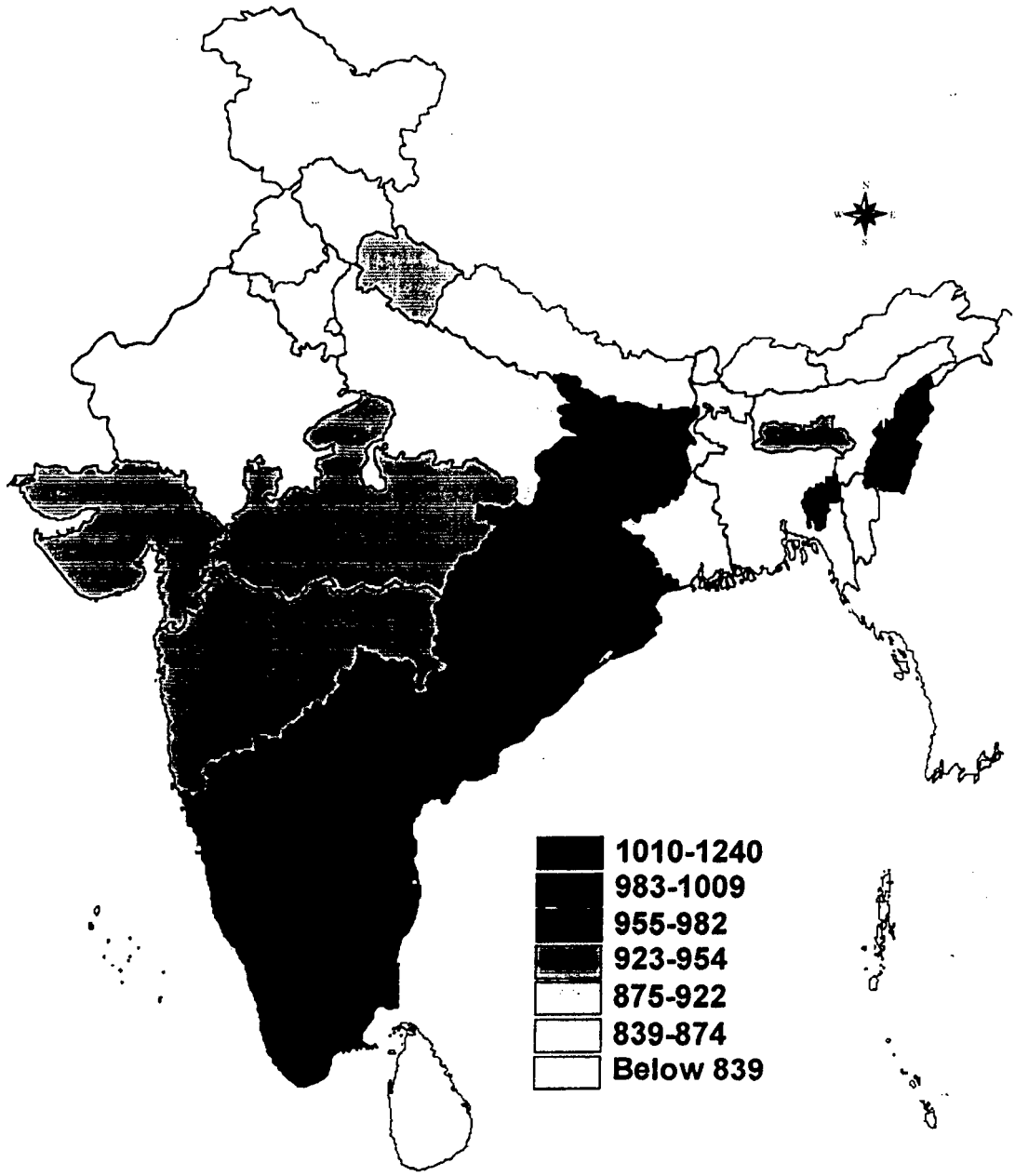
MAP 3.3

SEX RATIO OF INDIA, 1941



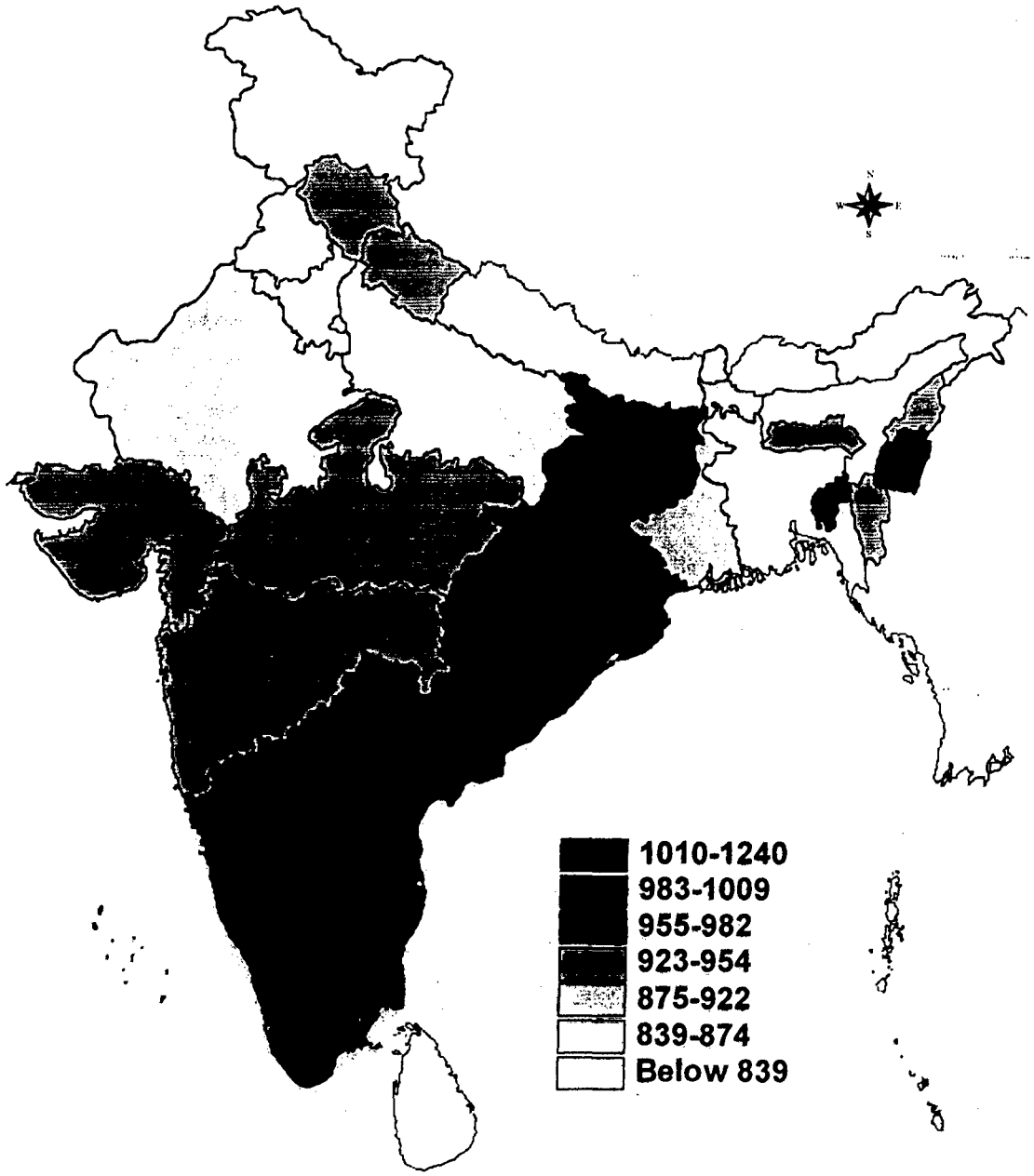
MAP 3.4

SEX RATIO OF INDIA, 1951



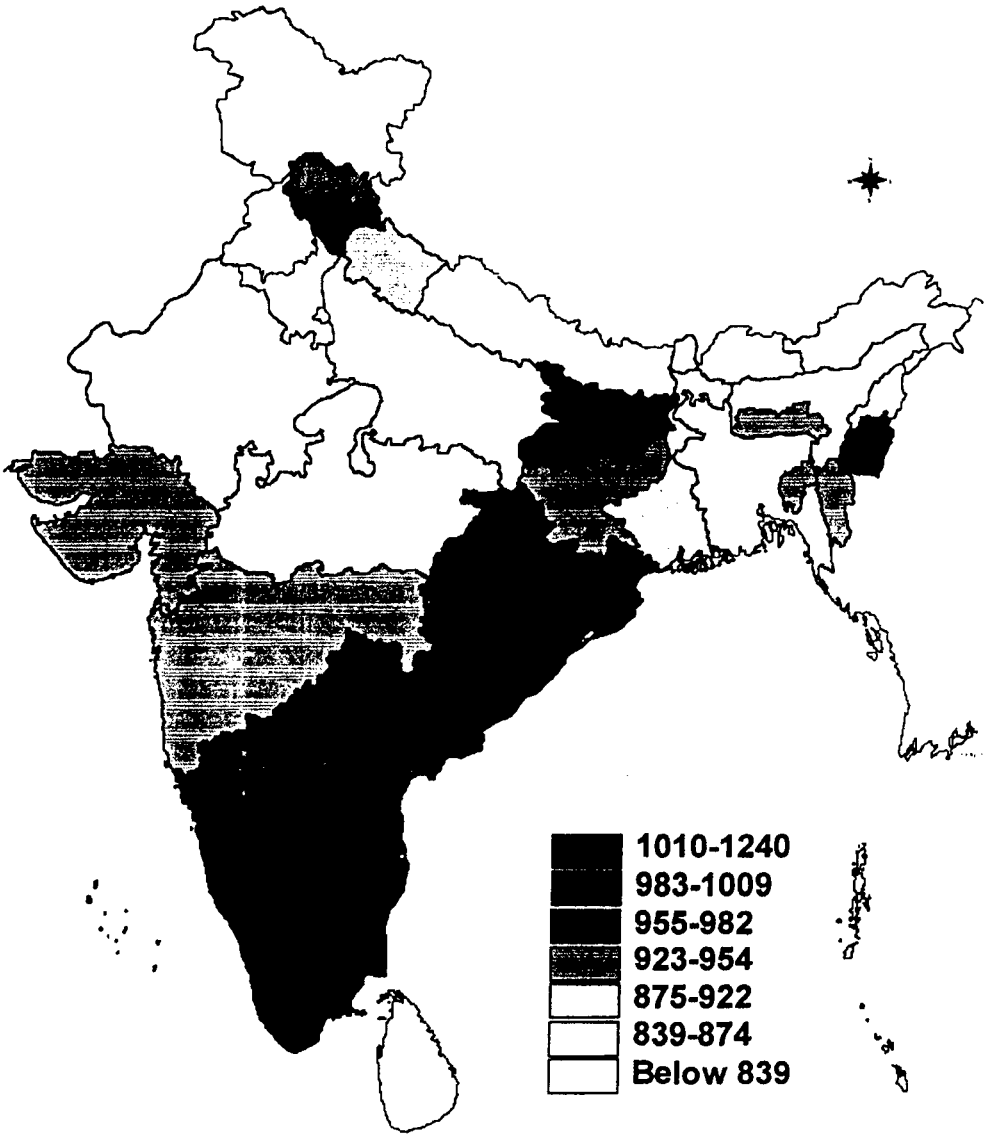
MAP 3.5

SEX RATIO OF INDIA, 1961



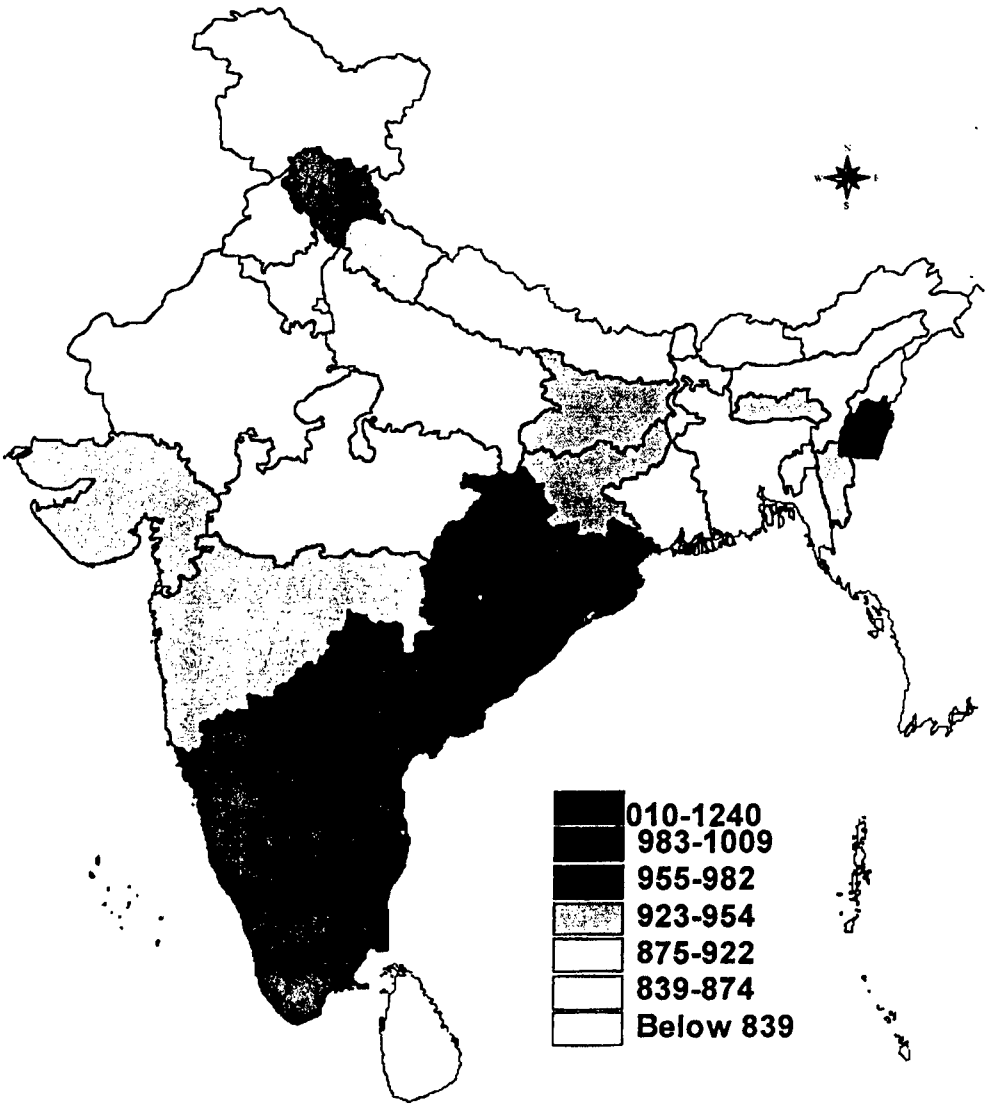
MAP 3.6

SEX RATIO OF INDIA, 1971



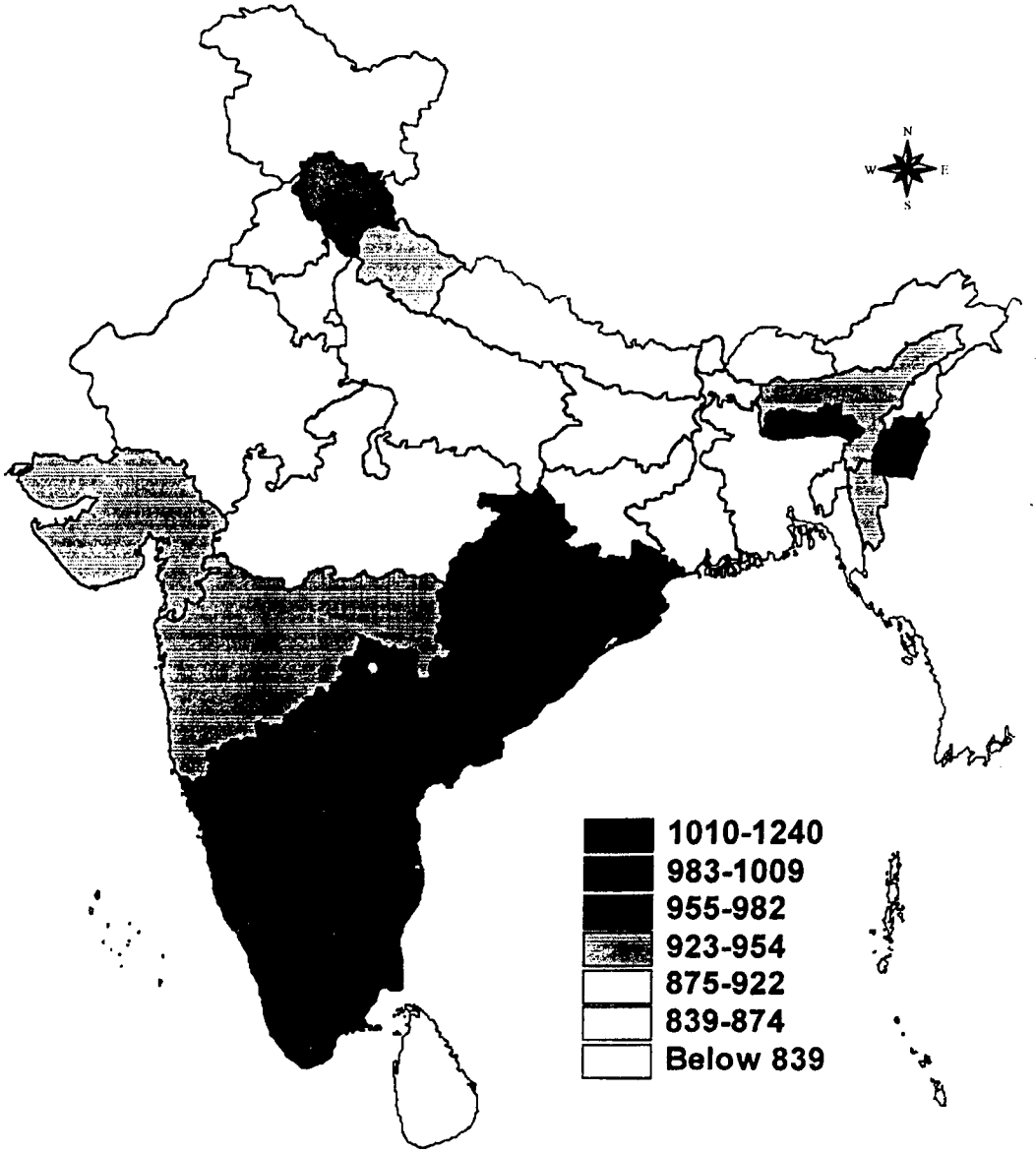
MAP 3.7

SEX RATIO OF INDIA, 1981



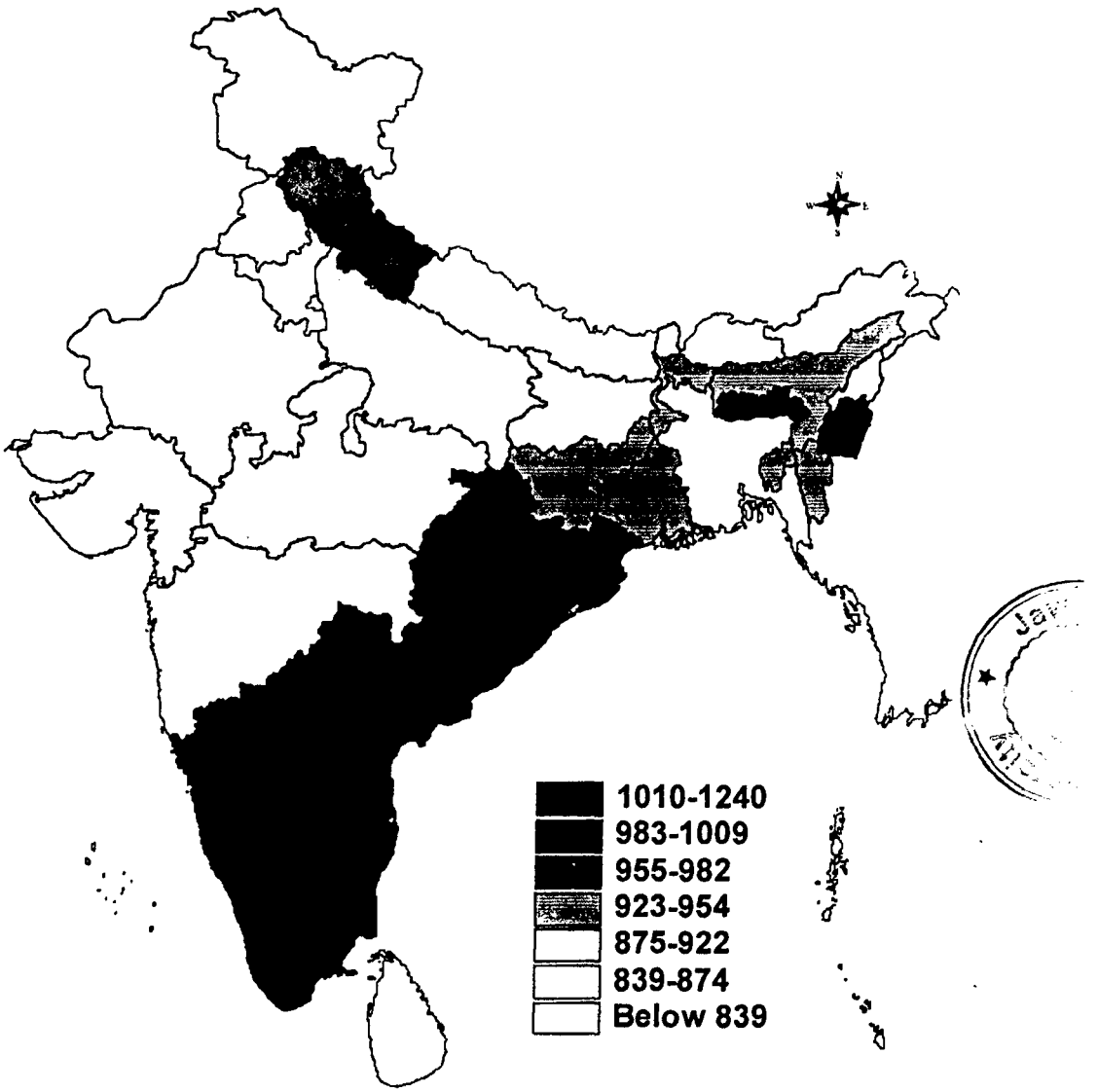
MAP 3.8

SEX RATIO OF INDIA, 1991



MAP 3.9

SEX RATIO OF INDIA, 2001



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