

**UNDERSTANDING IMBALANCE IN CHILD SEX RATIO:
AN EXPLORATION OF HARYANA**

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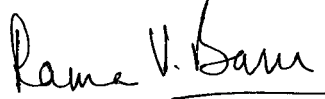
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This dissertation entitled '**Understanding Imbalance in Child Sex Ratio: An Exploration of Haryana**' is submitted in partial fulfillment of six credits for the award of degree of **MASTER OF PHILOSOPHY (M.Phil)** of the University. This dissertation has not been submitted for the award of any other degree of this University or any other University and is my original work.


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Dedicated To...

My Chachu

Lt. SATBIR SINGH

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ABBREVIATION

AMPCE	Average Monthly per Capita Expenditure
ASR	Adult Sex Ratio
BIMARU	Demographically speaking, the sick states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh
BSNL	Bharat Sanchar Nigam Limited
CEHAT	Centre for the Enquiry of Health and Allied Themes
CHC	Community Health Centres
CSR	Child Sex Ratio
CVB	Chorion Villi Biopsy
HMT	Hindustan Mechanical Tools
HP	Himachal Pradesh
HR	Haryana
HUDA	Haryana Urban Development Authority
ICMR	Indian Council of Medical Research
IEM	Industrial Entrepreneur Memoranda
IIPS	Indian Institute of Population Study
IMR	Infant Mortality Rate
J & K	Jammu and Kashmir
JSR	Juvenile Sex Ratio
MOHFW	Ministry of Health and Family Welfare
MP	Madhya Pradesh
MTP	Medical Termination of Pregnancy
NFHS	National Family Health Survey
NGO	Non-Government Organisation
NRHM	National Rural Health Mission
NRR	Net Reproductive Rate
NSSO	National Sample Survey Organisation
NSV	No Scalpel Vasectomy
PC & PNDT	Pre-Conception and Pre-Natal Diagnostic Technique
PHC	Primary Health Centres
PNDT	Pre-Natal Diagnostic Technique (Regulation and Prevention of Misuse, Act of 1994)
RCH	Reproductive Child Health
SC	Scheduled Castes
SDT	Sex Determination Technologies
SR	Sex Ratio
SRB	Sex Ratio at Birth
SRS	Sample Registration System
ST	Scheduled Tribes
UNICEF	United Nation International Child Emergency Fund
UP	Uttar Pradesh

INTRODUCTION

The sex ratio (SR) in India during last 40 years has been hovering around 930 females per 1,000 males. It has always remained unfavorable for females in India, where as the overall trends across the world is opposite which is more females per thousand male. During the Census decade 1991-2001 it has improved slightly from 927 to 933 females per 1,000 males. However, the disturbing fact about India is that the child sex ratio (CSR) (0-6years) had been persistently declining during the last 50 years. There has been a pronounced decline in the some northern states like Punjab, Haryana, Uttaranchal and Himachal Pradesh etc. This has concern and anxiety, particularly a human development perspective. Imbalance in SR is not a biological problem, but it has root in social and economic levels. The problem is more of structurally rooted one rather than biological in nature.

Literature related on the phenomenon does not give historical trend of SR in Haryana across socio-economic groups over the time period 1971-2001. Whatever work has been done in regard to understanding imbalance of SR/CSR and its causes and consequences is, in a specific area with small sample which has limitation of generalization. It seems government documents like Census of India, National Family Health Survey and National Sample Survey have not been looked together the trends in CSR by anyone. There is need to examine these documents for understanding the phenomenon and its causes especially in Haryana. There is a need to also find out that whether government documents and findings of field studies go together?

This study, "Understanding imbalance in child sex ratio: an exploration of Haryana", aims to understand the declining SR, particularly CSR and its reasons of different socio-economic groups in Haryana during 1971-2001, where the SR overtime, became distinctively biased against girls. For understanding the trend and pattern of SR and CSR in Haryana, it is important to study the phenomenon at national level for comparison with the state. It helps to identify socio-economic issues, use of the technology and

effectiveness of government policies. The understanding of child SR also gives further threat projection that how imbalance of SR leads our society in wrong direction.

Haryana provides an ideal situation for exploring gender disparity in child health. It is a fairly well-developed state, with the third highest per capita income in India (Government of India, 2001). But it is also a state that has shown strong evidence of son preference and has the most imbalanced CSR in India (Office of the Registrar General of India, 2001), which is the grim indicator of the persistent and severity of discrimination against girls and women. Further the pattern of sex differentials in mortality by age provides evidence of differential treatment of male and female children, leading to higher mortality risks for females. The mortality rate for girls is considerably higher than that for boys in every age group below 5 years. The ratio female to male mortality rates ranges from a low 1.1 in the case of neonatal mortality to a high of 2.1 in the case of child mortality (1 to 4 years) (IIPS, 2001). According to a World Bank study (Filmer et al. 1998: 2191-98), the ratio of female to male child mortality in Haryana is worse than in any country of the world. This is a state where technological means to identify sex through amniocentesis and ultrasound has been used to accommodate the widespread preference for sons (George and Dahiya 1998). One study (Bhat and Zavier, 2007) has found that in the north-western parts of the country, where the CSR is low, the reported use of Pre-Natal Diagnostic Test (PNDT) is moderate (17 per cent) but, the misuse of PNDT is most frequent (27-47 per cent) as compared to southern states which have the highest rate of PNDT use but misuse of the technology is rare. As a consequence, the SRB is more than 105 in north-western region among both users and non-users of PNDT. The adverse SR in the northern states especially in Haryana is adding in numbers of unmarried men. Due to scarcity, women and even minors are bought, sold and resold for the purpose of marriages. People of Haryana buy their brides from states like, Orissa, West Bengal, Bihar and Kerala. Slowly this has become a business in low sex ratio regions. Women have to face physical, mental and sexual violence, even at a minor age. In order to study the imbalance of sex ratio, it is necessary to study the pattern of SRB, CSR, JSR (0-9 age group) and adult sex ratio (ASR) (seven plus age group) in the same time period, because all these age groups directly or indirectly affect the overall SR in any country. Here, it is also important to

study which socio-economic groups are contributing in declining SR at national and at the state level. Which factors are responsible in declining SR and CSR?

For the purpose of adequate research, data resources are used, Census Reports, 1971-2001, two rounds of National Family Health Survey (NFHS-1992-93 and 1998-99 for understanding the SRB at India and state level NFHS-3 has not included in the study as time period of the study is 1971-2001. National Sample Organisation used for understanding the SR and CSR in different classes as it provides information on Average Monthly Per Capita Expenditure (AMPCE) classes. Other than these resources primary studies have also been used as resource for the research study. The study contents four chapters including the conclusion chapter.

The first chapter, "Sex Ratio in India", focuses on understanding the magnitude of the imbalanced SR and CSR at India and Haryana level. The declining trend in CSR can be seen all over the country since 1971 to 2001; however, it is more prone in north-western states. The selection of Haryana for understanding the phenomenon is based on the sharp decline in CSR in last four decades. The CSR was recorded by Census from 921 in 1971 to 820 in 2001 in the state which is worst CSR in the country, excluding Punjab. Discrimination against girl child and son preference exists all over India since *Vadic Yug*. Then why these north-western states specially Haryana has a declined trend in CSR? What could be the reasons of sharp decline in CSR after 1980s in India and Haryana? The factors responsible have been linked with the declining CSR in India and Haryana. Implications of declining SR at society level; like changing marriage scenario, impact on women's health has been analyzed.

In chapter two, "Content Analysis of Published Studies", the review of literature has been done on the basis of published journals on the issue, disciplines contributing towards the understanding of the phenomenon, and primary-secondary studies which have looked into the issue. The purpose of this kind of framework of literature review is to understand the magnitude of the issue in different parts of the country, the methodology used to understand these issues and also to collect a common finding in order to draw the

conclusion. On the basis of review of literature the need of the study has been discussed. Legal measures to stop misuse of technology and their loopholes have been highlighted.

Chapter three, “Trends and Patterns in Sex Ratio and Child Sex Ratio in India and Haryana”, explains the trend in SR and CSR in India as well as in Haryana among various socio. economic groups during 197-2001. SRB has been analyzed for understanding the above mentioned trend. The comparison between SR and CSR at India and Haryana level has been done for understanding the use of sex-selective abortions in recent time. The rural-urban gap in SR and CSR during 1971-2001 has also been studied.

The last Chapter, “Interpretation and Analysis” focuses on the common finding of imbalanced CSR in India as well as in Haryana state. Other than socio-economic and political factors, use of sex-selective abortions by high class, castes and educational people are the main reason for this sharp decline in CSR. Declining trend in SR and CSR has been observed among Hindu and Sikh religions than other religion. Haryana is economically well developed state, have a higher than national literacy rate (62 per cent in 2001) and most of the population follows Hindu and Sikh religion. Accessibility and availability and paying capacity of sex determination tests and sex-selective abortions are the main reasons which contributed in sharp decline in Haryana than other states. Rural-Urban gap in CSR is coming closer after 1980s as availability of sex determination technologies (SDTs) are spreading in villages too. ‘Small family norms’ and liberal abortion law are adding fuel in the problem. Pre-Natal Diagnostic Technology (Regulation and Prevention of Misuse), Act, 2003 is not functioning adequately.

The focus of the study is 1971-2001 period, which is a limitation of the study. The study is totally based on secondary review of literature. Level of analysis of the study is also limited because higher level statistical tools are not used in the study.

CHAPTER-1

Sex Ratio in India

The sex composition of human population is one of the basic demographic characteristics. It has vital ramification for the socio-cultural fabric of a society. It is an important social indicator to measure the extent of prevailing equality between males and females in the society at a given point of time (Bhatt and Sharma, 2006).

Conventionally, the term sex ratio (SR) is used in India to denote female to male ratio, while internationally it is the other way around. In the beginning of 20th century, the SR in colonial India was 972 women per 1000 men, it declined by 8, 11, 5 and again 5 points in 1911, 1921, 1931 and 1941 respectively. During 1951 census it improved by 1 point. During 1961, 1971, 1981 and 1991 it declined by 5, 11, 4, 7 points respectively. In 2001, even though the overall SR improved by 6 points, but Juvenile Sex Ratio (JSR) has declined by 18 points which is alarmingly high.

Evidence since 1971 suggests SR has not only stayed low in several north Indian states, but has also deteriorated. Declining SR is a cause of concern demographically as well as socially. Demographic, sociological and economic research has concentrated on analyzing the reasons for the low and declining SR. Demographers have focused on the numbers of 'missing women' pointing to fertility decline and son preference as causes (Kaur, 2004; Sudha and Rajan, 2003; Visaria and Visaria, 1994).

The sharp decline in SR as well as in child sex ratio (CSR) can be seen during 197-2001. Interpreted as a restriction of the girl child's right to live, female disadvantage in child mortality is rightly taken as one of the most significant indicators of gender bias in India. This phenomenon is not due to great natural frailty of girl children, but result from parent's practices discouraging the life chances of unwanted daughters through selective neglect or infanticide. Despite socio-economic development, fertility decline and falling mortality for both sexes, the male female child mortality gap did not shrink during 1981-1991 (Das Gupta and Mari Bhat, 1997), but also spread into hitherto egalitarian parts of

the country (Basu, 1999; Rajan et al. 2000). SR is often aggregated as Sex Ratio Birth (SRB), CSR, JSR and Adult Sex Ratio (ASR).

Sex Ratio at Birth (SRB)

SR at birth is one of the 'initial conditions' which determines the SR of the overall population. An evaluation of SRB provides insight into the extent of sex-selective abortions because "normal" SRB is found to lie between 103 and 106 males per 100 females for most of societies (United Nations Secretariat, 1998; Visaria, 1971). This normal SRB imply that, as a matter of biology, the number of boys born is somewhat higher than the number of girls born (Chahnazarian, 1986). But due to biological reasons male child is more prone to face health problems that results in higher mortality rate compared to the female child. Thus it results in normal SR among population naturally. The SRB above 106 suggests that prebirth interventions are further reducing the likelihood of a female birth (Arnold, Kishor and Roy, 2002). There is also some evidence of secular trends in the SRB, predating the invention of modern technologies of sex selection (MariBhat and Zavier, 2007).

But now the trend in SRB has been recorded increasing since the introduction of sex determination technologies (SDTs). To a large extent, the systematic rise in SR in the years preceding the census 2001 must have been due to the rising trend in the SRB. None of the states in the south and eastern parts of India show any evidence of sex-selective abortions as compared SRB from both types of data (Census 2001 and NFHS-2) are well within the normal range of international measure. But there is a strong evidence of sex-selective abortions in north and western parts of India, especially in the states of Punjab, Haryana and Gujarat. The SRB is 127 for Punjab and Haryana and 120 for Gujarat (MariBhat and Zavier, 2007).

Child Sex Ratio (CSR)

For a proper study of the CSR, one needs data on SRB and at ages one, two, three, four and five but single year age data are not very reliable (Bose, 2001). Defining the SR by covering children in age group 0-6 may seem arbitrary but the Census uses it for the

purposes of literacy status, categorizing (from 1991 onwards) the entire population into two groups, those aged 0-6 years and those 7 years and above. In the Census, the Child has been defined in the age group 0-6. The Census of India measures the CSR as number of females per 1000 males as opposed to the standard international norm of number of males per 1000 females. CSR India has been recorded low in all states excluding Kerala and Manipur in 2001.

Juvenile Sex Ratio (JSR)

The term juvenile is taken to mean number of females in the age group 0-9 year over 1000 males in the same group. As Patel (2003) stated that the use of Juvenile Age Group female male sex ratio data offers several advantages. They are free from the effects of sex selective migration and are able to reflect the consequences of under-5 mortality patterns. Besides these, they also reflect the decennial changes in the SR pattern more readily, compared to all age group female male ratios. The declining JSR is the most distressing factor reflecting low premium accorded to a girl child in India (Ibid). As per the Census of India, JSR were 971, 945 and 927 for 1981, 1991 and 2001 respectively. In 2001, India had 158 million infants and children in the age group 0-9 years, of which 82 million were males and 76 million, were females. There were 6 million female infants and girls in the same age group, who were missing. This is a result of the widespread use of sex determination and sex pre-selection tests throughout the country (including Kerala), along with high rates of female infanticide in Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh (BIMARU) states, rural Tamil Nadu and Gujarat (Patel, 2005).

Adult Sex ratio (ASR)

The ASR is denoted by seven plus population of a country. ASR in the total population as well as CSR has been defined in India as the number of female per 1000 males. ASR is affected with various factors like sex-selective migration from one place to another place, double counting of males, misreporting of sex and under counting of girls and women. Therefore, we can not rely only on ASR and see the SRB and CSR to know the real status of present overall SR of a country.

I. The Imbalance in SR in India

The imbalance in SR in India's population has been documented since the first decennial enumeration of people, which was conducted in the late 19th century (Visaria, 2003). Results of the first population census of the millennium reveal a number of significant changes in the SR patterns in the country. First, the declined SR among children in the 0-6 age group turns out to be sharper in the urban (32 points) than in the rural. Second, the traditional north-south divide stands significantly modified and the '*northernisation*' of SR is rapidly taking the urban route. The sharp decline in the urban SR among children cannot be explained away by any of the three popular escape hatches of yesteryears, i.e. migration, undercount or biological ordained high SRB (Agnihotri, 2003).

Over the span of more than a century, the imbalance in SR has progressively increased as evident from the SR of the population; the number of women per 1000 men steadily declined from 972 in 1901 to 933 in 2001 (Visaria, 2003). There are various socio-economic causes for this declining trend in SR but most visible is a sex-selective abortion or female foeticide. To stop the abuse of advanced scientific techniques for selective elimination of female foetuses through sex-determination, the government of India passed the Pre-Natal Diagnostics Technique, Regulation and Prevention of Misuse (PNDT) Act in 1994, but the technology based in the metropolis, urban and semi-urban centers and the parents desirous of begetting only sons have subverted the Act (Patel, 2005). Other sociological reasons contributing in biased attitude for girls is their supposedly lower labour force participation and consequent need for dowry as compensation. Again imbalance in SR is a very complex phenomenon and therefore raises questions as to whether it is dowry increase leading to decrease in SR or is it the other way round. Is it because of decreased SR that is leading to increasing violence against women or vice-versa? The women are considered a burden over parents because they need extra protection and this attitude is contributing in decline of SR. Since it is a complex phenomenon with definite process and consequences, it needs special attention. Again more programmes like the Family planning Programme has developed which is contributing to female deficit. Supporters of population control advocate this test because they think that the government can achieve Net Reproductive Rate (NRR) of one, that is,

replacement of a mother by only one daughter, with the help of sex determination tests (Das and Sinha, 2002). According to them, if there is less number of women, there will be less growth of runway population. The government and private medical practitioners justify sex determination test as measure of population control. Amitai Etzioni, a famous sociologist in his work, *Genetic Fix* (1973), examines the consequences of sex control as mass practice. He concluded that this would probably result in a surplus of boys, at a conservative estimate of 9.5 out of 1000. This surplus he argues will have undesirable social consequences such as a rise in crime. Balasubrahmanyam (1992) argues that 'breeding males', that is, aborting female fetuses is the only method of population control that will work in the Third World.

The problem is more of structurally rooted one rather than biological in nature. The problem has various socio-economic dimensions. Women are socially constructed as the inferior, less valuable sex and are often projected as a burden on the family. While sons are considered valuable for various reasons (support to parents in old age, continuing lineage, inheriting property), daughters are constructed as being dispensable. Despite improvements in several social indicators for women (lower mortality, better education, increasing labour force participation, relative economic independence), son preference has not declined (Kaur, 2004).

Bose (2001) stated that those familiar with the field situation of Punjab, Haryana, Himachal Pradesh, Chandigarh and Delhi know that the ready availability of doctors during the ultrasound tests and consequent female foeticide, the good transportation system and ability to pay for the services of the mobile doctors are factors responsible in decline of SR. He argues on the basis of field work that 'son complex' is not confined to Punjab and Haryana only, but also creeping all India including Kerala. But the ready availability of doctors and its paying capacity is conspicuous mainly in Punjab and Haryana. Sample survey data (1999-2000) indicated same reason. Data shows that the CSR among the poorest 5 per cent of the households in rural areas is 946, while among the richest 5 per cent it is 804. The corresponding figures for urban areas are 903 and 819 respectively. This shows that CSR is higher for the poorer than the richest. The SR gap

between the rich and the poor is not that much. Thus, the phenomenon is prevalent across income groups with some variation.

II. Declines in SR in India

If we examine the census report, the improvement in overall SR in the country has occurred second time in the past 30 years (Table 1); the first one was observed between 1971 and 1981 and second one between 1991 and 2001. When the SR in the total population improved in favor of females from 930 to 934 between 1971 and 1981, there was a feeling that discrimination against women, especially against girl child, had been stalled and one could hope for future improvement in the SR. The decline in SR by 7 points between 1981 and 1991, has come as rude shock and was viewed as a matter of serious concern by the demographers and several women's organizations (Premi, 2001).

Table 1: SR in India, 1901-2001

Census year	SR (females per 1000 males)
1901	972
1911	964
1921	955
1931	950
1941	945
1951	946
1961	941
1971	930
1981	934
1991	927
2001	933

Source: *Census of India (2002; 85)*

The 1991 census recorded a SR of 927 females per 1000 males compared to 934 in 1981. It is observed that the SR in the population aged 7 and above declined from 929 in 1981

to 923 in 1991. Similarly, the SR in the population 0-6 declined from 962 in 1981 to 945 females per 1000 males in 1991 (Premi, 2001). Though there has been an increase in overall SR from 927 in 1991 to 933 in 2001, which is a positive change, the worrying news is that the SR figure of children below seven years has decreased markedly from 945 in 1991 to 927 in 2001. A fall of 17 points in the CSR over the decade, however, is very substantial and is a matter of serious concern which needs explanation.

The decline of 60 to 83 points in the JSR between 1991 and 2001, or in a span of just one decade observed in many of the districts, cannot be explained solely by discrimination against girls that has been practiced in this region for several decades because at no other time in the history of census taking in the region has the SR of children declined so drastically (Visaria, 2003). The issue of decline in SR has various roots in economic, social, political, demographical and techno-medical reasons. All these roots are causes as well as consequences. In India, sons are preferred over daughters for a number of economic, social and religious reasons including financial support, old age security, poverty, dowry, family lineage, prestige and power, birth and death rituals and beliefs about rituals and duties and salvation (Arnold et al. 2002; Basu, 1993; Kishor, 1993; Bardhan, 1988; Karki, 1998; Das Gupta, 1987; Das, 1987; Miller, 1981). The need for dowry for girl children, and the ability to demand a dowry for boys exerts considerable economic pressure on families to use any means to avoid having girls, who are seen as a liability. Discrimination against women is another social problem which influences the imbalance of SR. The gender bias was flagrantly aided by a combination of medical technology that helped detect the sex of the foetus on the one hand and liberal abortion law that helped couples to abort the female foetus (Visaria, 2007). Theoretically, it is argued that with increase in family income and education of women in particular, a process would that ensure an equal status to women, would help in increasing SR of the population. Evidences can be seen in some developed parts of the contemporary world. Unfortunately in India, the ground reality in certain cases seems to be quite the contrary. If one has a look at the scenario in some Indian States finds, unexpectedly, that increase in income and education of women has resulted in biased attitude towards the females even before birth (Bhat and Sharma, 2006). The sharply declining SR in States like

Punjab and Haryana and the Union Territories of Chandigarh, in the age group 0-6, clearly pin points that the decline is purely manmade and engineered. The mere fact that in India, all 12 districts with lowest CSR in Census, 2001, are from the two states (Haryana and Punjab) that have high literacy rates and decent income. It suggests that with prosperity, increase in education and availability of facilities has not only led to limiting the size of their families but also manipulate the sex of expected child (Ibid). Because there is a strong son preference among people, modern technology is being used to abort fetuses of the unwanted sex. Not surprisingly, female-selective abortions are on the rise. Agnihotri says, "The rise in sex selective abortions and emergence of female infanticide in various parts of the country are two serious aspects of excess child mortality" (Agnihotri, 2000).

III. CSR: An Overview of Haryana

Haryana, as a developed state, has one of the lowest overall SR as well as decreasing trend in CSR in 1991 and in 2001. The SR in Haryana has declined from 865 females per 1000 males in 1991 to 861 in 2001. However India's SR has increased 6 points since 1991 to 2001. The CSR has declined from 945 to 927 in same period; however, Haryana was already ranking among the worst with 879 in 1999 and has fallen 59 points and come down to 820 with serious allegation of discrimination against the female child. The data from the state indicate that the CSR was higher by 14 points compared to the overall SR in 1991, but surprisingly the trend has reversed since the CSR in 2001 has been 41 points lower than the overall SR. The CSR has declined in all the 19 districts of the state. It declined by 104 points in Ambala, 98 in Kurukshetra, 95 in Jind and over 80 points in Yamunanagar, Panipat, Rohtak and Rewari (Premi, 2001). The improvement in overall SR can be seen twice since 1971 to 2001 but the CSR has been continuously declining in India as well as in Haryana.

Table 2: Districts wise CSR, total/rural/urban in Haryana, 2001

State/District	Total	Rural	urban
Haryana	820	824	809
Panchkula	837	845	825
Ambala	784	772	812
Yamunanagar	807	817	789
Kurukshetra	770	772	762
Kaithal	789	796	756
Karnal	808	814	788
Panipat	807	805	810
Sonipat	783	788	767
Jind	818	828	775
Fatehabad	830	835	806
Sirsa	818	823	804
Hisar	830	837	804
Bhiwani	838	841	821
Rohtak	796	802	781
Jhajjar	805	806	803
Mahendergarh	814	816	801
Rewari	814	811	830
Gurgaon	863	872	818
Faridabad	856	861	850

Census of India, 2001

According to the Office of the Registrar General of India in 1991 out of the 10 districts had recorded with lowest CSR in India. Out of 10 districts four were in Haryana, Kurukshetra (770), Sonipat (783), Ambala (784) and Kaithal (789). The activists in Haryana observe that in some villages it is as low as 500-550. The government, according to them, is pressuring the village authorities not to disclose this fact or recognize it officially (George and Dahiya, 1998).

IV. The Importance of CSR

It is very important to study the CSR as the declined trend has been recorded in India as well as in Haryana especially after 1980s. Declining CSR is shocking news for the demographers as well as for sociologists as it is contributing towards imbalance of SR at present time and in future too. If there are less numbers of females than males, then one can predict the increasing crime against women. When there is a shortage of women at the marriageable age then the practice of buying women from other states starts growing. This has been observed in Haryana where men are seeking brides from other parts of the country like Kerala, Bihar, and West Bengal etc. Status of women already is not much in male dominated society and it reduced further as they become just like any other commodities in the market. According to media reports and a few studies, these women who come in exchange of money do not get the same respect as local wives in the society. The relatives of so called husbands some times use these women forcefully as sexual objects. Even today we come to notice rape cases against female children, mentally retarded females, female patients in hospitals and when they are on service duties, which is certainly the result of declining SR.

The regional variations in SR as well as in CSR can be seen within India as well as in Haryana. Many scholars, Bhat and Sharma (2006), Bhat and Zavier (2007), George and Dahiya (1998), have focused in variations in SR and CSR among socio-economic groups. Therefore, it is important to know the pattern of SR and CSR among socio-economic groups. The causes and consequences can be analyzed with this pattern and some possible steps can be taken for reducing the decline in SR as well CSR.

V. Decline in CSR

A declining CSR has been one of the important concerns of India's demography. Census of India shows an unusually low SR (females per 1,000 males) for children less than seven years of age in the country as whole. Though there has been an increase in the over all SR from 927 in 1991 to 933 in 2001, which is good news, the worrying news is that the SR figures of children below seven years has declined markedly from 945 in 1991 to 927 in 2001 (Unesa, Pujari and Usha, 2007).

Census Paper No. 1 Supplement provides comparable data for 1991 and 2001 on the CSR in 577 districts of India (this excludes 14 districts of Jammu and Kashmir where the 1991 Census was not conducted and *Kachchh* districts of Gujarat and *Kinnaur* districts of Himachal Pradesh where the 2001 Census was not conducted in February). As many as 456 districts out of 577 records a decline in the CSR in 2001 compared to 1991. In 70 districts, the decline is in the order of 50 points. In several districts decline is more than 100 points (Bose, 2001).

Table 3: India's 50 districts with worst CSR (0-6)
(Females per 1000 males) 850 or below

c	District	State/Union territory	CSR
1	Sangli	Maharashtra	850
2	Agra	Uttar Pradesh	849
3	Gwalior	Madhya Pradesh	849
4	Baghpat	Uttar Pradesh	847
5	Chandigarh	Chandigarh	845
6	South West	Delhi	845
7	Rajkot	Gujarat	844
8	Una	Himachal Pradesh	839
9	Bhiwani	Haryana	838
10	Panchkula	Haryana	837
11	Kangra	Himachal Pradesh	836
12	Fatehabad	Haryana	830
13	Hisar	Haryana	630
14	Morena	Madhya Pradesh	829
15	Bhind	Madhya Pradesh	829
16	Salem	Tamil Nadu	826
17	Moga	Punjab	819
18	Firozpur	Punjab	819
19	Jind	Haryana	818
20	Sirsa	Haryana	818
21	Jammu	Jammu & Kashmir	816
22	Gandhi Nagar	Gujarat	816

23	Ludhyana	Punjab	814
24	Mahendragarh	Haryana	814
25	Rewari	Haryana	814
26	Ahemedabad	Gujarat	814
27	Hosiyarpur	Punjab	810
28	Nawanshaheer	Punjab	810
29	Karnal	Haryana	808
30	Muktsar	Punjab	807
31	Yamunanagar	Haryana	807
32	Panipat	Haryana	807
33	Faridkot	Punjab	805
34	Jhajjar	Haryana	805
35	Mahesana	Gujarat	789
36	Jalandhar	Punjab	797
37	Rohtak	Haryana	796
38	Roopnagar	Punjab	791
39	Kaithal	Haryana	789
40	Sangrur	Punjab	784
41	Ambala	Haryana	784
42	Amritsar	Punjab	783
43	Sonipat	Haryana	783
44	Bathinda	Punjab	779
45	Mansa	Punjab	779
46	Gurdaspur	Punjab	775
47	Kapurthla	Punjab	775
48	Patiala	Punjab	770
49	Kurukshetra	Haryana	770
50	Fatehgarh Sahib	Punjab	754

Source: Census of India 2001, Provisional Population, paper 1, Series 1, Supplement District Totals, pp. 218-219,

Worse still, CSR are the lowest ever in some of the affluent states of the country situated in northern parts of India. According to the 2001 Census there were 49 districts in India where, for every 1,000 male children, there were less than 850 female children in the 0-6 age group. The majority (38) of these districts were located in just three northern and

western states: Punjab, Haryana and Gujarat. Bhat and Sharma (2006) supported this argument that in spite of the gain in the SR for the country as a whole in this decade, there has been a pronounced decline in the CSR in some northern states of the country like Punjab (875 to 793), Haryana (879 to 820), Uttaranchal (948 to 906) and Himachal Pradesh (951 to 897) etc during 1991-2001 Census in India.

VI. Decline in CSR and Its Linkage with Development

As Agnihotri (2003) stated rightly that development, frankly, cannot be viewed in isolation: it is important to know how it combines with discrimination, on the basis of gender in particular. If we remain underdeveloped and yet aggravate discrimination, that is the worst case scenario. If underdevelopment co-exists with lack of discrimination, life gets tolerable but not enjoyable. But a highly developed society with high discrimination levels as in our 'epicenters' is not a great goal for women either. We must, therefore strive to become a society where development goes hand in hand with absence of discrimination against its women. We should question the current model of development where discrimination necessarily appears to accompany development. It is not that success stories of alternative 'development' do not exist; Kerala, Goa or Manipur provide examples where social indicators have developed, but not at the cost of gender equity. This is the role model that the society has to follow and not the model of Punjab, Haryana and western UP where discrimination appears as 'inevitable'.

VII. Implications of Adverse SR

(a) The Declining SR and Its Implication for Society

Some advocates of population control policy have argued that if the supply of women reduces, their demand as well as status will be enhanced (Seth, 1989). The scarcity of women will only increase their value (Bardhan, 1982). Economic theory of supply and demand leads us to believe that if women are fewer in number than men, this scarcity will enhance their status, as they will be sought after by men who want to marry and have children (Singh and Mohan, 2005). According to this logic, women would not be easily replaceable commodities. But what the economists do not think is the socio-cultural milieu in which women have to live. The society that treats women as mere sex objects

will not treat them in a more human way even if they are scarce in supply. On the contrary, there will be increased incidence of rape, abduction and forced polyandry. In certain communities in Madhya Pradesh, Haryana, Rajasthan and Punjab, the SR is extremely adverse for women. It is observed that several brothers share a wife and sometimes even by patrilineal parallel cousins (Dube, 1983). To think that it is better to kill female foetus than give birth to unwanted female child is very fatalistic. By this logic it is better to kill the poor people or third world masses, rather than let them suffer poverty and deprivation (Das and Sinha, 2002).

For two decades, the *Haryanvis* aborted female foetuses or poisoned and starved female infants or deliberately neglected their health to let them die. Today, their youth cannot marry due to a scarcity of brides. The situation is so grim, news reports say, that families are resorting to buying girls from Madhya Pradesh, Bihar and West Bengal and passing them off as members of their own *biradiri* (community). Though the families do not admit to it, neighbors assert that these women are treated no better than bonded workers. Communities here, which consider a man is ready for marriage as soon as he has touched 18, are witnessing men of above 30 still searching for wives (The Hindu, Sunday, August 31, 2003).

A study from Haryana (Chowdhary, 2005) illustrates that the scarcity of women, instead of increasing their value, has led to a manifold increase in violence against them. Haryana's extremely low SR (861) has made it very difficult for men to find brides locally. But this has no way produced a decrease in dowry demands or enhancement of the status of local women. Rather, it has led to the buying, selling and reselling of women; the trafficking, abduction and sexual exploitation of women; marriage at much younger ages; and implementation of harsh measures to keep women under male control. Despite their scarcity, women in Haryana are subjected to more rapes, forced marriages, prostitution, polyandry and social turmoil than in past decades. Men who are unable to find wives locally buy them from other states with the help of "brokers," who are thriving in this new business, or even kidnap them (just in case they are unwilling to marry). Many of these "bought-up wives" have no proper registration of their marriages, and as a

result, they have no legal status as wives (Kaur, 2004). This renders them vulnerable to sexual exploitation by their husbands' brothers, male relatives and friends. They are also subjected to social isolation and cultural deprivation as "outsiders." There have been cases where some of these women are even kept in chains or under worst kind of restraints so that they do not run away. In certain other cases certain 'husbands' of 'bought up wives' were forced to commit suicide because they could not pay the required amounts to 'brokers' or they had to face the humiliation of not getting married or their 'bought up' wives ran away from them for certain reasons (Chowdhary, 2005). The status and position of men who must resort to buy wives is also devalued, and they do not get full property rights due to the social stigma attached to such marriages (Singh and Mohan, 2005; Chuwdhary, 2005).

In rural areas, as the number of marriageable women declines, men would tend to marry younger women, leading to a rise in fertility rates and thus a high rate of population growth. The abduction of girls is an associated phenomenon. The Hindustan Times recently reported that young girls from Assam and West Bengal are kidnapped and sold into marriage in Haryana (The Hindu, Sunday, August 31, 2003). The impact on society should not be underestimated. A society with a preponderance of unmarried young men is prone to particular dangers. More women are likely to be exploited as sex workers. Increase in molestations and rape are an obvious result. The sharp rise in sex crimes in Delhi have been attributed to the unequal sex ratio (Grewal and Kishor, 2004).

Another negative impact of declining sex ratio can be seen on the low status of women. This is seen in many cases that the bride is sent to her parent's house during the first delivery and if it is a girl child, she is forced to undergo abortion. This trauma plus the expenditure involved leads to all kinds of tensions within the family and of course the girls pay the heaviest cost. In some other cases where the bride, due to certain physical or other reasons, do not go for abortion and gives birth to a female child, either she is not brought home by her in-laws or the female child is stealthily thrown away during night in the bushes or other isolated places. That is to say, invariably there is some 'trouble' or the other; the worst kind of physical and mental torture in case of birth of a female child, and

the mother invariably has to undergo a horrendous experience (Chowdhary, 2005; Singh and Mohan, 2005).

Women are being subjected to more violence than before and families are being forced to keep them cloistered inside their homes, say social workers in Haryana. In countries like India, where the social status of women is low, their diminishing numbers will lower their status further. Polyandry and the *Draupadi* syndrome would again become a modern-day reality (The Hindu, Sunday, August 31, 2003).

Although child marriages are officially discouraged through compulsory education for girls, massive awareness campaigns and government laws that make the minimum age of marriage 18 for girls and 21 for boys. But the shortage of brides creates pressure to marry girls, who are still very young. In a low supply/high, demand situation, girls get married at an earlier age, thus jeopardizing their opportunities for education and participation in the workforce. In addition, early marriages contribute to earlier sexual experiences, earlier childbirth and higher possibilities of maternal mortality (Singh and Mohan, 2005).

(b) Implication of Adverse SR for Marriage

The adverse SR has not increased the value of women although the supply has decreased, however, it increased restrictions and controls have been placed over them. In Haryana villages are full of bachelors. A new trend of importing/buying wives from outside the state has started taking root in Haryana. The deficit of women is leading other social problems in the country. Marriages are increasingly coming to note in which men from UP, Haryana, Punjab and Rajasthan are marrying women from West Bengal, Assam, Bihar, Andhra Pradesh and Tamil Nadu. The unusual marriages are a consequence of a combination of factors: adverse SR, acute poverty and the desire of parents to escape dowry. Evidence from the data gathered until now shows that the phenomena of across-region marriages are not confined only to schedule castes but are occurring among all castes and income level in these north-western states (Kaur, 2004). Such marriages represent a hitherto undocumented type that cannot be explained adequately within the

framework of categories available for understanding marriage and non-marriage transactions involving women, i. e, sexual trafficking, buying of women for marriage and bride price marriage Ibid). The declining SR is affecting the status of women. There are increased incidence of rape, abduction and forced polyandry. In certain communities of Madhya Pradesh, Haryana, Rajasthan and Punjab, the SR is extremely adverse for women.

The other bad effect, the adverse SR is increasing unmarried status of men in Haryana. The link between adverse SR and the unmarried status of men lies in understanding its effects in relation to different strata of Haryana society. In a situation where status hypergamous marriages are the norms, such an equation leaves a surplus of brides at the top but a pronounced deficit at the bottom (Chowdhary, 2005). The extremely adverse SR in Haryana has made it very difficult for men to find brides locally. In almost every village one could find hundreds of boys/men who are not getting married at the suitable age due to lack of employment and little land left to sustain them. Suitable local brides becoming fewer in numbers, their families prefer to give them in marriage to the best suitor (Ibid). Therefore, unmarried men are buying brides from other parts of the country. The status and position of such men who have to buy wives is also devalued in the sense that they become objects of laughter and disgrace and do not even get full property rights due to the social stigma attached to such marriages. In certain other cases certain 'husbands' of bought up wives were forced to commit suicide because they could not pay the required amounts to 'brokers' or they had to face the humiliation of not getting married or their 'bought up' wives ran away from them for certain reasons (Ibid). While the boys from Haryana may have found a temporary solution to the problem of missing brides, experts warn that the demographic crisis will lead to increasing sexual violence and abuse against women and female children, trafficking, increasing number of child marriages, increasing maternal deaths due to abortions and early marriages and increase in practices like polyandry.

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(c) The Impact of Adverse SR on Family

The son preference can result in excess child mortality for girls through a couple's family-building behaviour. It is stated in literature that there are two principal mechanisms through which family-building processes can adversely affect the survival chances of daughters. First, girls may experience increased mortality because their birth is more likely to be followed after a short interval by the birth of a younger sibling. The second effect of family-building process on girl child survival is a consequence of the employment of stopping rules in childbearing decisions (Fred, Choe and Roy, 1998). The larger size of the family, in turn, may result in an environment where there is more competition for the available resources and where infectious diseases are spreading more easily. Therefore, some of the excess female mortality that has been observed during childhood may be an inadvertent consequence of family-building processes that are based on a strong underlying preference for sons.

(d) Declining SR and Its Implication on Women

The very strong negative effect of declining SR is on the health of women. Indian women continue to experience higher mortality than men from the age of 12 months of almost up to the end of the reproductive period. Against this elsewhere in the world, women generally experience lower mortality than men at almost all ages such as that the life expectancy at birth of women is greater by that of men (Visaria, 2002). The discrimination is received by Indian women, especially by girl child in regard of their health concern, food, education and even right to birth etc.

India became the first country and a pioneer in the developing world through the passage of the Medical Termination of pregnancy [MPT], Act of 1971 to legalize induced abortions, albeit under certain conditions. The act clearly specifies not only the reasons for which abortions can be legally performed, but also who can perform it and in what sorts of facilities. Abortions can be legally procured in the following circumstances: if a pregnancy carries the risk of grave physical injury to a woman; if it endangers her mental health; when it results from contraceptives failure; if it is the result of rape; or if it is likely to result in the birth of a child with physical or mental abnormalities. But there is

increasing indirect evidence from some parts of India that termination of pregnancy is sought not for the reasons stated under the Act (1971), but because of strong son preference. Nor surprisingly, the female-selective abortions are on the rise (Booth et al. 1994: 1259; George and Dahiya, 1998: 2191-98). The pregnant woman is frequently pressurized to undergo abortions by their husbands and in-laws. According to Chowdhary (1994), abortions are usually done in unregistered village clinics. Further, maternal deletion following abortions in an environment of extensive iron deficiency could have additional adverse consequences for women's health. Many women suffer from psychological trauma as a result of undergoing forcible and repeated abortions. Another very disturbing trend is that most of the women, almost all in rural areas, in an attempt to have first male child take all kind of medicines from quacks and local practitioners and this is leading to various deformities during the growth and formation of foetus of the child. For example in many cases, the head of the child is seen to be bigger than the normal child. In almost all the villages, the number of quacks and other such practitioners is on the increase and all kinds of superstitious beliefs, practices and exploitations are underway, making these women more and more vulnerable (Chowdhary, 2005). Ultrasound should be done after 12 weeks but women respondents during a study conducted in six villages of Rohtak district of Haryana (George and Dahiya, 1996), told that they go for scanning only after 18 weeks, which is not good for the health of women. Despite this, we can not certain the result of sex determination is accurate. Thus in the desperation for sons, some male fetuses would have likely been aborted inadvertently. Because of the late stage, this results in a greater health hazard for the mother as the second- trimester and delayed abortions are associated with high mortality rate of mothers. It may be noted that repeated use of ultrasound waves during pregnancy may adversely affect the human tissue during formation and therefore function (Chowdhary, 2005),

VIII. Factors Responsible for Imbalance in SR and CSR

India's low SR is a stark indicator of the inferior position of women in the Indian society. Bardhan mentioned in early 1970s, that the historical, cultural, sociological and ecological causes are some reason behind the low SR in India. The Committee on Status

of Women in India concluded that ‘an increase in the neglect of female lives as an expendable asset’ is the only reason for the declination of the females in the Indian society. Though these are the some explanation for the declining SR in India, but apart from these, there are some other factors like economical, political and techno-medical etc. which played major role in the process of declining SR.

Historical Factors: The deficit of women has been recorded from the first census report which was documented in the British time. Under-enumeration of females, double counting of males who migrated from rural areas to urban areas, high rate of female mortality since infant to reproductive age are the reasons which were linked since the beginning of deficit of women in the census report. Bhat in his paper on ‘Vanishing Women: Demographic Perspectives on Falling Sex Ratios’ offers the following explanations for the long term fall in the sex ratio in India during the last five decades: (a) disappearance for famines that used to take greater toll of men than women (period 1901-1950), (b) sex discrimination in medical facilities began to have an effect on the SR only after modern medical facilities became accessible in rural areas (period 1951-71); (c) fall in the SRB as a result of declines in male fetal mortality since 1901; (d) fall in the SRB as a result of diffusion of pre-natal SDT in region where there is a sizeable pool of unwanted female births after 1985 (Bose, 2002).

The Socio-cultural Factors: The region to the north of the line is characterized by greater masculine bias in the population, higher levels of fertility, lower ages of marriage, and higher level of infant and child mortality rates than those to south (Dyson and Moore, 1983). Dyson and Moore attribute these contrasts to the different positions of women in regional patterns of culture, especially in kinship and forms of marriage alliance. While it has been long established that the south region gender egalitarian than the north in marriage systems, status of women, and child outcomes, evidence suggests that in the late 1980s and 1990s, gender bias has penetrated south India too. Social and economic changes in south India have produced many factors associated with gender bias, namely the spread of dowry and high female unemployment (Basu, 1999).

Gender bias also varies across socio-cultural grouping in Indian society. Although schedule (lower) castes were often characterized by greater gender egalitarianism, they do not exhibit any less gender bias in child outcomes. Schedule tribes on other hand, whose culture lie outside mainstream Hinduism, appear to have less gender-biased child outcomes, at least up to the 1980s.

Although Hindu culture is plural and has certain traditions supporting respect for women, specific costumes such as hypergamy, female seclusion and dowry have been associated with gender bias. While Islam in India is associated with gender conservatism regarding women's education, work participation and seclusion, there are also *Koranic* injunctions regarding good treatment of daughters along with sons and prohibiting female infanticide.

In the Economic Factor: In the Indian society culturally it is not accepted that Indian women should work or to contribute on the household economic. So, they become an economic burden for the family, where they suffer discrimination and neglect from their house. Thus women's economic contributions to the household are of great importance to their status, but societal gender inequality keeps them from being viewed of paid as equal participations. Working women's status may improve, but patriarchal societal ideology remains firmly in place (Verma, 1993). Nevertheless, economically active women are still in the best position to overcome bias against daughters.

Techno-medical and Social Factors: It is believed that one of the significant contributors to the adverse CSR in India is the practice of female foeticide (Ministry of Health and Family Welfare, 2003). The consensus is that technology is facilitating 'son preference' leading to the elimination of girl children before birth. The analysis indicates that son preference fundamentally affects demographic behavior in India. Family composition affects fertility behavior in every state examined and son preference is a predominant influence in all but one of these states. The effects of family composition on excess child mortality for girls are more complex, but girls with older sister are often subject to the highest risk of mortality (Arnold, Choe and Roy, 1998). The rapid decline in the urban SR among children clearly points out to one factor which is sex selective

abortion or female foeticide that has gained currency during the 1998 and more sharply in the 1990s (Agnihotri, 2003). Available abortion statistics shows that five to six million abortions occur annually in India and roughly 90 per cent of them occur in unapproved facilities (Ganatar, 2000 and Arnold et al. 2002).

Abortion Law: Illegal abortions are 8 to 11 times as high as legal abortions (Chhabra, 1996; Jessani and Iyer, 1995; Chhabra and Nuna, 1993). While government statistics estimate legal abortions at about 0.6 million annually (Ministry of Health and Family Welfare, 1996), it is also reported that 16 per cent of abortion ratio take place at gestations greater than 12 weeks (Ibid). The Indian Council of Medical Research (ICMR) estimated the induced abortion ratio to be 1.9 per 100 known pregnancies (ICMR, 1989) compared to a ratio of 2.7 from the government statistics. According to government records, most of the abortions are among women below 30 and the most common reason for abortions is related to family planning including birth spacing and family limitation for economic reasons. Most of these abortions are also often preceded by sex determination tests (Arnold, 2002). One of the many key factors that influence the child sex ratio in our country is sex-selective abortions through the easy availability, accessibility and affordability procedures for sex determination during pregnancy. Apart from accessibility of these services, socio-economic factors, domestic violence, prevalence of dowry custom and financial pressure on parents further contribute to the scenario of increasing sex selective abortions. In Faridabad district of Haryana, the district authority caught a doctor conducting prenatal birth determination tests and the case is in the court. The Indian Medical Association, in spite of its good intentions, has not been effective in bringing to book guilty doctors. The chief medical officers, who are supposed to prosecute the guilty doctors, are normally not motivated to go against fellow doctors. Therefore, the laws are not effective.

Sex-Selective Abortion: One of the reasons for declining SR, particularly CSR in India, is sex-selective abortion. It occurs in two steps: the first step is to assess the sex of the foetus. The second step is to obtain an abortion if the foetus is not of the desired sex. Three methods are commonly used for determining the sex of the foetus. They are

amniocentesis (normally performed after 15th to 17th weeks of pregnancy) chronic villus sampling (expensive and normally performed around the tenth week of pregnancy) and ultrasounds (the least expensive and normally performed around the 12th week of pregnancy) (Fernandes, 1998; Mallik, 2002). SDTs arrived in India in 1975 for determination of genetic abnormalities after the enactment of the MTP Act. However, these techniques came to be widely used for determining the sex of the foetus and subsequent abortions if the foetus was female. What shocked both academics and activists was that between 1978 and 1983 around 78,000 female foetuses were aborted after sex determination tests in India (The Times of India, 1992). So it clearly shows that the female population is at the lowest ebb, which signifies the denial of female existence and in turn denotes the poor acceptance status of women in the society.

Female Foeticide and Infanticide: "Female foeticide is reported to be a cause for adverse SR in some Indian districts in the 1991 Census" (UNICEF, 1994). Advances in medical science have resulted in sex-determination and sex pre-selection techniques such as *Sonography, Fetoscopy, Needling, Chorion Villi Biopsy* (CVB) and the most popular, amniocentesis and ultrasound. Indian metropolis are the major centers for sex determination tests with sophisticated laboratories; the techniques of amniocentesis and ultrasound are used even in the clinics of small towns and cities of Gujarat, Maharashtra, Karnataka, Uttar Pradesh, Bihar, Madhya Pradesh, Punjab, Haryana, West Bengal, Tamil Nadu (Patel, 2005). Female foeticide over the last 15 years has distorted sex ratios at birth in several Asian countries. Foetal sex determination clinics have been established in India over the last 20 years in northern and western cities.

"Female infanticide is the intentional killing of baby girls due to the preference for male babies and from the low value associated with the birth of females" (Marina Porras, "Female Infanticide and Foeticide"). The phenomenon of female infanticide is as old as many cultures, and has likely accounted for millions of gender-selective deaths throughout history. It remains a critical concern in a number of "Third World" countries today, notably the two most populous countries on earth, China and India. In all cases, specifically female infanticide reflects the low status accorded to women in most parts of

the world; it is arguably the most brutal and destructive manifestation of the anti-female bias that exists in "patriarchal" societies. India has had a tradition of killing female babies (custom of *dudhapitti*) by putting opium on the mother's nipple and feeding the baby, by suffocating her in a rug or simply by ill-treating daughters (Alice, 1998).

Agnihotri brings out the close linkage between female foeticide and female infanticide (Bose, 2001). He argues: "prenatal selection is a new technological tool which has gained acceptability as something scientific, neutral and performed by 'professionals' concerned. It has accorded legitimacy to the elimination of a child on the basis of its sex. Those who do not have the access to this facility look for 'affordable' alternatives since the process has been 'sanctified' anyway. This 'affordable' alternative is infanticide. According to George (1992), a different strategy which some parents adopt to limit family size of surviving children and to eventually have the desired number of sons is female infanticide. There are two ways to 'kill' the foetus, (a) direct infanticide and (b) indirect. Direct infanticide refers to killing of infant usually immediately after birth. Indirect infanticide is death caused a little after birth, due to deliberate neglect. This could be by inadequate child care, or health related neglect.

In the last few decades, many feminist organizations of India like National Council of Women in India, Pune, National Commission of Women of New Delhi and Women's Foundation of New Delhi have been raising their voice against the female infanticide; gender discrimination and violence against the women but the present evidences still show that Indian women have a subordinate position in the society.

CHAPTER-2

Content Analysis of Published Studies

The review of literature is based on some selected studies published in national and international journals since 1998 to 2008 on the concerned issue. The content analysis been done on the following areas; a) Disciplines, b) Journals, c) Area of the study, d) urban-rural and e) Data used for analysis.

Table 1 Important Finding from Literature in Selected Journals

Journals/Place of publication/ Articles	Area of study	Common Findings
Economic and Political Weekly Mumbai (8)	Northern states and cities like Chandigarh, Delhi, Surat, Mumbai, Kolkata	<ul style="list-style-type: none"> • The improvement in SR in 1981 and 2001 census. • CSR has increased in Uttaranchal, UP, Kerala, but decreased in Bihar and Tamil Nadu in 2001. • SRB is higher than international measures among Sikhs and Hindus. • The misuse of PNDT is high in north-western states of India, especially among Hindus, general castes and mothers with high education. • Based on Sample Registration System, over the 1981-90 periods, SRB was high. • Boys in UP, Haryana, Punjab and Rajasthan states are marrying girls from West Bengal, Assam, Bihar, AP and Tamil Nadu on payment.
Population Studies London (1)	India	<ul style="list-style-type: none"> • The sex differential in mortality is higher in northern India than southern. • Women opt for son after the preceding female birth.
Radical Humanist New Delhi (1)	India	<ul style="list-style-type: none"> • The declining JSR reflects low premium accorded to girls in India. • There is evidence of <ol style="list-style-type: none"> a) Use of sex determination tests b) Practice of female infanticide in states like Bihar, MP,

		Rajasthan, UP, Tamil Nadu and Gujarat.
Population and Development Review New York, (2)	India	<ul style="list-style-type: none"> • Sharp decline in SR emerged in the twentieth century • In India as whole, SR is high in births after the induced abortion
Sociological Bulletin New Delhi, (1)	Rajasthan and UP.	<ul style="list-style-type: none"> • CSR was high among the poorest than richest in rural areas and same in urban areas.
Indian Journal of Public Administration New Delhi, (1)	Punjab	<ul style="list-style-type: none"> • In census 2001, SR was high in states like Kerala, AP, Goa, Karnataka, Orissa, Manipur, West Bengal and Tamil Nadu but low in Haryana, Punjab, UP and Nagaland. • The sharp decline in SR in Punjab, Haryana and Tamil Nadu was attributed to female infanticide and female foeticide.
Indian journal of Social Work Mumbai, (1)	India	<ul style="list-style-type: none"> • Sex determination tests are justified as a measure of population control.
Indian Journal of Gender Studies New Delhi, (1)	Punjab, Haryana, Himachal P, Rajasthan, Uttaranchal and Jammu-Kashmir	<ul style="list-style-type: none"> • In northern states, as education of women increase, the SR declined • The mortality rate for girls is considerably higher than boys in every age group below 5 years.
Seminar New Delhi, (1)	Haryana and Gujarat	<ul style="list-style-type: none"> • Decline in JSR between 1991 and 2001 in Punjab, Haryana and Gujarat.

Analysis of the Table

Most of the literature related to the phenomenon of imbalance in SR and CSR has been published in the *Economic and Political Weekly*, *Population Studies*, *Radical Humanist*, *Population and Development Review*, *the Indian journal of Social Work*, *Indian Journal of Public Administration*, *Sociological Bulletin*, *Indian Journal of Gender Studies*, *Population and Development Review* and *Seminar*. Out of eighteen articles which are reviewed in the table, nine were published in the *Economical and Political Weekly*. Remained nine were published in other above mentioned journals. All these journals are

published in India, except *Population Studies, and Population Development Review* (Table 1).

The imbalanced/declining SR and CSR is not a new concern. The high SR of the Indian population had been noted in India a century ago. But the issue has come into focus after the 1990s, when CSR has declined sharply all over the country. Scholars from different disciplines have shown their concern by understanding the factors related to the phenomenon. Now, this issue has been highlighted not only in Indian and international journals but also highlighted through seminars/workshops, advertisements, electronic and print media. More scholars have started taking interest in understanding this issue. For this, international organizations have started funding for conducting research about the magnitude of the problem. Many studies are in the process of conclusion. Indian government has also implemented some programmes for saving female child. PNDT Act, 1994 has also been implemented all over the country with more strictness after the 2001 census report.

Table 2 Analysis of SR and CSR by Disciplines

Disciplines, No. of Articles.	Area of study	Common Findings
Demography (8)	India, States: Haryana, Punjab, HP, Gujarat, Cities: Chandigarh, Delhi, Surat, Mumbai and Kolkatta	<ul style="list-style-type: none"> • The overall SR in India has increased, however, CSR declined in 1991 and 2001 censuses. • Major decline in CSR was in Punjab, Haryana, Himachal Pradesh, and Gujarat apart from cities like Chandigarh, Delhi, Surat, Mumbai and Kolkatta. • Economic Reasons contributed in low SR and CSR. • Life expectancy is low for women than men in India. • The female IMR is higher than male by a couple of points. • Regional Differences in SR and CSR. • SRB is high among women in the age group of 45-49 years than 15-19 years in 2001. • In the south-eastern states, SRB among women with matriculation is normal range of

		<p>international measure but high in north-western states.</p> <ul style="list-style-type: none"> • In north-western states, the use of PNDT is moderate; misuse of PNDT is high. • SRB is within normal range as international measures for the births to women who had neither ultrasound nor amniocentesis. • SRB of the last births is much higher than all earlier births in India as whole, except Meghalaya.
Sociology 12	India	<ul style="list-style-type: none"> • Son preference is stronger in the northern states. • Discrimination against girls in regard of food, health care.
Economics 5	India	<ul style="list-style-type: none"> • Economically developed states (Punjab, Haryana and Gujarat) and social groups show declining SR.
History 1	India	<ul style="list-style-type: none"> • Practice of female infanticide still exists in some parts of the country. • Decline in women's works participation is co-related with the fall in SR. • During 1911-1991, as female literacy has increased, the SR has declined.

Disciplines Contributing in Understanding the Issue:

Most of the studies related to declining SR have been done by demographers, sociologists, economists and anthropologists. These disciplines explained the issue from its point of view and suggested possible ways of improvement. The phenomenon has been linked with, sociological, cultural, economical, political and techno-medical reasons. Scholars concluded that son preference is strong in the Asian countries due to socio-cultural reasons. Demographers found that enumeration system has improved in the SR in census 2001. Other factors like misreporting of female birth, double counting of migrant male workers, fertility decline among women due to late marriage and small family norms, gender disparity in mortality rate have also been linked with SR by Demographers. Dyson and Moore (1981) stated that women have less value in society as compared to men caused by cultural ethos contributes to the discrimination against women, which is a cause of female infanticide/foeticide, and high rate of female IMR. Economists suggest that economic reasons are strongly linked with decline in SR. When

women's work participation decreases, the SR/CSR decreases. Girl is considered as economic burden on family as dowry has to be given to the in-laws when she gets married. Scholars from major disciplines have studied the widespread use of sex-selective abortions in various socio-economic groups and effect of family planning on declining SR; found that SDTs have become popularly used for small family size norm and son preference (Table 2). However, due to better economic conditions and availability of technology in some states like Punjab, Haryana, Gujarat, Himachal Pradesh, and cities like Delhi and Chandigarh, the SR has declined more than BIMARU (economically weak) states. Historians have looked at the phenomenon with the help of past data and found that declined female work participation, improved female education and technology introduction in India has actually contributed to imbalanced SR/CSR. Other disciplines which can contribute to understanding the phenomenon well are geography and environmental science, which have not focused much on the issue. For adequate understanding of the problem in particular region, it is important to understand the phenomenon. The knowledge about geography of area like food production of area, availability of health facilities etc. can also be linked to the phenomenon for better understanding of the factors responsible.

Table 3 Studies on SR and CSR Based on Secondary Data

Secondary Sources (No of studies)	Areas	Issues
Census of India, 1971-2001, Series 1 (8)	Punjab, Haryana, H.P, Gujarat, Rajasthan, Uttaranchal, J&K, Orissa, Kerala, Karnataka, Chhatisgarh, Assam, West Bengal Jharkhand, Bihar, U.P. M.P. Maharashtra and Tamil Nadu	<ul style="list-style-type: none"> • Shift in pattern of SR and CSR. • There are rural-urban differentials in SR.
NFHS-I,II (3)	India	<ul style="list-style-type: none"> • Use of sex determination tests, increasing trend in SRB.
NSSO, (1)	India	<ul style="list-style-type: none"> • A consistent decline in the SR in rural-urban areas as one move up the Average Monthly Per Capita Expenditure (AMPCE) range.

The secondary data which has been taken into consideration for understanding the phenomenon of declining SR, Census reports-especially from 1971 to 2001, National Family and Health Survey-I and II, National Sample Survey-round 55, Sample Registration System-1981-90 and 1996-98. All these sources had data for state level, district level and block level (Table).

Most of the studies reviewed in the chapter can be categorized as based on (a) secondary data resources; and (b) on primary data resources. Some of the issues evident from the former studies include the declining trends rural-urban differentials and inverse relationship between SR and income. An increasing use of technology for sex determination is evident from Table 4, which highlights the issues emerging from the studies based on primary data sources.

Table 4 Selected Primary Data Based Studies

Area	Issues	Findings
Rohtak (HR),	An intensive study on abuse of prenatal diagnostic techniques for sex-selection in rural population.	<ul style="list-style-type: none"> • Discrimination against girls found in study area too. • The SRB has increased. • Differences in SRB between upper castes and lower castes.
Jind (HR.)	Evidences were collected from pregnancy history and Antenatal care.	<ul style="list-style-type: none"> • Evidence of Sex-Selective Abortions has been found. • Nursing homes had put up signboards displaying the availability of ultrasound facilities in towns, villages, medical shops and RMP clinics.
Mehsana (GUJ.), Kurukshetra (HR.)	<ol style="list-style-type: none"> 1. Decision making power 2. Significant of sex-selective abortion 3. The impact of abortions on the physical or mental health of the women who undergoes such abortion. 	<ul style="list-style-type: none"> • The shift to 'small family size' in India in recent decades, but simultaneous, no shift in the economic and social pressure to have daughters. • The decision to abort the female foetus taken entirely by their husbands and mothers in law.

Rajasthan UP	Manner and the processes of the relationship between NRTs and the culture of reproduction mediated by informal social networks.	<ul style="list-style-type: none"> The lowest CSR is in the state of Punjab in the country in 2001.
UP, Haryana, Punjab and Rajasthan	Impact of the low SR on marriage practices in the north India.	<ul style="list-style-type: none"> Men in rural Haryana and UP facing difficulty in finding local brides.
Maharashtra, Pune, M.P, Haryana, Punjab	Concept genetic diagnostic technology	<ul style="list-style-type: none"> Concept of genetic diagnostic technology and amniocentesis, popularity of the test, controversy and the consequences around amniocentesis. Action to be taken against sex determination tests.

Most of the studies are conducted in rural Haryana and Gujarat. These studies have collected data from the selecting the block which had worst SR in given time period and than villages were selected with low SR according to random sampling. Some studies also used qualitative, ethnographic and systematic sampling research method. The three districts of Haryana; Kurukshetra, Jind and Rohtak have been focused as study areas by most of the researchers. Only two districts of Gujarat have taken into consideration for understanding rising trend in sex-selective abortion. The targeted populations for studies were upper class/caste people vs lower class/caste people and educated vs illiterate population for understanding the use of sex determination tests and female foeticide.

Emerging Issues Based on the Literature Review:

The literature review shows declining SR in India as well as in Haryana which is an issue of concern. The declining pattern in SR has been observed since 1901. The improvement in SR is evident in 1981 and 2001. Son preference, low status of women in some regions than other, discrimination against female children in breast feeding, food intake, health treatment, high rate of female child mortality rate, are some common causes stated in literature for decline in SR before introduction of sex determination tests. After legalization of abortions and introduction of SDTs in India, the SRB is increasing in favour of males not only in urban areas but also in rural areas too. This means that SDTs have spread in rural areas also. In studies too, it was concluded by researchers that

women in rural areas were well aware about the sex-determination tests, where they have to go for it, and how much it costs. The census of 1991 and 2001 has registered the sharp decline in SR in northern part of the country. SDTs are highly used in north-western states as compared to north-eastern and southern states. The cultural influence of northern patriarchal societies is having an impact on states in the south-east too. Most sex-selective abortions are conducted in third or fourth parity as compared to first and second parity, with advice of in-laws, husband and some time service providers. Women themselves wish to go for tests as they don't want to bear many daughters because they are valued as mother of the sons only. Studies found that more bias against female children is among upper castes and upper class people. It is expressed from studies that women with more education have recorded more bias against female child (Visaria, 2007; Bhat and Sharma, 2006). The economic development in three states, Haryana, Punjab, and Gujarat, has contributed in declining SR. Accessibility, availability and affordability of SDTs are main reasons of sharp decline in these three states. Some ethnographic studies have focused on impact of decreasing SR over society and women's health. Researchers found that due to low SR in a particular area, numbers of unmarried men are increasing. Women have become the sex object. Unmarried men, who are not getting local bride, are buying brides from other states with help of brokers (mediators). Some of these purchased wives are not getting legal status of marriage and facing physical, sexual and mental harassment. Women who go continuously for abortions or in later stage of pregnancy for sex-selective abortion have to face various physical and mental health problems. Some time family member or husband destitute the female child either in drainage or bushes which is very inhuman act and cause mental trauma to mother.

III. Governing SR and CSR

With the passage of Medical Termination of Pregnancy (MTP) Act, 1971, India became the first country in the developing world legalize induced abortions, although under certain conditions. If the pregnancy carries the risk of grave physical injury or endangers her mental health, if it is result of contraceptive failure in a married woman, If it is the consequence of rape, or if it is likely to result in the birth of a child with physical or

mental abnormalities then it is legalized to induced abortions. In such circumstances, abortion is permitted up to 20 weeks of pregnancy without any need of spousal consent (MOHFW, 1971, 1975). The Act was implemented in the major states except Sikkim (Karkal, 1991). The Act clearly specifies not only the reasons for which abortion can be legally performed, but also who can perform it and in what sorts of facilities. The Act stated that abortions could only take place in government approved health facilities especially for conducting abortions and by a registered medical practitioner. While the intention is to provide women with safe, legal, timely abortion services, given the stringent nature of the MTP Act, still many abortions may not be classified as legal. Even of three decades of implementation of law, the availability and access to legal abortion service is so limited for women living in remote rural areas. Many abortions not only take place outside its ambit but are often performed in unsafe conditions, leading to post-abortion complications and sometimes death (Visaria, 2003).

In view of the widespread misuse of this technique, the Maharashtra government enacted, the Maharashtra Regulation of Pre-Natal Diagnostic Techniques (PNDT) Act in 1988. The Maharashtra Act has allowed pre-natal tests on the following ground: chromosomal abnormalities; genetic metabolic disease; Sex linked genetic disease; haemoglobiopathies; congenital abnormalities and any other abnormalities or disease as may be declared by the appropriate authority.

In view of the unprecedented decline in JSR, and the mushrooming of private clinics that advertised and carried out sex determination tests using ultrasound machines, especially in northern India, the government of India enacted the Pre-natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994. The Act was brought into operation on 1st January, 1996. The act prohibits determination and disclosure of the sex of foetus.

The act again, was amended in the year 2003 to include sex-determination at pre-conception stage and action against advertisements promising a male child. The amended act received the consent of the President on the 17th January, 2003. The act is now called Pre-Conception and Pre-Natal Diagnostic Techniques: Regulation and Prevention of

Misuse (PC & PNDT) Act, as amended by Amendment Act of 2002. The aims and objectives of the PC & PNDT Act is to provide, for the prohibition of sex selection, before or after conception for regulation of pre-natal diagnostic techniques for the purposes of detecting genetic abnormalities or metabolic disorders or chromosomal abnormalities or certain congenital malformations or sex linked disorders, for the prevention of their misuse for sex determination leading to female foeticide and for matters connected therewith or incidental thereto. However, under the Act, use of Pre-natal Diagnostic Techniques and genetic counseling is permissible for detection of certain genetic abnormalities in the foetus. The violation of the Act is punishable with imprisonment up to five years and fine up to one lakh rupees, apart from cancellation of registration and license. PNDT Act and Rules have been amended keeping in view the emerging technologies for selection of sex before and after conception, problems faced in the working of implementation of the act and often certain directions by Supreme Court after a public interest litigation application was filed in May, 2000 by CEHAT on slow implementation of the Act. These amendments have come into operation with effect from 14th February, 2003. In terms of the directions of the Supreme Court and the experience gained in the implementation of the PNDT Act, the Central Supervisory Board constituted under the Act suggested certain amendments to the Act. Keeping in view these amendments, new definitions and explanations were also been added in different sections of the Act. It was also proposed to change the title of the Act to "The Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act" so that the general public, para-medical and medical personnel comprehend the purpose and message of the act from reading the title of the act itself.

Laws are not likely to be effective in societies where the preference for a son is so strong and deeply embedded in patriarchal structures and hence, unless the patriarchal norms of the society are challenged, the desire to do away with girl children will remain (Kishwar, 1993; Ashok, 2006; Bhandari, 2006). Data providing information on induced abortion in India is scarce. Whatever data is available is through government reports and surveys, statistics shows that five to six million abortions occur annually in India and roughly 90 per cent of them occur in unapproved facilities (Ganataru, 2000 and Arnold et al. 2002).

In the absence of field surveys specifically aimed at finding out the incidence of female foeticide (an extremely difficult proposition in the face of the legal ban on sex determination tests), one cannot comment with confidence on the magnitude of the problem. However, the results of the Census of 2001 and the data from NFHS-2, 1998-99 do confirm the phenomenon (Bose, 2002).

However, in spite of putting monitoring system in place both at the state and central levels, and with the act in place for 6-8 years at the time of the 2001 Census, it is evident that in many places the act has been violated with impunity. Since the two activities of sex detection of the foetus and abortion need not to be linked at the stage of using the services, it has become possible to evade the law in connivance with the clinics having ultrasound facilities and doing *Sonography*. The open advertisements have now disappeared but the lucrative practice seems to be flourishing unabated by simply going underground as evident from the continued decline in the CSR (Visaria, 2003).

Bose (2002) stated rightly, banning pre-conception sex determination tests calls for new legislation. But the fact is, even the present PNDT Act is full of loopholes and cannot be effectively implemented. Law certainly empowers the government to act but the fundamental question is: Can the government or Supreme Court alone guide social transformation in Indian society? Looking at all the social legislations, we had laws for the last 50 years on child marriages, dowry, and child labour etc still charges social transformation has not taken place. We do admire the Supreme Court's proactive role in attempting to curb female foeticide but there are limits to what law can do. In any case, doctors are cleverer than policemen and sending a couple of doctors to jail will not step the tide of female foeticide. There is no evidence that our state governments have gone out of their way to curb female foeticide. Unfortunately, our civil society is by and large silent. Are our girls doomed? Are we heading towards distorted, daughterless families as the torchbearers of Indian society (Bose, 2002)?

Implementation of PNDT Act – 1994 in Haryana

The Pre-Natal Diagnostic Technique (Regulation and Prevention of Misuse) Act- 1994 has also been enacted in the state of Haryana and came into operation in Feb. 1996. This Act has been amended in 2002 and Rules have also been amended with effect from 14.02.2003. This Act may be called the "Pre-Natal Diagnostic Technique (Regulation and Prevention, of Misuse) Amendment Act- 2002.

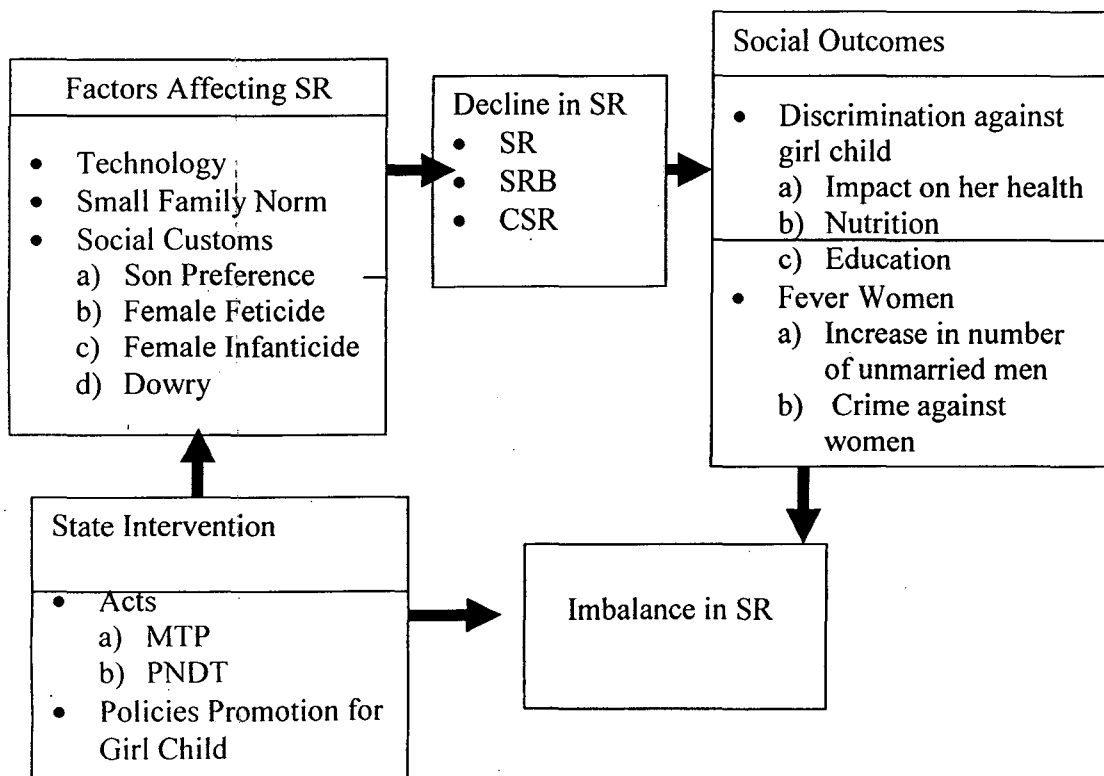
The District Advisory Committees with the District Family Welfare Officer, District Immunization Officer, a gynecologist, one pediatrician and three women social workers including Secretary of District Red Cross have also been constituted. Meetings of these committees are held once in two months.

A State Task Force under the chairmanship of State Appropriate Authority has been constituted consisting of a team of dedicated officers of the department. Apart from conducting raids to curb the illegal activities, this task force is also doing intelligence work in the State, which is followed by the raids. This task force is doing its work with the help of local health officials, media persons, Non-Government Organizations (NGOs) and police.

Recently, the State Task Force on PNDT conducted raids in the districts Ambala, Bhiwani and Yamuna Nagar to curb the menace of female foeticide in these areas. The team nabbed successfully two such centers operating at Ambala and Yamuna Nagar using decoy patients. The ultrasound machine of the centre was sealed by the team on the spot and their license to carry out ultrasonography has been suspended under the provisions of PNDT Act. The team sealed four ultrasound machines during these recent raids. The registration of five ultrasound centers has been suspended subsequent to raids by State Task Force. Further investigations and legal processes are being undertaken on war-footing level by the respective District Appropriate Authority. It had created a very good impact in the areas and will prove detrimental to the unscrupulous elements.

The team also inspected five registered ultrasound centers at Bhiwani where the raiding team confiscated records of the ultrasound centers for stating proceeding against them. The team also observed that they were not keeping record as per provision of the PNDDT Act and not sending reports regularly to the District Appropriate Authority. The team also found mobile ultrasound machine being used in various parts of the district without getting them registered as mobile clinic, which is a gross violation of the PNDDT Act. The notices have been issued these centres under PNDDT Act. On 25.09.2002, the Haryana Govt. launched a scheme “*Devi Rupak*” for the welfare of women & girl child wherein an incentive of Rs. 500/- per month for a period 20 years will be given to the couples who opts for sterilization after the birth of their first child if it is a female child. Laws are not that much effective as many cases has been coming in light from Haryana state but nothing has been done till now. In Faridabad district of Haryana, the district authorities caught a doctor conducting prenatal birth determination tests and the case is in the court. The Indian Medical Association, in spite of good intention, has not been effective in booking guilty doctors (Premi, 1994).

Conceptualization of Framework of SR



Decline in SR, and CSR is the focus of this study. The phenomenon is becoming severe as time passes and it is important to understand the root cause behind declining trend of this phenomenon, because in future it will lead to many related social problems and finally social balance as a whole will be in threat. The decline which we observe in recent times, has, many reasons in which important one's have been listed in the diagram portrayed above. Here, state is culprit, which is really not handling the phenomenon adequately. There is a history of imbalanced SR in some parts of India due to some social and economical reasons but after the introduction of SDTs it declined sharply over India except Kerala. Factors affecting the SR are SDTs, Small Family Norm and Social Causes like son preference, female foeticide & infanticide and dowry. In short, economic, social, cultural and political reasons are there behind this evil. This means that state is not playing its responsibility properly as after legalization of abortions under some conditions, rate of illegal abortion is very high (8 to 11 per cent in 2001) (Chhabra and Nuna, 1993). Loopholes of PNDT Act are encouraging people for female foeticide (Bose, 2002). Female infanticide is still practiced in some parts of India (Bose, 2001). Some policies which were formulated for saving girl child have many complications and not really benefiting the poor people. More over female foeticide is high in economic and educationally well people (Bhat and Sharma, 2006), then how these policies would be helpful. is really need answer?

The impact/consequences of this problem are with high magnitude and this need to be addressed at macro as well as micro level. Main impacts, as the diagram point out firstly, discrimination against girl child like, impact on her health, nutrition and education etc. and secondly scarcity of women leads many social problems like increase in number of unmarried men and increase in crime against women. These all social outcome will further lead in imbalanced SR.

V. Research Problem

The SR in India during last 40 years has been hovering around 930. It has always remained unfavorable for females where as the overall trends across the world is opposite that is per thousand male more females. During the Census decade 1991-2001 it has

improved slightly from 927 to 933. However, the disturbing fact about India is that the CSR had been persistently declining during the last 50 years. There has been a pronounced decline in the some northern states like Punjab, Haryana, Uttaranchal and Himachal Pradesh etc. Haryana, economically as well as educationally developed state has worst SR among all states, except Punjab. This has raised concern and anxiety, particularly a human development perspective. Imbalance in SR is not a biological problem, rather it has root in social and economic levels. The problem is more structurally rooted one rather than biological in nature. The problem has various dimensions and these causes will be clear only if the problem is addressed at the macro as well as at the micro level.

Literature related with phenomenon is not giving historical trend of sex ratio in Haryana across socio-economic groups over a time period 1971-2001. Whatever work has been done in regard of understanding imbalance of SR/CSR and its causes and consequences is, in a specific area with small sample which has limitation of generalization. Government document like Census of India, National family health Survey and National Sample Survey has not been looked together for looking trends in CSR by anyone. There is needed to look at these documents because they indirectly speak about the issues like rate of sex selective abortions etc. There is need to look that whether government documents and findings of field studies go together?

Focus of my study is to look the trend in CSR in Haryana during 1971 to 2001 in various socio-economic groups because it gives recent trends of demography. It helps to identify socio-economic issues, use of the technology and effectiveness of government policies. The understanding of SR also gives further threat projection that how imbalance of SR leads our society in wrong direction.

Need of the Study

The declining SR and more over the CSR has become the matter of serious concern for all. The concerned ministries, medical practitioners, education departments, politicians, religious leaders, judiciary, police, NGOs, media and the civil society as a whole have to

own responsibility to solve this shocking problem which has many dimensions and has to be looked from various angles. Although different agencies are working towards this issue yet the situation seems to be very grim.

From above mentioned literature it is clear that the trend in SR has been studied with the social, cultural, anthropological, demographic and techno-medical perspective and not a holistic perspective. Most of studies were conducted at macro level rather at micro levels. While going through the literature it was found that some studies are contradicting to others on same issue like discrimination in nutrition and health care against women is factor responsible for declining the SR. Two culturally related factors have been proposed by numbers of investigators (supporters of argument: Sen, 1985: 84-93; Das Gupta, 1987; Vlassoff, 1990; Dandekar, 1975; Disagreed with argument Barthan, 1974: 13011; Bourne and Walker, 1991: 208; Lipton and Longhurst, 1989: 210-215; Harriss and Waston, 1987: 92). The socio-economic group's trends have not seen separately, especially in Haryana. The state policies have not been reviewed by linking with the trend of SR after the introduction of MTP, Act (1971) in Haryana. Other policies like health, population, education; economic etc has not been reviewed by linking with this issue. The literature which is reviewed related to the problem is mostly based on primary studies of particular areas in a specific time period. NFHS, NSSO and Census data are studied year wise and the primary studies are giving picture of different areas at different period of time. Here, attempt would be to look the trend of different socio-economic groups by using mainly Census of India 1971-2001 Reports. Trends and patterns of sex ratio in India generally and Haryana specifically will be the focus of the work. Trends and patterns across various social economic groups will be probed in detail.

VI. Purpose of the study:

- To understand the trends in the growth of imbalance in SR, CSR and its implications in Haryana during 1971-2001.

VII. Specific Objectives:

- To examine the trend in SR and CSR in various socio-economic groups in Haryana during 1971-2001.
- To examine the factors responsible for declining CSR.
- Understand the imbalance in SR and CSR.

VIII. Study Area and Population:

All districts of Haryana will be included as study area. Children age group (0-6years) is the main target of the study. The religion groups (Hindu, Muslims, Sikhs and Christians); Social groups (Scheduled, General and Other Backward cast); Economic groups (Lower Class, Middle Class and Upper Class) and Educational groups (Illiterate educated) will be targeted population. The definition of above mentioned groups will be taken from the data resources.

IX. Data Sources

The data resources are mainly Census of India which will be supported and supplemented by National Family Health Survey (NFHS), National Sample Survey Organisation (NSSO) and all published government reports and published micro & macro studies.

X. Chapterisation

The study contains four chapters. First chapter, "Sex Ratio in India", cover the magnitude of the problem in India as well as Haryana. Second chapter, "Content Analysis of Published Studies", is about literature review and methodology of the study. Third chapter, Trends and Patterns in SR and CSR in India and Haryana", is overview of trends of SR and CSR across socio-economic groups in India and Haryana. Last chapter, Interpretation and Analysis", is a summery of the study.

XI. Limitation of the Study:

The study is conducting within 1971-2001 time period. Only published studies and data are used for analysis. The study is totally based on secondary review of literature. Level of analysis of the study is also a limitation because higher level statistical tools are not used in the study.

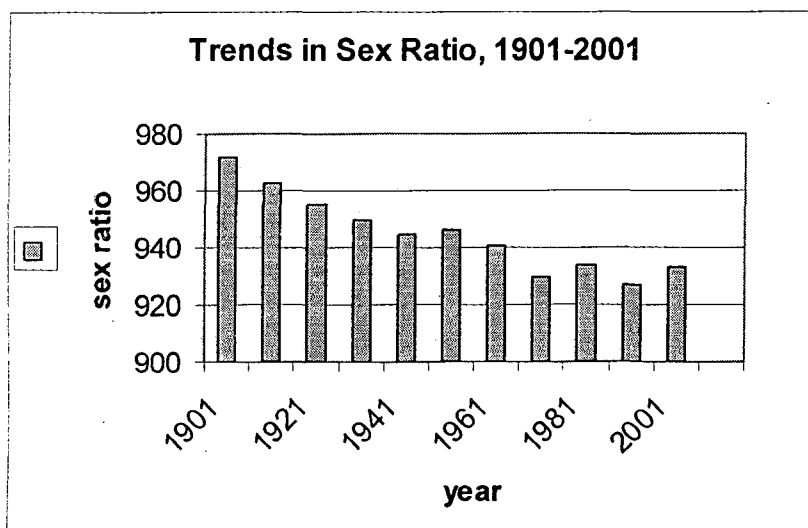
CHAPTER-3

Trends and Patterns in Sex Ratio and Child Sex Ratio in India and Haryana

Section-I India

I. Trend in SR in India during 1971 to 2001

SR has been showing a declining trend, since 1901, with 972 in 1901 to 927 in 1991, even as the 2001 census revealed a grave issue that the SR in the age group of 0-6 was only 927.



Source: Census of India (2002; 85)

Key: Bars indicates number of females per 1,000 males.

The improvement in overall SR in the country can be seen on two occasions, first time it was observed in 1981 census and second one in 2001 census. It was hoped by the demographers that this improvement in favour of girls may reduce the discrimination against them and people will start accepting the daughters. But the decline of seven points between 1981 and 1991 came as a shock and viewed as a matter of serious concern.

It may be noted that all states except Andhra Pradesh, Tamil Nadu, Bihar, Orissa, Nagaland, Sikkim, Manipur and Mizoram and Union Territories (UTs) of Dadra and Nagar Haveli, Daman and Diu, Lakshadweep, Goa and Pondicherry, registered an increase in sex ratio during 1971-81. However, the increase in these states was evident with few points. Only Kerala, Himachal Pradesh, West Bengal, and UTs of Chandigarh, and Andaman and Nicobar Islands recorded an increasing sex ratio with 15 points and above. During 1991-2001, 12 out of 22 states recorded an increase in SR but only 7 out of 12 states have recorded increase with 10 points and above. Madhya Pradesh, Maharashtra, Gujarat, Haryana, Punjab and Himachal Pradesh among these shows continue declining trend. It is important to note that Himachal Pradesh which has a continuously increasing SR during 1971-1991; showed a decline in the sex ratio in 2001.

Table1: Sex Ratio in States 1971-2001

Year	1971	1981	1991	2001
India	930	934	927	933
Southern States				
Andhra Pradesh	977	975	972	978
Karnataka	957	963	960	964
Kerala	1016	1032	1036	1058
Tamil Nadu	978	977	974	986
Central States				
Madhya Pradesh	941	941	931	920
Maharashtra	930	937	934	922
Orissa	988	981	971	972
Bihar	954	946	911	921
Northern-Western States				
Gujarat	934	942	934	921
Jammu & Kashmir	878	892	NA	900
Punjab	865	879	882	874
Rajasthan	911	919	910	912
Haryana	867	870	865	861
Himachal Pradesh	958	973	976	970
Uttar Pradesh	879	885	876	898
North-Eastern States				
Nagaland	871	863	936	909
Sikkim	863	835	878	875
Tripura	943	946	945	950
West Bengal	891	911	917	934

Manipur	980	971	938	978
Mizoram	946	919	921	938
Arunachal Pradesh	861	862	859	
Union Territories				
Chandigarh	749	769	790	773
Dadra & Nagar Haveli	1007	974	952	811
Delhi	801	808	827	821
Goa, Daman & Diu	989	981	967	960
Lukshadweep	978	975	943	947
Andaman & Nicobar Islands	644	760	818	846
Pondicherry	989	985	979	1001

Sources: Census of India 2001 (2001: 85)

II Regional Variation in SR

The decline in the SR is not uniform across the country. This varies by region, by social groups, age groups and level of prosperity (Agnihotri, 1995; Dyson and Moore, 1983; Miller, 1981, 1984; Sopher, 1980). A regional disparity can be seen throughout the time period in the trend of SR. SR in the southern states is above the national level during 1971-2001. All southern states too have declining SR during 1971-81 but during 1991-2001 all states recorded with increased trend in SR except. The decline can be linked with various reasons like cultural influence of northern patriarchal societies on the states of south-east (Bhat and Sharma, 2006), increase in sex-selective abortions, and female infanticide in rural areas, decline in fertility and small family norms etc. Fertility decline is perhaps the most important social change that occurred in India in recent years. After a slow decline in the 1970s, the pace of decline began to accelerate since mid-1980s. Visaria and Visaria (1994) stated that the clear decline in fertility can be seen since 1980s. This accelerated decline has emerged in many parts of India and nearly in all sections of the society-rich and poor, educated and illiterates, upper castes and lower castes and so on. This is well documented in the context of the south Indian states (Dev et al. 2002; James and Subramanian, 2005; Kishor, 1994; Sekher et al., 2005 and Srinivasan

et al. 1991). The coercive male sterilization by Sanjay Gandhi in 1972, initiated all over India, affected the child SR of southern states.

Northern states, like Punjab, Haryana, Jammu and Kashmir and Uttar Pradesh have the worst SR among all Indian throughout the time period even before 1971, even below the national level SR. Reasons were explained by various studies as son preference (George, Dahiya, 1998), low status of women, discrimination against girl child (George and Dahiya, 1998), female infanticide and foeticide (Bose, 2001; UNICEF, 1994), small family (with greater number of sons) norms (Okun, 1996), fertility decline etc. The fertility rate has come down significantly in 2001 census report. It is now 2.7 in urban areas and 3.6 in rural, the average being 3.4. In Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan the fertility rate is 20 to 30 per cent higher than the desired rate (Bhargava, 2001). One of the reasons for this dismal situation is that these states are notably backward in literacy and particularly in female literacy.

While the improvement in the overall sex ratio between 1991 and 2001 is noticed in a majority of states and UTs (Pondicherry, Andaman & Nicobar Islands, Laxdweep); among the major state Kerala, and Uttar Pradesh it has increased a more than 20 points and in Bihar, Rajasthan, Tamil Nadu, West Bengal, AP, Karnataka, and Orissa there has been an increase points between 10 to 20 points.

Table 2: Deviation among States and UTs from National Average (NA) during 1971-2001

SR Deviation from NA	Number of States			
	1971	1981	1991	2001
40 +	9	6	6	5
40 points	3	5	3	4
20 points above from NA	4	5	6	4
NA India	930	934	927	933
50 points below	2	5	6	8
100 points	7	5	3	4
More than 100 points	3	3	2	3

Source: Census of India, 1971, 1981, 1991 and 2001

The improvement in SR in above mentioned states has registered in population above seven years only; but the CSR has been declining in these states too. The census commissioner stated that the increase in the SR of seven plus population in several districts of India may be the result of better enumeration of women. Agnihotri (2002) acknowledged that the rise in sex-selective abortions and emergence of female infanticide in various parts of the country are two serious aspects for the drastic decline of the CSR.

All eastern states, excluding Tripura, have below the national average SR since 1971 to 2001 (here, national average of SR is 930 (1971), 934 (1981), 927 (1991) and 933 (2001). However, the trend is mixed (decreasing as well as increasing) in all eastern states. In 2001 census report the sex ratio improved in all eastern states excluding Nagaland (27 points) and Sikkim (3 points) have recorded decline. This indicates that the effect of son preference is lower in the eastern states. The widespread use of SDTs is not in much use as compared to north-western parts of the country. However, there may be various reasons which could be linked with fewer declines in SR and CSR in these states. Firstly, it could be possible that these states are economically not as developed as northern states. Thus because of economic barriers people are not resorting to SDTs. Secondly, health facilities (private and government) are less in eastern states as compared to the plains states due to geographical areas and demographic reasons. If these technologies are somehow available the cost could be higher as compared to other states where private clinics are competing for making money. Therefore, technologies are not available, accessible, and affordable for the people who prefer the sex selective children. Lastly, it could be possible that son preference is less in these states due to socio-economical reasons like the existence of dowry system is less; women have equal work participation in all types of work and enjoy equal social status.

Among all Indian UTs of Delhi, Chandigarh and Andaman Nicobar Island have recorded the worst SR (less than 850). A very substantial decline of 260 points in Daman and Diu and 141 points in Dadra and Nagar Haveli can be seen in 2001 census reports. Various reasons have been linked with the declining SR by social activists and intellectuals. In

general most of the Indian states have registered a declining trend in SR in especially after 1981, except Kerala.

III. Rural-Urban differences in SR in India during 1971 to 2001

Table 3: Rural-Urban differences in Sex Ratio during 1971-2001

India			
Year	Rural	Urban	Total
1971	949	858	931
1981	952	880	934
1991	1000	894	927
2001	946	900	933

Census of India 1971, 1981, 1991 and 2001

Across India it is rural areas which have better SR than urban areas during 1971-2001. This may have various casual factors like availability of technology, accessibility to the same and finally knowledge about the technological options for sex selective abortions more in urban areas than in rural. Throughout the last four decades the same trend of SR can be observed where performance of rural areas is better than the urban areas.

At the national level when the total SR and rural SR (from 1971 to 2001) is above 900 range where as urban SR of the country is always in the range of between 850-900 range and has never crossed 900. Rural SR of the country in 1991 even touched a figure of 1000 and then a sharp decline in the following decade (2001) is observed to 946 ranges which are more than 50 point decline. At the same time 1991 -2001 period urban SR of the country has improved by 6 points which reached 900 from 894. Various reasons could be linked with this difference during 1991-2001. First, due to media highlight. The service providers and receiver are very aware that sex-selective abortions are illegal and authority can raid any time in urban areas. Therefore doctors buy sex-determination machines and carry it in rural areas for the purpose. Rural areas are relatively free from the reach of authority and female foeticide can be done easily. Secondly, before 1990s children in rural areas considered as benefit head, including girls. As the introduction of

new technologies for auricular use, people started considering the girl as an economic burden on family and people started realizing benefit of the small family in rural areas.

IV. SR Differentials by Religion and Castes

Table 4: Sex Ratio and Religions in India

Religious compositions,	1971	1981	1991	2001 India
All Religions	931	934	923	933
Hindus	930	933	925	931
Muslims	922	937	931	936
Christians	986	993	994	1009
Sikhs	859	880	888	893
Buddhists	962	953	952	953
Jains	994	942	946	940
Others	--	1010	982	
Religion not stated	---	881	887	

Source: Census of India, 1971, 1981, 1991 and 2001

Table 4 describes the SR amongst various religions across India. Different religions have different way of looking at the gender issues. In India, Hindu SR has almost remained same if we see 1971 and 2001 Census data. Number of females recorded 930 per 1000 males in 1971 and 931 in 2001. However, a little increase with 3 points in number of females was recorded in 1981 but it declined further by 8 points in 1991 and 6 points in 2001. All religion, Muslims, Christians and Sikhs have shown improvement in the SR between 1971-81 and 1991-2001. But it has declined with 8, 7, 6 points among Hindu, Muslims and Christians respectively. Muslims' fertility rate is higher than other region. Muslims women do not use sex selective technology due to their religion norms. The SR amongst Buddhists and Jains SR has gone down (B- 962 to 953 and J-994 to 940 females per 1000 males), the reasons for this has to be probed more. In all four the decades, increasing trend in the SR among Sikh has actually improved during 1971 to 2001

Trend in SR among Scheduled Castes

If we see SR across three decades (1971 to 2001) and compare SR among scheduled castes with total SR in India. During 1971 and 1981 census report, a better SR among Scheduled castes was recorded, when it compared with total SR. It was 936 females per 1000 males in 1971 and 871 in 1981 in scheduled castes against the total SR 931 and 867 respectively. But 1991 Census recorded lower SR among scheduled castes (922) than total SR (927). Across the time period (1971-2001), the trend in SR has shown a decline from 936 in 1971 to 922 in 1991 among scheduled castes. During same period the SR of total population also declined by 4 points from 931 to 927. But the decline in scheduled castes group is very sharp. Historically, scheduled castes women have enjoyed more equality than higher caste women, so does this decline in SR has any economic reason is the question which is arising and which needs to be probed in detail.

Table 5: Sex Ratio in Schedule Castes since 1971-1991

Year,	India Sex Ratio	
	Total	Scheduled caste
1971	931	936
1981	867	871
1991	927	922

Source: Volume on Scheduled caste 1991, 1981, Census of India primary Census Abstract 2001

It is generally shown in studies (Visaria, 2007; Visaria, 2003; George and Dahiya, 1998) that women of scheduled caste enjoy better social status than the higher caste women. Social status especially in terms of freedom of movement and decisions for divorce etc is more among scheduled caste women than the upper caste women. The economic independence is also more among scheduled castes women rather than higher caste women. One manifestation of discrimination against girls among upper castes is the observed interbirth interval between successive live born children. It was found that interbirth interval between two successive live borns is shorter if the preceding child is a

female. This observation has been reported from Haryana state also (NFHS 1993). The SRB for *harijans* was 1.02; whilst among upper castes it was 1.27 in Haryana (Visaria, 2003). There are many differences in discrimination against female children. If the first-born child was a daughter, then the general castes women were overtly or covertly pressurized to ensure that the second or third child was a boy and take appropriate measures. Although this pressure was lower among the *harijans*, many among them have either started emulating women from the general castes or thinking the same way. Women from the general castes which practice dowry, even voiced that if the first child born to them was a boy, they would be satisfied with just one child (Visaria, 2003).

V. SR and Literacy

Table 6: Literacy and Sex Ratio in India during 1971-2001

Year	All persons literate	Male literates	Female literate	Sex ratio
1971	52780261	34803426	17976835	517
1981	237991932	158837215	79154717	498
1991	41562427	28946547	12615880	436
2001	560,687,797	336,533,716	224,154,081	666

Source: Census of India: 2001, 1981 and 1991

Growth in income and education of women grants women an equal status in society. However, this has actually worked in a reverse direction in states like Punjab, Haryana and Himachal Pradesh. High literacy rates and decent incomes suggest that with prosperity, increase in education and the availability of facilities, educated couples, limit the size of their families and manipulate the sex of the expected child (Bhat and Sharma, 2006). It is unfortunate that Punjab and Haryana, which ranks second and fifth respectively in terms of the Human Development Index (HDI), have such a poor regard for the female sex, particularly at the tender ages (Bhat and Sharma, 2006).

In India the SR among literates was 517 females per 1000 males in 1971 and it declined by 19 points (498) in 1981 and a further decline of 62 points in 1991 (436). Then in the last decade it has shown a sharp increase, which is approximately 230 points (436-666) increase among literates. However, use of SDTs was at a high pitch during this particular

time period all over the country and highest in educated groups as stated in the empirical literature.

Section-II

I. Trend in CSR during 1971-2001

The data on CSR for the country and major states along with the union territory of Delhi (Table 8) show that CSR has declined by 2 points during 1971 and 1981 and 18 points between 1991 and 2001 at India level. A decline of 37 points in CSR within four decades (1971-2001) was regarded as substantial and matter of serious concern.

Table 7: Child Sex Ratio in India 1971-2001

State	1971	1981	1991	2001
All India	964	962	945	927
Andhra Pradesh	990	992	975	964
Bihar	964	981	953	938
Goa	NA	NA	964	933
Gujarat	946	947	928	878
Haryana	898	902	879	820
Karnataka	978	975	960	949
Kerala	976	970	958	963
Madhya Pradesh	976	978	941	929
Maharashtra	978	956	946	917
Manipur	NA	NA	974	961
Nagaland	NA	NA	993	975
Orissa	1168	995	967	950
Punjab	899	908	875	793
Rajasthan	933	954	916	909
Tamil Nadu	974	967	948	939
Uttar Pradesh	923	935	927	916
West Bengal	1010	981	967	963
Himachal Pradesh	NA	NA	951	897
Sikkim	NA	NA	860	858
Mizoram	NA	NA	911	932
Tripura	NA	NA	940	917
Meghalaya	NA	NA	947	974
Assam	NA	NA	910	926
Jharkhand	NA	NA	908	936

Not: NA stands for Not Available

Source: Census of India, 1971, 1981, 1991, 2001.

Whatever data is available here shows that the CSR in all states recorded above 900 males per 1000 female in 1971 except Haryana and Punjab which recorded below 900 in 1971. It shows that these two northern states had strong son preference even before the introduction of technology. The low CSR strongly suggest that female child mortality rate was higher in these two states as compare to other states of the country which is possible by either direct female infanticide or indirect female infanticide (Agnihotri, 2000). But in 1981, the increase in CSR has been recorded in almost all states including Haryana (increased 4 points) and Punjab (increased 9 points). But the four states i.e. Kerala, Orissa, Tamil Nadu and West Bengal have registered a declining trend in CSR. The SDTs have been introduced in 1971 and came into force in 1975.

Table 8: Child Sex Ratio Deviation among States during 1971-2001

CSR Deviation	Number of States			
	1971	1981	1991	2001
40+	2	0	1	3
40	1	2	4	6
20 points above NA	5	6	7	6
NA	964	962	945	927
50 points below NA	3	3	8	7
100	2	2	3	1
100+	0	0	0	2

Source: Census of India, 1971, 1981, 1991 and 2001

Literature (Mayer, 1999) stated that people started using technologies as sex determination by 1980s in all metropolises and their surrounding areas. On the other hand the states which had higher CSR like Orissa (1168), West Bengal (1010), Kerala (976) recorded drastic decline in the same census year. What reasons can be linked with these changes, is a matter of research. Then again CSR has been recorded with drastic decline in all states including Orissa, Kerala and West Bengal during 1991-2001 Censuses which could be linked with female foeticide in north-western states of the country but why is it the same in the southern, eastern and central states? This shows that sex-selective

technologies are being used all over India after two decades of introduction of technologies. At the state level the CSR declined by 101 points in Punjab, 90 points in Haryana, 85 points in Orissa, 77 points in Gujarat, 61 points in Maharashtra, 53 points in Madhya Pradesh, 50 points in Bihar, 48 points in Rajasthan, 45 points in West Bengal, 46 points in Tamil Nadu, and 38 points in Andhra Pradesh, 38 points in Karnataka, 30 points in Uttar Pradesh, and 9 points in Kerala between 1961 and 2001.

The decline in CSR is linked with various factors like decline in birth rate (birth rate from 28.7 in 1994 to 26.1 in 1999) and the death rate (declined from 9.3 to 8.7 per 1,000 populations) (Premi, 2001). The northern-western states of Haryana, Gujarat, Punjab, Rajasthan and Uttar Pradesh have drastically declined in CSR during 1981-2001, after the introduction of SDTs. Better economic conditions and availability of technology in the northern states is contributing to the declining SR. The rise in sex-selective abortion and emergence of female infanticide in various parts of the country is contributing in declining SR (Bose, 2001). Laws are ineffective to stop female foeticide and infanticide. Medical Termination of Pregnancy Act 1971 and Population Control Programme (Small family Norm) has contributed to the imbalance of SR (Patel, 2007). In patriarchal states women's status is very low where women are considered a burden on family. They are not allowed to work for economic contribution. Whatever work they do at home and in their fields, are not considered as economic contribution in the family. Dowry system is strongly followed in these states. But its not that son preference is followed in northern states only but also all over India including Kerala. Better economic condition and availability of sex-selective technologies, is contributing it towards decline in CSR in Haryana and Punjab (Bose, 2001).

II. Rural-Urban differences in CSR

The national level CSR was always in the range of 900s both in the rural and urban areas. In the census of 1991 and 2001 the rural areas have a favorable CSR than the urban areas (934 in 2001 and 950 in 1991 rural, 906 in 2001 and 935 in urban). The rural and urban divide is in the range of 15 points in 1991 and 28 points in 2001. But we if see the trend from one Census report to the next (1991-2001), it declined by 16 points. The

accessibility, availability and affordability of the SDTs are some reasons which could be linked with this drastic decline in CSR. The same reasons are also applicable for rural areas too in north-western states but some urban areas like Delhi, Mumbai, Surat and Chandigarh are cities which affect the urban CSR.

Table 9: Rural-Urban Child Sex Ratio during 1991-2001

India			
Year	Rural	Urban	Total
1971	983	959	978
1981	978	972	977
1991	950	935	945
2001	934	906	927

Census of India 1991 and 2001

III. Trend in SRB

Having examined the SR and CSR since 1971 to 2001, it is necessary now to examine the SRB, which directly affects the population in the 0-6 age groups. In India SRB is defined as number of male births per 100 female births, (which is also an international practice). In most populations in the world the SRB tends to be favourable to females even though the males outnumber females at younger ages due to slightly more males being born than females (the SRB varies between 103 to 106 boys per 100 girls for biological reasons, without any human intervention), but this advantage of males gets neutralized by about the age of 20 due to higher mortality among boys than girls (Premi, 2001).

In India and few other countries of South Asia and West Asia the situation is different due to neglect of females at almost all ages. In the absence of hard data on SRB particularly from the civil registration system, it has been assumed that 105 male births for every 100 female births is the norm and has remained constant for almost half a century. But during the same time period SRB may have changed in favour of males. For example in a study of about two million institutional births throughout India during 1949-

58, it observed the SRB was found to be 106 (or, 942 females for every 1000 males) (Ibid).

The Office of the Registrar General, India collected data on about six million live births during 1981-91 in hospitals, health centers, and institutions located in urban areas in various parts of the country and got an SRB of 112 males per 100 females (or 891 females per 1000 males). The Registrar General's Office, India again collected data in 1990s on 2.3 million institutional live births from Gujarat, Maharashtra, Tamil Nadu (Chennai only); West Bengal, Arunachal Pradesh, Manipur, Mizoram, Sikkim, Delhi and Lakshadweep have recorded SRB of 109.9. These are the states and UTs (except Gujarat) where female foeticide is not as rampant as in Punjab, Haryana, parts of Madhya Pradesh, Rajasthan, Himachal Pradesh and Uttar Pradesh. But these states and UTs too have high SRB (109.9) as compared to normal range of SRB (103-107).

Table10: Sample Registration System Based Estimates of SRB for India and Major States, 1981-90 and 1996-98

India and Major States	SRB 1981-90	SRB 1996-98
India	109.5	111.0
Andhra Pradesh	104.7	103.2
Assam	106.4	109.1
Bihar	111.7	111.5
Gujarat	111.1	113.9
Haryana	115.0	123.3
Karnataka	107.3	105.3
Kerala	105.5	107.1
Madhya Pradesh	108.2	109.9
Maharashtra	108.5	109.4
Orissa	106.2	107.6
Punjab	113.2	122.8
Rajasthan	114.1	114.8
Tamil Nadu	104.9	104.9
Uttar Pradesh	111.6	115.0
West Bengal	105.6	105.6

Source: as cited by Premi, 2001

The SRB based on SRS over the 1981-90 periods, it was 109.5 male births per 100 female births (Table 10). At the state level it has varied from 104.7 in Andhra Pradesh to 115.0 in Haryana. All the four southern states have, however, shown conformity with the international figure (102-107). SRS data for the 1990s indicate further imbalance in SRB, it being 111 male births for every 100 female births at national level, which is much above than normal range. The state wise variations have been quite large, from a low of 103.2 in Andhra Pradesh to a high of 123.3 in Haryana. Infact, Gujarat (113.9), Punjab (122.8), Rajasthan (114.8) and Uttar Pradesh (115.0) have registered SRB much above the national average. High SRB (more than normal range) has been recorded in BIMARU states (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh) in 1981-90 and risen in 1990-98 in the same states with some other like Orissa and Assam, Gujarat and Maharashtra, which is indicating female foeticide of varying degrees.

The data directly indicates that either female are not being born or discrimination against them has increased more and therefore, the female mortality rate has risen. This study suggests that in some states like Punjab and Haryana, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh which have been recorded highest SRB during 1980-90s lesser girls allowed to be born. The high SRB in Gujarat and Maharashtra show the widespread use of SDTs and thus female foeticide is evident. Bihar, Madhya Pradesh and Rajasthan are states which are known as female infanticide states. Bose (2001) stated that BIMARU states were top rankers for son preference in 1990s.

The data on SRB calculated by NFHS-I and NFHS-II rounds during 1992-93 and 1998-99, the SRB of India was equal to international standard (105 in NFHS-I and 106 in NFHS-II round) at national level (Table 6).

Table 11: Sex Ratio at Birth for India and major states, NFHS-I and NFHS-II

State	1992-93 NFHS 1	1998-99 NFHS 2
INDIA	105.1	106.9
Andhra Pradesh	100.2	103.2
Arunachal Pradesh	115.5	117.5
Assam	96.8	114.5
Bihar	96.8	106.7
Delhi	108.0	120.8
Goa	105.9	115.5
Gujarat	101.9	107.1
Haryana	113.5	117.8
Himachal Pradesh	112.3	112.6
Jammu & Kashmir	112.7	108.3
Karnataka	105.4	104.6
Kerala	99.0	107.7
Madhya Pradesh	108.1	104.5
Maharashtra	106.1	110.6
Manipur	90.6	103.0
Meghalaya	109.0	113.8
Mizoram	104.6	108.1
Nagaland	105.7	106.5
Orissa	110.9	106.0
Punjab	114.1	116.2
Rajasthan	110.8	108.8
Sikkim	NA	110.1
Tamil Nadu	97.9	105.7
Tripura	103.5	103.4
Uttar Pradesh	105.4	103.6
West Bengal	103.8	108.8

Source: National Family and Health Survey (1992-93 and 1998-99)

Note: NA stands for Not Available

At the state level, the SRB has increased in all states in second round of National Family Health Survey (1996-98). As compared to SRS data (1981-90) the SRB is low in all the southern states as well as other states in first round of NFHS (1992-93). Haryana and Punjab has highest SRB in first round as well as in second round of NFHS (Haryana 113, 117, Punjab 114, 116 respectively). The SRB of Arunachal Pradesh, Delhi, Haryana, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, Meghalaya, Orissa, Punjab and Rajasthan, was more than international average in the first round of NFHS and further

increased in all states including Kerala and fourteen states out of twenty six, in second round of NFHS. Kerala ranked 12th in the index of son preference, however, the sharp decline in fertility and strong preference for small family norm does raise concerns regarding gender bias in this state too. In other states of India like Haryana, Punjab Uttar Pradesh, Gujarat, Maharashtra, Rajasthan, Madhya Pradesh and Tamil Nadu, the son preference was always being followed but now sex-selective abortion has risen due to widespread use of SDTs. Small family norms are adding fuel to gender bias and thus SRB has raised.

IV. Comparison between SRS and NFHS on SRB

The increasing trend in SRB across two rounds of SRS and NFHS must be noted. The data collected by SRS on SRB show that at the national level it was above the normal range (accepted internationally, 103-107 male children on 100 female children). The SRB was 109 in first round (1981-90) and 111 in second round (1996-98). There were only 7 states, which had SRB within the normal range. Eight states had above than normal SRB which was as low as 108 and as high as 115 in the first round of survey.

In the second round, the increasing trend in SRB can be seen at the national level as well as among states. The SRB was registered in normal range in 6 states only and 9 states had recorded a high range of SRB (109-123). The gap between high ranges of SRB is 8 points between two rounds of SRS.

In the same way, an increasing trend in SRB can be noted between two rounds of NFHS (1992-93 to 1998-99). The SRB was 105 at national level in first round, which is a normal range and increased with one point (106) in second round. If one sees state level variation on SRB, 8 states had recorded within normal range and 10 states with high range of SRB which start from 108 to 113. This is important to note here, that there were 7 states with below normal range (90-101). But in second round, 12 states were registered within normal range of SRB and 14 states above than normal range (108-120). There was no state which registered below the range of SRB. The gap of SRB between two rounds was registered above 7 points.

The comparison between two sources, SRS and NFHS is difficult because SRS collected data in 15 states only however NFHS collected data in 26 states. It is clear that high SRB was registered by SRS at the national level as well as at the state level. But if we compare data collected by SRS in the second round (1996-98) and NFHS second round (1998-99) on SRB, one finds almost a 4 points gap (106.9-111.0) at national level and a 5 points gap at state variation level (123.3-120.8) respectively.

Further, South Indian states show normal SRB in both rounds of survey conducted by SRS. However, in the first round of survey of NFHS, three out of four states of south India, registered SRB below the normal range but in second round, they (southern states) reached the normal range of SRB. North-Western states were recorded with high SRB in both rounds of survey conducted by SRS and NFHS. The trend in north-eastern states is quite different. SRS collected data on SRB from Assam only which was recorded with normal range in the first round and increased with three points in the second round survey. But NFHS has collected data from all seven states. Out of the seven states, two had the SRB below normal range (Assam and Manipur, 96.8 and 90.6 respectively) and only two states Arunachal Pradesh and Meghalaya recorded with high SRB (115.5 and 109.6 respectively) in the first round of the survey. In NFHS-II, five out of seven north-eastern states have recorded high SRB. Only Nagaland and Tripura have recorded within the normal range of SRB.

Table12: Sex Ratio at Birth by Selected Background Characteristics, India, 2001 Census.

Background Characteristics	SRB Births during the preceding year of Census 2001 (All currently married women)	SRB Children ever born to women aged 20-34
All	110.4	106.7
By Residence		
Rural	110.4	106.3
Urban	110.6	108.3

By Religion		
Hindu	110.9	106.9
Muslim	107.4	105.3
Christian	103.8	103.0
Sikh	129.8	119.1
Buddhist	108.4	105.2
Jain	118.0	110.5
Other religion	106.5	102.3
By Caste/Tribe		
Scheduled tribe	106.4	103.1
Scheduled cast	108.6	105.8
Others	111.5	107.4
By Mother's educational level		
Illiterate	108.7	106.0
Literate but below primary	110.0	106.3
Primary but below middle	111.8	107.1
Middle but below metric or secondary	113.0	107.5
Metric or secondary but below graduate	115.3	109.4
Graduate and above	114.1	109.7
Total births/children (in thousand)	19887	237622

Source: as cited by Bhat and Zavier, 2007

The data on fertility from the 2001 Census provide more direct information on the SRB. Table 12 show two types of data on fertility in 2001 Census: One, live birth during the one year period preceding the census for currently married women (i e, current fertility) and two, number of children ever born for all ever-married women (i e, life time fertility). In both cases, data have been tabulated by mother's educational level, religion and rural urban areas of all states. About 20 million live births were registered during the year preceding the census. The SRB has been found 110 in the preceding year live births at all India level and 106 from the children ever born, which shows strong indicator of sex-selective abortions in recent year of census 2001.

Rural-Urban Difference:

Data on births for the year preceding the census shows negligible rural-urban difference in the SRB (Rural 110.4 and Urban 110.6), where as data on children ever born shows higher SRB in urban areas (108) than in rural areas (106). This may be indicating that either the rural urban differences have disappeared in more recent years or that rural women have under reported more female births that occurred during the preceding year than urban women.

Differences on Mother's Literacy and Education:

Data on current as well as lifetime fertility show that the SRB increases with the mother's educational level. The data on births for the year preceding the census show that the SRB increases from 108.7 for illiterate women to 115.3 for women who have completed matriculation. But those who are graduated from the college have reported a SRB of 114. The data on children ever born shows that the SRB increases steadily from 106 for illiterate women to 109.7 for women with a college degree. Difference in SRB between illiterate and those with a degree indicates that educated mothers strongly follow son preference. Small family norm is boosting the behavior of educated mothers as they are more prone to follow the small family norm with preference for a son compared to illiterate mothers. For fulfilling their wish of small family, educated mother may use the sex determination tests and go for sex-selective abortions. The population policy advocators find nothing wrong and admire these mothers as they are controlling the population through female foeticide. They look down and blame the poor and illiterate women for repeatedly bearing daughters in the hope of bearing a son. According to them these women are adding in population explosion without thinking and adding to the number of female children.

Differences by Religion:

Data on religion shows a systematic relationship with the SRB. As per both types of data (current fertility and life time fertility), the SRB is 103-104 for Christians, indicating little practice of sex-selective abortions. But the SRB is much higher than the normal range among Sikhs and Jains. As per the data on births during last year, it is 129 for Sikhs and

118 for Jains while as per the data on children ever born it is 119 and 111 respectively. The SRB among Hindus has been recorded 110.9 in current fertility and 106.9 in life time fertility data, indicates high rate of sex-selective abortions in current fertility. Data on SRB in various religions indicate that son preference is highest among Hindus, Jains and Sikhs as their SRB is higher than normal range. Therefore, it is very much possible that people with these religions follow the sex-selective abortions for the preference of son and adopting the small family norm. Christian does not show high SRB, which indicates that son preference does not exist among the followers of this religion and therefore, SRB is within normal range. The data on SRB for Muslims indicate little practice of sex-selective abortion in current fertility. Muslims people do not follow small family norm, therefore, there is less possibility of sex-selective abortions and high SRB.

Differences by Castes:

Data on scheduled tribes (STs) indicate no evidence of sex-selective abortions (as SRB being 106 and 103 respectively in two types of data). As per both types of data, the SRB for scheduled castes (SCs) is 108.6 and 105.8 only 2 percentages more than STs. The scheduled tribe people have been recorded with normal SRB because they do not access sex determination technologies. The SCs are much more advanced than STs in education and economically developed. Therefore, the SRB is little bit more than high as compared to normal range. Here, it can be said that there is some use of SDTs among scheduled castes.

For proper calculation of SRB, it is very important that all births of the country or region should be registered and surmises the extent to which female births are prevented from occurring, since SRB is biologically determined. Unless there is a conscious effort at intervention by human beings, the SRB is most unlikely to change significantly over a long period time. However, in India except for states like Kerala, Tamil Nadu and Goa, where registration of births is nearly total, elsewhere births are far from systematically or fully registered (Visaria, 2003). A significant proportion of births occurring at home go unregistered. In the absence of accurate information on SRB, we have to depend on decennial census reports for data on the number of children in the age group 0-6 by sex

and region to estimate the juvenile sex ratio. JSR does not undergo significant changes over the time period. But in India, with somewhat faster decline in female child mortality than male child mortality therefore the JSR should over time become more favourable to girls. However, contrary to this expectation, in the contiguous region from north to west of the country, the deficit of the girls increased between 1981 and 2001.

Section-III

I. Comparison of SR and CSR India

Table13: Comparison between Sex Ratio and Child Sex Ratio in India during 1991-2001

	Year	Rural	Urban	Total
Sex ratio	1991	1000	894	927
	2001	946	900	933
Child sex ratio	1991	950	935	945
	2001	934	906	927

Source: Census of India 1991 and 2001

In India, SR has shown an improvement from 927 in 1991 to 933 in 2001. During the same period CSR has declined by 18 points from 945 to 927 females per 1000 males. Again if we see the rural-urban divide (1000 to 894) in SR there is a wide gap in 1991 and in 2001. Where as urban areas have shown an improvement from 894 to 900 in SR between the Census 1991 and 2001, however, rural areas declined with more than 50 points in same year. What reasons could be linked with this decline in rural areas and increase in urban areas? Sex-selective migration from rural areas to urban areas for jobs as Multi National Companies spread in urban areas could be one reason.

CSR gap in rural and urban areas recorded with 15 points in 1991 and 28 point in 2001. It has declined with 16 points between 1991-2001 censuses in rural areas and with 29 points in urban areas between in the Census of 1991-2001. This shows that CSR has been declined in both (urban and rural) areas between the Censuses of 1991-2001 which is

linked with sex-selective abortions, increase in SRB due to fertility decline, sex-selective abortions and family planning policy in sociological and demographical literature.

Section-IV

I. Economic Growth and SR in Haryana

Formation and Location:

The State of Haryana came into existence on November 1, 1966 after separating the designated area from the State of Punjab. The State of Haryana lies in the north-western part of the country. Haryana is bounded by Uttar Pradesh and Delhi in the east, Punjab in north-west, Himachal Pradesh in the north and Rajasthan in south and west. The State covers an area of 44,212 sq. km. and ranks twentieth place in the country as regards to area. The city of Chandigarh, which lies within the Chandigarh Union territory, is the capital of not only that territory but also the States of Punjab and Haryana.

Total Population of the State i.e. 211, 44,564 people (2001) and have 16th place in the country as regards the population. Haryana has 20 districts at present. Only seven districts, Ambala, Karnal, Rohtak, Gurgaon, Mahendragarh, Hisar, and Jind were in the state at the time of separation. The remaining thirteen districts have been formatted later in different years, like Panchkula in 1995, Yamunanagar in 1989, Kurukshetra in 1973, Kaithal in 1989, Panipat in 1989, Sonapat in 1972, Jhajjar in 1997, Faridabad in 1979, Rewari in 1989, Fatehabad in 1997, Sirsa in 1975, Bhiwani in 1972 and Satyamev Puram in 2002.

History of Haryana: Administration Development:

The Hindi speaking regions were ignored in terms of development by the Punjabi government and people of Haryana were treated as second class citizens before bifurcation of Haryana. Moreover, there were many differences between the people of these two regions like language, clothing and other habits. The demand for a separate state got a boost with the demand of Master Tara Singh for a Punjab Suba in 1948. The diverse feelings among the Sikhs and Haryanavi Hindus slowly and gradually sowed the seeds of bifurcation. In order to solve this problem, then Punjab Chief Minister, Bhimsen

Sachchar, introduced a "Sachchar" formula on 1st October, 1949. According to this formula, the State was sub-divided into two parts: Punjabi Area and Hindi Area. The Hindi area included the districts of Rohtak, Hisar, Gurgaon, Kangara, Karnal and the Tahsils of Jagadhari and Naraingarh. It was decided that the official language of the Punjabi area would be Punjabi and the official language of Hindi area would be Hindi. But the "Schchar" formula could not succeed and it became especially unpopular in the Hindi area (Sharma, 2007).

On 25 December, 1953 the Indian government set up a Commission under the Chairmanship of Syed Faizal Ali for suggesting the reorganization of States according to language and culture. The proponents of Punjabi Suba and Haryana both appeared before the Commission with their respective demands. But Commission did not approve of the division or reorganization of Punjab. Punjab government tried to find a solution to this difficult problem by suggesting the division of the State into Punjabi speaking and Hindi Speaking areas. Therefore, in April 1956, the Indian Government declared Punjab to be a dual-language state and divided it into Punjabi Area and Hindi Area. Both Hindi and Punjabi were declared its Official languages. But in 1957, due to certain actions of the Chief Minister of Punjab, Pratap Singh Kairon, this solution too failed (Sharma, 2007).

The failure of this solution accelerated the demand for separate states in both the regions. In 1960, Master Tara Singh launched a *morcha* for his demand of Punjab Suba. After the arrest of Master Tara Singh by the Punjab government, Sant Fateh Singh took over the leadership of the agitation. There were some conflict between Master Tara Singh and Sant Fateh Singh on the leadership issue and Punjab government took the benefit out of it. In 1965, Sant, S.F. threatened self-immolation if the demand was not accepted within 25 days. But due to agitation of Hindu population from Punjab area, this threat couldn't solve the problem.

The Indian government set a parliamentary committee headed by Sardar Hukam Singh for reorganization of Punjab on 23rd September, 1965. On 23rd April, 1966, acting on H. Singh Committee, the Indian Government set up Shah Commission under the

Chairmanship of Justice J.C. Shah, to divide and set up the boundaries of Punjab and Haryana. The Commission gave its report on 31st May, 1966. According to this report, the districts of Hisar, Mahendragarh, Gurgaon, Rohtak and Karnal were to be part of the new State of Haryana. Further the tahsils of Jind (district Sangrur), Narwana (district Sangrur), Naraingarh, Ambala and Jagadhri were also included. The Commission, the Indian Government recommended that Tahsil Kharar (including Chandigarh) should be part of Haryana. After receiving the report of Shah Commission, the Indian Government passed Punjab reorganization Bill (1966), on 18 September, 1966. According to this Bill, the boundary of Haryana was demarcated as follow.

The district of Hisar, Rohtak, Gurgaon, Karnal and Mahendragarh; Jind and Narwana tahsil of Sangrur district; Ambala, Jagadhari and Naraingarh tahsil of Ambala district; Pinjore circle of Kharar tahsil (district Ambala); and the part of Mani Majra circle of Kharar tahsil become the part of Haryana, it was also decided that the two States of Haryana and Punjab would have a common High Court, called the Punjab and Haryana High Court. The other parts of the Bill dealt with issues like division of the Parliamentary seats in the Lok Sabha and Rajya Sabha.

Economic Development:

As compare to other states, the present State of Haryana was comparatively backward at the time of reorganization. The percentage of workers engaged in agriculture and allied sectors was 71 per cent, the level of literacy was 19.9 percent, and the level of urbanization was 17.2 percent in Haryana. The state was ignored even in the matter of allocation of Central Industrial Projects. During 1951-61, only one Central Project (HMT) involving an investment of only Rs. 8.5 crore was allocated in Haryana against Rs. 2,449.7 crore in different states. The slow economic development of Haryana State was due to certain lack of efforts by Punjab government to develop the area.

The State has made tremendous progress in almost all the sectors of the economy since its formation. It has been possible due to planned economic development. The progress has been predominantly visible mainly in the field of agricultural and allied services.

Other sectors like industry, road, transport, energy, education, health, drinking water supply and social services have also made significant progress.

Agriculture is the mainstay of Haryana's economy. It is an agriculturally prosperous state. More than 75 per cent population of the State is engaged in agriculture. About 29.4 per cent of the total income of the State comes from agriculture and allied activities (Economic Survey of Haryana, 2003-04). The main stress is being laid on to increase the agricultural production in the State. Haryana is contributing a large amount of wheat and rice to the Central Pool (a national repository system of surplus food grain). Haryana has achieved an all time high production of food grains which touched the mark of 132.5 lakh tone during the year 2001 (Government of Haryana Budget, 2002-03). Rice, Wheat, Jawar, Bajra, Maize, Barley and Pulses, Sugarcane, Cotton, Oil seeds and Potato are the major crops of Haryana. Haryana, after its existence in 1966, the planners, economists and politicians gave top propriety to agriculture in the country as a whole. The state has witness 'Green Revolution' with sufficient amounts of surplus food grains in the country.

Industrial Development:

Haryana is agriculture predominant and has no mineral base but it has maintained its industrial growth. This could happen because of the confidence imposed by the industrialists, better law & order, congenial employer and employee relations, better amenities to the public and the pragmatic industrial policy of the State (Economic Survey of Haryana, 2000-01). The state is the largest producer of passenger cars, tractors, motorcycles, bicycles, refrigerators, scientific instruments etc. It is a largest exporter of Basmati rice to the overseas market. Panipat handlooms and carpets are known all over the world besides its Pachranga Aachar. Since August, 1991, when the Economic Liberalization and the Policy of the Government of India was implemented 2,869 Industrial Entrepreneur Memoranda (IEMs). The state has highest rate of IEMs in the country (Economic Survey of Haryana, 2001).

Per Capita Income of Haryana:

The state of Haryana has the second highest per capita income in the country at Rs 56,280 (Govt. of Haryana). When it comes to financial health Haryana is one among the three best performing states in the country (Government of Haryana Budget, 2002-03). Haryana had the minimum fiscal deficit of 0.6 per cent in financial year 2006-07. The state tops the list in terms of per capita investment in the fiscal year 2007 with an investment of Rs 1,86,045 crore. Ninety three of top hundred companies with their corporate officers and production are in Haryana. The state has the largest number of rural *crorepatis* in India. In 2006-07, the state received a 'Foreign Direct Investment Project' of over Rs 11,000 crore in the state and corporate sector. Reliance Ventures, a group company of India's largest private sector company. The state has a developed banking system with over 4500 banks branches.

Transportation Development:

Transport lines are the arteries of development. In Haryana Railways and Roadways are the major means of transport, though bullock carts in many rural areas, mules in sub-mountainous parts and camels in sandy areas of south-western Haryana still dominate the scene. In urban areas and tourist centres of the State, air transport can also be seen.

When Haryana came into being the road length was 6,137 km, which had increased to 23,496 km in 2002-03, giving an average increase of 457.29 km per year. At the same time only 20 per cent of Haryana Villages were linked with concrete roads. Now almost all eligible villages have been with concrete roads in the State. There are three types of roads like National Highways, State Roads, and Local Bodies Roads.

On the reorganization of Punjab, the new State of Haryana got only 1,220 km of rail length of 3,312 km. at present (2002-03) the total length of Rail route in Haryana is 3,737.91 km. Broad-gauge route in Haryana as well as narrow gauge tracks are laid in the state though 92 per cent of the railways track are Broad-gauge Tracks. Almost all the important towns of Haryana are linked with different parts of the country by railway route. Ambala, Kurukshetra, Rewari, Jind, Hisar, Rohtak are some important railway junctions of Haryana. Ambala, Panipat and Jakhhal are important railway stations. There is

a railway workshop at Jagadhari. Railway is a central subject, the development of which is outside the jurisdiction of the State Govt.

There are six civil aerodromes in Haryana, Hisar, Karnal, Pinjore, Narnaul, Bhiwani and Jind with concrete runway. A small airport has been constructed at Sirsa. Air transport facility is available between Delhi and Chandigarh.

Population Growth:

The growth of population in Haryana during 1991-2001 is 28.43 per cent which is slightly risen (1.02 per cent) as compared to 1981-91 (27.41 per cent). As regards the district wise decadal growth of population, only four district viz., Panchkula, Faridabad, Gurgaon and Panipat witnesses comparatively higher decadal growth rate than the State average (28.43 percent). Their respective decadal growth rate is 50.90 per cent, 48.55 per cent, 44.86 per cent and 38.58 per cent respectively. Panchkula district showed highest decadal growth rate 50.90 per cent in population whereas Mahendragarh district indicated lowest growth rate 19.09 per cent.

Density of Population:

Density of population means number of persons per square kilometer. Density of population is a natural phenomenon in any developing State with the passage of time and it conveys land-man ratio of the State. The density of population in 2001 census is 478 persons per square kilometer. As regards, the districtwise density of population, Faridabad ranks first with a density of 1020 persons per square kilometer while Sirsa district has the lowest density of population i.e., 261 persons per square kilometer. In Haryana, there are 9 districts which have the density from 500 to 1000 persons per square kilometer. The names of districts are Panipat (763), Ambala (644), Sonipat (603), Gurgaon (612), Yamunanagar (589), Kurukshetra (539), Rohtak (539), Panchkula (521) and Karnal (505). Seven districts viz., Jhajjar (480), Rewari (480), Jind (440), Mahendragarh (428), Kaithal (408), Hisar (386) and Fatehabad (318) have density of population from 300 to 500 persons per square kilometer. Only two districts viz., Bhiwani (298) and Sirsa (261) have density of population less than 300 persons per square kilometer.

Literacy Rate:

As per 2001 census, the literacy rate of Haryana is 67.9 per cent whereas it was 25.71 per cent in 1971 which increased upto 37.13 per cent in 1981 and 55.85 per cent in 1991. As per census male literacy is 78.5 per cent and female literacy is 55.7 per cent. As expected, male literacy is relatively higher than female literacy rates in all the districts of Haryana. Rewari district, where male literacy is 88.4 per cent, ranks first in the State while lowest male literacy has been recorded in Fatehabad district (68.22 per cent). Female literacy rate is the highest in Yamunanagar district (63.39 per cent) while it is the lowest in Fatehabad district (46.53 per cent).

Sex Ratio:

SR indicates number of females over 1,000 males for India. The SR in Haryana was 865 in 1991 Census. It indicates the declination in SR by 4 females during the last decade. The SR in Haryana as per 2001 Census was 861, whereas it was 867 in 1971, 870 in 1981 and 865 in 1991. It reveals that the SR in Haryana has declined continuously since 1981. As per study of the districtwise SR, it is clear that ten districts viz., Mahendragarh (918), Rewari (899), Fatehabad (884), Sirsa (882), Bhiwani (879), Gurgaon (873), Ambala (868), Kurukshetra (866), Karnal (864) and Yamunanagar (862) have SR above the state average i.e. 861. the remaining nine districts have SR below the State Average. The names of districts are Panchkula (823), Panipat (829), Sonapat (839), Faridabad (839), Rohtak (847), Jhajjar (847), Hisar (851), Jind (852), and Kaithal (853).

Communication and Media:

Haryana has a state-wide network of efficient telecommunication facilities. Bharat Sanchar Nigam Limited (BSNL) and most of the leading private sector players (such as Reliance Infocom, Tata Teleservices, Bharti Telecom, Idea and Vodafone Essar) have operations in the state. Important areas around Delhi are already part of Local Delhi Mobile Telecommunication System. This network system would easily cover major town like Faridabad, Gurgaon, Bahadurgarh and Kundli. The major newspapers of Haryana are *Punjab Kesari*, *Jagaran Bani*, *Dainik Jagaran*, *The Tribune*, *Amar Ujala*, *Punjabi*

Tribune, Hindustan, Dainik Bhaskar, The Times of India and Hari Bhumi. With print media, the network of electronic media also spread all over the state, even in interior.

Health Services in Haryana:

Since the inception of Haryana State in 1966 there has been a significant increase in the number of health services over a period of three decades: per capita expenditure on health increased from Rs. 1.2 in 1966-67 to Rs. 84.48 in 1995-96. Expenditure on medical, family welfare, public health, sanitation and water supply increased from Rs. 385 millions in 1980-81 to Rs. 3367 millions in 1995-96. At 1980-81 prices increase was Rs. 1059 millions, more than 10 per cent annual growth; and about 10 per cent of the total development and revenue expenditures were on health services in 1995-96 (Government of Haryana, 1997b). Annual growth in health expenditure was more than 15 per cent per annum from 1980-81 to 1985-86, falling to less than 5 per cent during the 1985-86 to 1990-91 and less than 10 per cent from 1990-91 to 1995-96. The number of Community Health Centres (CHCs), Primary Health Centres (PHCs) and Sub-Centres and trained doctors, and paramedical personnel increased substantially over the last three decades. Along with Government, the number of private doctors also increased. An increase in the number of health services alone could not ensure improvement in geographical access and efficiency level of health services in less developed areas in general and in rural areas in particular. The Government of India (1997) places on record that there are marked disparities in the provision of health services at state and district levels; and attempts are being made to correct these imbalances by additional provision of health services in less developed districts.

The Health Department of the state is committed to provide quality health services and raise the Health Status of its people. The Health Services are being provided through a network of 50 Hospitals (including Hospital of Medical College Rohtak), 85 Community Health Centers, 420 Primary Health Centers, 2433 Sub-Centers, 20 District T.B. Centres, 41 Dispensaries, Post Graduate Institute of Medical Education and Research at Rohtak and a Medical College at Agroha (Hisar) and Mullana (Ambala). the state is providing health services with Aurvedic Hospitals (8), Aurvedic Dispensaries (472), Unani

Hospitals (1), Unani Dispensaries (19), Homeopathic hospitals (1) and Homeopathic Dispensaries (20) (RHS Bulletin, March 2007, MOHFW, GOI).

National Rural Health Mission:

Under the banner of the National Rural Health Mission (NRHM), the Govt. of India has launched Reproductive Child Health (RCH-II) to the tune of Rs.749.00 crore for the State. This Programme was launched on 12th April, 2005 and will continue upto the year 2012. The focus of the Department under NRHM is to improve the availability and access to quality health care of people, especially for those residing in rural areas, the poor, women and children. Funds to the tune of Rs. 69.28 crore have been received from Govt. of India upto 30.11.2007 under RCH Flexible Pool/Mission Flexi Pool. The expenditure so far has been Rs. 43.85 crore (Government of Haryana, 2001).

PNDT Act, 1994:

Haryana is a state with lowest sex ratio, 861 females/1000 males. The PNDT Act, 1994 strictly implemented. 961 Genetic Clinics and 66 Genetic Counseling Centres have been registered. Registration of 169 Ultrasound Clinics has been cancelled. Forty six Ultrasound Clinics are registered in Govt. institutions. Hundred Ultrasound Machines have been seized and sealed by the respective district appropriate authorities. Four convictions have been made in the State under PNDT Act. The Family Welfare Programme is being implemented as Community Needs Assessments Approach with the demand of the community and quality of services. In order to increase male participation in Family Welfare Programme, the No Scalpel Vasectomy (NSV) technique has been introduced and till date 135 doctors have been trained in all the districts of the State. During the year 2006-07, a total of 10949 Vasectomy operations were conducted out of which 10789 were of NSV. It is worth mentioning that the proportion of Vasectomy operations including NSV vis-à-vis total sterilization which was 0.7 percent in the year 2000-01 has increased to 12.7 percent during the year 2006-07.

The State Government is tapping the vast resource of the private sector in delivering quality health care services. Neurology and Psychiatry services along with Clinical

Research facilities are being offered in Gurgaon Civil Hospital by National Brain Research Centre. There are 9 Haryana Urban Development Authority (HUDA) Dispensaries, out of which one has taken over by *Seegrans*, a Non-Government Organisation (NGO) and running it successfully. It is proposed to handover the remaining 8 Dispensaries also to NGOs or private agencies for which applications have been received even from Multi National Companies.

II Trend in SR in Haryana during 197-2001:

In Haryana sex ratio over time, especially between 1991 and 2001, became distinctly biased against girls.

Table 14: Sex Ratio in Haryana 1971-2001

Years	1971	1981	1991	2001
Haryana	867	870	865	861
Panchkula	NA	NA	NA	823
Ambala	859	879	883	868
Yamunanagar	NA	NA	883	862
Kurukshetra	854	864	877	866
Kaithal	NA	NA	853	853
Karnal	854	859	865	865
Panipat	NA	NA	853	829
Sonapat	NA	869	841	839
Jind	858	857	837	852
Fathehabad	NA	NA	NA	884
Sirsa	NA	878	885	882
Hisar	866	872	861	851
Bhiwani	NA	904	879	879
Rohtak	882	901	851	847
Jhajjar	NA	NA	NA	847
Mahendragrah	900	947	910	918
Rewari	NA	NA	928	899
Gurgaon	860	896	869	873
Faridabad	811	814	827	839

Source: Census of India, Primary abstract of Haryana 1981, 1991, 2001

Note: NA stands for Not Available

Trend in SR can not be seen separately in Haryana before 1971 as it departed from Punjab in 1966 only. If we see SR in Haryana since 1971 census record, find that it had recorded with 867 girls for per 1000 males (Table 15) in 1971 and come down 861 in 2001. It improved only once by 3 points (870) in 1981 from 867 in 1971. The state variation can be seen in SR since 1971.

III. Regional Variation in SR

Haryana is the second state with the lowest SR among all Indian states after Punjab (874). The state has 7 districts in 1971, almost all districts recorded with below 900 females per 1000 male, excluding Mahendragrah (900) in 1971. Data available in 1981 census show that all districts, excluding Kurukshetra and Jind had been recorded with improvement in SR as well as national level (870). Improvement was evident with little point and state still counted with low SR. Again in 1991, the SR was recorded with 5 points decline at state level. At districts level, almost all districts recorded with below 900 and still Mahendragrah (910) and Rewari (928), were only two districts, which had SR above to 900 females per 1000males. In 2001 Census report almost all districts, excluding Jind (15 points increased (835-852), Mahendragrah (8 points increased (910-918), Gurgaon (4 points increased (869-873) and Faridabad (12 points increased (827-839), recorded with declining SR as compare to 1991 census.

Table15: Deviation among Districts in SR from State Average, 1971-2001

Deviation among Districts in SR from State Average (SA)	Number of Districts			
	1971	1981	1991	2001
30+	1	2	2	2
30	0	1	3	2
20	1	0	2	2
10 points above	0	3	1	4
SA	867	870	865	861
10 points below	4	2	1	3
20	1	2	3	2
30	0	0	2	2
30+	0	2	1	1

Source: Census of India, 1971, 1981, 1991 and 2001

The trend in SR in 19 districts of Haryana is recorded declining in three census records (1971, 1991 and 2001) only in 1981 it improved with 3 points at national level and as well as at with some points at some districts levels. All the districts, excluding Mahendragarh and Rewari, are having SR below than 900 females per 1000 males throughout the stated time period (1971-2001). However, these districts too recorded declined trend in SR in all Census reports.

Districts which are closer to Rajasthan are having better SR than districts which are closer to Punjab and Himachal Pradesh. Therefore, it is possible that Haryana districts which are closer to states like Rajasthan, Punjab, Himachal Pradesh, Uttar Pradesh and Delhi are have low SR than other districts because closer districts can access the sex determination facilities in neighboring states and cities. Further, districts (Faridabad, Gurgaon, Panipat etc) with industrial development are having low SR than other states like Mahendragarh and Rewari. Sex-selective migration can be possible from economically backward districts to industrial districts due to employment opportunity. With this prevalence of sex-selective abortion in industrial districts can be more as compare to economic backwards districts because of accessibility, availability and affordability of the services. As industrial districts are having better economic condition therefore possibility of availability of sex-determination facilities is more in these districts as compare to economically backward districts like Bhiwani, Mahandergarh, and Jhajjar. Mortality rate differences in male females, rate of sex-selective abortions are matters of research in industrially developed districts.

IV. Rural and Urban Differences in SR in Haryana

In Haryana total SR has never touched 900 ranges and same is the case of rural areas. At state level, the SR gap between rural and urban areas is negligibly, which varies between 3 to 20 points in 1991-2001. Many factors can be liked with this negligible gap like rise in female foeticide in rural as well as in urban areas. As observed in various studies (George and Dahiya, 1998; Visaria, 2001) conducted in Haryana villages that female child mortality has increased due to discrimination in nutrition and health facility for them At the national level when the urban SR has shown a slight improvement in 1971-

2001 period (from 858 to 900 females per 1000 males) simultaneously SR in urban Haryana has performed worse role where it declined by 6 points (853 to 847). Same way in rural areas both India and Haryana has shown a decline during 1971 to 2001 by 3 points and 6 points respectively, (949 to 946 in India and 870 to 866 in Haryana).

The rural-urban difference at national level has touched the highest gap of 106 points (1000 rural and 894 urban) during 1991 census period and in the case of Haryana this gap was 3 points during the same period the rural-urban gap was just 3 points (868 and 865). This means that during 1981-91 periods either rural India has performed exceptionally well or urban India has purposefully eliminated more females before they were even born in Haryana.

Table 16: Rural-Urban Differences in Sex Ratio in Haryana during 1971-2001

Haryana			
Year	Rural	Urban	Total
1971	870	853	867
1981	866	847	861
1991	868	865	863
2001	866	847	861

Census of India 1971, 1981, 1991 and 2001

The effect of strong son preference over daughters can be analyzed with the help of available data. However, son preference exists all over Haryana, but it may strongly follow in rural areas. A study conducted by George and Dahiya (1998) in rural Haryana gives strong evidence that due to strong son preference in rural Haryana, women are using SDTs. Use of sex-selective technologies are widening in rural Haryana. Bose (2001) stated that the ready availability of doctors during ultrasound test and consequent female foeticide, the good transportation network and the ability to pay for the services of the mobile doctors are factor responsible for the widespread recourse to ultrasound in rural Haryana, Punjab, Himachal Pradesh, Chandigarh and Delhi. Urban SR is also affected with son preference and 'small family norms'. Sex-selective technologies are more accessible to people, which is contributing in declining SR at both level, rural and urban in Haryana. Male migration from villages to urban areas can be possible which may add in urban population. Kundu & Sahu (1991) and Raju & Premi (1992) also stated

that out migration from backward areas and the selective abortion of female fetuses whose gender had been determined by amniocentesis were suggested as possible causes.

V. SR by Religion Groups and Castes

In Haryana, among Hindu the SR was 866 to 858 during 1971-2001 census. This is different from the general trend of Hindus in India where it has almost remained the same. A decline in SR among Muslims is observed in Haryana from 874 to 870 females per 1000 males during 1971-2001 Census. Christians has shown an increase in SR during 1971-1991 but declined by 19 points between the two decades, 1991-2001. During 1971-1991, Christians and Sikhs have recorded increasing trends of SR, but declined in 2001. Hindu has recorded increasing trend during 1971-81 and further declined during 1991-2001. Buddhists has registered with declined trend during 1971-91 and increase in 2001. Jains have different scenario, as their SR is opposite trends of other religions. SR among Jains has declined during 1971-81 and increased during 1981-2001. In Haryana mainly Hindus and Sikhs have adverse SR when compared to other religions. Various reasons can be given for low SR among Hindus. Firstly, according to Hindu tradition, sons are needed for the cremation of deceased parents because only sons (or, in their absence, grandsons or other men in the family) can light the funeral pyre. Sons also help in the salvation of the souls of dead parents by performing 'pind daan' (offering food and clothing to Brahmins and the poor) certain times of the year. Other than this for performing holy religious performance, Hindu religion prefers to sons.

Table17: Sex Ratio among Different Religious Groups during 1971-2001

Religious compositions	1971	1981	1991	2001
All Religions	867	870	871	861
Hindus	866	869	863	858
Muslims	874	870	872	870
Christians	882	896	931	918
Sikhs	875	887	896	812
Buddhists	821	782	740	783
Jains	941	914	923	911
Others	667	833	---	790
Religion not stated	789	727	---	809

Source: Religion Volume Census of India 2001, 1991, 1981, 1971

One can see an increasing trend of SR since 1971-2001. Hindus are the second group with worse SR since 1971 to 91. Reasons here could be linked is that status of women is very low among Hindus. Son preference is strong among Hindus and Sikhs. Trend of sex-selective abortion is highest among Hindus and Sikhs. Christians and Buddhists have better SR as compare to other religion groups throughout the time period. It shows that son preference does not exist in these two religions and therefore women face less discrimination in these communities.

SR among Scheduled Castes

Table 18: Sex Ratio in Schedule Castes since 1971-1991

Year	Haryana Sex Ratio	
	Total	Scheduled caste
1971	867	871
1981	870	864
1991	865	860

Source: Volume on Scheduled Caste 1991, 1981,
Census of India Primary Census Abstract 2001

In Haryana as compare to India, the declining trend of SR can be observed among scheduled castes between 1971 and 1991 in Haryana. In 1991 and 1981 Census, SR among scheduled castes (864 in 1981 and 860 in 1991) is lower than that of total (870 in 1981 and 867 in 1991) SR of the State. In 1971 the trend of SR was the opposite where scheduled castes had better SR (871) than total SR (867) of the State.

VI. SR by Literacy

The literacy rate of Haryana is 67.91 percent, which is comparatively higher than the National average which is 64.80. The literacy rate for males and females are 78.49 percent and 55.73 percent respectively which is also higher than the national average. There are 8 districts namely Gurgaon, Jind, Hisar, Sirsa, Kaithal, Bhiwani, Mahendergarh and Fatehabad where literacy rate is lower than the state average. The literacy rate among SCs is 55.45 percent, which is lower than the state average. Literacy rate among SCs

female is only 42.26 percent. However male literacy level is much higher than the female literacy (66.93 percent) among SCs.

Table 19: Literacy and Sex Ratio

Year	Total	Males	Females	Sex ratio
1971	2699179	2005424	693755	346
1981	4605649	3271047	1334602	408
1991	16463648	8827474	7636174	865
2001	12093677	7480209	4613468	618

Source: Census of India: 2001, 1991 1981 and 1971

The SR was recorded as 346, 408 and 865 females per 1000 males in 1971 and 1981, 1991 respectively, which is increasing trend in literates. During 1991 and 2001 census, it has actually shown a decline from 865 to 618. This is the opposite of the national trend where, SR has increased with 230 points. The empirical literature has stated that education has added in the decline of SR even in Haryana. But here, the data show the opposite trend. Reasons here could be linked with this increase trend during 1971-91, level of education which is not clear. The definition of literacy, in India and even at international level, covers only those people who know how to write and read. Therefore, education and literacy have differences. The literacy may affect little in adverse SR but education may affect more than literacy rate.

Education level and SR

If one compares education level wise SR in Haryana and India during the period of 1971, one can see that Non- technical diploma educators have a better SR (700 females per 1000 males) in Haryana. The SR in technical education is very low (42) in 1971. It is evident from the data; literacy SR among primary educated has never gone above 500. At the national level, primary education level SR has shown better performance (486 in 1971 and 558 in 1981) followed by non-technical diploma education where it is 281 in 1971 and 617 in 1981.

Table 20: Education level and Sex Ratio

Year	Primary	Middle	Higher secondary	Non-Technical diploma or certificate not equal to degree	Technical diploma or certificate not equal to degree	Graduates and above
1971, India	486	369	278	281	258	248
1981 India	558	462	369	617	260	330
1971 Haryana	374	301	216	700	42	319

Source: Census of India, 1971 and 1981

It is interesting to note that Haryana achieved a SR of 700 females per 1000 males as compared to the National (281) in 1981 in non-technical diploma. But at the primary level SR of Haryana was low (374) as compared to India (486). Middle class educational group had low SR (369 India and 301 of Haryana) as compared to primary level educational group (486 of India and 374 if Haryana) and then declining trend can be seen in higher secondary educational group (278 of India and 216 of Haryana) and graduate educational group (248 of India and 319 of Haryana) in 1971. Here, a clear picture is coming out from the available data that as the level of education increases, the SR decrease at the all India level as well as for Haryana in 1971. If see the trend in SR in 1981 at India level among the educational group, the SR is declining from primary level educational group to graduate educational group (primary 558, middle 462, higher secondary 369 and graduate 330). Non-technical has high SR as compare to technical educational group in all three decades (1971, 1981 and 1991 Census report) at National level as well as Haryana level.

VII. CSR in Haryana

The declining trend in CSR has been observed in Haryana during 1971-2001. The CSR of Haryana was 921 in 1971 and it come down 820 in 2001. Almost 101 points of decline can be seen in the four decades which is alarming. The CSR was 14 points higher than the overall SR of Haryana in 1991 and surprisingly it declined by 41 points compared to overall SR of Haryana in 2001. The CSR in all districts varied from 814 to 947 in 1981,

which is very poor. In 1991 Census reports, the CSR was recorded with increase, excluding Hisar, Bhiwani, Rohtak and Mahendragrah. The shocking news appeared in 2001 Census when all 19 districts were recorded with declining CSR. Differences in CSR among districts can be analyzed with per capita income, educational level of mothers, son preference, mortality rate of male-female child, and availability/use of sex-selective abortions.

Table 21: Child Sex Ratio in Haryana during 1971-2001

District, Haryana	2001	1971	1981	1991	2001
Haryana		921	877	879	820
Panchkula		NA	NA	NA	829
Ambala		906	879	885	782
Yamuna Nagar		NA	NA	889	806
Kurukshetra		NA	864	869	771
Kaithal		NA	NA	855	791
Karnal		934	859	875	809
Panipat		NA	NA	882	809
Sonapat		NA	869	880	788
Jind		904	857	859	818
Fathehabad		NA	NA	NA	828
Sirsa		NA	878	883	817
Hisar		927	872	868	832
Bhiwani		NA	904	886	841
Rohtak		918	901	876	799
Jhajjar		NA	NA	NA	801
Mahendragrah		932	947	892	818
Rewari		NA	NA	894	811
Gurgaon		911		895	858
Faridabad		NA	814	884	850

Source: Primary Census Abstract, Haryana, 1971, 1981, 1991, 2001

It has come into notice that son preference over daughters is stronger in India, but with better economic condition and availability accessibility of sex-selective abortions technology has contributed in declining trend in CSR in Haryana. With this male-female child mortality rate is high in the state as compare to other states. According to a World Bank Study the ratio of female to male child mortality in Haryana is worse than in any country of the world. Many studies provides the evidence that there is wide spread use of

sex-selective technologies in some districts like Rohtak (George and Dahiya, 1998), Jind (Unisa, Pujari and Usha, 2007), and Kurukshetra (Visaria, 2007). George and Dahiya (1998) stated that in Haryana, where technical means to identify sex through amniocentesis and ultrasound have been used, to accommodate the widespread preference for sons.

Sex determination clinics have been increasing more sharply in urban areas. Doctors are moving with ultrasound machines in their cars to rural areas for conducting sex determination tests. Doctors from Rohtak districts indirectly expressed in a study (George and Dahiya, 1998) that ultrasonography is abused for sex-selecting foetuses. The only difference is that after the national law banning the test was passed in 1994 was that cost of the test doubled. Some demographers suggested that the distortion in CSR in the northern region for the last 100 years could be due to biological peculiarity of these women to have a highly distorted sex ratio at birth in favor of boys (Premi, 1994).

VIII. Rural and Urban Differences in CSR

In Haryana CSR has never gone up above 900 except in 1981 when total CSR was 902. One can see, unlike the Indian scenario, where urban CSR was lower than the rural CSR through out the years; it is reverse in Haryana in 1991. In 1991 census, urban CSR has bonus points of 7 over rural CSR.

Table 22: Rural-Urban in Child Sex Ratio in Haryana, 1991-2001

Haryana			
Year	Rural	Urban	Total
1971	923	905	921
1981	920	924	921
1991	877	884	879
2001	823	808	820

Census of India 1971, 1981, 1991 and 2001

In 2001 census Haryana also joined Indian scene where urban SR is lower than rural. One has to see whether in, 1991 low CSR in rural Haryana has to do anything with agrarian crisis or migration from rural to urban areas etc. Similarly in the 2001 trend of unfavorable urban CSR may have linkages with the availability, accessibility of reproductive technology, sex selective abortion etc. However, the gap between rural-urban SR is only 15 points, which indicates that sex-selective abortions are in practice in both areas.

IX. Comparison of SR and CSR Haryana

Table 23: Comparison of Sex Ratio and Child Sex Ratio in Haryana during 1991-2001

	Year	Rural	Urban	Total
Sex ratio	2001	866	847	861
	1991	868	865	863
Child sex ratio	2001	823	808	820
	1991	877	884	879

Source: Census of India 1991 and 2001

Unlike the national trend where SR has improved between two censuses from 927 to 933 females per 1000 males during 1991 to 2001, Haryana has shown a decline in SR from 863 in 1991 it turned down to 861 in 2001. There is only 2 point decline between 1991 and 2001.

When one sees CSR, at the national level the decline was just 2 points (945 to 927) and in Haryana there is sharp decline from 59 points, which is matter of serious concern. If one see, rural-urban divide in CSR and SR then urban divide is more (around 27 points; 111 in 1991) than the rural gap in SR, it is only three points in 1991 but increased upto 19 in 2001. It can be say that rural area having better SR than urban in these two decades. But gap is not much. Rural-urban gap in CSR is also little with 7 points in 1991 and 15 in 2001. Therefore, it can say that rural-urban SR and CSR are coming closer.

CHAPTER-4

Interpretation and analysis

The review was undertaken to understand the trends in imbalanced growth in SR and in Haryana and its implications from 1971 onwards. The objectives were to examine the trend and factors responsible for declining SR and CSR across various socio-economic groups in Haryana over the last four decades. The empirical literature has discussed some factors which are responsible for the drastic decline in CSR in Haryana like strong son preference due to socio-economic ethos; higher mortality rate among female children due to discrimination, widespread use of SDTs etc. For understanding these factors and consequences of declined SR and the trends and pattern across various socio-economic groups, this study undertook a review of literature and overall data sets. This pattern provides particular time period of phenomenon and specific population group which is adding in the problem.

The issue of India's 'missing women' has raised concern since the abnormal female-deficit population SR was first noted in the 1871 Census (Peter, 1999). Since 1871, the SR has grown almost steadily, more masculine, despite small upswings in proportion of female in the Census of 1981 and 2001. In 1991, the overall SR and CSR declined while in 2001 census the SR increased but CSR declined. The major decline in SR as well as CSR is noted in north-western states of the country like Punjab, Haryana, Himachal Pradesh, and Gujarat. Majority of the districts that recorded gains of above 20 points in SR are from Uttar Pradesh, Uttaranchal, Bihar, Rajasthan, Assam, and Madhya Pradesh. All districts of Uttaranchal, West Bengal, Jharkhand, Kerala, Andaman and Nicobar Islands show an improvement in the SR age seven plus at the Census of 2001 as compared to the 1991 Census. The increase in SR in 2001 Census, in several districts of India was linked to the better enumeration of women (Bose, 2001). But in same census the decline in CSR must have wiped out the gains of better enumeration of the girl child. There is convincing evidence in the district wise analysis of 2001 Census data that the decline in the CSR is all persistent and has occurred throughout India while it is more

pronounced in Punjab, Haryana, parts of Himachal Pradesh and Gujarat, apart from cities like Chandigarh, Delhi, Surat, Mumbai, Kolkata etc.

The north-south divide in SR has been observed by scholars since the deficit of women in the census has been coming to light. The most influential explanation of this divide on the basis of cultural factors has been done by Dyson and Moore (1983). They consider the status of women to be influenced by cultural factors, especially the kinship system. As Kishore (1993) observed “the male centred kinship system in north undervalues and subordinates females while the southern kinship system values them more and allows them to retain their ties with their natal kin”. The difference in their status, which is culturally mediated, plays an important role in determining their access to resources both within the household and at the level of the society (Agnihotri, 2000). Bhat and Sharma (2006) stated “the cultural influence of northern Patriarchal societies is having an impact on states in the south-east too”. As observed by Agnihotri (2000) many districts of Karnataka such as Bijapur, Gulbarga, Bagalkot, Bidar, Belgaum and rural Bangalore already show a low female ratio below 930 or less than the national average. A few districts in Tamil Nadu also show a very low SR, like Salem (826), Dharmapuri (878) and Theni (893) (Office of the Registrar General and Census Commission, 2001).

The SR in Haryana continues to be of grave concern, as it has further declined from 867 females per 1000 males in 1971 to 861 in 2001. Sharp decline in CSR has been recorded during same time period from 921 to 820 respectively. The CSR in the state is even lower (820 in the age group 0-6) with serious allegations of discrimination against the female child. The data for Haryana indicate that the CSR was higher by 14 points compared to the overall SR in 1991, but in 2001 Census report it reversed with 41 points lower than overall SR. The CSR has declined in all the 19 districts in 2001, but the drastic decline in CSR in some of the districts reported as Ambala with 104 points decline, Kurukshetra with 98 points, Jind with 95 points and Yamunanagar, Panipat, Rohtak and Rewari with almost 80 points. In 1991 census report too, the 10 districts with lowest sex ratio in India has been recorded in which four districts were from Haryana. As compared to other states of the country, Haryana is registered second in number with low SR only after Punjab.

Status of Women and Adverse SR:

The reason for low CSR and SR is related to the poor social status of women. Kaur (2004) also explained that sociologists have already analyzed son preference in terms of the low status of women, caused by social practices of hypergamous and exogamous marriage systems. Other sociological factors contributing to this declining in numbers of women is their supposedly lower labour force participation and consequences need for dowry as compensation. Work participation of women is less in northern part of the country and in whatever work they engaged is not considered as economic contribution to the household income. Women are socially constructed as the inferior, less valuable sex and are often projected as burden over family.

Better economic conditions and availability of technology are contributing to the rise in sex-selective abortion. Punjab, Haryana, Himachal Pradesh, Chandigarh and Delhi have the ready availability of doctors during the ultrasound test and consequent female foeticide. The good transportation network and the ability to pay for the services for female foeticide are factors leading to a greater decline in CSR in the northern parts of the country. The sharp decline in the under seven, SR in the northern states of India is commonly assumed to be the result of the rapid spread of the use of ultrasound and amniocentesis for sex determination, followed by sex selective induced abortions.

Haryana is a well developed state, with the third highest per capita income in India, has one of the lowest SR as well as decreasing trend in CSR in the last two decades. The state has a large presence of the private sector that provides out-patients, inpatients and diagnostic services. Most of these private health facilities are responsible for wide spread the use of sex selective abortions in Haryana. Various studies has been conducted to see the rate of sex selective abortions in districts with low SR and CSR like Rohtak, Kurukshetra, Jind etc.(Visaria, 2007; Unisa, Pujari and Usha, 2007; George and Dahiya, 1998 etc) Almost all studies were conducted in rural areas which indicate that the widespread use of sex-selective technologies in the state. It was found that there was universal awareness of SDTs and most of the women knew where to go for the tests and abortions. In Haryana it is estimated by George and Dahiya (1998) that 43 per cent of the

female foetuses likely to have been aborted for the women who had ultrasound or amniocentesis tests. The SDTs (ultrasound and amniocentesis) are used to accommodate the widespread preference for sons. The availability and accessibility of technology is boosting female foeticide in states such as Haryana and Punjab. People have money to spend for sex determination tests and finally for sex-selective abortions. The above mentioned studies revealed that immediate causes of female foeticide practice in Haryana and Punjab is that daughters are perceived as a social and economic burden to the family due to several factors such as dowry; worry about her safety and getting her married. According to a World Bank study (Filmer et al. 1998) the ratio of female to male child mortality in Haryana is worst in the country and in the world at large. The Indian Institute of Population Survey (2000) has analyzed range in the male-female mortality ratio in Haryana, from a low of 1.1 in the case of neonatal mortality to a high of 2.1 in the case of child mortality (1 to 4 years). The female life expectancy (62.0 years) in Haryana is 1.4 years less than males (63.4 years) (IIPS, 1995). The birth rate is high-Total fertility rate is 4.0 as compared to 3.6 for India as a whole. Bhat and Sharma (2006) concluded that women with sons in Haryana are more likely to stop having children and use contraception than women with daughters.

With the rise in female foeticide, the female infanticide is also practiced in various parts of the country. States like Rajasthan, Madhya Pradesh, Tamil Nadu and Gujarat etc. still follow the traditional method to 'kill' the new born girl child. The two types of methods of infanticide have been mentioned: direct or indirect. The direct foeticide is medicated in several ways like by the custom of *dudhapitti* by putting opium on the mother's nipple and feeding the baby, by suffocating her in a rug, by placing the afterbirth over the infant's face or by ill treating the girl. The indirect infanticide is done by discriminating the girl child in food nutrition, basic amenities, and ill-health treatment. In Haryana, the direct female infanticide however, does not exist but indirect female foeticide is contributing to infanticide. An analysis of nutritional status of children revealed that the girls in Haryana have a much lower value in terms of health and nutritional variables than boys. For instance, 38 per cent of female children compared to 32 per cent of male children are underweight and 53 per cent of female children compared to 48 per cent

male children stunted (Jatrana, 2003). Indian Institute Population Survey (2001) has recorded the median duration of any breastfeeding in Haryana is 25.8 months for males children and 23.5 months for female children.

The sex-selective technologies are boosting in sex ratio at birth since the 1980s. There is clear evidence that the SRB has been raised in favour of male child with the sex selective abortions. The normal range of SRB is 103-106 males per 100 females, international and as well as in India. In the past, SRB of India's population was not known to be much different from the world standard of 105. The SR has risen considerably in the recent past, especially since the 1980s. Since 2000, the Sample Registration System (SRS) has giving data on the SRB, as three years averages. It can be seen that SRS estimates of SRB in the 1980s are generally close to 110. Though there are minor fluctuations even in the three years averages, a small rise in the SRB is seen since the early 1980s, from about 110 to 113, the ratio seems to have become more masculine in the early 1990s. For 1981 data, the estimated SRB ranges from 91 to 112 males for 100 females. The underlying data show that 29 districts have a value of estimated $SRB \geq 107$. Ten of these are clustered in Punjab alone and another five in adjacent Haryana state. For 1991 data, there are many more districts with estimated $SRB \geq 107$, with values as high as 117, blanketing most of Punjab and Haryana and also more than before in Rajasthan and Gujarat; western Uttar Pradesh, Madhya Pradesh, Himachal Pradesh and Maharashtra. There is independent evidence that sex-selective abortions are practiced widely in some region. The SRB in Haryana is second highest in the country after Punjab. The increasing trend in SRB has been observed since 1980s when SRS collected data at state level. It was registered 115 males per 100 female in first round (1980-91) and further increased in second round (1996-98), by 123 boys per 100 girl children which was more than Punjab.

Son Preference:

Majority of people feel that a son alone can perform the last rituals rights, which ensure salvation of the soul after death. The son only carries the family name and lineage. The girls are considered a bad investment in most parts of the country by the deeply entrenched patriarchal norms of our society. The birth of a son is rejoicing for mothers as

well for family while of a daughter, particularly, if she is the second or third child, is an occasion for sorrow. It has been argued that where women are economically dependent on male family members they are motivated for a greater number of children, especially sons, who are valued as an insurance against the risk of divorce, widowhood and old age. Several studies (Muthurayappa et al. 1997; Lancet, 1990; Okun, 1996) found that strong preference for sons over daughters exists in the Indian subcontinent, East Asia, North Africa and Middle-East unlike in the western countries. Previous studies have found that a number of cultural, social, and economic factors influence the relative benefits and costs of sons and daughters and ultimately parents' gender preferences. According to Arnold, Choe and Roy (1998) "a complex interplay of economic and socio-cultural factors determines the benefits and costs of a child". Studies in India have identified three major factors that underlie son preference. Some studies (Mamdani, 1972; Miller, 1981; Bardhan, 1988; Basu, 1989) analyzed the economic utility of sons. Sons are more likely than daughters to provide family labor on the farm or in a family business, earn wages, and support their parents during old age, although there is some recognition that sons are no longer a dependable source of old-age support. Upon marriage, a son brings a daughter-in-law into his family, and she provides additional help around the house as well as an economic reward in the form of dowry payments. Another important advantage of having sons is their socio-cultural utility (Karve, 1965; Kapadia, 1966; Dyson and Moore, 1983; Caldwell, Redy and Caldwell, 1989). In the context of India's patrilineal and patriarchal family system, having one son is imperative for the continuation of the family line, and many sons provide additional status to the family. Finally, the utility of having sons arises from the important religious functions that only sons can provide (Arnold, Choe and Roy, 1998). According to Hindu tradition, sons are needed to kindle the funeral pyre of their deceased parents and to help in the salvation of their souls. Northern state are having a declining SR as well as CSR, indicates strong son preference. In Haryana, there were thrice as many families having more than two surviving girls as those having more than two sons. Punjab, Himachal Pradesh and Gujarat are not behind in the son preference race, as many studies stated that sex-selective abortions are high in these states. The son complex is not confined to Punjab and Haryana rather it is can seen all India, even in Kerala. But the fact that ready

availability of doctors and its paying capacity is only contributing in increasing deficit of females in Punjab and Haryana. A preference for children of a particular sex also affects the treatment of sons and daughters and even their chances of survival. Son preference is believed to be the principal cause of excess female mortality that is often manifested during childhood. Research studies suggest that parents with strong son preference consider their daughter to be less valuable and provide inferior care to daughters in terms of food allocation, prevention of diseases and accidents and treatment of sick children. A strong son preference also leads to the practice of female foeticide or infanticide. The pattern of sex differentials in mortality by age provides evidence of differential treatment of male and females children, leading to higher mortality risks for females. The mortality rate for girls is considerably higher than that for boys in every age group below 5 years; however, biologically it should be opposite. In Haryana, the mortality rate for girl child is worst in any country because of gender biasness. Parental behaviour and discrimination against daughters in Haryana by favouring boys in nutrition is culturally embedded (Bhat and Sharma, 2006).

Doctors are making money from their skills and profession by doing female sex selective abortions in their clinics/private hospitals. They are carrying ultrasound machines in their cars and moving to rural areas for determination of sex of foetus and abort the unwanted foetus. Due to widespread use of SDTs, the SR is declining drastically in rural areas and gap between urban and rural SR coming closer. In few study areas women blamed the doctors who are doing this for money. George and Dahiya (1998) stated that during their dialogs with Rohtak doctors, including the women Medical College Hospital doctors, felt that selective abortion of female foetuses would increase the status of women.

Economic prosperity and education, which were traditionally thought to be the variables helpful in making improvements in the SR (a connection that is true of many), have actually resulted in the decline of the SR, particularly at the 0 to 6 age level, in many parts of north India. Punjab and Haryana, which are not only richer in terms of income but also in human development, are striking example of the newly emerging phenomenon. It appears that in these states couples not only want a small family, mainly

one child, but also not want to take any risk in terms of the sex of the child, having a pronounced bias for a son. This trend, which may be well established for economic reasons as well as on account of certain cultural traits, is more or less uniform across the state. The amazing fact is there is not single district in Punjab where the CSR is greater than 819. The phenomenon is not confirmed to urban areas only, but has spread almost equally throughout rural Punjab (Bhat and Sharma, 2006).

Economic Causes:

The economic causes are the reasons, which are primarily materialistic in nature. It is often difficult to separate economic causes from the social causes. Sons provide the workforce as they bring in a bride who is seen as 'an extra pair of hands'. They are considered economic source of the family income and provide economic security in their old age. However, the daughters are more close to parents emotionally but they are not considered the economic security for parents, instead they are economic burden who need dowry for marriage. This dowry burden leads the girl perceived as a liability. The general attitude of the people is that when a daughter comes into this world, she eats into the family resources and when she leaves for her husband's home, she takes away the saving of the family as dowry. The practice of the dowry is an economic burden on the parental family and further reduces the status of women and the desire to have a daughter.

The issue of the inheritance rights is a sensitive one, the large female foeticide taking place in the primarily agricultural areas is attributed to the fact that with equal inheritance rights given to the girls, families fear that agricultural land would get fragmented as the daughter marries and moves away. The discrimination against women can be seen in labour market. Women are less likely to work in as high positions as compared to their male colleagues. Women are often paid lesser than their male counterparts even if they are more productive than their male colleagues.

With the introduction of new reproductive technologies, people started choosing the sex of the foetus with induced abortions of unwanted sex. With the help of technology the sex of the foetus can be detected and female foetus can be aborted easily with affordable cost.

Previously, the birth of the girl child was often not declared openly and the girl was even put to death. There was tremendous guilt associated with the act, as it was difficult to distance oneself from killing a baby. Sometimes emotional attachments led mothers to not let their daughters being killed. Compared to infanticide, foeticide was a more acceptable means of disposing of the unwanted girl child. It is a medical practice which is done by skilled professionals.

Caste Variation in SR:

The sex ratio is adverse among rich people also indicates that upper class people are more biased towards girl child. High SRB among upper caste indicates, practice of female foeticide. Literature provides information on sex selective abortions from general castes and scheduled castes. In one of the studies conducted by George and Dahiya (1998) the women respondents belonging to the general castes said that the first concern of their families following pregnancy is to put pressure on them to determine the sex of the foetus. If it is a boy then only need for ante-natal care is raised. In the same study the SR among scheduled castes was recorded within the normal range (105), which indicates that female foeticide is not practiced among them. Differences between general castes and scheduled castes in SRB can be seen. The existence of relatively greater gender equality in scheduled castes has been reported from south India. Women in south Indian states are seen as an economic asset (as productive members of the family) because of Paddy, the main crop cultivated in the south, unlike wheat in the north, give women work in fields and an independent income. But this doesn't mean that scheduled castes people do not follow sex-selective abortion, rather the rate lower when compared to general castes. But it is strongly stated by George and Dahiya (1998) that disaggregating by castes in girl mortality indicates that there is no excess post-neonatal girl child mortality in scheduled people but exists among the upper castes.

Religion Variation in SR:

The variation in SR in different religion groups has been observed. The SR is recorded more adverse in Hindus and Sikhs as compare to Muslims and Christians. The data on current fertility and lifetime fertility from Census 2001 show that the SRB is 103-104 for

Christians which indicates absence of practice of sex-selective abortions. But the SRB is higher among Sikhs (129-119), Jains (118-111) and Hindus (111-107), which indicates bias against girl child and female sex-selective abortions for son preference. Other facts also could be linked with this drastic decline in these religion groups like fertility decline due to increased in age of marriage and force of population control policy.

It has been argued that women's education is the key to reducing discrimination against daughters. However, the female literacy rate has risen even as the JSR has fallen. Some studies have shown that educated mothers are more efficient in discriminating against daughters than uneducated mothers. Women's education has resulted in the discrimination against women themselves through female foeticide/infanticide, bias in intra-household distribution of food and nutritive elements or poor care and medical attention during illness. Kerala and Goa are states which have SR in favour of women with high rate of female education, but there are opposite example too like Punjab, Haryana, Chandigarh and Delhi which have declining SR with good female literacy rate. The reasons here again could be existence of matrilineal and patrilineal social system in southern and northern states. Here it is important to link force of small family norm with decline of SR among educated mothers. Because they are expecting to follow the 'small family norm' but social system forces them to follow the son preference with this norm.

The Medical Termination of Pregnancy Act, (1971) and Adverse SR:

The Medical Termination of Pregnancy Act, which came into force in 1971 for the detection of genetic disorder in the unborn child, has indirectly contributed to sex-selective abortions. The technology which was introduced to help detect physical and mental abnormalities in the unborn child can also identify the sex of the foetus without extra cost or effort. Visaria (2007) stated in one of her article that "there is increasing indirect evidence from some parts of the country that termination of pregnancy is sought not for the reasons stated under the Act but because there is a strong son preference among people. Modern technology is thus being used to abort foetuses of unwanted sex. Therefore, the female-selective abortions are on the rise. The illegal abortions in India may be 8 to 11 times high as legal abortions. The gender bias was flagrantly aided by a

combination of medical technology that helped detect the sex of the foetus on the one hand the liberal abortion law that helped couple to abort the female foetus on another hand”.

PNDT Act and Its Impact on SR:

The Pre-natal Diagnostic Techniques Act which has been operationalised since 1996 to stop the sex-selective abortions but very little was done by way of its implementation. One should agree with Bose (2002) that the different layer of bureaucracy at the centre and in the states which have been recently created to deal with the implementation of the PNDT Act but one has grave doubts about the functioning of these administrative structures, including the working of several committees. The bureaucrats in the ministries of health and family welfare are not equal to the task. The bureaucrats woke up only when public interest litigation were filed and Supreme Court came down heavily on the government's inactivity. The Indian Medical Association has not been effective in bringing to book guilty doctors. With this the civil society is also not playing its role with honesty.

Influence of Population Control Policy:

India was one of the first nations in the world to have a family planning policy in 1952. The two-child norm has been inculcated to the people through public awareness campaigns, rather than through coercion. As urbanization has taken place and families have been becoming increasingly nuclear, there is a realization of the economic benefits of the small family. But at the same time, the ingrained values such as son preference have remained in tact. In urban India, where by and large people adopt a 'small family norm', number of female foeticide often is practiced to limit the size of the family. Now, with the widespread of SDTs, people in rural areas also started adopting small family with the loss of daughters. Policy like the two-child norm essential for *Panchayat* members is boosting the decline in SR in rural areas.

The indirect force of Population Control Policy on people is adding in deficit of women. Initially government provided 'incentives' to couples as well as service providers to

adopt the 'small family norm'. George and Dahiya (1998: 2191) quoted Okun (1996) that due to 'small family norms' pregnancies are planned by resorting to differential contraception. Contraception is used based on the number of surviving sons irrespective of family size. In his same article Bose also explained that female foeticide over the last 15 years has distorted SRB in several Asian countries. Foetal sex determination clinics have been established in India over the last 20 years in northern and western cities. Parents tend to be calculative in choosing the sex of the next child and the decision is based on the birth order, sex sequence of previous children and number of sons. Transfer of reproductive technologies to India is result in reinforcement of patriarchal values as professional medical organizations seems to be indifferent to ethical misconduct.

Various reasons have been stated in the literature for the declining SR and CSR like migration from the backward areas, double counting of males, under-enumeration of females, declining trends in women's employment, abnormal higher mortality among women compare to men, liberal law, son preference, introduction of technology, population control policy etc. The main causes in recent years (1971-2001) can be divided in four parts: social, economic, political and technology related. However, the socio-economic factors are playing the main role whereas technology relate and political factors are adding the fuel in sharply decline in SR infect in CSR.

Implication of Adverse SR for Family and Marriage:

The adverse SR has not increased the value of women although the supply has decreased. However, it increased restrictions and controls have been placed over them. In Haryana villages are full of bachelors. A new trend of importing/buying wives from outside the state has started taking root in Haryana. The deficit of women is leading other social problems in the country. Marriages are increasingly coming to note in which men from UP, Haryana, Punjab and Rajasthan are marrying women from West Bengal, Assam, Bihar, Andhra Pradesh and Tamil Nadu. The unusual marriages are a consequence of a combination of factors: adverse SR, acute poverty and the desire of parents to escape dowry. Evidence from the data gathered until now shows that the phenomena of across-region marriages are not confined only to schedule castes and are occurring among all

castes and income level in these north-western states. Such marriages represent a hitherto undocumented type that cannot be explained adequately within the framework of categories available for understanding marriage and non-marriage transactions involving women, i. e, sexual trafficking, buying of women for marriage and bride price marriage. The declining SR is affecting the status of women. The men dominated society started using them as sex object. There are increased incidence of rape, abduction and forced polyandry. In certain communities of Madhya Pradesh, Haryana, Rajasthan and Punjab, the SR is extremely adverse for women, a set of brothers share a wife and sometimes even by patrilineal parallel cousins.

The other bad effect of the adverse SR is increasing unmarried status of men. The link between adverse SR and the unmarried status of men lies in understanding its effects in relation to different strata of Haryana society. In a situation where status hypergamous marriages are the norms, such an equation leaves a surplus of brides at the top but a pronounced deficit at the bottom (Chowdhary, 2005). The extremely adverse SR in Haryana has made it very difficult for men to find brides locally. In almost every village one could find hundreds of boys/men who are not getting married at the suitable age due to lack of employment and little land left to sustain them. Suitable local brides becoming fewer in numbers, their families prefer to give them in marriage to the best suitor. But this has in no way led to any decrease in dowry demands or enhancement of the status of local women. Rather it has led to buying, selling and reselling of women, abduction of women and their sexual exploitation, marriages at a much younger age and implementation of very harsh 'control measures' to keep women in subservience and check. (Ibid)

The status and position of such men who have to buy wives is also devalued in the sense that they become objects of laughter and disgrace and do not even get full property rights due to the social stigma attached to such marriages. There have been cases where some of these women are even kept in chains or under worst kind of restraints so that they do not run away. In certain other cases certain 'husbands' of bought up wives were forced to commit suicide because they could not pay the required amounts to 'brokers' or they had

to face the humiliation of not getting married or their 'bought up' wives ran away from them for certain reasons (Ibid). While the boys from Haryana may have found a temporary solution to the problem of missing brides, experts warn that the demographic crisis will lead to increasing sexual violence and abuse against women and female children, trafficking, increasing number of child marriages, increasing maternal deaths due to abortions and early marriages and increase in practices like polyandry.

The son preference can result in excess child mortality for girls through a couple's family-building behaviour. It is stated in literature that there are two principal mechanisms through which family-building processes can adversely affect the survival chances of daughters. First, girl may experience increased mortality because their birth is more likely to be followed after a short interval by the birth of a younger sibling. The second effect of family-building process on child survival for girls is a consequence decisions. The larger size of the family, in turn, may result in an environment where there is more competition for the available resources and where infectious diseases are spread more easily. Therefore, some of the excess female mortality that has been observed during childhood may be an inadvertent consequence of family-building processes that are based on a strong underlying preference for sons.

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APPENDICE

Literature Review

For understanding the trends and consequences of CSR of different socio-economic groups in Haryana, we need to go through the literature which explains the phenomena and its magnitude in India and Haryana. The study included the literature which discusses the impact of declining SR in India and Haryana. The literature which gives the evidences on the use of sex selective technologies and its related laws and how they are implemented, has been reviewed. The policies like population control are more important to link with the declining SR in India.

Regional Disparities in SR:

The magnitude of the phenomenon is varied all over India. There are various studies available which explain the north-south division of the SR decline pattern in India (see Dyson and Moore, 1983; Libbe, 1980; Sopher, 1980). A north-south economic and cultural divide has been identified in the literature, with associated differences in demographic structures. The pattern in the north-western states has been characterized by traditionally higher rates of mortality and fertility and larger gender differences in death rates in contrast to southern states (Agnihotri, 2000). Therefore, these north-western states had lower female ratios among workers and in the population. All this meant that women in these states had a much lower status in society. The regions in the east display many unique features although the female ratios there tend to be far better than in the north. These variations are attributed to both economic and cultural factors (Ibid).

The economic argument is that women in south had a greater economic role. Paddy, the main crop cultivated in the south, unlike wheat in the north, gave women work in fields and an independent income. Families were less patriarchal and the opportunity to earn an income gave women a voice of their own. However, other cultural factors, unrelated to work, are given more importance in explanations of regional patterns in the SR. One such factor is endogamy in marriage, which was widely practiced in the south (Mayer, 1999). On the other hand, in the north, exogamy was common and was associated with the

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dowry system among many castes. This was a factor behind the strong son preference in northern states.

With this north-south divide in SR, literature also argued at districts level division in SR. Within states itself SR varied in districts. Kurukshetra, Kaithal, Jind, Hisar, Amritsar, Patiala, Faridkot, Bhind, Jaisalmer and Salem are some of districts which have worst CSR out of all districts in the country (Census of India, 2001).

Visaria (2003) in the study on Gujarat and Haryana reported that sex differential in mortality in India is result of the discriminatory treatment received by girls and women, which more than offsets their natural advantage over men. Author claims that women are undervalued according to their cultural ethos and social practices only. These cultural values and social practices are stronger in some regions and liberal in some other regions. In an almost contiguous belt extended from north states like Haryana, Punjab and HP to western states of India like Rajasthan, Gujarat and Maharashtra, the undervaluation of women is evident in the SR of their population and the JSR. In fact, an increase in the deficit of young girls noted in the Censuses of 1981 to 2001 when overall SR has increased; is indicative of a strong possibility that the traditional practices of neglect of female children is increasingly being replaced by not allowing female children to be born. The decline of 60 to 83 points in JSR (0-9) between 1991 and 2001 in north-western states of Punjab, Haryana and Gujarat cannot be explained solely by the effect of gender preference on reproductive behavior but there are others factors too responsible for it like discrimination against girls and women. The author claims that the SR is much more adverse among the economically and educationally well population groups. This indicates that the variation in SR exists in different groups too, which is result of discriminately behaviour.

Bose (2001), compare two census data 1991-2001, with special focus on Punjab, Haryana, Himachal Pradesh, and Gujarat apart from cities like Chandigarh, Delhi, Surat, Mumbai and Kolkatta, found that the CSR declined by 18 points between 1991 and 2001 at country level. Major decline was observed in Punjab, Haryana, Himachal Pradesh, and

Gujarat apart from cities like Chandigarh, Delhi, Surat, Mumbai and Kolkatta. Disparities in SR can be seen in the census 2001 where, 456 districts out of 577 records a decline in the CRS compared to 1991 census and in 70 districts, CSR declined in the order of 50 points and in several districts is more than 100 points.

Agnihotri (2003) stressed over increasing gap in the CSR in urban and rural areas. The SR decline among children turns out to be sharper in the urban areas than in the rural. The traditional north-south divide stands significantly adapted. Author argued that the sharp decline in the urban CSR cannot be explained by factors like migration, undercount or biologically ordained high SRB. This decline clearly points to one factor, sex-selective abortion or female foeticide that has gained currency during the 1980s and more sharply in the 1990s.

Bhat and Sharma (2006) reviewed the SR in six north-western states (Punjab, Haryana, Himachal Pradesh, Uttaranchal, Rajasthan, and Jammu & Kashmir), interlinking of growth in income and education of women. They found that variables like growth in income and education of women, would grant women an equal status in society, have actually worked in a reverse direction in states like Punjab, Haryana and Himachal Pradesh. It seems that education and income, which were supposed to result in the emancipation of women, have actually increased the bias in favour of the male child. It has been found that girls in rural Punjab receive less and worse medical care than boys in the treatment of fatal illness. According to NFHS-1 girls in Haryana have a much lower values in term of health and nutritional variables than boys. The mortality rate for girls is considerably higher than boys in every age group below 5 years; however, it should be other way round because of biological reason as boys' immunity system is weaker than girls. Rajasthan state economy, which is relatively poor income, and has also low human development attainment level, has a better SR as well as CSR in comparison to better off states like Punjab and Haryana. Dungarpur district of Rajasthan recorded with highest SR (10270 in 2001 census); however, it was a worst performing district in earlier census in term of literacy. Jaisalmer district, which had very low literacy rate, had the lowest SR of 821 in 2001, however, the CSR in Banswara district, which perform worst in term of

literacy (27% female literacy) recorded with better CSR. The lowest CSR is found in Ganganagar, which is a good performing in tem of literacy (44% female literacy). The female survival situation was quite favourable until 1991 in India but the census 2001 show the considerable decline in the SR, particularly in the CSR. The sharp decline in the CSR during 1991-2001 has been seen in Himachal Pradesh, Haryana, Rajasthan, Punjab, Chandigarh, Uttaranchal, Gujarat and Maharashtra. The drastic drop in the CSR is adjoining Punjab and Haryana. Authors claim that the female sex ratio is lower in urban areas as urban areas have superior medical technology like sex determination tests and abortion facilities, thereby contributing in declining SR. A sudden decline can be seen in some of the districts that earlier had a favourable SR. The CSR which were favourable in Kangra, Hamidpur and Una districts of Himachal Pradesh in 1971 had become lowest in 2001. This cultural influence of northern patriarchal societies is having an impact on states in the south-east states too (Bose, 2001).

Trends and Pattern in SR

A number of features of the SR patterns in India have been recognized in the literature. It is by and large accepted that the low SR in the population is a result of an excess female mortality resulting out of the discrimination women face in access to life sustaining inputs compared to men (Dasgupta, 1987; Dyson and Moore, 1983; Kishor, 1993; Miller, 1981; Murthi et al. 1995; Visaria, 1971). In terms of regional variations, the existence of a north-south divide has also been recognized which refers to the highly masculine SR in north-western parts of the country and less masculine SR in its southern-eastern parts (Agarwal, 1994; Agnihotri, 1996; Dyson and Moore, 1983; Malhotra et al. 1995; Miller, 1981, 1984; Sopher, 1980). Among the correlates of the SR, importance of the economic factors like female workforce participation (Barthan, 1974; Miller, 1981; Murthi et al. 1995; Rosenzweig and Schultz, 1982) and dowry (Rao, 1993; Subramaniam, 1996) and the importance of cultural factors e.g. kinship (Dasgupta, 1995; Dyson and Moore, 1983; Goody, 1990; Kapadia, 1994) has been highlighted.

Mayer (1999) reviewed some studies for the explanation of India's declining SR. Studies were based on position of women in Indian society, traditional pattern of culture and

women's autonomy, discrimination in nutrition and health care, which have been proposed by a number of investigators. The author had raised two major concerns after reviewing some literature, one of the methods, and the other is of the fact, which is inadequately addressed by the literature on India's SR. He offered an alternative analysis of India's masculine bias in SR that is able to address two concerns, one is historical test and another is mortality paradox. The author approached the SR question with a view to explaining the trend of increasing masculinization of Indian population over the course of the twentieth century. Findings suggest that discrimination and the differing values of women's labor make a relatively minor direct contribution to the historical trend in India's SR. He suggests that it is not appropriate to use SR or trends in SR as indicators of women's relatively position in society; we should rely instead upon direct measures of education, employment, mortality, life expectancy and so forth.

Sudha and Rajan (2003) examines trends and estimated SRB for India and child mortality risk, 1981 and 1991, and discussed how the 2001 Census results are foreshadowed. Multivariate statistical analyses exploring social and economic covariates that affect the likelihood of gender bias in death (female disadvantage in child mortality risk) have been conducted. The female disadvantage is evident in birth and death spread over India in the decade 1981-1991. Though infant and child mortality level fell for girls and boys, gender differences persisted in north-western states, and penetrated the hitherto egalitarian south. Masculine SRB that were seen only in urban areas of the north-west in 1981 have spread to rural areas of many northern states in 1991. Multivariate analyses suggest that between 1981 and 1991, increase in women's status variable become less associated with reduced gender bias. Modernization variable like economic development, increased in educational level for both (male and female) and availability and accessibility of technologies, suggest less association with gender bias or that a substitution of pre-natal for post-natal elimination of unwanted daughters. These findings are situated in the literature on gender, education, paid work participation and marriage system changes in India.

Introduction of Technology and Decline in SR

Various techniques of sex determination and sex pre-selection have been discovered during last 20 years or so under the phenomenal development of genetic diagnostic technology such as foetoscopy, ultrasonography, chorionic villus biopsy, foetal blood sampling, especially for the prenatal detection of various disorders, combined with the revolution in new assisted reproductive technologies such as artificial insemination, micro-manipulation, in-vitro and in-utero fertilization, sperm and egg banks (Habibulla, 1994), surrogacy and so on and the availability of techniques for detecting already known genetic disorders and the most popular one, amniocentesis are increasingly becoming household names in India. As quoted by (Das and Sinha 2002: 567) the number of girl children under six years of the age has markedly fallen down in comparison to the last decade (1981); 945 females per 1000 males in 1991 to the present ratios of 927 females per 1000 males. Studies also show that every 1000 foetus aborted, 995 were females (Statesman, 2001). It is estimated that 20 lakh female foetus are being killed every year in India, which is really an alarming figure. It is also been reported that the popularity of sex determination tests is mostly prevalent in the north-western and north-eastern parts of India.

Bhat and Zavier (2007) analyzed the data from the National Family Health Survey of 1998-99 on the use of ultrasound and amniocentesis during pregnancies of live births born during the three year period preceding the survey. With this they analyzed how socio-economic and demographic factors affect the SRB through the 'misuse' of such techniques. They also analyzed data from the 2001 Census on fertility and age-sex distribution of the population in single years to study the influence of some key factors on the SRB in India. The effect of PNDT use on the sex ratio at birth is found to be contingent on whether women are in the male selection situation (i e, with at least one previous birth but have had no sons) or not. While income and education found to increase the use of PNDT, their misuse is governed more by cultural factors and the sex composition of children already born.

Arnold, Kishor and Roy (1998) by using the NFHS-2 data, examine the evidence for the widespread use of sex-selective abortions in India and particular states. They proceed by discussing the legal and social setting for abortion in India, examining the extent to which SRB reveal the use of modern technologies to avert the birth of daughters, and assessing the level of abortions and links to son preference. They presented the evidence on the use of ultrasound and amniocentesis for sex-selection of children. They provided evidence on rules for “stopping behavior” (the intentional cessation of child bearing related to the sex of previous children) being followed by couples that complement the use of sex-selection abortion in India. NFHS-2 data confirmed that the SR of recent births in India has been abnormally high, exceeding 110 males per 100 females in 10 out of 26 states in India. The data provided convincing evidence that sex-selective abortions are a common practice in many parts in India. There are approximately 1.3 million total induced abortions to ever-married women in India each year (twice the level of the official estimates); however, the actual number of legal and illegal abortions each year is likely to be considerably higher. Information available from NFHS-2 on sex ratio at birth, abortions the use of ultrasound and amniocentesis, and the degree of son preference presents a consistent and compelling picture of the widespread use of sex-selective abortions based on the outcome of sex-determination tests in India in recent years.

Visaria (2007) undertook the research study to explore the issue of sex-selective abortions by collecting primary data, both qualitative and quantitative, from women in Haryana and Gujarat, as well from a few providers of abortion services in Gujarat. The author included in questionnaires issues like what actually compels couples or their families to resort to this practice, who are the real decision makers in the family, and what is the impact of abortion of the female foetus has on the physical and mental health of the women who undergoes such abortion. In both states, despite the spread of schooling among girls in recent decades, the patriarchal social structure still survives. Women derive value and position only as mothers of sons. Their happiness and social status in their conjugal homes is thus dependent on producing sons. In the pursuit of sons, they have become, with some pressure from their families, consumers of the new ultrasound technology that allows them to bear only sons. The shift to a small family size,

evident in India in recent decades, has not been accompanied by a simultaneous shift in the economic and social pressure to have daughters.

Unisa, Pujari, Usha (2007) conducted a study in Haryana to understand the magnitude of sex selective abortions and its reasons. They interviewed a total population of 2,590 households and 2,646 ever married women in the reproductive ages. The study provides indirect evidence of sex-selective abortions based on the data on pregnancy history of women, spontaneous and induced abortions and ultrasound status. The study found that total abortions (induced and spontaneous) have increased from 1971 to 200 census years. Although there is an increase in induced abortions this is insignificant, whereas, the spontaneous abortion increased from 2.3 to 9.3 per 100 live births.

Out of 2,362 respondents with first pregnancy, 91 per cent have resulted in a live birth and 6 per cent of the pregnancies ended in a spontaneous abortion whereas less than 1 per cent turned out to be induced abortions. This percentage has more or less remained steady until the third parity after which there is a decline in the percentage of spontaneous and induced abortions. The overall SR is low in all the orders of pregnancies but the SR is the lowest for the third pregnancy, which shows that abortions have occurred mostly during the third pregnancy and these abortions certainly may have been sex selective and may have been induced. Abortion ratios are calculated for a five-year period starting from 1976 to 2001, to see the pattern of abortion in the study are in past few years. The figures of induced abortion ratios for all the time periods (1971-2001) are relatively less in comparison to spontaneous abortion ratios that have been quite high in the recent period. The total abortion ratios have increased markedly from 2.3 in 1975 and before to 10.6 in 2001 per 100 live births. A noticeable percentage of women had two abortions, and a small percentage of women have undergone three or more abortions.

There is possibility that quite a significant number of these women may be undergone repeated abortions, showing indirect evidence of the practice of sex selective abortions in the study area. Overall 18 per cent of women had abortions. Twelve per cent women reported that they had at least one abortion. Most of these women had high standard of

living, were educated beyond higher secondary level and with husbands in jobs (other than daily wage labourers or cultivators). There is an increase in the percentages of urine, blood tests along with ANCs over the years); the increase has not been a rapid as observed for ultrasounds. There is markedly increase in the proportion of the pregnancies with ultrasound tests from 5 per cent in 1986-1990 to nearly 16 per cent in 1991-2001 which resulted in abortion.

Thus, in recent years (1976-2001) percentage of pregnancies resulting in abortions is higher than percentage of pregnancies resulting in live birth. Around half of the women (47 per cent) reported that it was on a doctor's suggestion that they underwent an ultrasound during their first pregnancy. It was observed that for the subsequent pregnancies the doctor's influence has gradually declined. More than one-fourth of women and their husbands have turned out to be the primary decision makers for undergoing ultrasound from third pregnancy onwards. This shows that an ultrasound on a doctor's suggestion could be primarily because of medical reasons whereas in other cases the test was done most likely to determine the sex of the unborn child. More than 50 per cent women underwent an ultra sound after three months of pregnancy. This shows that the sex of the baby (which can be determined reasonably after the first trimester) was the main reason for undergoing ultrasound after the initial three months. Thirty six per cent of those women who went for an ultrasound during their fourth pregnancy reported that they came to know the sex of the foetus during this test. Thus, the curiosity to know the sex of the baby probably is more among women in third or fourth pregnancies and could this be largely due to the preference for a son. Only nine women had reported that they had an abortion after knowing the sex of the baby. Out of nine, seven reported the sex of the foetus was female and other two as male foetus. However, the possible reason for why many women did not report the sex selective abortions could be that women are aware of that fact that abortion due to sex selection is illegal.

George and Dahiya (1998) conducted a study in rural Haryana about the abuse of prenatal diagnostic techniques for sex selection in a rural population of 13,000 in Rohtak district. They found that parents tend to be calculative in choosing the sex of the next

child and the decision is based on the birth order, sex sequence of previous children and number of sons. Transfer of reproductive technology to India is resulting in reinforcement of patriarchal values as professional medical organizations seem to be indifferent to ethical miscount.

Das and Sinha (2002) gloss over the concept of genetic diagnostic technology and amniocentesis, popularity of the test, controversy and consequences around amniocentesis. Action to be taken against sex determination and sex pre-selection tests along with role of social workers, doctors and government highlighted. They suggest that we should not criticize the technological advancement, as what matters most is its manifestation and beneficial application. So, the question of the attitude of the people and how they would like to perceive the sex-determination tests is a great issue of concern. Unlike we rectify our tradition-bound attitude towards women, there is no point in blaming the process and the doctors who are involved the process.

Sociological Reasons in Declining SR

A preference for sons over daughters has been found in a large number of countries, but son preference attitudes and behaviour appear to be most widespread in an arc of countries ranging from East Asia, through South Asia to the Middle East and North Africa (Williamson, 1976; Cleland, Verrall and Vaessen, 1983; United Nations, 1985; Arnold, 1987). Son preference has important social and economic implications and it can substantially influence patterns of fertility and mortality as well. The low status of women is confirmed by the Human Development Report (HDR) of the United Nations Development Programme, which places India in the bottom quarter of all countries on its status of women measures (United Nations, 1995). Studies in India have highlighted three dimensions of the utility of having a son. The first is the economic utility, which is mainly based on assistance in agricultural production, wage earnings and security in the case of illness and during old age (Mamdani, 1972; Miller, 1981; Barthan, 1988; Basu, 1989). The social utility stems from the kinship and descent system, the status and strength provided to the family by sons, and the premium to be expected from having a son in the form of dowry payments (Karve, 1965; Kapadia, 1966; Dyson and Moore,

1983; Caldwell, Reddy and Caldwell, 1989). Finally religious utility flows from the performance by sons of important religious functions (Arnold et al. 1998).

Arnold, Kim Choe and Roy (1998) used the data from the National Family Health Survey to examine the effect of son preference on parity progression and ultimately on child mortality. The analysis indicates that son preference fundamentally affects demographic behavior in India. Family composition affects fertility behavior in every state examined and son preference is the predominant influence in all of these states. The effects of family composition on excess child mortality for girls are more complex, but girls with older sisters are often subject to the highest risk of mortality.

A brief review of literature on various aspects of female infanticide and foeticide due to son preference in India which are cited by Walia & Verma in article "A National Wake up Call: Low Sex Ratio in Punjab, 2004, is as follows:

Dasgupta (1987) concluded a study in Ludhiana district of Punjab and found that excess female mortality rate was seen in case of those girls who were born to women having one or more surviving daughters. The mortality rate of daughters was 50 per cent higher if the mother had no education. Patrilineal descent was reported to be the root cause for this malady.

George, Abed and Miller (1992), conducted a study of 12 villages in Uttar Pradesh and revealed that 33 female infant deaths were reported in six months and 19 were actually the cases of female infanticide. The reasons given by the respondents were hypergamy and increase in dowry.

Rai (1994), in Salem district of Tamil Nadu concluded that 1747 female infants belonging to 19 blocks were killed since 1989 due to social reasons. As much as 44 per cent women had admitted that female infants were killed within their families and another 38 per cent admitted that they would do the same if they had more than one daughter.

Vaasanthi (1994) carried out a study in Bhind district of Madhya Pradesh and revealed that among the Gujars of the area, a woman was customarily required to spend a night with a

Muslim family. To save themselves from insult, the women therefore killed their infant daughters. The rule of hypergamy, huge dowry and exorbitant expenses on marriage further forced them to commit the heinous crime. The SR was very low viz a viz; Gujars =392, Yadavs = 400, Rajputs =417, Jats =583 and Brahmins = 714.

Sundrapandiayan (1995), conducted a study in Usliamatti, Tamil Nadu and found that people were of the belief that "if we kill female babies immediately after their, the chances of having a male child soon were very high". The material used for killing infants included oleander berries, milk of errukam flower or by burring the female infants alive.

Mishra (2000) reported that the practice of female infanticide was rampant in many states of India. It required less than Rs.25 to snuff life out of baby girls in several parts of the country. Family members other than the mother mostly directed this discrimination. Among the Kallar community of Madurai district of Tamil Nadu, a woman who dared not kill infant daughter was abundant by her husband.

Gangrade (1998) conducted a study in six hospitals of Mumbai on 8000 cases of abortion and found that 7,999 of the cases involved a female foetus.

Lingum, had categorically taken the name of doctor in Amritsar who advertised for female foeticide using salogans like, "spend rupees five hundred now and save rupees five lakhs latter" harping on the cost of foeticide test viz-a-vis the cost of dowry at the time of marriage of their daughters.

Jha (1997) reported that despite legislation to ban female foeticide, the worst manifestation of gender preference continues unabated in the country leading to gender imbalance. This is the root cause rising crime against women. About 20 lakh female foetuses were being aborted in the country every year.

Kiran Juneja, show in April, 1998 on Star Television Network revealed that nine out of every ten foetus aborted was that of female.

Guring (1999), in a study conducted in Dehradun observed that there were 13 clinics in the district for sex determination of unborn foetus. Most of them are not registered. Patients use to come from Garwal, Chakrauta and Uttarkashi for sex determination of the foetus. They desperately wanted sons and it was very difficult to convince them that girls

were equally good. The knowledge about ultrasound sex determination test was prevalent in remote areas there.

Srivastava (2000) conducted a study on some Indian families settled in United States of America and Canada and revealed that though gender discrimination in developed countries was hardly hard of but Indian women there also underwent for female foeticide. The desire for a male child was so strong among the Indian families that they opted for female foeticide openly in these countries. This mindset of the Indians was usually exploited by the doctors abroad who advertised in the daily newspaper and magazines that they were willing to perform female foeticide. It implied that people abroad had also begun to cash on the Indian mentality.

Policies and Decline in SR:

The National population policy promotes a two child norm, but is gender blind in what it proposes. Result is that the family planning receivers go for sex-selective abortions using amniocentesis and ultrasound tests. The 'small family norm' is disposing of daughters. The unborn girl child is most at risk in northern states of India, with both foeticide and infanticide in use to get ride of her.

The famous family planning slogan, '*Hum do Hamare do*', mathematically adds up to only three possibilities, that people have two sons, two daughters or one son and one daughter. Two daughters are usually not acceptable culturally and economically, because they have to married off. While one son and one daughter are tolerable, the ideal situation people strive for in two sons. When vast majority of people are poor, with no health and social security, sons make the best survival strategy. Slogans like '*beti ya beta dono ek hain*', make little sense. How can they be equal for people when two girls have to be married off and son can be used as crutches?

Small Family Effect:

Recently efforts by the government to enforce a two-child norm as well as voluntary desire for smaller families are contributing in imbalance of SR. Scholars have pointed out that the desire for fewer children is not necessarily accompanied by a preference for a

fewer number of sons. Till date, son preference continues to be a significant determinant of family planning strategies, although this is strongest for birth orders two or more (IIPS and ORC Macro, 2000).

Arora (1996) addressed some issues through a study of one particular development, the spread of SDTs and the evolution of state policy towards it. The focus is on the essentially victimizing content of these technologies as well as state policy. Author stated that challenge lies not simply in getting appropriate laws promoted; it lies in exposing the complex mechanism through which the context of exploitation are produced and reproduced without even suspect; it lies in demolishing these mechanism and altering the structures which provide them space for growth and expansions to almost take charge of the live of victims. The challenge lies in the demolishing the subtle mechanisms of the victimizing discourses which strengthen the process of exploitation by systematically turning law, policy and technology in the service of power structures.

The unholy alliance between tradition (son-complex) and technology (ultrasound) is playing havoc with Indian society (Bose, 2000). However, the sharp decline in fertility and strong preference for 'small family norm' enhanced gender bias. In several states of India like Maharashtra, Gujarat, Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh, Punjab, Haryana and Tamil Nadu, sex-selective abortions of female fetuses have increased among those who want small families of one or two or maximum three children. Communities, which were practicing female infanticide, started using sex-selective abortions. Many doctors have justified female foeticide as a tool to attain Net Reproduction Rate (NRR) of 1; i.e to attain population stabilization-mother should be replaced by only one daughter (Arora, 1990). But here also more is gender bias. To attain population stabilization, a fertility rate of 2.1 is envisaged. There is an evidence to indicate a sex ratio in favour of males and a prolonged duration of gender differentials in survivorship in younger ages, results in a tendency to masculine of the population SR (Kumar and Naresh, 2006).

Effect of MTP, Act:

SDTs arrived in India in 1975 for determination of genetic abnormalities after the enactment of the MTP Act. However, these technologies came to be widely used for determining the sex of the foetus and subsequent abortions if the foetus was female. According to the Ministry of Health and Family welfare (MOHFW), about 5.4 lakh MTP were performed in the country in 1996-97, an estimated '6.7 million abortions per year are performed in other than registered institutions, often by untrained persons in unhygienic conditions' (Khan et al. 1998). There is increasing indirect evidence from some parts of India that termination of pregnancy is sought not for the reasons stated under the Act but because there is a strong son preference among our people. Modern technology is thus being used to abort foetuses of unwanted sex.

Declining SR and Its Impact on Society

Kaur (2004) analyzed an unusual response to the shortage of marriageable girls in the North. The need for women, for productive and reproductive purposes is being addressed through unconventional marriages that are uniting rural, illiterate Indians across boundaries of region, language, religion and even casts.

Prem Chowdhary (2005) studied the adverse SR in Haryana and increase number of unmarried male. She found that deficit of marriageable women in Haryana has created another social problem instead of increasing their social status. People started buying, selling and reselling the girls for marriages from other states like Kerala, Bihar, West Bengal etc. These marriages are often held with the help of 'broker' (mediator) without any legal registration system. Girls, who belong to poor family, are the victims who face various social, physical, mental and sexual harassment. In other hand, men who get married by paying the bride with the help of brokers usually become object of laughing in the society.