

Child Sex Ratio and Sex Ratio at Birth in India: Evidences from Census and NFHS

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Abstract: *This paper examines the Child Sex Ratio and Sex Ratio at Birth in India across states based on Census and NFHS reports and probes into the gender disparity in India's child population. The paper observes that females are handicapped due to under-representation among births in India. It is observed that the estimates obtained from NFHS are fairly in conformity with that of the census findings and it re-establishes the fact that there are fewer women in India than men. NFHS data also shows that sex ratio at birth declines with wealth, suggesting that sex selection of births is more common among wealthier than poor households. Developments in science and technology have been widely misused to determine the sex of unborn children which has ended up in terminating unwanted and burdensome pregnancies. This malpractice is not only socially unsustainable over a prolonged period but also it threatens the very existence of girls in India, safe motherhood and the social institution of family itself, coupled with increased incidence of violence and crimes against women and children.*

Key Words: *Child Sex Ratio, Sex Ratio at Birth, Gendercide, Masculinization.*

Introduction

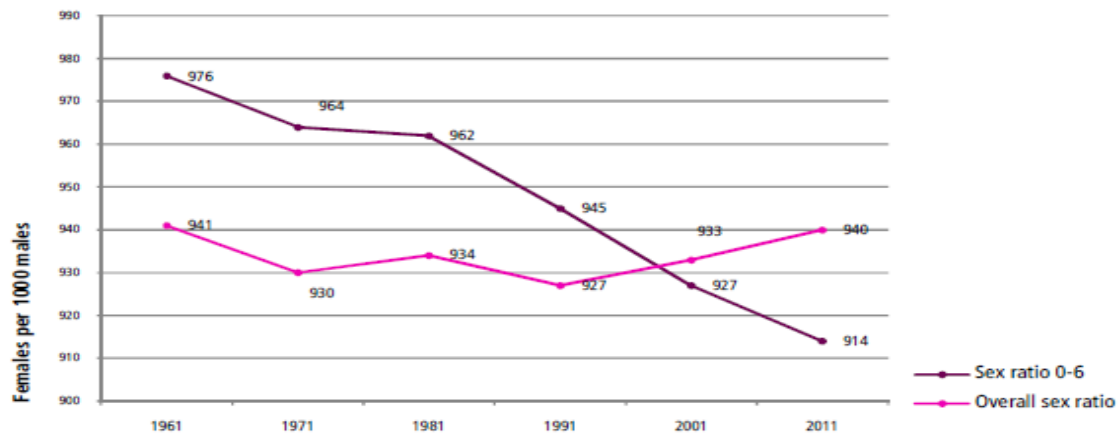
Child Sex Ratio (CSR) is a robust demographic indicator as well as an indicator of prevalent gender biases and inequalities that reflects and affects the girl child's very survival, health, nutrition and even, birth. It also reflects the extent of violence against girls within a society. Changes in sex ratio is mainly the outcome of the interplay of sex differentials in mortality, sex selective migration, sex ratio at birth and at times, the sex differentials in population enumeration (Census, 2001). Gender balance is determined by two factors. The first is the distribution of live births by sex while the other is the difference in mortality by sex at different ages. Females in India are not only handicapped due to under-representation among births, but are also over-represented among the births that die, in terms of infant and child mortality (NFHS-3, 2006). Changes in sex composition largely reflect the underlying socio-economic and cultural patterns of a society in different ways. This paper uses the evidences from Census and National Family Health Surveys to analyze the gender differences in India's child population and as seen from the data on Child Sex Ratio and Sex Ratio at Birth (SRB).

Sex Ratio in India – An Overview

A distinctive dimension of Asia's recent population dynamics has been its unexpected "masculinization" – the increasing proportion of males in its population (Guilmoto, 2007). Asia has long had the highest proportion of males in the world. Among the ten most populated countries of the world, all the Asian countries have low sex ratios except Indonesia and Japan. In contrast to this, the gender composition

of most of the developed European countries shows a favourable trend. A close look at the sex ratios across globe helps one to understand that, the sheer weight of the population of the two most populated countries, viz, China and India with low sex ratios- 926 and 940 respectively, contributes to the preponderance of males over females in world. 'Missing Women'- a concept developed by Amartya Sen, refers to the observation that in parts of the developing world, notably in India and China, the ratio of women to men is suspiciously low. Sen estimated that more than 100 million women were 'missing', presumably from inequality and neglect leading to excess female mortality (Anderson and Ray, 2012). The experience of Asia reveals that sex ratios are not socially sustainable over a prolonged period. In the wake of fertility decline, the populations of many countries in Asia have taken advantage of the newly available medical technology to avoid giving birth to daughters.

Overall sex ratio and CSR in India from 1961 – 2011 is depicted in Figure – 1. Sex ratio in India during 2001 and 2011 has been estimated as 933 and 940 as against the world average of 986 and 984 females per 1000 males (Census, 2011). Sex ratio in India had always remained unfavorable to females over the years. Barring few years, sex ratio in India has shown a long term declining trend, except in 2001 and 2011, where it registered a marginal increase. Overall sex ratio for the country in 2011 presents an encouraging trend across the country encompassing 29 states and union territories, which is a welcome improvement when compared with the previous censuses. As per the 2011 census, the two states that have a sex ratio less than 900 among the major states of India are Haryana (877) and Punjab (893). For historical reasons, these states had very low sex ratios even from the beginning of twentieth century. From 1951 onwards, sex ratio is significantly higher in the south Indian states, namely -Kerala, Tamil Nadu, Andhra Pradesh and Karnataka. In contrast to this, the northern states, especially the BIMARU states (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh) are lagging behind and are characterized by highly unfavourable sex ratios. For historical reasons, the status of women in Kerala is comparatively better and Kerala is ranked first among the Indian states with respect to sex ratio since 1901. Census 2001 shows that most of the States and Union territories except Kerala have shown a downward slide in sex ratio. The major states that are largely responsible for the decline in the overall sex ratio in India are Bihar, Orissa, Gujarat, Madhya Pradesh, Maharashtra, Tamil Nadu and Uttar Pradesh. Along with the low overall sex ratios, Figure -1 reveals the dwindling and alarming CSR in India. Evidence from the census reports since 1961 shows a continuous and significant decline in Child Sex Ratio.

Figure 1**Trend in Overall Sex Ratio and Child Sex Ratio (0-6 years)**

Source: Census Reports, Various years.

Child Sex Ratio in India

Sex composition by age groups is vital for studying the demographic trend of young population, its future patterns and particularly, the status of the girl child. The most alarming finding of the 2001 Census was the sharp fall in sex ratio of children of 0-6 age group, especially among certain states during the decade 1991-2001. Rustagi (2010) observes that the odds against the girl child in India's overtly patriarchal society have crossed the danger limit. Though the fall in CSR has been unabated since 1961, the decline received attention in academic circles only in the early 1980's, when the census began to provide the population totals for the age group 0-6 years. But the issue has been widely discussed especially after the 2001 census results became available.

The acronym- 'DEMARU' was coined in the census operations to take note of the sharp decline in the CSR (0-6 age group) in the face of an increase in the overall sex ratio of the total population in 2001. In the acronym 'DEMARU', 'D' stands for daughters, 'E' for elimination and 'MARU' for killing (Bose, 2001). Punjab, Haryana, Himachal Pradesh and Gujarat are classified as 'DEMARU' states on the basis of a statistical cut off point of 50 points decline in juvenile sex ratio in 2001. The drastic decline in child sex ratio in the states of Punjab (82), Haryana (59), Himachal Pradesh (55) and Gujarat (50) proved to be a matter of worry at the national level. Strong son preference combined with access to sex detection technology and availability of facilities for induced abortions has led to sex selection on a large scale (Kulkarni, 2010). What is even more shocking about 2001 Census results is that this decline in sex ratio of child population is seen in every state of India with the exception of Kerala, Mizoram, Tripura and Sikkim and in the Union Territory of Lakshadweep, where the sex ratio has increased marginally. The decreasing

sex ratio in the age group of 0-6 has a cascading effect on population over a period of time leading to diminishing sex ratio in the country.

Table -1

Child Sex Ratio and Sex Ratio at Birth in India

India / States	Child Sex Ratio (0-6)		Sex Ratio at Birth	
	Census 2001	Census 2011	NFHS-3 (2005-06)	NFHS-4 (2015-16)
INDIA	927	919	914	919
Jammu and Kashmir	941	862	902	921
Himachal Pradesh	896	909	913	937
Punjab	798	846	734	860
Uttarakhand	908	890	912	888
Haryana	819	834	762	836
Rajasthan	909	888	847	887
Uttar Pradesh	916	902	922	903
Bihar	942	935	893	934
Sikkim	963	957	984	809
Arunachal Pradesh	964	972	1071	926
Nagaland	964	943	984	953
Manipur	957	936	1014	962
Mizoram	964	970	1025	949
Tripura	966	957	959	969
Meghalaya	973	970	907	1009
Assam	965	962	1033	929
West Bengal	976	960	976	960
Jharkhand	965	948	1091	919
Odisha	953	941	963	932
Chhattisgarh	975	969	972	977
Madhya Pradesh	932	918	960	927
Gujarat	883	890	906	906
Maharashtra	913	894	867	924
Andhra Pradesh	961	939	NA	914
Karnataka	946	948	922	910
Goa	938	942	921	966
Kerala	960	964	925	1047
Tamil Nadu	942	943	896	954

Source: Census and NFHS Reports

CSR from Census and SRB from NFHS are shown in Table – 1. The findings of 2011 census reassured the fact that CSR is declining across most of the states of India. CSR declined in 27 States and UT's of India during 2001-2011. Sharp fall in CSR have been reported in Jammu and Kashmir, Dadra and Nagar Haveli, Lakshadweep, Maharashtra, Rajasthan, Manipur, Uttarakhand, Jharkhand, Madhya Pradesh and Nagaland during 2001-2011. Even the North Eastern States like Sikkim and Arunachal Pradesh have shown a declining trend. However, this census gives us a ray of hope to see that, Child Sex Ratio has improved in the 'DEMARU' states of Punjab, Haryana Himachal Pradesh and Gujarat. It also increased in the States and UT's of Tamil Nadu, Mizoram, Chandigarh and in Andaman and Nicobar islands. Census data also reveals the fact that CSR declined both in rural and urban areas and the decline in rural India is found to be more than three times as compared to the drop in urban India in 2011, which is a matter of

serious concern. Census data further shows higher marginalization of the country's scheduled tribes (ST's) and CSR among the ST's has declined faster (from 973 to 957) than in other categories of population between 2001- 2011. However, CSR is still higher in the ST category than in the general population (Census, 2011).

Sex Ratio at Birth

Decline in CSR and its implications is better understood, if one considers the fact that the child sex ratio is primarily influenced by sex ratio at birth and mortality in the early childhood. One of the key determinants affecting CSR is Sex Ratio at Birth (SRB). SRB defined as the number of girls born for every 1000 boys born, is a more accurate and refined indicator of the extent of pre-natal sex selection. Initially, the huge gap observed between the number of men and women represented, to a large extent, the legacy of mortality conditions that had been unfavourable to women during the past century. But it emerged that a new, unexpected phenomenon was also underway: sex ratio at birth was tilting towards boys, in a way that had never before been recorded in demographic history (Guilmoto, 2007). CSR in India was too masculine to be explained by excess female mortality during childhood and an imbalance in SRB was an inescapable conclusion (Kulkarni, 2010). This, in turn, meant that sex selective abortions had become quite prevalent across the length and breadth of the country. It is generally accepted that the sharp decline in the CSR is the result of the spread in the availability and misuse of the ultrasound scanning for sex determination and abortion of female fetuses (Nagarajan and Mulay, 2010).

The micro economic theory of fertility attempts to examine the 'utilities' and 'disutilities' of having children and treats the demand for children just as a utility maximization problem subject to the household constraints of income and cost of rearing and bearing of children. While applying this theory to fertility analysis, children are considered as a special kind of consumption and investment good. In this way, the consumer or individual has to make a tradeoff between demand for children and other goods. Keeping other factors constant, the desired number of children can be expected to vary directly with household income, while it is inversely affected by the price (cost) of children (Becker, 1960). SRB has changed because it has become a choice variable within the household, just like the preference for a commodity and it is increasingly and widely practiced. This can result in 'Gendercide' (Warren, 1985) on a large scale and can end up with deliberate extermination of persons of a particular sex and, to significant disturbances in the normal sex ratio of population.

To avoid this kind of behavior, prenatal sex determination was banned in India in 1994 on the basis of the provisions of the Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 (PNDT). It was amended in 2003 as Pre-Conception and Pre-Natal Diagnostic Techniques Act (PCPNDT Act, also called Prohibition of Sex Selection Act) to improve the regulation of the technology used in sex selection, particularly ultrasound scanning. The comparison of the observed SRB with normal gives an idea of girls missing at birth. The natural sex ratio at birth usually has higher male births. But the advantage of higher SRB for males is neutralized due to higher male infant mortality in the normal population. SRB

in India for the period 2007-2009 was 906, while the internationally observed SRB is 952 or more girls born per 1000 boys (UNFPA, 2011). Accordingly, it is estimated that the practice of pre-natal sex selection has resulted in approximately 5.7 lakh girls missed annually in India during the period 2001-2008 and an estimated 4.5 million girls missing over this eight year period. NFHS data is widely used to study SRB and to assess the magnitude of sex-selective abortions.

Trend data based on the NFHS reports provide strong evidence of decline in sex ratios of the population aged 0-6 and in the SRB for births in the five years preceding the survey. Trend in SRB for all children born in the five complete calendar years preceding the four rounds of National Family Health Surveys show that it was 941, 938, 914 and 919 respectively. SRB of Indian states is shown in Table -1. It is observed that the estimates obtained from NFHS are fairly in conformity with that of the census findings and it re-establishes the fact that there are fewer women in India than men. NFHS data also shows that sex ratio at birth declines with wealth, suggesting that sex selection of births is more common among wealthier than poor households, which seem to be a contrast to our notion that boys are treated as breadwinners and hence, are more favoured in a poor family. Ultrasound tests are being widely used for sex selection with sex selection being more evident for the wealthiest women than for the women in the other quintiles (NFHS-3).

It is a paradox to see that more adverse sex ratios was noted among the better-off and economically prosperous regions, when compared with economically backward communities and regions. This has been christened as 'prosperity effect' (Agnihotri, 2000). Earlier it was believed that doing away with 'unwanted girls' was more appealing to the poor families. Prosperity effect on one end, breadwinner and need for old age security arguments on the other end; along with religious rights and powers, and a host of other interwoven factors ended up in the masculinization of India's population. The mindset of crores of people cannot be changed overnight, but authorities can create awareness and influence them in due course of time. In this context, authorities can prevent unwanted and unethical practices by framing necessary laws and enforcing them strictly. The experience of India gives strong evidence that even the PCPNDT Act is not strictly adhered and lacks clear monitoring.

It is really disheartening and disastrous as it cuts our own roots. History shows that man has succeeded in manipulating things for his own whims and fancies, but it may not amount to this extent. If man continues with this myopic outlook of son preference, we may end up in disaster. Gendercide on a large scale and irreversible damage to mankind will be the outcome of the mushrooming growth of scanning centres, if unchecked and not monitored by law. Patriarchal bias is a legacy of the past and it still prevails in various walks of life in numerous dimensions and magnitudes adding up to discrimination against women and children. Laws of inheritance, religious and ritualistic practices, and social structures and institutions including marriage and family, emphasize and assign the prime role to the male child. Besides this, social pressures of marriage for girls and the practice of widespread dowry increases the

returns on male children. The social evil of dowry is a crucial factor that paves the way for doing away with girls even before they are born, and in maltreatment of girls. The use of scientific techniques to determine the sex of the unborn child and doing away with the 'unwanted girls' is therefore a safeguard against future calamity and hardships that are bound to befall the household when it is time for the daughters to get married (Rustagi, 2010).

Conclusion

The above analysis of Child Sex Ratio and Sex Ratio at Birth reveals grave inequality in gender composition even in the early ages of life. It is a reality that there are far fewer women than men in India. In the era of 'all inclusive growth', human development and gender empowerment, thousands of female fetuses are aborted every day and are excluded even before birth. This exclusion is too intense, as it denies even the right of females to be born and to live, leading to 'masculinization' of population. Decline in the number of females coupled with high incidence of infant, child and maternal mortality, not only threatens the very existence of girls in India, but also safe motherhood and the social institution of family itself. Also, the pressure for girls to get married at an early age and resultant early motherhood is bound to increase in the years to come. It also implies that, as fewer females are available for marriage in the near future, more men will be forced to refrain from marriage or at least postpone their marriages or will be forced to practice polyandry. To ensure physical, emotional and reproductive health, equitable and sustainable balance between opposite sexes is crucial.

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