

# **SON PREFERENCE IN INDIA: IMPLICATIONS FOR GENDER DEVELOPMENT**

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JEL Classifications: J11, J13, J16, O53

Keywords and Concepts: fertility, son preference, demography, gender discrimination

## Abstract

Using data from the Census of India and the National Family Health Survey (NFHS), this paper analyzes trends in child sex ratios (0-6 years of age) and the increase in son preference in India. Latest census data (2011) shows that the child sex ratios (females per 1,000 males) have decreased compared to data from the last five decades. Increasing son preference and neglect of daughters is occurring in many states in India despite the advances made in education, literacy, health care, and income attainment. A skewed sex ratio and shortage of girls is detrimental to the health and welfare of women as well as the human development of India. Policymakers need to formulate appropriate policies coupled with strict enforcement laws in order to contain this grave trend in son preference, infanticide, neglect, and devaluation of women in India.

## **I. Introduction**

The latest Census of India (2011) revealed that the child sex ratio (number of girls per 1,000 boys among children in the age group 0-6 years old) is at its lowest since 1947, when India gained her independence. India's skewed sex ratio and son preference (Kishor, 1993) have persisted since 1901 and have not eroded despite the tremendous economic strides India has made through liberalization and globalization (Miller, 1981; Arnold, Choe, and Roy, 1998). One of the most alarming trends in India is that son preference, which can be a normal attribute for couples who have only girls, is accompanied by the neglect and death of millions of females through lack of medical care, improper nutrition, infanticide, and sex selective abortions (Arnold, Kishor, and Roy, 2002). This is occurring even among the educated, affluent groups in India (Times of India, 2010). Sen (1992, 2003) first addressed this disturbing trend by recognizing that millions of women in India and China are missing because of widespread neglect in nutrition, health care, and prenatal care. India and China are the only countries in the world in which female infant mortality rates are higher than that of males (United Nations, 2011). The skewed child sex ratio in India is a shameful testimony to how girls and women are devalued in India.

India's 28 states and 7 Union Territories are highly heterogeneous with respect to economic conditions, culture, religion, dialect, traditions, and demographics. The extent of son preference varies among the Hindus, Muslims, Christians, and other religious groups in India. The marginalized population, namely the Scheduled Castes and Scheduled Tribes, also show tremendous variations in child sex ratios and preferences for or aversions to having sons and daughters. It is therefore difficult to generalize the issue of son preference across all of

India. However, regional disparities in child sex ratios show uniform trends across decades with the northern and western states displaying a much lower child sex ratio relative to the southern and eastern states in India.

This paper analyzes trends in son preference among states with high and low sex ratios in order to shed some light on this issue. Section II gives an overview of India and the demographic, social, and economic status of the 28 states in India. Section III discusses some of the economic, cultural, religious, and biological reasons attributed to son preference in India. Section IV provides data on the extent of son preference and status of women and girls in the various states in India. Section IV addresses the implications of a skewed sex ratio on Indian development, and section V contains our conclusions.

## **II. Overview of India and the heterogeneity of the Indian states**

Son preference and the devaluation of girls may occur in countries that experience low economic growth, high poverty rates, low literacy rates for both men and women, lack of opportunities for women in economic and social settings, and low gender status. Additionally, religion, patriarchy, traditions, and culture also affect fertility trends and son preferences. In order to understand the increasing son preference and neglect of girls, we need to have a general understanding of the Indian subcontinent.

India is divided into 28 states and 7 Union Territories (Map of India, Appendix). The different states and union territories are highly heterogeneous with respect to economic conditions, poverty, culture, dialect, religion, and gender development. According to the Census 2011 report, India has a population of 1.21 billion with 72.2% living in rural areas and about 27.8% living in urban areas. Among the different religions in India, Hindus, Muslims, and

Christians constitute about 80.5%, 13.4% and 2.3% of the total population respectively. Sikhs, Buddhists, and Jains represent 1.9%, 0.8%, and 0.6% of the Indian population respectively (Census of India, 2011). Many of the tribal groups are animists (0.72%) and pursue their own religions. The state of Jammu and Kashmir in the north has a predominantly Muslim population (60%) while Punjab has a primarily Sikh population (52.6%). The northeastern states of Mizoram, Nagaland, and Meghalaya have a predominantly Christian population (92.5%, 82.7%, and 66%, respectively).

Table 1 shows the literacy rates, work participation rates, and child sex ratios for the different religious groups in India (Census of India, 2001). The literacy rate is highest among the Jains, followed by Christians, Buddhists, and Hindus. Animists, and Muslims, on average, had the lowest literacy rate in India in 2001. The work participation rates vary considerably among the different religious groups with Animists, Hindus and Buddhists having the highest rates while Jains and Muslims have the lowest labor market participation rates. When we focus on the child sex ratio among the different groups, we find that Sikhs have the lowest child sex ratio (786 girls per 1,000 boys) followed by Jains. Animists and Christians have the highest child sex ratio followed by Muslims, Buddhists, and Hindus. It is interesting to note that the child sex ratio is the highest (976 girls per 1,000 boys) among the tribal groups who practice animism and other religions although they have the lowest literacy rate (47%) among all religious groups. On the other hand, Jains have the highest literacy rate (94.1%), yet they have the second lowest child sex ratio (870 girls per 1,000 boys), next to Sikhs.

Table 1 about here

The different castes and hierarchical structure of Indian society have also led to social, economic, and political stratification. The marginalized Scheduled Castes and Scheduled Tribes

make up about 16.2% and 8.2% of the total Indian population (Census of India, 2001). These groups experience economic impoverishment and material hardships as well as social discrimination from the mainstream Hindus (Mitra, 2008). Scheduled tribes make up the majority of the population in the state of Mizoram in northeastern India. The physical and social isolation of Mizoram from the Hindu population and culture has resulted in a unique tribal culture that is unmarred by many Hindu customs and traditions, one of them being the devaluation of females (Mitra, 2008; Mitra and Singh, 2008). In other parts of the country, the scheduled tribes and castes are dispersed among the mainstream Hindu population, and the former have modified their cultures based on Hindu customs and traditions.

While India has experienced high economic growth and increases in GDP during the last decade, many states and rural areas are facing enormous challenges in coping with poverty, illiteracy, and unequal gender development. Table 2 shows some of the economic and social indicators for the different states in India. The states are divided into five regions: north, central, northeast, west, and south. The table shows that the northern states have relatively lower rates of poverty with the exception of Rajasthan in the northwest. The states of Jammu and Kashmir and Punjab had the lowest percentage of people living in poverty during 2004-5 (Statistics on Women in India, 2010). Some of the central and eastern states, such as Chhattisgarh in central India and Orissa in eastern India had the highest rates of poverty. The northeastern states collectively had a poverty rate at or below 20% with Mizoram having the lowest percent of people in poverty (12.6%). The western states of Madhya Pradesh and Maharashtra and the southern state of Karnataka had poverty rates of 25% and more. Generally, most of the poverty and impoverishment in India is concentrated in the eastern and western states while the northern states of Punjab and Haryana are economically advanced.

The literacy rates of males and females (Census of India, 2011) are highest in the southern state of Kerala (96% and 91% respectively), followed by the northeastern states of Mizoram and Tripura. The gender disparity in literacy rates is also very low in these states. The northern states of Punjab, Haryana, and Himachal Pradesh have high literacy rates compared to the national average; however, the literacy rate among women in the Muslim majority state of Jammu and Kashmir is well below the national average of 65.46%. Some of the northern and eastern states have low literacy rates for males and especially for females. The southern states have high literacy rates for both men and women with the exception of Andhra Pradesh which has a female literacy rate of only 59.74%. Additionally, the rural female literacy rates are much lower than that of urban females (not shown in the table).

The heterogeneity of the Indian states and the complex interplay of caste, culture, gender social stratifications, and religions all lend themselves to differential patterns of son preferences among different groups of people in India. In order to combat son preference and daughter neglect, policy makers need to take all the variables into consideration.

Table 2 about here

### **III. What are the causes of son preference in India?**

One of the major causes of son preference in India is related to the perceived economic utility of having sons. Compared to daughters, sons provide help in family farms and businesses, have better earnings prospects in the labor market, and provide for their parents during old age, although parental care by sons is waning, especially in urban India (Miller 1981; Bardhan, 1988; Basu, 1989; Dharmalingam, 1996). Some studies contend that the high female mortality rates

and devaluation of girls in North India can be explained partly because women do not participate in economic and agricultural activities since wheat production became highly mechanized (Bardhan, 1974, 1988). On the other hand, the lower female mortality rates in the South can be derived from the greater labor force participation and economic activities of women who are primarily employed in the highly labor intensive rice production. Additionally, sons provide the continuation of family names and Hindu custom dictates that only sons can perform the funeral rituals of their parents. In most patriarchal families, only sons can inherit property and women have no property rights. North India is characterized by a rigid patriarchal society in which a man who does not have a son would rather adopt one than allow the daughter to inherit his property (Das Gupta, 2003). Dyson and Moore (1983) contend that kinship patterns are important in understanding the status of women in different regions of India. Kinship patterns that rely on high levels of cooperation among males at the exclusion of females, as in Northern India, are in direct contrast to the matrilineal kinship structure that prevails in many states in South India in which land and property may be inherited by females. The higher castes among the Hindus are more likely to engage in son preference while the lower castes who are poor and do not own land value women and girls for the labor they provide in rural areas (Liddle and Joshi, 1986). Matrilineal tribal groups also value girls and demonstrate less son preference than patriarchal tribes in India (Von Furer-Haimendorf, 1960; Mitra, 2008). Landlessness and lack of property rights may explain why the impoverished scheduled castes and tribes in India do not demonstrate high level of son preference and gender inequality (Kishor, 1993).

Daughters are considered to be liabilities because of the tradition of dowries. Families do not have the same incentives to invest in the education of their daughters as they do with sons because daughters leave their parental homes and live with their husbands and in-laws.



Although dowries have been declared illegal since 1961, many families, rich and poor, still follow this practice, and they are very much part of the Hindu culture and traditions. Dowry payments impose heavy financial strain on many families, especially among poor rural parents who often lose their entire life savings while trying to meet the financial demands of the bride groom's family (Kishor, 1995). Many companies who want to advertise sex selective abortions are using the slogan: "Pay 5,000 rupees today and save 50,000 rupees tomorrow." Dowry payments are more prevalent in the North as compared to the south where costs of a wedding are shared by both the bride and groom's families (Kishor, 1993). This may explain the relatively lower status of women in states like Punjab and Haryana compared to states like Kerala in the south.

Empirical studies also point to the importance of biological factors determining unequal sex ratios. Drew et al. (1986) and Oster (2005) contend that medical studies indicate that women who contract the Hepatitis B virus have lower probabilities of giving birth to girls compared to healthy women. However, evidence from different countries does not always support this link between fertility patterns and certain diseases. Many women in Sub-Saharan countries contract the Hepatitis B virus but do not give birth to more sons than daughters (Das Gupta, 2005).

Son preference and the devaluation of girls cannot be attributed to one single factor in India. An economic cost-benefit analysis of having sons versus daughters may play an important role among impoverished families but should not affect affluent families who may equally invest in their sons and daughters' education and well-being. Additionally, we would expect the erosion of dowry payments among educated, affluent families. Yet, we see the persistence of son preference among both the rich and the poor, educated and illiterate families. Deep rooted

culture and traditions, coupled with patriarchal kinship patterns and the lower status of women in different parts of India, are still contributing to this trend.

### **III. Son Preference and Neglect of Daughters in India**

#### ***A. Trends in Son Preference in India***

Table 3 shows trends in the child sex ratio among the different states in India from 1981 to 2011 (Census of India, 1981, 1991, 2001, 2011). The table shows some interesting trends in regional variations in child sex ratios during the last four decades. Overall, the child sex ratio in India and the six broad regions is declining every year since 1981. The northern and western states have the lowest child sex ratio while the southern and eastern states have relatively higher child sex ratios, and this trend has been consistent for decades. The last column in table 3 shows the relative gains or declines in the child sex ratios from 1981 to 2011 in the individual states. The largest decline in child sex ratios are observable in the northern states of Jammu and Kashmir, Haryana, Punjab, Rajasthan, and Himachal Pradesh in the north, Maharashtra in the west, and Madhya Pradesh in central India. The states of Kerala in south India and Mizoram in northeastern India show the least decline in child sex ratios over the last four decades.

Table 3 about here

Table 4 shows ten districts in India with the worst child sex ratio in 2001 and 2011 (Census of India, 2001 and 2011). Most of the districts are located in the northern states of Punjab and Haryana, displaying child sex ratios as low as 766 girls per 1,000 boys.

Table 4 about here

Overall, the northern and western states uniformly show low child sex ratios across decades and demonstrate very high son preference (Bhaskar and Gupta, 2007, Bhat, 2002, Retherford and Roy, 2003). Sex selective abortions in northern and western regions are higher than the national average in India. According to Kulkarni (2007), 19% of expected female births in Punjab during 2001 were aborted.

### ***B. Neglect of female infants and girls in India***

One of the reasons behind the declining child sex ratio can be attributed to higher female infant deaths in India. Table 5 shows the infant mortality rate for all states and union territories in India in 2010 (Sample Registration Survey, 2011). Infant mortality rate refers to deaths of children from 0-12 months per 1,000 live births (Sample Registration System, SRS 2010). The overall infant mortality rate in 2008 was 47 per 1,000 live births. The male infant mortality rate of 46 exceeds the female rate of 49. The same pattern of higher mortality rates for girls compared to boys is reflected in all the states in India. The state of Kerala in the south has the lowest female infant mortality rate and gender discrepancies in infant mortality rates. Globally, more males are born than females, but biologically female infants have higher survival rates than male infants (Hammoud, 1977, United Nations, 2011). However, the opposite trend is observed in India (Das Gupta, 1987) pointing to the possibility of girl devaluation and discrimination, neglect of infants through inadequate nutrition and health care (Pande and Astone, 2003), infanticide, and sex specific abortions. This has led to the growing concern in India and in the international community about the issue of “missing females” (Sen, 1992, 2003; Agnihotri, 2000; Sudha and Rajan, 1999).

## Table 5 about here

The heterogeneity in infant female mortality rates across the different states in India can be challenging for policy makers. Access to economic resources and economic development of the states cannot explain the differential trends in infant mortality in the various states in India. Literacy and educational attainment are also not correlated with infant mortality trends. Table 5 shows that some states, such as Assam, Orissa, Uttar Pradesh, and Madhya Pradesh have very high female and male mortality rates. These states are some of the poorest states in India; hence lack of adequate nutrition, medical care, prenatal care, and illiteracy can partly explain the high mortality rates. On the other hand, the state of Mizoram in the northeast is not very advanced economically, yet the infant mortality rates for females are much lower than the above mentioned states. Among the tribal population in Mizoram, females actively participate in social and family making decisions, and girls are valued as much as boys. The tribes in Mizoram have maintained their culture because they are physically isolated from the Hindus and have not been pressured to change their culture or conform to upper caste Hindu traditions (Mitra, 2008). The state of Kerala in the south has the lowest female infant mortality rate in India. Although Kerala is facing many economic challenges, it has the highest gender and human development index in the country. Affluent and relatively educated states like Punjab and Haryana in the north do not display low infant female mortality rates.

Figure 1 shows the infant mortality rates by sex during 1990-2009. Advances in health, hygiene, and education explain the lower mortality rates for both males and females since 1990, yet the data consistently shows the disturbing trend of higher mortality rates for infant girls relative to boys in India. The prevalence of son preference coupled with the devaluation of girls has resulted in an unequal allocation of resources among infant boys and girls. Typically, boys

are breastfed longer than girls in most of the states in India. Women tend to breastfeed their daughters for a shorter time because they want to have sons soon after the birth of their daughters. Vaccination rates are much lower among girls than boys, and girls face more malnourishment than boys (National Family Health Survey, 3).

Figure 1 about here

### ***C. Sex-selective abortions and fertility effects of son preference in India***

Sex related abortions have increased even though such acts are considered illegal in India. Among the educated and wealthy, sex selective abortions have increased significantly, especially when the first born child is a daughter (Jha et.al., 2011). According to the *Times of India* (2010), affluent couples in India fly to neighboring Thailand in order to take a Pre Implantation Genetic Diagnosis test which ensures that only male embryos are placed in the womb with a success rate of 100%. Only families with economic resources can afford to take such expensive trips to Thailand where such acts are legal. Many wives who accompany their husbands to Thailand are not informed about the purpose of the visit and are kept in the dark. This national crisis is adding to the problem of the “missing women” phenomenon in India.

In a study in the medical journal *Lancet*, Jha et al. (2011) found that systematic prenatal sex determination and abortion of girls is occurring in India, especially for second order births where the first born is a girl. This is prevalent among all states and perhaps accounts for the 7 million fewer girls born as shown in Census of India, 2011. In developed and high income countries, the sex ratios for second order births do not vary as they do in India, indicating that the former countries do not display any form of sex preferences for infants.

Table 6 shows the sex ratio for second order births for India and some of the Northern and Western states in India in 2006 (Jha et. al., 2006). The table shows that nationally the sex ratio is 759 girls per 1,000 boys if the first born is a girl while for couples with the first born being a boy, the sex ratio jumps to 1103 girls per 1,000 boys. In states like Punjab, Delhi, and Haryana, the sex ratio drops to 614, 631, and 667 girls per 1,000 boys if the first born is a daughter. Contrasting the abysmal sex ratios with the sex ratios for second order births in the same states for couples whose first born are boys (1003, 1057, and 968) we find a glaring mismatch in the sex ratio that clearly points to the acute son preference and daughter discrimination in India.

Table 6 about here

In summary, son preference and low child sex ratios cannot be explained by any one factor in India. Many of the developed countries in the West do not show any evidence of son preference or daughter neglect (United Nations, 2011). We would expect that some of the traditional and cultural reasons for preferring sons over daughters would erode with economic expansion, higher literacy rates, and exposure. What we find instead is that son preference is prevalent in both economically advantaged and disadvantaged states in India. The affluent and the educated classes are making use of ultrasound devices and performing sex selective abortions in order to have more sons. Although sex selective abortions are illegal in India, a certain percent of the population who have wealth and money are not deterred from performing such illegal activities. Nor is the Indian government enforcing strict punishment for such activities.

At the same time, many economically backward states do not display patterns of high son preference or female devaluation. Among many scheduled tribes, women take an active role in

economic activities and in social participation. In such communities, girls are valued as much as boys and the birth of a daughter is a joyous occasion for the family, irrespective of whether they have sons or not. However, impoverishment, and the absence of economic opportunities often lead to lack of nutrition, education, and health among girls and women in such communities. This scenario is to be distinguished from economically advanced states like Punjab in which the status of women is low and infanticide and neglect of girls are social norms. Son preference, infanticide, feticide, and sex selective abortions may be rational choices made by women who perceive their unborn daughters' lives to be mirror images of their own lives. In many patriarchal communities in India, oppression, lack of voices in domestic and social spheres, violence, poverty, and hard labor characterize the lives of many women who do not want their daughters to suffer like them.

Son preference has implications for women's health, fertility, and well-being in India. In order to carry on the family name and uphold the wishes of their husbands and in-laws, many women have to face multiple pregnancies, abortions, and infanticides in order to have a son. A wife may face violence and humiliation from her husband and in laws if she cannot have a son. This has negative implications on women's physical and mental health and also results in the neglect of infant girls. Multiple child bearing affects the health of women, many of whom are undernourished and suffer from anemia. Generally, states that display very strong son preference also show high levels of fertility, and the opposite is true among states with low son preference, as in the state of Kerala in south India. Among women with two sons, use of contraceptives is very high while women with two or three daughters continue to have children (NFHS 2).

Economic development, education, and affluence are not sufficient to reduce son preference or daughter neglect in India. The state of Kerala has the highest human development

index in India, yet women in Kerala experience high rates of family violence. This is accompanied by high rates of female suicides (Mitra and Singh, 2006, 2007). The patriarchal social norms make highly educated women in such a society subservient to males. The highly heterogeneous pattern of son preference among the different states in India show that economic opportunities coupled with the erosion of patriarchal norms and greater autonomy of women may eventually lower son preference and devaluation of girls among all social and economic classes in India. To achieve this, the cultural and social norms will have to undergo drastic changes.

#### **IV. Implications of a skewed gender ratio in India**

Economic theory would predict that when there is a shortage of girls, the value or worth of girls would increase socially and economically, all else equal. However, this has not happened in India. In some of the northern states in India, we have witnessed a rise in violence among unmarried young men who compete for a limited number of women in the marriage market. We would expect the shortage of women in the marriage market to lower the dowry prices of marriageable women; instead, it has manifested itself in increases in sex trafficking, and greater sexual violence against women. The state of Haryana in north India has seen a drastic increase in prostitution, violence, and rapes against women in recent years (Singh and Mohan, 2005).

Most importantly, an artificially skewed gender ratio has major implications on the welfare and development of the world's largest democracy. It is a gross violation of the basic freedom and human rights that is so essential for development (Sen, 1999). Infanticides, feticides, and sex selective abortions deprive millions of unborn females their rights to live and



contribute to society through their participation in the labor market, as well as in domestic, social, and political spheres.

## **V. Conclusion**

According to the Census of India (2011), 7 million fewer girls were born among children 0-6 years of age. Prenatal sex determination coupled with sex selective abortions largely account for this skewed sex ratio in India. The sex ratio is particularly low among couples whose first born is a daughter compared to couples who have a boy as their first born (Jha et al., 2011). Son preference and neglect of girls are occurring even among the educated and affluent classes in India and are not correlated with economic development, affluence, or literacy levels. The low status of women and patriarchal values are intensifying this trend in India. Son preference has serious negative effects on women's health, fertility choices, and future well being of girls. Policymakers need to take into consideration the complex interplay of economics, religion, traditions, customs, and the inferior status of women among the highly diverse states in India in order to address this grave issue.

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**Table 1: Characteristics of different religious groups in India (2001)**

<b>Religious groups</b>	<b>% of total population</b>	<b>Literacy (%)</b>	<b>Work participation rate (%)</b>	<b>Child sex ratio</b>
<b>Hindu</b>	80.46	65.1	40.4	925
<b>Muslim</b>	13.43	59.1	31.3	950
<b>Christian</b>	2.34	80.3	39.7	964
<b>Sikh</b>	1.87	69.4	37.7	786
<b>Buddhist</b>	0.77	72.7	40.6	942
<b>Animists &amp; others</b>	0.72	47.0	48.4	976
<b>Jain</b>	0.41	94.1	32.9	870

Source: Census of India, 2001

**Table 2: Economic and social indicators of the different states in India**

<i>India/States</i>	<b>Population below poverty line</b>		<b>Literacy Rates</b>
	<b>2004-2005</b>		<b>2011</b>
	<i>Persons (%)</i>	<i>Male</i>	<i>Female</i>
<b>India</b>	27.5	82.14	65.46
<b>NORTH</b>			
Delhi	14.7	91.03	80.93
Haryana	14.0	85.38	66.77
Himachal Pradesh	10.0	90.83	76.60
Jammu& Kashmir	5.4	78.26	58.01
Punjab	8.4	81.48	71.34
Rajasthan	22.1	80.51	52.66
Uttarakhand	39.6	88.33	70.70
<b>CENTRAL</b>			
Chhattisgarh	40.9	81.45	60.59
Madhya Pradesh	38.3	80.53	60.02
Uttar Pradesh	32.8	79.24	59.26
<b>EAST</b>			
Bihar	41.4	73.39	53.33
Jharkhand	40.3	78.45	56.21
Orissa	46.4	82.40	64.36
West Bengal	24.7	82.67	71.16
<b>NORTH-EAST</b>			
Arunachal Pradesh	17.6	73.69	59.57
Assam	19.7	78.81	67.27
Manipur	17.3	86.49	73.17
Meghalaya	18.5	77.17	73.78
Mizoram	12.6	93.72	89.40
Nagaland	19.0	83.29	76.69
Sikkim	20.1	87.29	76.43
Tripura	18.9	92.18	83.15
<b>WEST</b>			
Goa	13.8	92.81	81.84
Gujarat	16.8	87.23	70.73
Maharashtra	30.7	89.82	75.48
<b>SOUTH</b>			
Andhra Pradesh	15.8	75.56	59.74
Karnataka	25.0	82.85	68.13
Kerala	15.0	96.02	91.98
Tamil Nadu	22.5	86.81	73.86

**Sources: Ministry of Health and Family Welfare, Central Bureau of Health Intelligence (2009)  
National Health Profile (2008)  
Census of India, 2011**

**Table 3: Sex Ratio (Females per 1,000 Males) of Child Population 0-6 years of age  
(1981-2011)**

<i>India/States</i>	<i>1981</i>	<i>1991</i>	<i>2001</i>	<i>2011</i>	<i>Decline in sex ratio since 1981</i>
<b>India</b>	962	945	927	914	48
<b>NORTH</b>					
Delhi	926	915	868	867	59
Haryana	902	879	819	830	72
Himachal Pradesh	971	951	896	906	65
Jammu& Kashmir	964	NA	941	859	105
Punjab	908	875	798	846	62
Rajasthan	954	916	909	883	71
Uttarakhand	-	949	908	886	--
<b>CENTRAL</b>					
Chhattisgarh	-	984	975	964	--
Madhya Pradesh	977	941	932	912	65
Uttar Pradesh	935	927	916	899	36
<b>EAST</b>					
Bihar	981	953	942	933	48
Jharkhand	-	979	965	943	--
Orissa	995	967	953	934	61
West Bengal	981	967	960	950	30
<b>NORTH-EAST</b>					
Arunachal Pradesh	997	982	964	960	37
Assam	-	975	965	957	--
Manipur	986	974	957	934	52
Meghalaya	991	986	973	970	21
Mizoram	986	969	964	972	14
Nagaland	988	993	964	944	44
Sikkim	978	965	963	944	34
Tripura	972	967	966	953	19
<b>WEST</b>					
Goa	965	964	938	920	45
Gujarat	947	928	883	886	61
Maharashtra	956	946	913	883	73
<b>SOUTH</b>					
Andhra Pradesh	992	975	961	943	49
Karnataka	975	960	946	943	21
Kerala	970	958	960	960	10
Tamil Nadu	967	948	942	946	21

Sources: Ramaiah et al., 2011  
Census of India, 1981, 1991, 2001, 2011

**Table 4: Ten Districts with the lowest child sex ratios in India  
(2001 and 2011)**

2001			2011		
District	State	Child sex ratio	District	State	Child sex ratio
Fatehgarh Sahib	Punjab	766	Jhajjar	Haryana	774
Patiala	Punjab	777	Mahendragarh	Haryana	778
Manasa	Punjab	782	Rewari	Haryana	784
Bathinda	Punjab	785	Samba	Jammu & Kashmir	787
Kapurthala	Punjab	785	Sonipat	Haryana	790
Sangur	Punjab	786	Jammu	Jammu & Kashmir	794
Gurudaspur	Punjab	789	Bid	Maharashtra	800
Kurukshetra	Haryana	771	Ambala	Haryana	806
Ambala	Haryana	782	Rohtak	Haryana	807
Sonipat	Haryana	788	Pithoragarh	Uttarakhand	812

Sources: Ramaiah et al., 2011

Census of India, 2001 & 2011



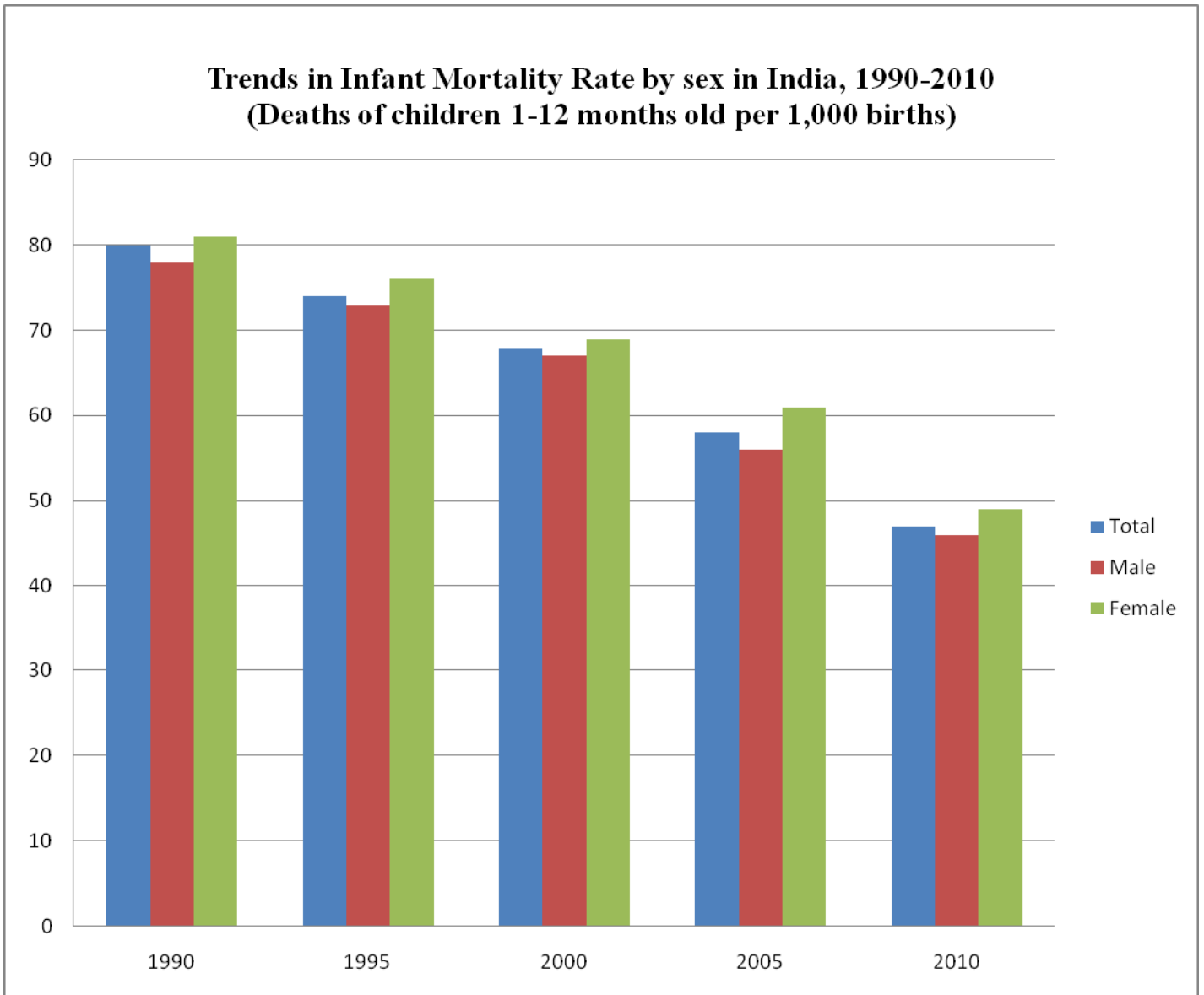
**Table 5: Infant Mortality Rate by Sex and Residence, 2010**

(Death of Children from 0-12 months per 1,000 live births)

<i>India/States</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>
<b>India</b>	47	46	49
<b>NORTH</b>			
Delhi	30	29	31
Haryana	48	46	49
Himachal Pradesh	40	35	47
Jammu & Kashmir	43	41	45
Punjab	34	33	35
Rajasthan	55	52	57
Uttarakhand	38	37	39
<b>CENTRAL</b>			
Chhattisgarh	51	48	54
Madhya Pradesh	62	62	63
Uttar Pradesh	61	58	63
<b>EAST</b>			
Bihar	48	46	50
Jharkhand	42	41	44
Orissa	61	60	61
West Bengal	31	29	32
<b>NORTH-EAST</b>			
Arunachal Pradesh	31	31	32
Assam	58	56	60
Manipur	14	11	16
Meghalaya	55	55	56
Mizoram	37	36	39
Nagaland	23	19	28
Sikkim	30	28	32
Tripura	27	25	29
<b>WEST</b>			
Goa	10	6	15
Gujarat	44	41	47
Maharashtra	28	27	29
<b>SOUTH</b>			
Andhra Pradesh	46	44	47
Karnataka	38	37	39
Kerala	13	13	14
Tamil Nadu	24	23	24

Source: Registrar General of India, Sample Registration System, 2010

**Figure 1**



Source: Registrar General of India, Sample Registration System

**Table 6: Sex Ratios for Second Births from Sample States in India**

India & Sample States	First Birth Female			First Birth Male		
	Total Sex Ratio	Rural Sex Ratio	Urban Sex Ratio	Total Sex Ratio	Rural Sex Ratio	Urban Sex Ratio
India	759	761	751	1103	1100	1113
Delhi	631	653	627	1057	1445	973
Gujarat	670	672	659	1209	1209	1208
Haryana	667	683	614	968	948	1050
Himachal Pradesh	710	716	668	975	1000	892
Maharashtra	749	736	782	1168	1199	1101
Punjab	614	631	560	1003	971	1102
Rajasthan	674	695	527	1192	1174	1324

Sources: Jha et al., 2006

Ramaiah et al., 2011

# Appendix

## Map of Indian States and Union Territories



Source: [www.mapsindia.com](http://www.mapsindia.com)