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Sex Ratio of India: A Regional Perspective

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Abstract:

Among the various elements of population composition, sex composition, age composition and economic composition hold a prime place for population geographers. The separate data for males and females are important for various types of planning and for the analysis of other demographic characteristics such as reproductive potential, marital status, work-force, migration pattern, growth of population, and the socio-economic relationship. Infact, it is an important demographic indicator to measure the extent of prevailing equality between males and females in a society at a given point of time. Sex ratio in India is defined as number of female per 1000 males in the population. The ratio in the country had always remained unfavourable to females. It may be seen that the sex ratio in India is much lower as compared to Russia, Indonesia, USA, China, Nigeria and Japan. The sex ratio of the country as per census 2001 was 933. In the census 2011 the ratio slightly increased 933 to 940. According to the census 2001 the Female Child Sex Ratio of India was 927 per 1000 Male Child. In the last census 2011 its decreases and stands on 914.

Keywords: Population composition, Sex ratio, Migration, Female foeticide,

1. Introduction

Franklin rightly observes that sex ratio was an index of economic prevailing in an area and was a useful tool for regional analysis. The profound effect of the proportion of the two sexes upon the other demographic elements like population growth, marriage rates occupational structure, has also been well recognized. Thus the knowledge of sex ratio is essential for understanding the employment and consumption patterns and social needs etc. of a country.

Trewartha (1953) rightly remarked that the proportion of the two sexes is fundamental to the geographic analysis of an area because it is not only an important feature of the landscape but it also influences the other demographic elements significantly and as such provides an additional means for analysis the regional landscape.

Off all the demographic attributes of population, the sex structure is one of the most fundamental and directly related to the reproductive potential of the humankind, deaths and marriage (United Nations, 1973).

In the present paper an attempt has been made to trace out the issue of sex ratio in India as per census of India. Such as Female sex ratio and Child sex ratio. Female sex ratio commonly known as the number of female per every 1000 males in a given place, in a particular period. The Child sex ratio is the number of female per thousand males in a human population in the age group 0-6 years. The sex ratio in India is characterized by the differences in its rural-urban components, between various religion groups, between various social groups and between various regions.

1.1. Study Area

India as a whole has been chosen as study area for the present research work and the boundary of a state / UT has been considered as the smallest unit of study. The country is comprised of twenty eight state and seven union territories. It lies entirely in the Northern hemisphere. The mainland extends between 8°4' to 37°6' North latitudes and 68°35' to 97°25' east longitudes. It takes up a geographical area of about 3287240 square kilometres (2.4 percent of world's geographical area). Bounded by the Himalayas in the north and Indian Ocean in the south, surrounded by Pakistan and Afghanistan in the north-east, China, Bhutan, an Nepal in the north, Bangladesh and Myanmar in the east. The north-south extension of the country is 3214 kilometres and east-west expansion is 2933 Kilometre, the total land frontier is 15200 Kilometres and coast line is 7516.5 Kilometres. India is the second most populous country in the world. According to the census 2011 the total population of India was 1210193422 of which 70 % was rural and remaining 30 % was classified as urban .The general density of population was 382. The literacy rate was 74.04 % .of which 82.10 % was Male and 65.46 % was Female.

1.2. Objectives

The objectives of the paper are-

- i) To analyze state wise general sex ratio of India.
- ii) To analyze sex ratio among rural-urban, religion wise, various social groups and selective district wise.
- iii) To analyze state wise child sex ratio of India.

1.3. Data and Methodology

The paper is mainly based on secondary data which has been collected from Census of India, article in journals, innumerable newspaper. The compiled data are interpreted appropriately and represent on cartographic technique to find out the objectives of the paper.

2. Sex Ratio of India

2.1. Trends of sex ratio in India (1901-2011)

The Sex ratio in the country had always remained unfavourable to females. The picture of Sex ratio in the last century is not at all satisfactory. The temporal change in the sex ratio from 1901 to 2011 has been given in the table below-

Census Year	Sex Ratio (Female per 1000 of males)
1901	972
1911	964
1921	955
1931	950
1941	945
1951	946
1961	941
1971	930
1981	934
1991	927
2001	933
2011	940

Table 1

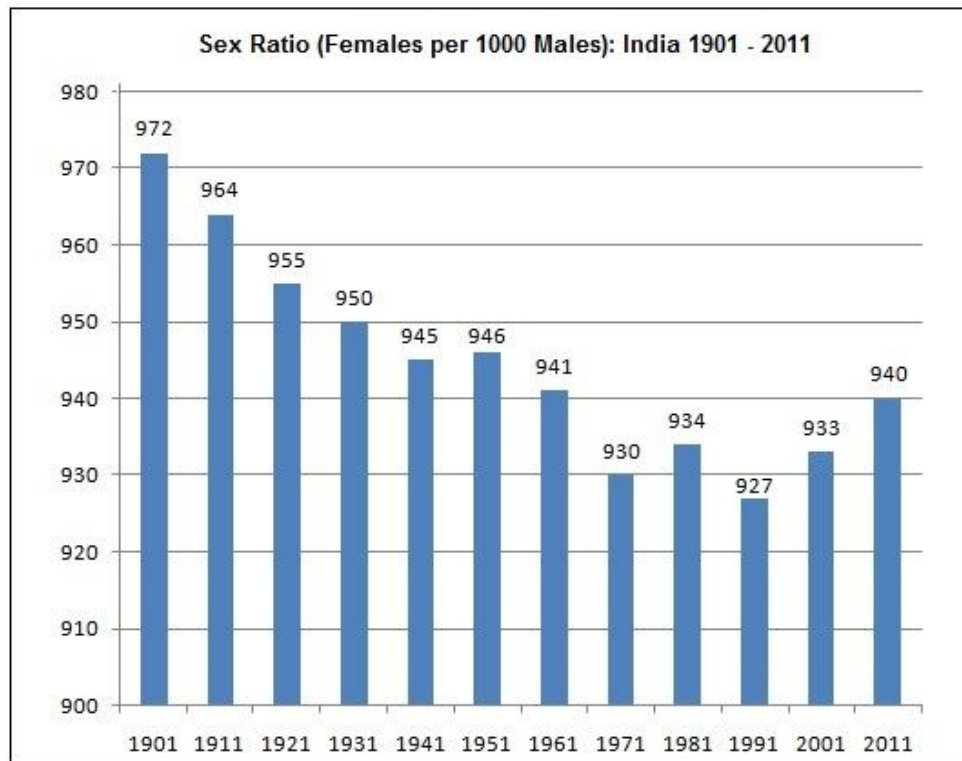


Figure 1

Source: Census of India

It may be observed from Table no.1 that the sex ratio was 972 at the very beginning of the 20th century in 1901 and thereafter showed a continuous decline from 972 to 964 in 1911, 964 to 955 in 1921, 955 to 950 in 1931, 955 to 945 in 1941. In the pre-independent period India suffered from the British rule, hence there were no such population control policies implemented. Therefore, birthrate was high and on the other hand, due to unfavourable living conditions, epidemics, famines, lack of medical facilities and illiteracy and the death rate was at the apex. This situation caused to decline in the growth rate of the population. In fact the longevity of female population was relatively high. Because of this, the sex ratio in the earlier decades of the century was comparatively high. However, decades after decades sex ratio showed a decreasing trend. The post Independence period, however, recorded a slight declining trend in the sex ratio, the lowest being in 1991 when it was only 927 female per 1000 of males. According to 2001 census, sex-ratio in India was 933 females to 1000 males which increased to 940 in 2011.

2.2. State Wise Sex Ratio

State	2001	2011	Change(2001-2011)
Andhra Pradesh	978	992	+14
Arunachal Pradesh	901	920	+19
Assam	932	954	+22
Bihar	932	916	-16
Chhattisgarh	990	991	+1
Goa	960	968	+8
Gujarat	921	918	-3
Haryana	861	877	+16
Himachal Pradesh	970	974	+4
Jammu and Kashmir	900	883	-17
Jharkhand	941	947	+6
Karnataka	964	968	+4
Kerala	1058	1084	+26
Madhya Pradesh	920	930	+10
Maharashtra	922	925	+3
Manipur	978	987	+9
Meghalaya	975	986	+11
Mizoram	938	975	+37
Nagaland	909	931	+22
Orissa	972	978	+6
Punjab	874	893	+19
Rajasthan	922	926	+4
Sikkim	875	889	+14
Tamil Nadu	986	995	+9
Tripura	950	961	+11
Uttar Pradesh	898	908	+10
Uttaranchal	964	963	-1
West Bengal	934	947	+14
Andaman and Nicobar Island	846	878	+32
Chandigarh	773	818	+45
Daman & Nagar Haveli	811	775	+36
Daman and Diu	709	618	-91
Delhi	821	866	45
Lakshadweep	947	946	-1
Pondicherry	1001	1038	+37
India	933	940	+7

Table 2: India: State wise sex ratio (2011)

Source: Census of India 2001 & 2011

Table -2 reveals sex ratio patterns in India as unfolded by the latest census of 2011. According the sex ratio in India in 2011 is 940 female per thousand males. Kerala has maintained its lead among various states as far as sex ratio is concerned. From among various states, Kerala is only state which has larger number females in its population in comparison to the males. There are 1084 females per thousand males in Kerala males. 4 states of the country - Jammu & Kashmir (-17), Bihar (-16), Gujarat (-3) and Uttaranchal (-1) recorded decline in their sex ratio during 2001-2011. In the remaining 24 states the sex ratio increased during the last inter-censal period. The highest increases of 37 are recorded in Mizoram, Perhaps due to improvement in enumeration. It is followed by Arunachal Pradesh (14) etc. The increase in sex ratio of these states is partly due to male-selective out-migration and partly due to improving

life expectancy of the females. The dignity of the females in these states is rather better and prominent than the other states of the nation.

From among union territories, Pondicherry has now earned the distinction of having an excess of females over its males. The sex ratio of Pondicherry in 2011 is 1038 females per thousand males. It was followed by Lakshadweep (946), Andaman & Nicobar (878), Delhi (866), Chandigarh (818), Dadra & Nagar Haveli (775), and Daman and Diu (710). Most of union Territories in India are highly urbanized and thus continue to attract male-selective migrant from neighbouring areas that explains their low sex ratio, though some element of female foeticide also cannot be ruled out in case of some of these territories. The union territories Pondicherry, Delhi and Andaman & Nicobar, Chandigarh increase in the sex ratio, while in all other cases there is a decline in sex ratio. The sex ratio of Daman & Diu declined by 710 in 2001 to 618 in 2011 and that of Dadra & Nagar Haveli declined from 812 to 775 and Lakshadweep 948 to 946 during the same period.

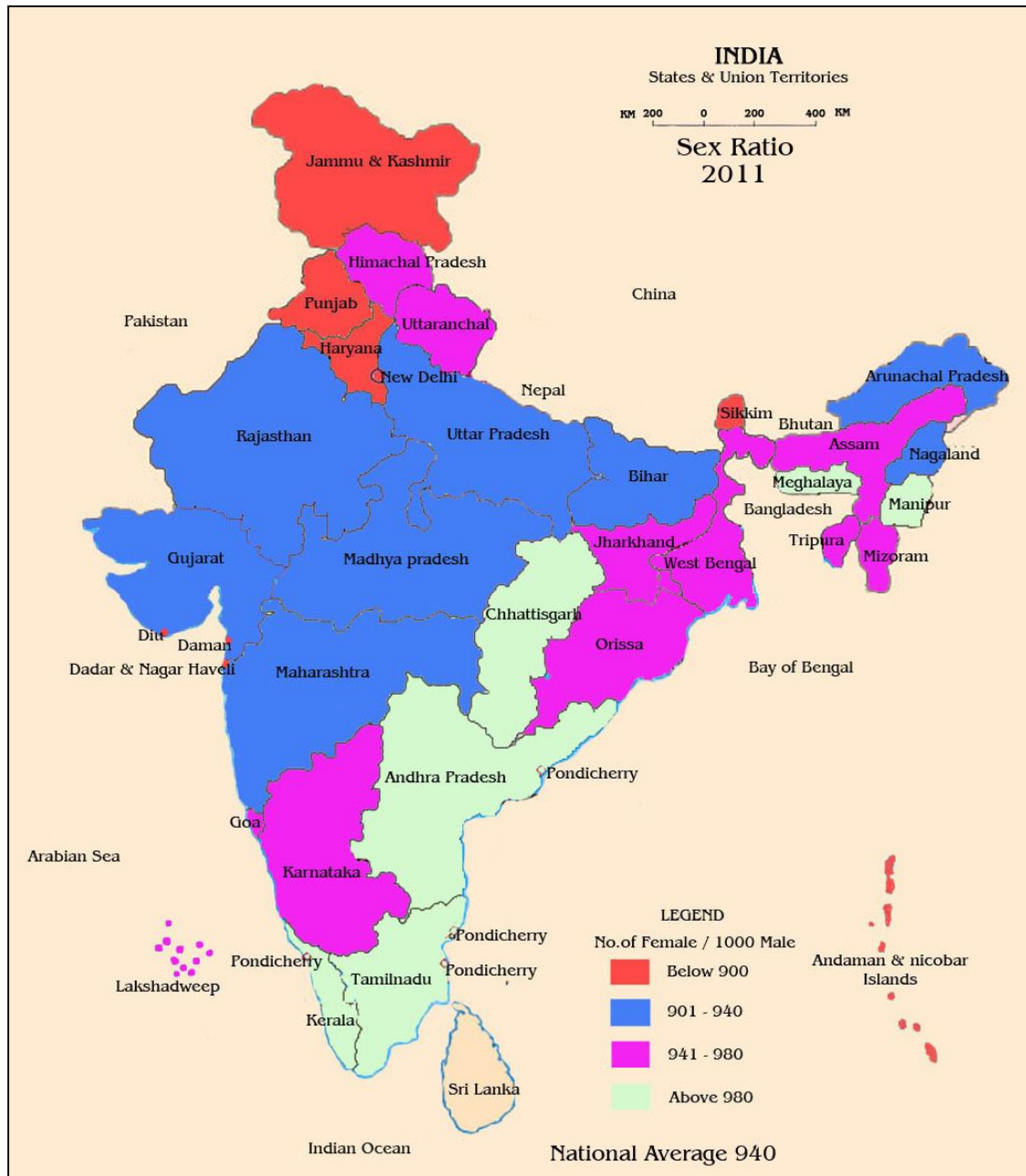


Figure 2

The paper has divided into four sex ratio region of India as per The Census 2011

- i. Very Low Region (Below 900)
- ii. Low Region(901-940)
- iii. Medium Region(940-980)
- iv. High Region(Above980)

i. Very Low Region (Below 900)

The lowest no. Of female per 1000 male are in the states of Haryana (887), Jammu and Kashmir(883),Punjab(893),Sikkim(889) and in the Union Territories are Andaman and Nicobar Island (878),Chandigarh(818) Dadar & Nagar Haveli(775),Daman and Diu(618),Delhi(866). Haryana is at the bottom out of the country, and Daman and Diu is the lowest out of the Union Territories. The Socio-Cultural factors and pre- birth sex determination seem to be responsible for the low sex ratio in this state. The sex ratio in Haryana and Punjab is only 877 and 893 respectively which may be because of the Socio-Cultural factors. Some of the demographers opine that the birth determination of sex is mainly responsible for the significantly low sex ratio in these two relatively more developed states of the country. The union Territories Delhi, Andaman & Nicobar and Chandigarh are low sex ratio due to highly urbanized and thus continue to attract male-selective migrant from rural to urban areas.

ii. Low Region (901-940)

The states having below level than the nation level sex ratio are Arunachal Pradesh (920), Bihar (916), Madhya Pradesh (930), Maharashtra (925), Nagaland (931) Rajasthan (926), Gujarat (918), Rajasthan (926) Uttar Pradesh (908), and no Union Territories are in this group. Male dominated society prevailed in most of these states and majority of the females in the rural areas are married before the legal age of 18 years. So all these states have experienced highest total fertility rate both in rural and urban areas. The male children are preferred to in every family. In these states most of the families the pregnant women are not provided with adequate and proper treatment. They become the prey of negligence.

iii. Medium Region(940-980)

The medium sex ratio of Indian states are

Assam(954),Goa(968),HimachalPradesh(974),Jharkhan(947),Karnataka(968),Mizoram(975),Orissa(978),Tripura(961),Uttarakhand(963),West Bengal(947) and the Union Territory Lakshadweep(946).The highest increase of sex ratio is recorded in Mizoram during 2001 to 2011 due to improvement in enumeration and empowerment of women.

iv. High Region (Above 980)

The high sex ratio prevailing Indian states are Andhra Pradesh (992), Chhattisgarh (991), Kerala (1084), Tamil Nadu (995), Manipur (987), Meghalaya (986) and the Union Territory Pondicherry (1038). The high sex ratio is an indicator of less discrimination against the females and low rate of female infanticides. Kerala with a sex ratio of 1048 females per thousand of males in the only major state which has excess of females. Kerala is one of the major Indian states which hold a place of dominance in providing sound health care infrastructure to its population. The state has made remarkable achievements in the field of education with high female literacy rate in comparison to any other state in the country. Kerala has successfully maintained its leading position in human development indices over the last 15 year. Other southern states Andhra Pradesh and Tamil Nadu have also made significant development in the field of human development.

2.3. Rural-Urban Sex Ratio of India (2011)

As regards to the sex ratio of urban and rural population of India, it presents contrasting different pattern in comparison to the western countries. The rural areas in India have a sex ratio of 947 females per 1000 thousand males and the urban areas have a sex ratio of only 926 females per 1000 males. Thus, the urban population of India is characterized by acute paucity of females. As observed earlier such rural- urban difference in the sex ratio of India are the product of sex selective migration from rural areas to urban areas. More males move from rural areas to urban areas in India than the females. The movement is governed by both push in the rural areas and pull from the urban areas. The increasing pressure of population upon the limited agricultural resource base in the countryside compels the rural males to move to urban areas in search of jobs and vocations. The costly living in urban areas compelled the males not to bring their families in their working places while the prevailing joint family system facilitates to reside females alone, whereby they are assured of the security and safety by their family members. Thus, it is largely the male selective migration from rural areas to its urban centres that increases the sex ratio in the countryside and decreases the same in the urban centres.

2.4. Religion Wise Sex Ratio in India (2011)

Similarly, there is difference in the sex ratio of various religious groups in India. For example, Christians in India exhibit the sex ratio of 994 and the Sikhs show the lowest sex ratio of 888 females per thousand males. The sex ratio of Hindus being 925 was more near to the national average. Muslim in India also shows a relatively low sex ratio of 930. How far these differences in the sex ratio of various religious groups are related to the differences in their natural sex ratio is difficult to assert owing to absence of relevant data. The excessively low sex ratio among the Sikhs many have its origin in the greater deficiency of females at birth. High female mortality rate among the Muslims may be responsible for their relative low sex ratio.

2.5. Social Group's Sex Ratio in India (2011)

Among the various social groups about which the data are available in India are the Scheduled Tribes and Scheduled Caste people. Interesting matter is that the Scheduled Tribe population has a high sex ratio in comparison to the general population. The sex ratio of the Scheduled Tribe population in India is recorded as 982 females per thousand males. It could be associated with various factors like high natural sex ratio, high male mortality among some of the tribes. Comparatively low female mortality rate may be on account of impact of Christianity. The Scheduled caste population has marginally low sex ratio in comparison to the sex ratio of general population. It had a sex ratio of 932 females per thousand males(1981).Their relatively low sex ratio may be associated with relatively high mortality rate among them.

2.6. District Wise Sex Ratio

According to the census 2011 in the district wise analysis 102 districts out of 640 districts in India where female sex ratio is higher than male. Top five districts with highest female sex are Mahe (1176) in poducherry, Almora (1141) in Uttarakhand, Kannur (1133) and Pathanamthitta (1128) in Kerala, Ratnagari (1122) in Maharashtra. On the other hand bottom five districts in India according to female sex ratio are Daman & Diu (533), Leh (583) in Jammu & Kashmir, Tawang (701) and West Kameng (755) in Arunachal Pradesh, North District (768) in Sikkim. The analysis of district wise child sex ratio of the Indian states and Union Territories reflects that Lahul and Spite district of Himachal has the highest child sex ratio of 1013 in 2011 followed by Baster district in Chhattisgarh which have sustained their position in maintaining high child sex ratio despite socio-economic backwardness of the state.

3. Child Sex Ratio of India (2011)

The Sex composition by age group especially the 0-6 years is vital for studying the demography of child population, its future patterns and particularly the status of the girl child. In the Census 2011, sex ratio of the population in the age group 0-6 years is registered as 914 in India, declining from 927 of 2001 census. According to the census of India 2011, rural & urban child sex ratio is 919 and 902 per 1000 male respectively. The child sex ratio in both Rural & Urban areas is negative in comparison with the national average.

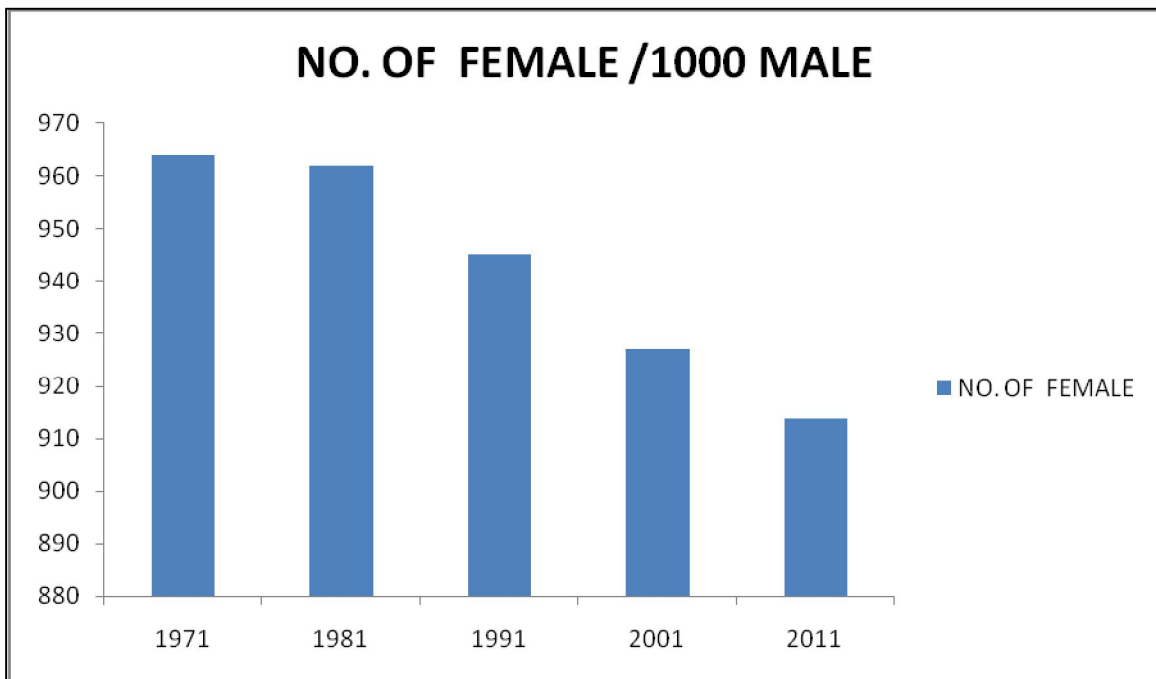


Figure 3: Temporal Fluctuation of Child Sex Ratio In India, 1971-2011

The temporal change in the sex ratio of states and union territory from 1901 to 2011 has been given in the following table-

State/Union Territory	2001	2011	Change(2001-2011)
Andhra Pradesh	961	943	-18
Arunachal Pradesh	964	960	-4
Assam	965	957	-8
Bihar	942	933	-9
Chhattisgarh	975	964	-11
Goa	938	920	-18
Gujarat	883	886	+3
Haryana	819	830	+11
Himachal Pradesh	896	906	+12
Jammu and Kashmir	941	859	-82
Jharkhand	965	943	-22
Karnataka	946	943	-3
Kerala	960	959	-1
Madhya Pradesh	932	912	-20
Maharashtra	913	883	-30
Manipur	957	934	-23
Meghalaya	973	970	-3
Mizoram	964	971	+7
Nagaland	964	944	-20
Orissa	953	934	-19
Punjab	788	846	+48
Rajasthan	909	883	-30
Sikkim	943	944	+1
Tamil Nadu	942	946	+4
Tripura	966	953	-13
Uttaranchal	908	886	-22
Uttar Pradesh	916	899	-17
West Bengal	960	950	-10
Andaman and Nicobar Island	957	966	+11
Chandigarh	845	867	-22
Dadar and Nagar Haveli	979	924	-55
Daman and Diu	926	909	-17
Delhi	868	866	-2
Lakshadweep	959	908	-51
Pondicherry	967	965	-2
India	927	914	-13

Table no.3 India: Child Sex Ratio (0-6 age group)

Source: Census of India 2001 & 2011

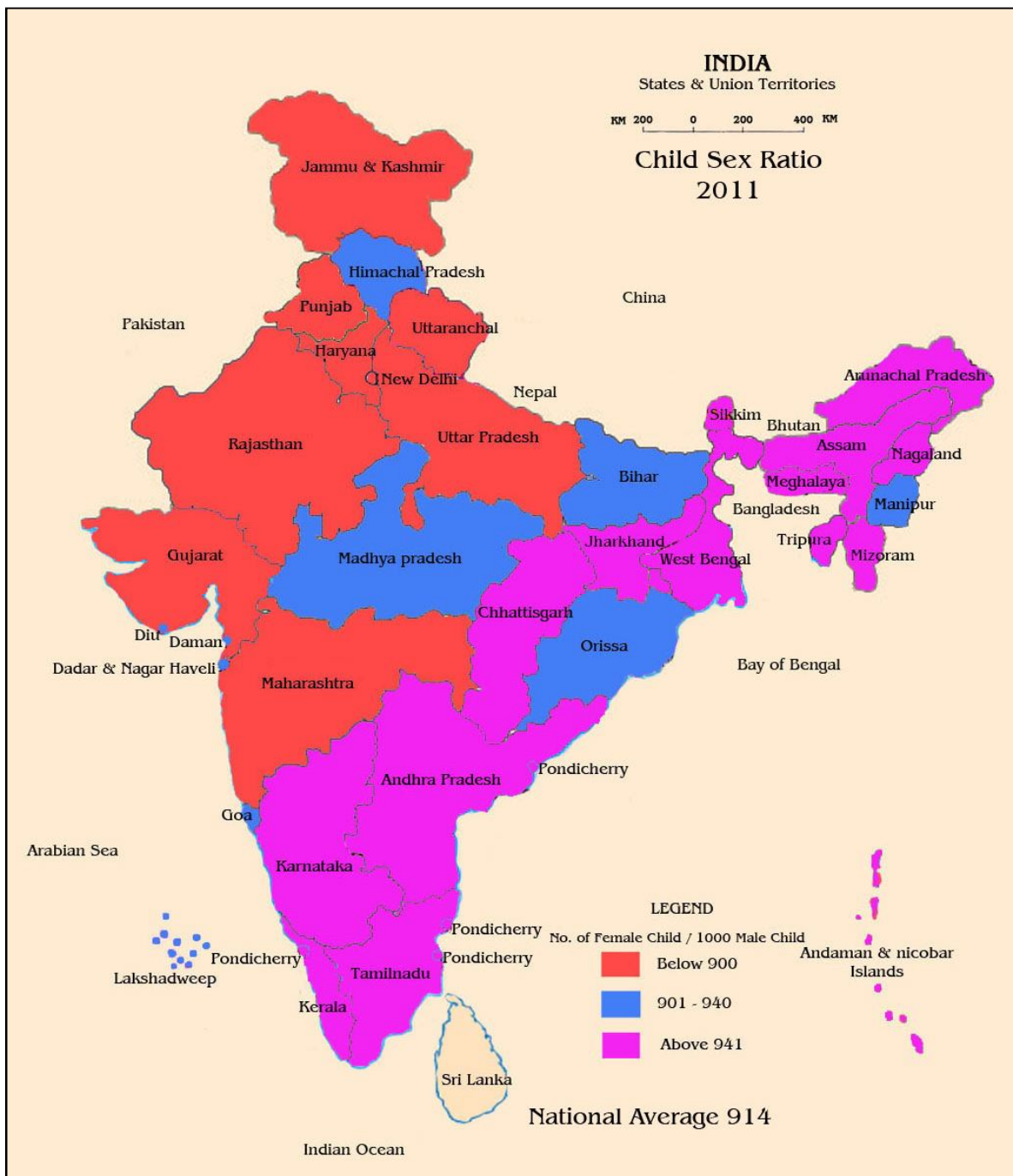


Figure 4

This paper has divided India into three Child Sex Ratio Regions –

I) Low Region (Below 900): Gujarat (886), Haryana (830), Jammu Kashmir (859), Maharashtra (883), Punjab (846), Rajasthan (883), Uttar Pradesh (899), Chandigarh (867), Delhi (866).

II) Medium Region (901-940): Bihar (933), Goa (920), Himachal Pradesh (906), Manipur (934), Orissa (934), Madhya Pradesh (912), Daman and Diu (924), Daman and Diu (909), Lakshadweep (908)

III) High Region (Above 941): Andhra Pradesh (944), Arunachal Pradesh (960), Assam (957), Chhattisgarh (964), Jharkhand (943), Karnataka (943), Kerala (959), Meghalaya (970), Mizoram (971), Nagaland (944), Sikkim (944), Tamil Nadu (946), Tripura (953), West Bengal (950), Andaman and Nicobar Islands (966), Pondicherry (909)

4. Major Findings

I. Sex ratio in India continues to be low on an average of 940 for the country as a whole, but this deficiency of females are more acute in the North than in the Peninsula.

- II. The North-South division based on Indo-Gangetic Plain and the peninsular India is most evident on the sex ratio figure-2 that Aryan north has comparatively lower sex ratios than the Dravidian south.
- II. The Tribal dominated states like the seven sisters of north-eastern India have exhibited a much sound demographic structure than other so called progressive states.
- II. The Non-Christian tribal areas of central India too display relatively higher sex ratio, which may have its explanation in their relatively higher male mortality due to leading more risky life.
- V. There is much difference in the regional patterns of rural general sex ratio and general sex ratio of urban.
- VI. It is evident that the sex ratio of Christians is very high comparing to Hindu and Muslim, and Sikhs show the lowest figure.
- VII. Out of the states in the country 4 states of Jammu & Kashmir (-17), Bihar (-16), Gujarat (-3) Uttaranchal (-1) and Union Territory- Daman and Diu (-19), Lakshadweep (-1) recorded decline in their sex ratio during 2001-2011.
- VIII. Child sex ratio in India is declining in all states and union territories except Gujarat, Haryana, Himachal Pradesh, Mizoram, Punjab, Sikkim, Tamil Nadu, Andaman and Nicobar Island.
- IX. Maximum declining rate reflecting states and union territories are Andhra Pradesh(-18),Goa(-18),Jammu and Kashmir(-18),Jharkhand(-22),Madhya Pradesh(-20),Maharashtra(-30),Manipur(-23),Nagaland(-20),Orissa(-19),Rajasthan(-30),Uttarakhand(-22),Chandigarh(-22),Dadar and Nagar Haveli(-55), Lakshadweep(-51).
- X. The states having high increase in general sex ratio are comprising of Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Goa, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Uttar Pradesh, West Bengal, Meghalaya, Chandigarh, Daman & Nagar Haveli, Delhi, Pondicherry but other hand recorded decline in their Child Sex Ratio.
- XI. Interestingly, Rajasthan, Chandigarh, Daman and Nagar Haveli have high increase in their general sex ratio and high fall their child sex ratio.
- XII. In Gujarat, Karnataka, Kerala, Meghalaya, Sikkim, Delhi, Pondicherry slightly fall in child sex ratio have been observed.
- XIII. The states of Bihar, Jammu and Kashmir, Uttarakhand, Daman and Diu, Lakshadweep are decline in both their general sex ratio and child sex ratio. But in Gujarat general sex ratio fallen down but improved in child sex ratio.
- XIV. It is evident from the fact that while the general sex ratio in India improved marginally from 933 to 940 during 2001 to 2011, the child sex ratio (0-6 age group) declined from 927 to 914

5. Conclusion

Thus the important salient feature of the India's sex ratio at the turn of new century is increase in sex ratio despite some incidence of female foeticide in some states. It has been possible due to significant decline in female mortality rate in most of the states. No wonder 24 out of 28 states in the country recorded improvement in their general sex ratio during 2001-2011. But the negative pictures occurred in the case of child sex ratio of India in during 2001 to 2011. The high negative changes occurred in 21 out of 28 states. Keeping in view the above analysis, it is imperative that in order to save the country from the negative impact of declining sex ratio, all segments of Indian society, all political parties together shall have to find solution to this problem. Only then the Indian society could be saved from the serious adverse effects of declining sex ratio. Adequate advertisement and campaign should be done by the Central government and State government as well to equalize the sex ratio of the nation. In fine, our slogan ought to be –'Male or Female we are human'

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