ECONOMIC ANALYSIS OF SEX-RATIO IN MAHARASHTRA STATE FROM 1951 TO 2011:A STUDY

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ABSTRACT

Women are universally regarded as the backbone of human life on Earth, and they are the sole carriers of human life and civilization. Their importance cannot be ignored. However, they do not have the same level of equality and independence as men in society. Their decisions and lives are regulated by men in society. Having a girl child in a country like India is not a good sign for the couple. Society expects a male child. On the other hand, the child sex ratio was 913 in 2001, which has declined to 894 in 2011. This resulted in a decline in the sex ratio time by time. The present analysis highlights the disparities in sex-ratio in Maharashtra. The provisional data in the 2011 census showed that the overall sex ratio was down to 940 females per 1000 males against 922 females per 1000 males in 2001. This paper attempts to analyse the trends and spatial patterns of general sex ratio as well as child sex ratio and determine their impact on Maharashtra society.

Keyword: Sex ratio, Census, Child sex ratio, Gender decimation Maharashtra, women economics status.

Introduction:

The sex ratio is an important social characteristic that is directly related to the incidence of literacy, birth, death, and marriage**.** The sex ratio is a powerful indicator of the social health of any society and **is a** sensitive indicator of women's status as it conveys a great deal about the state of gender relations, especially in terms of women's health and position in any society, in a highly sexist, gender-discriminatory social order. It demonstrates how much asymmetrical social placement and artificial interventions have distorted the biological trend and natural balance in terms of the number of females per 1000 males.

The Noble laureate economist**,** Amartya Sen, has coined the term "Missing Women" to describe the growing deficit of women in the world. Referring to the massive decaling in the sex ratio in the whole world**,** especially in Asia, he concludes that 100 million women are missing from the population totals of seven nations. He also noted that while the overall sex ratio for females in China, India, and South Korea has marginally improved**,** the alarming fact is that the sex ratio for female children in these countries is actually deteriorating because they have been showing a deficit of females for a long

time and still this ratio is in favour of men and the proportion of women has continuously been declining. In most parts of the globe, fewer females are born than males, yet females, as compared to their male counter-parts, typically survive longer to exceed the males numerically at any given point of time. However, this demographic attribute eludes India, where males decisively out-number females and women constitute less than half of the total population. The Indian subcontinent represents the extreme manifestation of adverse female to male sex ratios in South Asia.

An imbalance in the sex ratio, i.e., a gap between the number of females and males, generates a lot of economic, social, and ethical problems. The decline in the sex ratio has piqued the interest of economists as well as scholars working in other fields such as sociology, gender studies, history, and medicine, bringing together perspectives from these disciplines. Sociological and economic research has concentrated on analysing the reasons for the low and declining sex ratio. Demographers have focused on the number of "missing women", pointing to fertility decline and son preference as causes; sociologists have analysed son preference in terms of the low status of women, caused by social practises of hypergamous and exogamous marriage systems; and economists have focused on lower labour force participation and the consequent need for dowry as compensation. Females are 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, such as support to parents in old age, continuing the lineage, inheriting property, etc., while daughters are constructed as being dispensable and as a net drain on parental resources in patrilineal and patrilocal communities.

The decline in sex ratio is an issue of great concern as it shows that our society is still dominated by patriarchal values, beliefs, and practices, manifesting itself in the form of discrimination against females. Concern over the declining trends in sex ratios has been voiced in the Indian Census reports. The 2011 Census has exposed some noteworthy and perturbing features with regard to the sex ratio. It has not only stayed low but has actually deteriorated. The sex ratio in Maharashtra is 922 females per thousand males as per the 2011 census, against 934 in 2001.

The sex ratio of Maharashtra has been continuously changing since independence, from (941) in 1951 to (922) in the 2011 census. On the other hand, the child sex ratio within the age group of 0–6 years is gradually declining from 981 in 1961 to 894 in the 2011 census. This declining trend was observed in regions where the ratios had been sound. Developed states even recorded steeper falls. Literacy and economic development have resulted in sharper change.

Objectives
The main objectives of the present study are:
  (i)   To bring into limelight the trend and pattern of sex ratio in Maharashtra as well as across its districts;
  (ii)   Investigate the possible causes and consequences of the sex ratio decline; and
  (iii)   To make recommendations to planners and policymakers on how to address the state of Maharashtra's declining sex ratio.

Data base and Methodology
The present study is based on secondary sources such **as the** Census of India, National Family Health Surveys, and other governmental and non-governmental reports. It is an advantage **that the** latest

database regarding sex **ratios** at state and district level is available for analysis. The data **has** been analysed for sex ratio as the number of females per 1000 males. The sex ratio is calculated by using the formulae,

$$\text{Sex Ratio} = \frac{\text{Female Population}}{\text{Male Population}} * 1000$$

As far as the economic analysis of the variation in sex ratio in the state of Maharashtra is concerned, statistics in terms of measures of central tendency such as minimum, maximum, average, standard deviation, and coefficient of variation are calculated across both districts and decadal censuses. However, it is the coefficient of variation. The changing sex ratio trend is explained by an increase or decrease in the number of females across census decades. A decline or fall in the sex ratio is defined as a decrease or decrease in the number of females per thousand males, whereas an improvement/increase or positive trend in the sex ratio is defined as an increase in the number of females per thousand males. In the present study, patterns and changing trends in sex ratio are discussed in terms of overall sex ratio. To explain the trend in sex ratio, figures are calculated by subtracting the figures of the current census year from the preceding census year, and the decline in sex ratio is made explicit as numbers with a negative sign, whereas the increase in the same with a positive sign. However, as far as economic distribution of the decline in sex ratio is concerned, analysis of the trend is explained not only at the divisional level but also at the district level across its rural and urban areas. Though the Census of India has not fully released all the census data, the information provided is sufficient for exploring the pattern and trend in sex ratio in Maharashtra. Furthermore, data from the National Family Health Survey of India and Maharashtra along with the District Level Household Survey has also been used in support of arguments regarding the causes of the decline in sex ratio. The paper is descriptive, analytical, and economic in nature.

Area under study

Maharashtra is a state in western India that is India's second-most populated and third-largest by area. Spread over 307,713 km2, it is bordered by the Arabian Sea to the west and the Indian states of Karnataka, Telangana, Goa, Gujarat, Chhattisgarh, Madhya Pradesh and the Union territory of Dadra and Nagar Haveli. It is also the world's second-most populous subnational entity. It has over 112 million inhabitants, and its capital, Mumbai, has a population of approximately 18 million. Nagpur is Maharashtra's second capital as well as its winter capital, while Pune is regarded as its cultural capital. On May 1, 1960, the Indian state of Maharashtra was established. It is also known as Maharashtra Day and was first observed by 26 districts. Since then, ten new districts have been established, bringing the total number of districts in the state to 36.

As per details from Census 2011, Maharashtra has a population of 11.24 crores, an increase from the figure of 9.69 crores in the 2001 census. According to the 2011 census, the total population of Maharashtra is 112,374,333, with 58,243,056 males and 54,131,277 females. In 2001, the total population was 96,878,627, of which males were 50,400,596 and females were 46,478,031. The total population growth in this decade was 15.99 percent, while in the previous decade it was 22.57 percent. In 2011, Maharashtra constituted 9.28 percent of India's population. In 2001, the figure was 9.4 percent. The total area of Maharashtra is 307,713 sq. km. The density of Maharashtra is 365 per sq

km, which is lower than the national average of 382 per sq. km. In 2001, the density of Maharashtra was 315 per sq. km, while the national average in 2001 was 324 per sq. km.

Map – 01

Trends of Over All Sex Ratio and Child Sex Ratio in Maharashtra

Sex composition refers to the balance between males and females in any population. It can be expressed as a ratio between the populations of the two sexes. A sex ratio is defined as the number of females per thousand males in a human population. The sex ratio of Maharashtra has been continuously changing since independence, from (941) in 1951 to (922) in the 2011 census. Child sex ratios are a better indicator of women's position because they are less likely to be influenced by sex-selective migration trends. Bias against girls is an evident example of female infanticide and feticide. It is an important reason that in Maharashtra, the child sex ratio between the age groups of 0–6 years is gradually declining from (981) in 1961 to (894) in the 2011 census. The child sex ratio is a sensitive indicator which shows the status of girl children.

Table No. 01: Over All Sex Ratio and Child Sex Ratio in Maharashtra

Year	Over all Sex ratio in Maharashtra	Over all Sex ratio in India	Child Sex ratio in Maharashtra	Child all Sex ratio in India
1951	941	946		983
1961	936	941	981	976
1971	930	930	978	964
1981	937	934	956	962
1991	930	927	946	945
2001	934	933	913	927
2011	922	940	894	914

Source: Census of India, 1951- 2011

Table 1 shows that sex ratios in Maharashtra and India have both experienced a huge fluctuation from 1951 to 2011. In 1951, the sex ratio of India was 946, but in 1961 and 1971 it showed a declining

trend, and in1991 it recorded the lowest sex ratio of 927. In 1991–2011, the sex ratio again increased from 927 to 940. Since 1951, the sex ratio in Maharashtra has been continuously declining. In1951 it was 941 and in 2011 it was 922. The sex ratio was never improved. The child sex ratio in India as well as in Maharashtra has a declining trend. In1971 it was 964 and in 2011 it was 914 for India, while for Maharashtra it was 978 and 894 respectively.
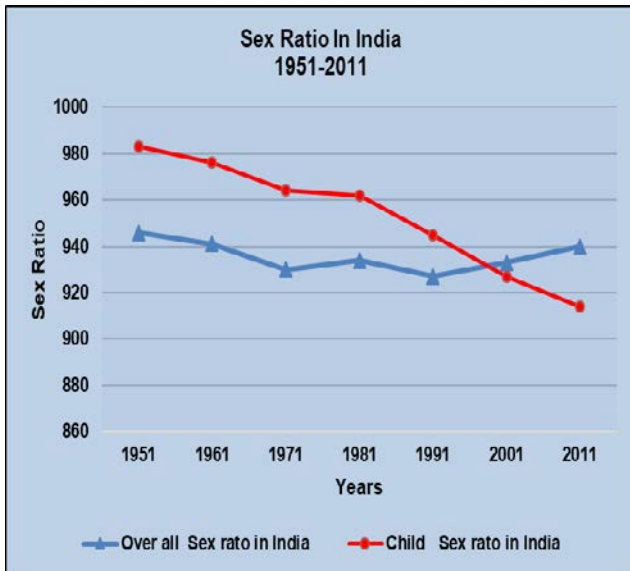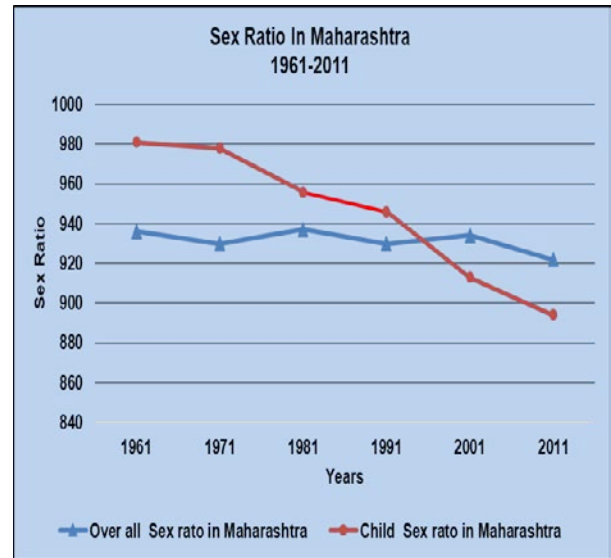

Diagram 01

Diagram 02

Sr. No.	Districts	Trends of Over All Sex Ratio							Trends of Child Sex Ratio	
		1951	**1961**	**1971**	**1981**	**1991**	**2001**	**2011**	**2001**	**2011**
1	Ahmadnagar	971	962	956	959	949	940	934	884	852
2	Akola	953	926	931	939	934	938	942	933	912
3	Amravati	958	933	931	936	936	938	947	941	935
4	Aurangabad	974	955	935	936	922	925	917	890	858
5	Beed	957	969	954	965	944	936	912	894	807
6	Bhandara	1005	993	984	989	980	981	984	956	950
7	Buldana	981	959	954	957	953	946	928	908	855
8	Chandrapur	994	979	963	959	948	948	959	939	953
9	Dhule	968	961	948	954	945	944	941	907	898
10	Gadchiroli	1000	998	986	981	976	976	975	966	961
11	Gondiya	1004	1000	989	1004	995	1005	996	958	956
12	Hingoli	989	975	968	966	952	953	935	927	882
13	Jalgaon	971	957	948	950	940	933	922	880	842
14	Jalna	976	970	959	970	958	951	929	903	870
15	Kolhapur	964	961	953	962	961	949	953	839	863

Table caption (above table): **Table 2: District wise Trend of Sex Ratio in Maharashtra (1951-2011)**

16	Latur	947	950	942	959	942	935	924	918	889
17	Mumbai	574	626	670	729	791	777	838	922	914
18	Mumbai (Suburban)	712	744	769	801	831	822	857	923	913
19	Nagpur	956	929	922	924	922	932	948	942	931
20	Nanded	983	970	955	960	945	942	937	929	910
21	Nandurbar	973	975	968	982	975	977	972	961	944
22	Nashik	956	946	940	937	940	927	931	920	890
23	Osmanabad	948	948	947	958	937	932	920	894	867
24	Parbhani	974	969	954	968	954	958	940	923	884
25	Pune	939	944	933	937	933	919	910	902	883
26	Raigarh	1040	1058	1056	1046	1010	976	955	939	935
27	Ratnagiri	1239	1264	1263	1258	1205	1136	1123	952	936
28	Sangli	968	957	949	967	958	957	964	851	867
29	Satara	1051	1047	1037	1061	1029	995	986	878	895
30	Sindhudurg	1200	1194	1213	1205	1137	1079	1037	944	922
31	Solapur	945	936	933	942	934	935	932	895	883
32	Thane	920	919	894	883	879	858	880	931	924
33	Wardha	983	964	949	948	939	935	946	928	919
34	Washim	971	956	957	963	946	939	926	918	863
35	Yavatmal	989	972	961	958	951	942	947	933	922

Source: Census of India, 1951-2011

Table no. 2 shows the district wise sex ratio in Maharashtra from 1951 to 2011. According to the 1951 census, Ratnagiri, Sindhudurg, Gondiya, Satara, Bhandara, Gadchiroli, and Raigad districts have the highest sex ratio. In short, the sex ratio of these districts is more than 1000. In contrast, according to the 1951 census, the lowest sex ratio was recorded in Mumbai, the Mumbai suburbs, and Pune. At the same time, it appears that the districts with the highest sex ratio have changed and are still relatively higher than other districts. In short, the districts with the highest sex ratios do not appear to have changed much, but the districts with the lowest sex ratios as per the 1951 census have not seen much change in the last fifty years. According to the 2001 and 2011 censuses, this is showing positive changes. In other words, the sex ratio of low-sex districts has been gradually increasing over the last 20 years.

According to the 2011 census, Maharashtra has a child sex ratio of 884. According to the 2011 census, Gadchiroli district in Maharashtra has the highest child sex ratio at 961, while Beed district has the lowest sex ratio at 807. According to the 2011 census, some districts in Maharashtra have the highest child sex ratio. Gadchiroli, Gondia, Chandrapur, Bhandara, Ratnagiri, and Raigad districts have the highest sex ratio. According to the census, the districts with the lowest sex ratio are Beed, Jalgaon, Ahmednagar, Buldhana, Aurangabad, Wasim and Kolhapur. (Map 3)

Spatial Pattern of Sex Ratio of Maharashtra 2011

The sex ratio is one of the socioeconomic characteristics of a population in any country or state, and this socioeconomic variable can be affected by changes in the socioeconomic conditions of a particular region at a specific time and over time. It is necessary to have a look at the pattern of its distribution and variation across the districts in a particular decadal census as well as across decadal censuses in a particular district of the state of Maharashtra.

According to the 2011 census, the sex ratio in Maharashtra was 941 females for every thousand males. But the district level sex ratio varies from district to district and ranges from 900 to 1000. All 35 districts of Maharashtra are divided into three categories as follows: (Map no.2)
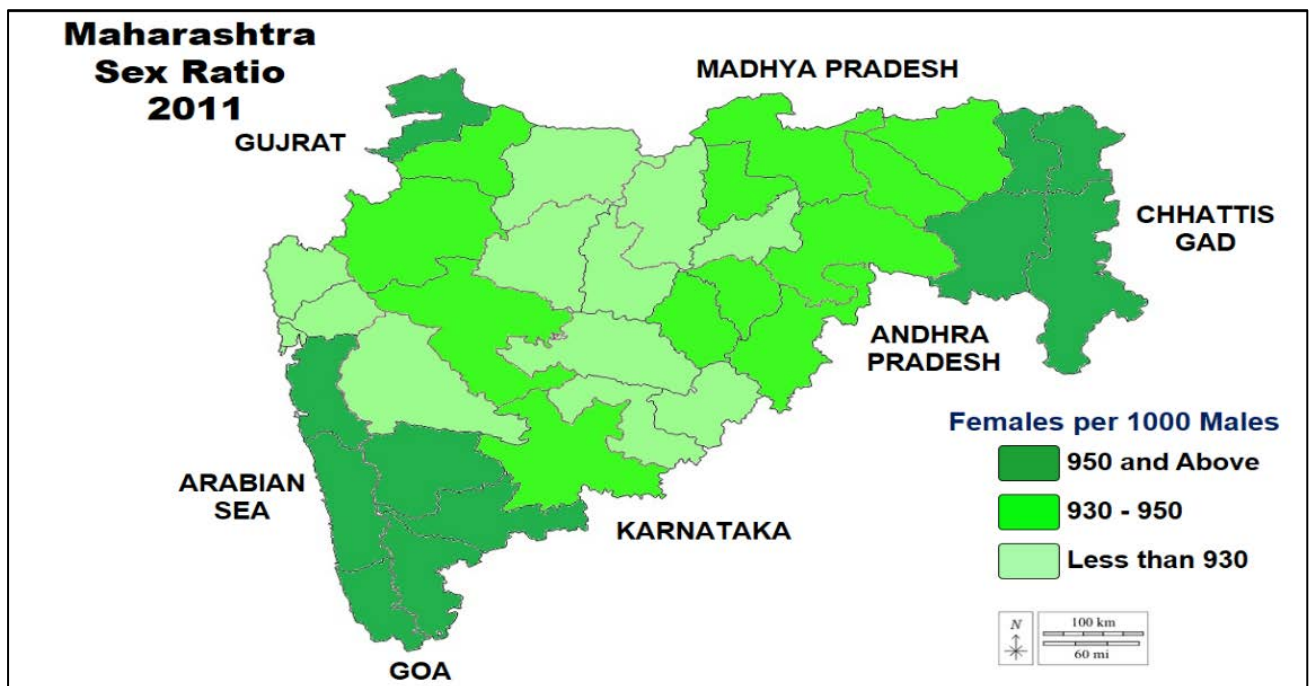
High Sex Ratio

The districts which have **a**sex ratio of above 950 are included in this category. A high sex ratio was recorded in the districts (11) of Ratnagiri, Sindhudurg, Gondiya, Satara, Bhandara, Gadchiroli, Nandurbar, Sangli, Chandrapur, Raigarh, and Kolhapur.

Moderate Sex Ratio

The districts which have a sex ratio ranging from 930 to 950 are included in the moderate category. A moderate sex ratio was recorded in the districts (12) of Nagpur, Amravati, Yavatmal, Wardha, Akola, Dhule, Parbhani, Nanded, Hingoli, Ahmadnagar, Solapur and Nashik.

Low Sex Ratio

The districts (13) which have a sex ratio of below 930 are included in this category. The districts of Jalna, Buldana, Washim, Latur, Jalgaon, Osmanabad, Aurangabad, Beed, Pune, Thane, Mumbai (Suburban) and Mumbai recorded the lowest sex ratio in Maharashtra.

Map – 02
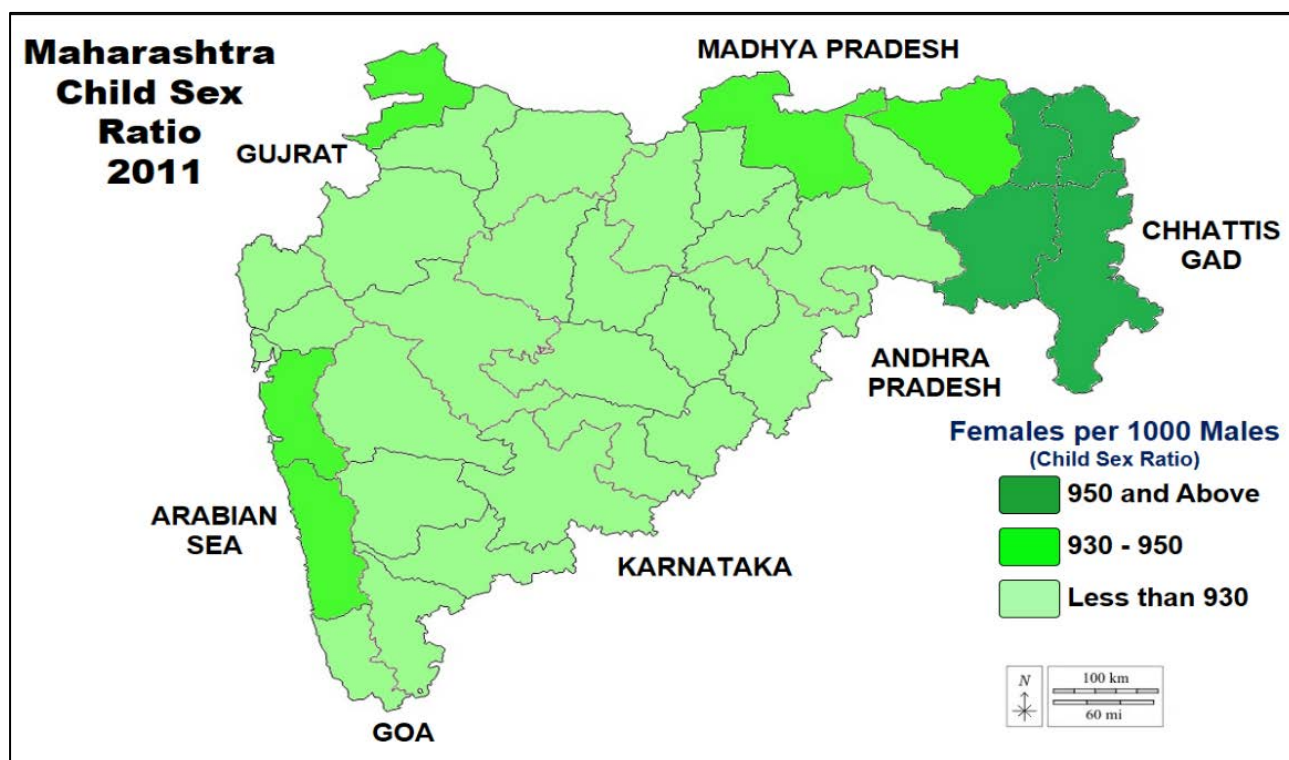
Map- 03

Decadal Variation of Rural- Urban Sex Ratio in In Maharashtra, 1951-2011

From 1951 to 2011, the rural sex ratio **was** always greater than the urban sex ratio, and the difference between the rural-urban sex ratios is also high. In the year 2011, the difference in rural-urban sex ratio was at its minimum, which is a good sign of improvement in the history of sex ratio in Maharashtra.

Table 3: Decadal Variation of Rural-Urban Sex Ratio Maharashtra.

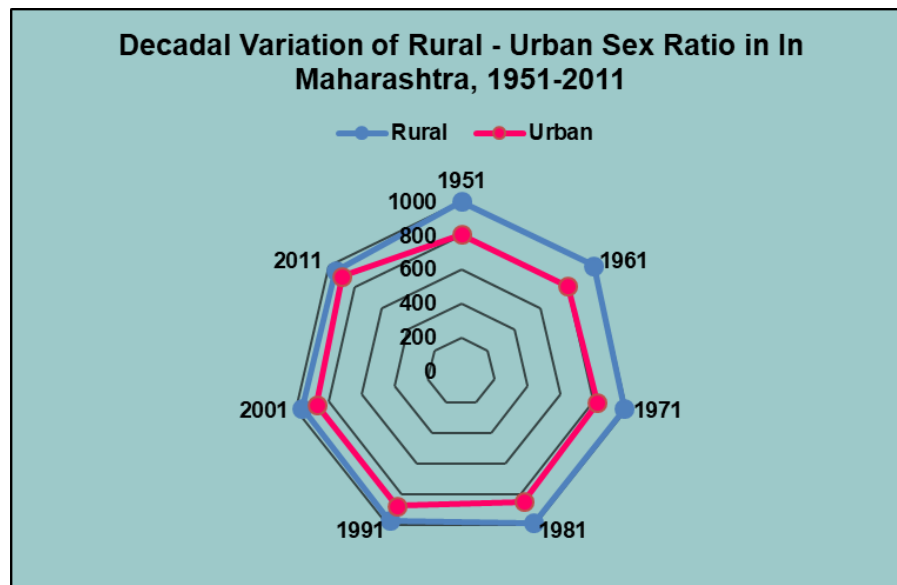| Table 03 : Decadal Variation of Rural- Urban Sex Ratio in In Maharashtra, 1951-2011		
Year	**Sex Ratio (Number of Female / 1000 Male)**	
	Rural	**Urban**
1951	1000	807
1961	995	801
1971	985	820
1981	987	850
1991	972	875
2001	960	873
2011	948	899

Source: Census of India, 1951-2011

Diagram 03

Rural and Urban Child Sex Ratio in Maharashtra, 2001 & 2011

Table 4 shows that the child sex ratio in Maharashtra has decreased to 883 in 2011 from 913 in the 2001 census. The district level rural-urban child sex ratio varies from district to district. According to the 2001 census, five districts in Maharashtra have the highest sex ratio. These include Gadchiroli, Nagpur, Gondia, Bhandara, and Ratnagiri districts. There are eight districts in the moderate sex rato, mainly Sindhudurg, Nagpur, Amravati, Chandrapur, Raigad, Akola, Yavatmal, and Thane. The Low Sex Ratio covers a total of 22 districts, including Nanded, Wardha, Hingoli, Parbhani, Mumbai Suburban, Mumbai, Nashik, Latur, Washim, Buldhana, Dhule, Jalna, Pune, Solapur, Osmanabad, Beed, Aurangabad, Ahmednagar, Jalgaon, Satara, Sangli, and Kolhapur. According to the 2001 census, Maharashtra has a total child sex ratio of 913, with rural 916 and urban 908. Compared with the overall average of Maharashtra, it is noticed that there are 21 districts with a higher sex ratio than the total average of Maharashtra, and the remaining 14 districts have a lower sex ratio than the overall average of Maharashtra.

According to the 2011 census, the average child sex ratio in Maharashtra is 883. In short, it has declined since the 2001 census. According to the 2001 census, Gadchiroli, Gondia, Chandrapur, and Bhandara have the highest sex ratio. The moderate sex ratio covers a total of five districts. These are Nandurbar, Ratnagiri, Raigad, Amravati, and Nagpur. The Low Sex Ratio covers a total of 26 districts, mainly Thane, Sindhudurg, Yavatmal, Wardha, Mumbai, Mumbai Suburban, Akola, Nanded, Dhule, Satara, Nashik, Latur, Parbhani, Solapur, Pune, Hingoli, Jalna, Sangli, Aurangabad. Osmanabad, Kolhapur, Washim, Buldhana, Ahmednagar, Jalgaon, and Beed. According to the 2011 Maharashtra census, the rural child sex ratio is relatively higher than the urban sex ratio. Overall, Maharashtra's sex ratio was lower in 2011 than in the 2001 census. The study concludes that some of these important factors may be responsible for reducing child sex. The main causes of the declining child sex ratio are female foeticide, son preference, and gender inequality. The sharp decline in child sex ratio is a dangerous symbol of the girl child's deficit. It has shown an alarming sign of inequality in child population. The deficit in girl child population, leads to serious demographic imbalance and difficult social consequences.

State/District Code	State/District	Child Sex Ratio (0-6 Years) 2001			Child Sex Ratio (0-6 Years) 2011		
		Total	Rural	Urban	Total	Rural	Urban
1	2	2	3	4	5	6	7
	MAHARASHTRA	913	916	908	883	880	888
1	Ahmadnagar	884	887	872	839	837	848
2	Akola	933	937	926	900	907	890
3	Amravati	941	946	932	927	937	909
4	Aurangabad	890	893	886	848	844	854
5	Beed	894	893	895	801	789	848
6	Bhandara	956	958	942	939	944	915
7	Buldana	908	914	887	842	841	847
8	Chandrapur	939	957	900	945	958	919
9	Dhule	907	917	875	876	882	859
10	Gadchiroli	966	967	938	956	961	918
11	Gondiya	958	961	937	944	947	927
12	Hingoli	927	929	914	868	868	866
13	Jalgaon	880	885	867	829	830	827
14	Jalna	903	902	909	847	839	883
15	Kolhapur	839	842	831	845	842	852
16	Latur	918	921	906	872	874	867
17	Mumbai (Suburban) *	923	-----	923	910	-----	910
18	Mumbai *	922	-----	922	874	-----	874
19	Nagpur	942	955	933	926	936	920
20	Nanded	929	929	927	897	903	882
21	Nandurbar	961	971	895	932	941	878
22	Nashik	920	930	904	882	883	880
23	Osmanabad	894	894	892	853	852	856
24	Parbhani	923	929	908	866	859	883
25	Pune	902	904	900	873	861	880
26	Raigarh	939	946	914	924	937	903
27	Ratnagiri	952	957	914	940	942	928
28	Sangli	851	850	854	862	861	863
29	Satara	878	881	854	881	883	871
30	Sindhudurg	944	945	930	910	913	894
31	Solapur	895	888	912	872	861	897
32	Thane	931	966	915	918	953	905
33	Wardha	928	938	897	916	925	897
34	Washim	918	913	943	859	857	869
35	Yavatmal	933	937	911	915	922	885

Table 4: Rural and Urban Child Sex Ratio in Maharashtra (2001 & 2011)

Rural and Urban Child Sex Ratio in Maharashtra, 2001 & 2011

* Mumbai and Mumbai (Suburban) are entirely urban districts.
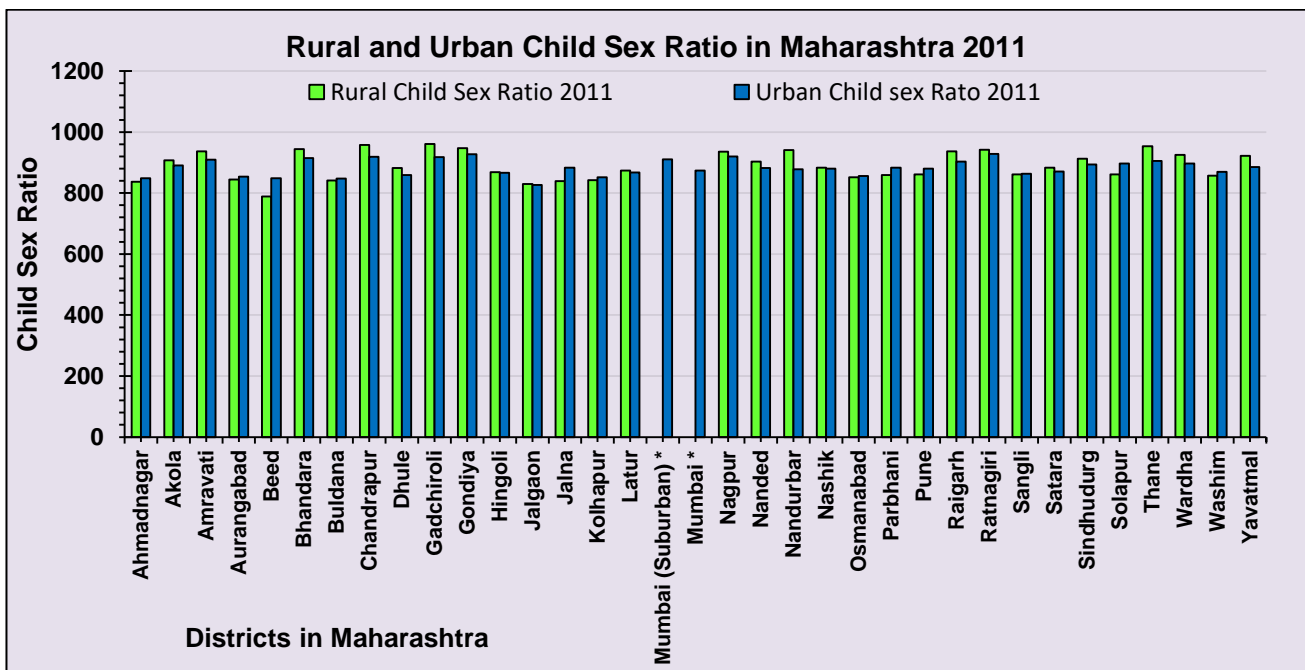
Source: Census of India 2001 & 2011

Diagram 04

* Mumbai and Mumbai (Suburban) are entirely urban districts.

Impact of Declining Sex Ratio in Maharashtra:

1. Early marriage of females before the legal age of 18 increases fertility and population growth.They conceive repeatedly for the desire of a son, which adversely affects their health.
2. Malnutrition and iron deficiency anaemia are the common causes of nutritional deficit among children where the frequency of child bearing is high among mothers.
3. In 2011, the child sex ratio in Maharashtra was 894, which was 981 in 1961. Son preference is a main culprit for the declining child sex ratio, which creates a male-dominating society. This society is characterised by social instability and violence against women.
4. Female foeticide is the main cause of the declining child sex ratio. It is an alarming and dangerous symbol of gender inequality in our child population, which creates a serious demographic imbalance in our society.

Conclusion

In Maharashtra, the only urban sex ratio has improved while the child sex ratio has declined from 1961 to 2011. In the majority of the districts, the child sex ratio has drastically declined. Son preference is a main culprit for the declining child sex ratio. Despite legal prohibitions and incentive-based schemes provided by the state and union governments and different non-government organizations, our society's intention does not change that a girl child should not be born. This gender inequality creates serious demographic and economic imbalance in our society. Which emerges social instability against women's violence like rape, prostitution, female foeticide, sex-selective abortion, trafficking of a girl child, marital rape etc. Education and empowerment of women are the only ways to balance the demographic and economic structures within our society.

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