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Chapter 6

Sex Composition of the Population



Sex Composition of the Population

Sex composition of the human population is one of the basic demographic characteristics, which is extremely vital for any meaningful demographic analysis. Indian Census has the tradition of bringing out disaggregated information by sex on various aspects of population. The first and foremost is the simple count of males and females. Changes in sex composition largely reflects the underlying socio-economic and cultural patterns of a society in different ways. Sex ratio defined here as the number of females per 1000 males in the population, is an important social indicator to measure the extent of prevailing equity between males and females in a society at a given point of time. It is mainly the outcome of the interplay of sex differentials in mortality, sex selective migration, sex ratio at birth and at times the sex differential in population enumeration.

Statement 17

Sex ratio of selected countries

Sl. No	Country	Sex ratio (females per 1,000 males)
1	2	3
	World	986
1	China	944
2	India	933
3	U.S.A.	1,029
4	Indonesia	1,004
5	Brazil	1,025
6	Pakistan	938
7	Russian Fed.	1,140
8	Bangladesh	953
9	Japan	1,041
10	Nigeria	1,016

Source:

World Population Prospects (mid year estimates) 1998 revision, Volume 2, Sex and Age, United Nations.

It is natural for an ordinary person to believe that males and females in the population exactly balance each other. Little do they know, how imbalanced the sexes are in different populations across the world. It has been estimated that around the year 2000, the world had 986 females against 1000 males. Statement 17 and Figure 10 present the global sex ratio and that of the ten most populous countries in the world as estimated for the year 2000. It is evident from this statement that except Indonesia and Japan, the other Asian countries show low sex ratios. The sheer weight of the population of these four Asian countries with low sex ratio appears to be largely responsible for the overall preponderance of males over females in the world.

The trends in sex ratio of a few selected countries for the period 1950-2000 are shown in Figure 11. It is interesting to note that the sex ratio in U.S.A., Indonesia, Russian Federation and Japan has always remained above unity for the last half a century. The most dramatic decline of about 200 points in the sex ratio is seen in the Russian Federation. In U.S.A., it has shown as improvement from 1002 to 1029 in the last fifty years. Bangladesh has shown a continuous improvement in its sex ratio to reach from 880 in 1950 to 953 in 2000. Pakistan and China have also shown an improvement. Thus among the major nations of the world, India is the only exception.

According to the Census of India, 2001, the sex ratio stands at 933 for the country as a whole. This is a welcome improvement from the 1991 Census, which had recorded 927 females for every 1000 males. Statement 18 and Figure 12 present the trend in sex ratio in India since 1901. The sex ratio in the country had always remained unfavourable to females. Moreover, barring some hiccups, it has shown a long term declining trend. The sex ratio at the beginning of the twentieth century was 972 and thereafter showed continuous decline until 1941. In 1951 there was a marginal increase of one point, but thereafter it again dropped for two consecutive decades to reach 930 in 1971. In fact, between 1961-71, the country saw the sharpest decline of 11 points in the sex ratio. Thereafter, it has fluctuated marginally around 930 in successive censuses.

Statement 18

Sex ratio, India : 1901 – 2001

Census year	Sex ratio (females per 1,000 males)
1901	972
1911	964
1921	955
1931	950
1941	945
1951	946
1961	941
1971	930
1981	934
1991	927
2001	933

Note:

1. For 1991, the interpolated figures for Jammu and Kashmir have been used.
2. While working out the sex ratio for India for the year 2001, the estimated population of entire Kachchh district, Morvi, Maliya-Miyana and Wankaner talukas of Rajkot district, Jodiya taluka of Jamnagar district of Gujarat State and entire Kinnaur district of Himachal Pradesh have been used as the population enumeration of Census of India, 2001 could not be conducted in these areas due to natural calamities.

Table 10 gives the trends in sex ratio for past hundred years in respect of all the States and Union territories, except Arunachal Pradesh, for which data is not available from 1901 to 1951. The trends in sex ratio for some of the major States are also depicted in Figure 13 as line graphs. In 1901, there were as many as eleven States and Union territories that had sex ratio of more than unity. Among these, except Kerala all other States and Union territories have shown a downward slide. The major States that are largely responsible for the decline in the overall sex ratio in India are Uttar Pradesh, Bihar, Jharkhand, Orissa, Chhatisgarh, Madhya Pradesh, Gujarat, Maharashtra and Tamil Nadu. Although the sex ratio in Punjab has been consistently low, it has shown a long-term upward trend and has not contributed to the overall deterioration in sex ratio of the country. In Rajasthan, the sex ratio kept fluctuating in a narrow band and always remained at a low level. Haryana, Andhra Pradesh and Karnataka are the States where the sex ratio has remained more or less stagnant. In West Bengal the sex ratio declined sharply from 1901 to 1941 and then made a gradual turnaround on an upward path to reach 934 in 2001.

The sex ratio of Indian population has always been of topical interest for the demographers, social scientists, women's groups, research scholars and various planners and policy makers. Why is it that India has such uneven composition of population as compared to most of the developed countries in the world? Several reasons are adduced to explain the consistently low levels of sex ratio and their further decline in the country. Some of the important reasons commonly put forward are listed below:

- Neglect of the girl child resulting in their higher mortality at younger ages
- High maternal mortality
- Sex selective female abortions
- Female infanticide
- Change in sex ratio at birth

The imbalance in the number of males and females begins in the beginning. It is now a well-established law of nature that the males exceed females at the time of birth. It is believed that generally 943-952 female births take place for every 1000 male births, which in effect would mean that there is a deficiency of about 50 females per 1000 males in every birth cohort. Many demographers believe that left on its own, this is an unalterable constant.

Some likelihood of differential under registration of female births over time notwithstanding, the data on sex ratio at birth for the past many years as obtained from the SRS is indicative of a larger than usual shortfall in female births as compared to male births. The three years moving average sex ratio at birth worked out for India as a whole for the period 1982-98 leaves around 900 (Figure 13a). During the decade 1981-90 the SRS sex ratio at birth were above 900 whereas in the succeeding decade it has shown definite sign of a decline below 900. Thus for recent period there is some primary evidence that sex ratio at birth in the country as a whole is possibly lower than the generally accepted range of 943-952 but it needs to be corroborated by some more data.

The overall sex ratio of India is dependent on the sex ratios obtained in different States and Union territories and their relative weights in terms of size of population. Statement 19 gives the sex

ratio of the total population, sex ratio in the age group 0-6 and sex ratio of population aged 7 and above for 1991 and 2001 for all the States and Union territories. The diversity in sex ratio among the States and Union territories is phenomenal. This is also evident from Figure 14. At the Census of India, 2001, the sex ratio among the major States ranged from 861 in Haryana to 1058 in Kerala. In 1991 also, Haryana with a sex ratio of 865 was at the bottom with Kerala (1036) at the top. The changes in sex ratio over time, therefore, are dependent on the changes in the ratios of the individual States and Union territories and their relative share in population.

Statement 19
Sex ratio of total population and child population in the
age group 0-6 : 1991 and 2001

State/ UT Code	India/States/ Union territories *	Sex ratio (females per 1,000 males)					
		Total population		Child population in the age group 0-6		Population aged 7 and above	
		1991	2001	1991	2001	1991	2001
1	2	3	4	5	6	7	8

INDIA		927	933	945	927	923	935
1	Jammu & Kashmir	N.A	900	N.A.	937	N.A	894
2	Himachal Pradesh	976	970	951	897	980	981
3	Punjab	882	874	875	793	883	886
4	Chandigarh *	790	773	899	845	772	763
5	Uttaranchal	936	964	948	906	933	976
6	Haryana	865	861	879	820	862	869
7	Delhi*	827	821	915	865	810	813
8	Rajasthan	910	922	916	909	908	925
9	Uttar Pradesh	876	898	927	916	863	895
10	Bihar	907	921	953	938	895	916
11	Sikkim	878	875	965	986	860	858
12	Arunachal Pradesh	859	901	982	961	829	888
13	Nagaland	886	909	993	975	865	899
14	Manipur	958	978	974	961	955	981
15	Mizoram	921	938	969	971	911	932
16	Tripura	945	950	967	975	940	947
17	Meghalaya	955	975	986	975	947	974
18	Assam	923	932	975	964	910	926
19	West Bengal	917	934	967	963	907	929
20	Jharkhand	922	941	979	966	908	936
21	Orissa	971	972	967	950	972	976
22	Chhatisgarh	985	990	984	975	986	992

23	Madhya Pradesh	912	920	941	929	905	918
24	Gujarat	934	921	928	878	936	927
25	Daman & Diu *	969	709	958	925	971	682
26	Dadra & Nagar Haveli *	952	811	1,013	973	937	779
27	Maharashtra	934	922	946	917	931	923
28	Andhra Pradesh	972	978	975	964	972	980
29	Karnataka	960	964	960	949	960	966
30	Goa	967	960	964	933	967	964
31	Lakshadweep *	943	947	941	974	943	943
32	Kerala	1,036	1,058	958	963	1,049	1,071
33	Tamil Nadu	974	986	948	939	978	992
34	Pondicherry *	979	1,001	963	958	982	1,007
35	Andaman & Nicobar Islands *	818	846	973	965	790	830

Notes:

1. While working out sex ratio of child population for 1991 Census in the age group 0-6 and population aged 7 and above for India, the population in the age group 0-6 and population aged 7 and above of areas of Gujarat and Himachal Pradesh affected by natural calamities have been excluded. The details of affected areas are given in Note numbers 2 and 3 below.
2. To make the data comparable with Census of India, 2001, the proportion of child population for 1991 Census in the age group 0-6 and population aged 7 and above shown against Himachal Pradesh for 1991 excludes population in the age group 0-6 and population aged 7 and above of Kinnaur district where population enumeration of Census of India, 2001, could not be conducted due to natural calamity.
3. To make the data comparable with Census of India, 2001, the proportion of child population for 1991 Census in the age group 0-6 and population aged 7 and above shown against Gujarat excludes the population data of entire Kachchh district, Morvi, Maliya-Miyana and Wankaner talukas of Rajkot district and Jodiya taluka of Jamnagar district of Gujarat state where population enumeration of Census of India, 2001, could not be conducted due to natural calamity.

Statement 20 gives the distribution of States and Union territories by the different ranges of sex ratio and their share in the total population of the country in these ranges. It can be seen that the distributions of the number of States at 1991 and 2001 Census have remained more or less similar.

Statement 20

Distribution of States/Union territories by range of sex ratio of India : 1991 and 2001

Sex ratio	1991	Percentage of population to total population, 1991	2001	Percentage of population to total population, 2001
880 & below	7	18.92	8	5.97
881-915	6	22.02	4	17.45
916-950	9	28.73	11	47.23
951-985	12	26.89	8	18.08
986 & above	1	3.44	4	11.27

Note : . For working out the sex ratio of 1991, interpolated population of Jammu and Kashmir has been used. For 2001 the estimated population of the areas affected due to natural calamities in Gujarat and Himachal Pradesh have been used.

It would be interesting to note that although the number of States and Union territories with the sex ratio less than 916 remains almost the same, the percentage share of this population has declined from about forty one percent to about twenty three percent. Similarly the number of States and Union territories falling within the range of 916-950 marginally alters but the share of this population increased from around twenty nine percent to forty seven percent. The contribution of these two groups of States/Union territories appears to be the plausible reason for the increase in overall sex ratio of India.

Statement 21 classifies the States and Union territories in two classes, namely below and above national sex ratio. It may be noted that the number of States and Union territories with sex ratio of below national average has increased from seventeen in 1991 to eighteen in 2001. In fact the proportion of population in the first category has increased from fifty four percent to about sixty percent. In spite of the increase in the number and relative weight in the first category, the overall sex ratio of the country has improved. What could be the possible reason for this? It can be observed that the highly populated States like Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh which together constituted about 34 percent of India's population in 1991 and increased to 36 percent in 2001, lie in the category of below national average. Therefore, the increase in the overall sex ratio is possibly due to the relative larger increase in the sex ratio of these four populous States.

Statement 21

Distribution of States/Union territories by sex ratio below national level and above national level : 1991 and 2001

Sex ratio	Number of States/UTs 1991	Percentage of population to total population 1991	Number of States/UTs 2001	Percentage of population to total population 2001
Below national average	17	54.29	18	59.81
Above national average	18	45.71	17	40.19

Note:

See note below Statement 20.

It may be seen from Statement 19 that the sex ratio of the total population have shown improvements in as many as twenty three States and Union territories. However, during the corresponding period the sex ratio of the child population in the age group 0-6 has increased in only four States and one Union territory.

Given in Statement 22 are the sex ratio of the total population and the child population in the age group 0-6 from 1961 to 2001.

Statement 22

Sex ratio of total population and child population in the age group 0-6: 1961-2001

Year	Sex ratio in age Group 0-6	Over all sex ratio
1961	976	941
1971	964	930
1981	962	934
1991	945	927
2001	927	933

Note:

See note below Statement 20.

It is clear that the sex ratio in the age group 0-6 has decreased at a much faster pace than the overall sex ratio of the country after 1981. The decreasing sex ratio in this child population perhaps has a cascading effect on population over a period of time leading to diminishing sex ratio in the country. One thing is clear- the imbalance that has set in at this early age-group is difficult to be removed and would remain to haunt the population for a long time to come. To say the least, demographically the sex ratio of 927 of the population in the age group 0-6 does not appear to augur well for the future of the country.

Statement 23

Distribution of States/Union territories by range of Sex ratio of child population in the age- group 0-6: 1991 and 2001

Sex ratio	Number of States/ Union territories 1991	Percentage of population to total population 1991	Number of States/ Union territories 2001	Percentage of population to total population 2001
880 and below	2	4.35	5	10.78
881-915	2	1.19	3	6.91
916-950	8	48.20	9	54.45
951-985	19	45.00	16	26.84
986 and above	3	0.37	1	0.05

Note :

Jammu and Kashmir and the affected areas of Gujarat and Himachal Pradesh are excluded from 1991 and 2001 for the sake of comparability.

Statement 23 gives the distribution of States and Union territories by ranges of sex ratio of child population in the age group 0-6 and their relative share in these ranges in terms of percentage of population to total population of the country for 1991 and 2001. It may be observed from the Statement 23 that the relative share of the States and Union territories with sex ratio of child population in the age group 0-6, 951 and above has sharply declined from forty five percent to twenty seven percent. The number of States and Union territories with sex ratio of child population below 915 has increased from four in 1991 to eight in 2001. Their share in this category has also increased from about four percent to about seventeen percent. Sharp declines have been reported in child sex ratios during 1991-2001 (Statement 19), in Himachal Pradesh (951 to 897), Punjab (875 to 793), Chandigarh (869 to 845), Uttaranchal (948 to 906), Haryana (879 to 820), Gujarat (928 to 878) and Maharashtra (946 to 917). Are the sharp declines in the child sex ratios indicative of an underlying trend of sex selective abortions in these areas? We may really have to wait for some more data before coming to any definite conclusions in this regard.

Statement 24

Distribution of States/Union territories by range of sex ratio of population aged 7+ : 1991 and 2001

Sex ratio	Number of States/ Union territories 1991	Percentage of population to total population 1991	Number of States/Union territories 2001	Percentage of population to total population 2001
880 and below	8	19.02	7	3.61
881-915	8	34.32	4	18.84
916-950	7	15.62	11	47.22
951-985	9	24.59	8	18.09
986 and above	2	5.52	4	11.27

Note :

Jammu and Kashmir and the affected areas of Gujarat and Himachal Pradesh are excluded from 1991 and 2001 for the sake of comparability.

Statement 24 provides the distribution of States and Union territories by the ranges of sex ratio of population in the age group of seven and above for the years 1991 and 2001. It also gives the percentage of population to the total population of the States and Union territories in each of these categories. It may be seen from the Statement that although the number of States and Union territories having sex ratio of seven plus population and their share of population have remained more or less same in 1991 and 2001, the number as well as share of the State and Union territories in the range 916 –950 has increased substantially. The number and share of States and Union territories having sex ratio 915 and below has shown a significant decline. Among the possible reasons for increase in sex ratio for the population in the age group seven plus, some contribution due to the increase in the life expectancy of females at a faster pace than males as evidenced from the SRS data can not be ruled out.

