

SEX RATIO IN ANDHRA PRADESH AND INDIA- AN ANALYSIS OF CENSUS DATA

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ABSTRACT

Ever since the beginning of population data recording started in India, it was evident that there was always a deficit of women over men in number. Over the span of 110 years, this deficit of female population has increases, i.e., number of women per 1000 men has come down from 972 in 1901 to 933 in 2001 and after hundred years, it has started an increasing trend by 7 points i.e., to 940 in 2011. Andhra Pradesh has a starting figure of 985 females per 1000 males in the year 1901 while at the national level, the sex ratio was 972. This difference of a better than the national sex ratio was maintained all through the century. Five districts in Telangana region namely Medak, Hyderabad, Ranga Reddi, Mahabubnagar, Nalgonda, three districts in Rayalaseema region Kadapa, Kurnool and Anantapur and only Prakasam district from Andhra region still remain below the state average sex ratio in 2001 and 2011 Census. During 1981-2011, the child sex ratio has declined by 48 points in India. The census data indicates that the child sex ratio is faring better in Andhra Pradesh than that of all India level for the last six census years i.e., from 1961-2011. Rangareddi in Telangana region, Guntur and Nellore districts from coastal Andhra region were above the state average child sex ratio in 2011 and were below state average in 2001. There were nine districts 'viz' Hyderabad, Mahabubnagar, Nalgonda, Warangal, Prakasam, Kadapa, Kurnool, Anantapur and Chittoor districts came above the state average in 2011 and those were below the state average in 2001. As many as 264 (57%) mandals have reported below the State average (943) child sex ratio in Telangana region, 154 (38%) mandals in Coastal Andhra and 161 (69%) mandals found lowest child sex ratio in Rayalaseema region in 2011 Census.

KEYWORDS: *Sex Ratio, Population, Fertility Rate, Demography.*

INTRODUCTION

Demographic trends are the result of interaction of fertility, mortality and migration in a society. Fertility is a positive force through which the population expands while mortality is a counteractive force in the sense it causes attrition in the size of population. Andhra Pradesh (combined state) ranks fifth in the size of population among all Indian States during 2011. As per the 2011 Census, the total population of Andhra Pradesh was 84.66 million. By 2011, States' population experienced more than fourfold increase when compared to that of 1921. The total population was increasing steadily from 251 million in 1901 to 1210 million in 2011, which reflects a growth rate of 5.75 during the decade 1901-11 to 17.64 in 2001-2011. Andhra Pradesh was recording uniformly lower growth rate than that of all India in 1941, 1961 to 1981. Only in 1951 and 1991 did Andhra Pradesh (AP) registered slightly higher growth rates than that of India. The 2001 Census had shown a remarkable trend by registering a declining growth rate of population of 42.73 (-42.73%) compared to all India 9.19 (-9.19%). The actual growth rates for Andhra Pradesh and all India are 13.86 per cent and 21.35 per cent respectively for the period 1991-2001. Similar trend is identified in 2011 Census also the growth rate of Andhra Pradesh is slower (11.10%) compared with all India.

Ever since the beginning of population data recording started in India, it was evident that there was always a deficit of women over men in number. Over the span of 110 years (of recorded data on population), this deficit of female population has increases, i.e., number of women per 1000 men has come down from 972 in 1901 to 933 in 2001 and after hundred years, it has started an increasing trend by 7 points i.e., to 940 in 2011. Historically the scenario of female discrimination has a demographically visible repercussion on India's population. Andhra Pradesh is no different, as it is part of India and has more or less the same cultural milieu. The crucial interplay of cultural and economic factors along with the governmental policy initiatives over time has produced a difficult situation. The major obstacle to population stabilization is son preference. The desire to have at least one son over daughters makes many couples to opt for a greater number of children. Invariably, states with low sex ratio are the states with higher population growth rates. The weakest son preference is found in Meghalaya, Mizoram, Tamil Nadu, Kerala, Karnataka and Goa, which are also the states that have either achieved or are closer to achieving replacement level fertility, have better male-female ratio and higher female literacy levels. To understand this complexity and frame a better policy against gender discrimination, one has to study how the Indian society over the long years have been treating women and the resultant sex ratios. The details on sex ratio calculated as number of females per 1000 males is presented in the Table 1 for Andhra Pradesh and India over the last hundred years.

Objectives of the Paper

1. To compare the overall sex ratio of Andhra Pradesh and in India.
2. To analyse child sex ratio in Andhra Pradesh and India.
3. To find out the district-wise, region-wise changes in child sex ratio in Andhra Pradesh.

Methodology

The paper used the Census data published by the Registrar General, Census of India and Andhra Pradesh. The data collected overall sex ratio pertaining to the combined State of Andhra Pradesh and at the all-India level from 1901 to 2011. In case of child sex ratio, the data was collected

from 1961 to 2011. This paper particularly focused on child sex ratio in Andhra Pradesh and how the districts move from one census to another.

Sex Ratio in Andhra Pradesh and India

Andhra Pradesh has a starting figure of 985 females per 1000 males in the year 1901 while at the national level, the sex ratio was 972. This difference of a better than the national sex ratio was maintained all through the century. This biased importance towards male member in the society started reflecting in neglecting the female members of the society and their depleting numbers. This is the basic trait of a less developed society. One significant observation from this table is the state level sex ratio has in the initial decades increased to reach from 985 in 1901 to 993 in 1921, but since then there was a slow and steady fall in this rate till 2001 (978) and then increased by 14 points in 2011 to 992. The all-India figures show no such fluctuations and show continuous decline. Only in the year 2001 there was a small increase from 927 in 1991 to 933 and again slightly increased by 7 points i.e., 940 in 2011 females per 1000 males. A similar upward movement was found at the state level also rose from 972 to 978 and then to 992 respectively during those two decades (See Table 1).

TABLE 1 TRENDS IN SEX RATIO IN ANDHRA PRADESH AND INDIA: 1901-2011

Census Year	Andhra Pradesh	India
1901	985	972
1911	992	964
1921	993	955
1931	987	950
1941	980	945
1951	986	946
1961	981	941
1971	977	930
1981	975	934
1991	972	927
2001	978	933
2011	992	940

Source: Census of India 2011

Changes in Sex-Ratio at the District Level

The changes in the sex ratio at district level in Andhra Pradesh were measured in three different time periods namely 1901-1991, 1991-2011 and 1901-2011. The first period (1901-1991) was to mark the starting time of the decline of growth rate of population and the second period 1991-2011 was that which reflects the change in the attitudes and impact of welfare measures and family planning era. The third period (1901-2011) was to give an overall picture of population. With this one can have a clear picture about the movement of sexual preference in the state.

Table 2 clearly shows that for the whole period comprising 1901 to 2011, the state has experienced a positive preference to females. In terms of absolute difference, the number of females per 1000 males in the society has increased by 7. There are 16 districts which show an increase in sex ratio during the 1991-2011 periods. Looking at the geographic spread of these districts, we see that four of the nine Coastal Andhra districts, eight out of ten districts in Telangana and all the four districts in Rayalaseema region recorded increase in the sex ratio. At disaggregated time periods, during 1901-1991 at the state level, sex ratio has declined by 13

points, four of the 10 Telangana districts and all the 9 districts of Coastal Andhra and 4 districts of Rayalaseema show a fall in the sex ratio. In terms of biggest positive change is recorded in the districts of Nalgonda (70) and Karimnagar (68) both of which are in the Telangana region while sharpest fall is found to be in Visakhapatnam (70), Srikakulam (64) and Vizianagaram (61). If we see the latest period, there was a noticeable improvement in the sex ratio at the state level. Sex ratios have shown positive improvement in all the 23 districts in the State. In terms of absolute number changes in sex ratios, it is Khammam (49), Chittoor (36) and Guntur (33) stand in the first three positions of positive change and Mahabubnagar (2), Srikakulam (2) and Nellore (6) districts have recorded last three positions of positive change in the period.

TABLE 2 PERCENTAGE CHANGES AND ABSOLUTE NUMBER CHANGES IN SEX-RATIO AT DISTRICT LEVEL IN ANDHRA PRADESH

S.No	District	1901-91		1991-2011		1901-2011	
		Change	Abs. Change	% Change	Abs. Change	% Change	Abs. Change
1	Adilabad	-1.11	-11	1.21	12	2.35	23
2	Nizamabad	1.09	11	3.18	32	2.06	21
3	Karimnagar	7.41	68	9.91	91	2.33	23
4	Medak%	-0.72	-7	1.23	12	1.96	19
5	Hyderabad	-1.17	11	-0.11	-1	1.07	10
6	Rangareddi	-0.32	-3	1.17	11	1.49	14
7	Mahabubnagar	-.71	-7	-0.51	-5	0.21	2
8	Nalgonda	7.85	70	10.09	90	2.08	20
9	Warangal	6.06	55	9.59	87	3.33	32
10	Khammam	4.34	40	9.66	89	5.10	49
11	Srikakulam	-5.95	-64	-5.76	-62	0.20	2
12	Vizianagaram	-5.75	-61	-4.24	-45	1.60	16
13	Visakhapatnam	-6.70	-70	-4.02	-42	2.87	28
14	East Godavari	-3.85	-40	-3.18	-33	0.70	7
15	West Godavari	-3.68	-38	-2.71	-28	1.01	10
16	Krishna	-0.62	-6	2.26	22	2.89	28
17	Guntur	-0.61	-6	2.77	27	3.40	33
18	Prakasam	-2.61	-26	-1.51	15	1.13	11
19	Nellore	-0.51	-5	0.10	1	0.61	6
20	Kadapa	-2.15	-21	0.82	8	3.04	29
21	Kurnool	-1.95	-19	1.23	12	3.25	31
22	Anantapur	-0.63	-6	2.63	25	3.28	31
23	Chittoor	-0.51	-5	3.19	31	3.73	36
	Andhra Pradesh	-1.32	-13	0.71	7	2.06	20

Source: As ex ante

Sex Ratio at District level in AP: 2001 & 2011

Table 3 provides data on sex ratio at district level in Andhra Pradesh in 2001 and 2011. Turnover table (Table 2.8) clearly reveals that there are ten districts ‘viz’ Adilabad, Nizamabad, Karimnagar, Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna and Guntur are above the state average both in 2001 and 2011. Only Nellore district was above the state average in 2001 but fell below state average in 2011. The districts like Warangal, Khammam and Chittoor districts come under below average in 2001 and they rose to above the state average in 2011. Five districts in Telangana region namely Medak, Hyderabad, Ranga Reddi, Mahabubnagar, Nalgonda, three districts in Rayalaseema region Kadapa, Kurnool and Anantapur and only Prakasam district from Andhra region still remain below the state average sex ratio in both the periods (2001 & 2011).

TABLE 3 TURNOVER TABLE OF SEX RATIO IN ANDHRA PRADESH: 2001 & 2011

Census Year	2001- High (>978)	2001- Low (<978)
2011-High (>992)	Adilabad, Nizamabad, Karimnagar, Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur (10)	Warangal, Khammam, Chittoor (3)
2011-Low (<992)	Nellore (1)	Medak, Hyderabad, Ranga Reddi, Mahabubnagar, Nalgonda, Prakasam, Kadapa, Kurnool, Anantapur (9)

Source: As ex ante

Child Sex Ratio in Andhra Pradesh and India

Child sex ratio is a different measure than the sex ratio in general. In this measure of child sex ratio, children below the age of 6 years are considered and the ratio is calculated as number of female children below 6 years as a proportion of male children in the same age group. The importance of this statistic is twofold. In one direction it reveals the societal attitude towards women and on the other direction it will cause a so called “marriage squeeze” affecting a decline in fertility and causes further skewedness in the sex proportion. This will affect the next few generations as the lesser number of women in the society will lead to lower birth rates and lower manpower supply in the long run causing untold difficulties to the economy as well as disturbing the social fabric.

Table 4 shows that child sex ratio (0-6 years) in Andhra Pradesh and India. In Andhra Pradesh the decline is to the tune of 59 points from 1002 in 1961 to 943 in 2011. Considering Census years 1981-2011, the decline amount around 49 points within three decades. The corresponding figures for India are 62 points decline for the same period. During 1981-2011, the child sex ratio has declined by 48 points in India. The census data indicates that the child sex ratio is faring better in Andhra Pradesh than that of all India level for the last six census years i.e., from 1961-2011.

TABLE 4 CHILD SEX RATIO IN ANDHRA PRADESH AND INDIA: 1961-2011

Census Year	Andhra Pradesh	India
1961	1002	976
1971	990	964
1981	992	962

1991	978	945
2001	961	927
2011	943	914

Source: As ex ante

Child Sex Ratio in Andhra Pradesh: Importance and Changes

To fully understand the implications of the deficit of women, it is important to examine the available recent data on sex ratio at birth and if girls are not allowed to be born, it is important to understand why, when and what means are used to avoid having daughters. The study of child sex ratio for the 0-6 group is important because it provides a true indicator of the survival of the girl child. The ratio in this group is influenced by sex ratio at birth and infant mortality. While the sex ratio at birth shows us if there has been any untoward intervention against a particular sex even before birth, the mortality rates reflect the social and cultural factors which influence the survival chances of new born babies.

Table 5 gives the picture on percentage and absolute number changes in child sex ratio at the district levels in Andhra Pradesh for the period comprising of 1991-2011; 1991-2001 and 2001-2011. The state has experienced a small but positive improvement to child sex ratio. In the overall period (1991-2011) only Nellore district has shown positive difference while in the period 1991-2001, three districts ‘viz’ Rangareddi, Krishna & Nellore and in the 2001-2011 period it was only West Godavari district which shown this kind of positive inclination towards female child. If we keep the absolute positive numbers and look at the ratios, it presents an overall positive trend. It shows a noticeable change in the percentage. From higher negative percentage in 1991-2001 to a lower negative percentage in 2001-2011. If one closely observes, the negative values in the 1991-2001 period across all the districts have come down by the year 2001-2011, which itself is a positive sign that the overall child sex ratios are improving in the state. (What is being looked at is that the reduction in the negative charge is an increase in positive charge.) Those districts which have shown positive number in change have stayed positive only in spite of a small magnitude change. However, the Rayalaseema area comprising Chittoor, Kadapa, Anantapur and Kurnool and its bordering districts like Prakasam have registered an increased magnitude in the negative change.

TABLE 5 PERCENTAGE AND ABSOLUTE NUMBER CHANGES IN CHILD SEX-RATIO AT DISTRICT LEVEL IN ANDHRA PRADESH

S. No.	District	1991-2011		1991-2001		2001-2011	
		% Change	Abs. Change	% Change	Abs. Change	% Change	Abs. Change
1	Adilabad	-5.09	-50	-2.98	-30	-2.17	-21
2	Nizamabad	-4.97	-50	-3.75	-37	-1.27	-12
3	Karimnagar	-5.45	-54	-2.94	-29	-2.59	-25
4	Medak	-3.71	-37	-2.67	-27	-1.06	-10
5	Hyderabad	-1.96	-19	-1.46	-14	-0.50	-5
6	Rangareddi	-1.11	-11	-0.13	1	1.24	12
7	Mahabubnagar	-6.45	-64	-4.46	-44	-2.08	-20
8	Nalgonda	-7.41	-74	-4.36	-43	-3.19	-30
9	Warangal	-6.92	-68	-2.54	-25	-4.50	-43
10	Khammam	-3.22	-32	-1.95	-19	-1.29	-13
11	Srikakulam	-2.41	-23	-0.88	-9	-1.54	-15

12	Vizianagaram	-2.62	-26	-0.13	-1	-2.49	-24
13	Visakhapatnam	-5.17	-52	-3.62	-37	-1.60	-16
14	East Godavari	-2.70	-27	-1.78	-18	-0.94	-9
15	West Godavari	-0.69	-7	-0.74	-7	-0.05	-1
16	Krishna	-0.81	-8	-0.25	2	1.06	10
17	Guntur	-2.30	-22	-1.12	-11	-1.20	-11
18	Prakasam	-3.63	-35	-1.24	-12	-2.42	-23
19	Nellore	0.89	8	1.83	17	0.92	9
20	Kadapa	-5.87	-57	-2.59	-25	-3.37	-32
21	Kurnool	-2.38	-23	-0.20	-2	-2.19	-21
22	Anantapur	-4.72	-46	-1.47	-14	-3.30	-32
23	Chittoor	-4.12	-40	-1.66	-16	-2.50	-24
	Andhra Pradesh	-3.58	-35	-1.43	-14	-2.18	-21

Source: As ex ante

The turnover table, Table 6 gives the movement of districts from high to low or vice-versa during the period 2001-2011. The data reveals that ten out of 23 districts, namely, Adilabad, Nizamabad, Medak, Khammam, Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari and Krishna districts came above the state average both in 2001 and 2011. Rangareddi in Telangana region, Guntur and Nellore districts from coastal Andhra region were above the state average child sex ratio in 2011 and were below state average in 2001. Only Karimnagar district which was above the state average in 2001 and it fell below State average in 2011. There were nine districts ‘viz’ Hyderabad, Mahabubnagar, Nalgonda, Warangal, Prakasam, Kadapa, Kurnool, Anantapur and Chittoor districts came above the state average in 2011 and those were below the state average in 2001.

TABLE 6 TURNOVER OF CHILD SEX RATIO IN ANDHRA PRADESH: 2001-2011

	2001- High (>961)	2001- Low (<961)
2011- High (>943)	Adilabad, Nizamabad, Medak, Khammam, Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna (10)	Ranga Reddi, Guntur, Nellore (3)
2011- Low (<943)	Karimnagar (1)	Hyderabad, Mahabubnagar, Nalgonda, Warangal, Prakasam, Kadapa, Kurnool, Anantapur, Chittoor (9)

Note: Figures in the parenthesis are state average sex ratio for the corresponding year

Source: Census of India: Andhra Pradesh, 2001 and 2011

Region-wise Child Sex Ratio

Taking mandal as an administrative unit, region –wise child sex ratios in Andhra Pradesh are presented in Table 7. Across three regions, the total mandals are 464, 430 and 234 in 2011 respectively in Telangana, Coastal Andhra and Rayalaseema regions. According to 2011 census, as many as 264 (57%) mandals have reported below the State average (943) child sex ratio in Telangana region, 154 (38%) mandals in Coastal Andhra and 161 (69%) mandals found lowest child sex ratio in Rayalaseema region. Female child is biologically stronger to survive. However,

the disturbing point in this analysis is the overall decline in the child sex ratio¹. A study conducted by Delhi University² in 2005 to analyse the attitudinal changes towards a girl child clearly shows that in the northern Indian districts, there was clear cut discrimination against a girl child. In both urban and rural areas, it was generally expected that the girl child should shoulder more household responsibilities. It is urban girl child rather than their rural counterpart who shoulders more household responsibilities.

TABLE 7 REGION- WISE CHILD SEX RATIO IN ANDHRA PRADESH: 2011

Region	2011 (943)		
	Total Mandals	No. of Mandals (≤ 943)	%
Telangana	464	264	57
Coastal Andhra Pradesh	430	154	38
Rayalaseema	234	161	69
Total	1128	579	52

Source: As ex ante

CONCLUSION

The above analysis brings out that in all aspects, Andhra Pradesh fares better than that of India. The state registered a higher than the national average growth rate in 1991 but registered a sharp decline in population growth between 1991 and 2001. The decline which was more than 42 per cent has drawn much attention. Of the three regions in Andhra Pradesh, the Coastal Andhra is far better in many demographic variables compared to other two regions.

Sex ratio was always higher than the national average in Andhra Pradesh. Analyzing in different time periods there was increase in the overall sex ratio during 1901-2011. This was reflecting a small increase of seven females as against the 1901 number. The period 1901-81 has shown a drastic reduction in sex ratio by a short fall of 10 females but during the 1981-2011, situation improved by recording about 17 points increase in number of females. The child sex ratio has shown a short fall of 18 girl children during the decade 2001-2011 which will have some impact on the fertility rate in the times to come.

In the course of the present research, it was observed some interesting relations with regard to the child sex ratios in the Andhra Pradesh society. However interesting they may be, they fall outside the purview of the present research. As such in the interest of furthering the body of knowledge in the aspect of declining child sex ratio, more specifically falling rates of females children in the so called traditional societies like India.

REFERENCES

1. Jha P, Kumar R, Vasa P, Dhingra N, Thiruchelvam D, Moineddin R.” Low male-to-female sex ratio of children born in India: National survey of 1.1 million households. *Lancet* 2006; 367:211–18.
2. General, R. (2011). Census Commissioner, India. *Census of India, 2000*.
3. Women’s Study and Development Centre, “Assessment of Attitudinal Difference towards Girl Child in Selected Districts of North India” University of Delhi, Delhi