



# UNDERSTANDING THE DEMOGRAPHIC CHANGES IN ANDHRA PRADESH AND INDIA: AN EXPLORATION

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## ABSTRACT

Demographic trends are the result of interaction of fertility, mortality and migration in a society. Fertility is a crucial aspect in the study of population for various reasons. The most important reason being that fertility is directly responsible for the biological replacement and maintenance of human 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. Migration both the inward and outward movements are considered. The decadal census of 2011 is expected to give the all India population a count of 120 crores as against 102 crores of 2001 census. The world's biggest ever population counting process in the history of mankind has just begun in the country. 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 was maintained all through the century.

**KEY WORDS :** Fertility , Child Sex ratio, Sex ratio, Demographic, Population, Growth rates, Trends

## INTRODUCTION

“The biggest cause of climate change is climate changers: human beings. Deciding to stop at two children, or at least to have one child less, is the simplest, quickest and most significant thing any of us could do to leave a sustainable and habitable planet for our children and grandchildren . . . Thus, in both developed and developing worlds, the condom, the Pill, and the intrauterine device ought to be as powerful symbols for the green movement as the bicycle.” (John Guillebaud of the Optimum Population Trust). Since the 1951 census, there were conscious efforts by the successive Registrar Generals of India to ascertain and appraise the accuracy of the data collected. This gives the census data more reliability. Compared to the quality and accuracy of the data that is presented over time, the above problems can be construed as a minor difficulties only.

Several researchers have studied on the population problem especially either accepting or otherwise of the Malthusian hypothesis. Progressing further in their studies, demographers world over determined that demographic transition is a global phenomenon. They have delineated four phases of transition. In the first phase, improved health care technologies and improved access to health care result in reduction in mortality rates but, birth rate continues to be high and therefore population growth occurs. In the second phase, there is reduction in birth rate but the reduction in death rate is higher than reduction in birth rate, as a result population continues to increase. In the third phase, birth rates and death rates are both low; however population growth continues but at a slower pace because of a large number of individuals in the reproductive age group. In the fourth phase, population level stabilizes with number of births and deaths being low. In our country as well as our state of Andhra Pradesh, the main source of dependable data on vital events are Censuses, Sample Registration Schemes, Civil Registration System, various publications by the Directorate of Economics and Statistics of Andhra Pradesh Government, publications of State Government such as Annual Plan Documents, Economic Surveys and Human Development Reports etc. and the publications of the State Health and Family Planning department from time to time.

## OBJECTIVES

- To analyse the trends in population growth rates of Andhra Pradesh and India
- To analyse the Sex ratio and Child Sex ratio at District level in AP

## REVIEW OF LITERATURE

Among the many fertility theories, John Caldwell's (1976) wealth flow model proposes a direct relation between the family structure and fertility. According to this theory, there are only two types of major family structures and both depend on the direction of flow of wealth among generations. In the so called under developed or primitive societies, net wealth flows are from younger to elder generations, that means a general upward direction of wealth flow. Explaining the fertility decline in the state of Andhra Pradesh, James, K.S. (1999), says that the southern states on the whole are undergoing a fertility transition. The states of Kerala and Tamilnadu have already reached the state of replacement level of fertility and the Andhra Pradesh is fast reaching that level as pointed by the dramatic declines in fertility levels. It was observed that the pace of decline in fertility is same in both rural and urban areas of the state. The World Bank in its (Report 2000-01), stated that both fertility and mortality decline on an average as countries grow rich. Typically, the mortality reductions precede the fertility reductions. The interaction between demographic transition and economic development is very complex and center of many great debates over time. In many countries, decline in fertility rates have resulted in a sharp increase in the working age share of population.

Population aging is an inevitable consequence of the demographic shift experienced by most countries worldwide. It results from declining fertility and mortality and increased life expectancy over time (Malik et al., 2021). It contributes to an increase in the median age and changes in the age-sex structure of the population, with a narrow base and a wide apex. Changes in population and demographics worldwide profoundly impact economic, social, political, and cultural issues (Sander et al., 2015). Worldwide, the proportion of older people is growing faster than all other age groups (World Health Organization, 2022). The United Nations (2022) recently projected that the old age population (aged 65 and above) would rise from 10% in 2022 to 16% in 2050. India is the world's most populated country. It has seen a significant decline in fertility and an increase in life expectancy in recent decades (Chaudhary & Thakur, 2023). In India, TFR has decreased from 2.7 births per woman in 2005–2006 to 2.0 in 2019–2021. It is expected to decline to 1.72 from 2031 to 2035, much below the replacement level.

## POPULATION GROWTH IN ANDHRA PRADESH AND INDIA

Andhra Pradesh 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. Population growth is end result of the three components birth rates, death rates and migration. Before the individual analysis of each of these three components is taken up, the overall picture of population size during the 1901-2011 is presented.

The table indicates that Andhra Pradesh's population was increasing at a very rapid pace throughout the century, even though the growth rates differ from decade to decade with the single exception of 1921 where the actual population growth rate has become negative; i.e., the size of population has actually declined. The main reason being the national epidemics like plague, cholera and famines etc., which had occurred during the late 1910s. The population growth rate which constitutes 20.91 in 1961-71 and 24.20 in 1981-91 has slowed down to record 11.10 during the decade 2001-2011. The growth rate in fact is the slowest growth registered among the growth rates of all the states of Indian Union except Kerala (9.42) and Tamil Nadu (11.19) during 1991-2001. That means, during the 1981-91 and 1991-2001 the population growth in Andhra Pradesh has decline by about 42% which is substantial in the whole of the country.

The national population growth figures for the same period (1911- 2011) show a similar trends but with minor degrees of change. 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 1901-11 to 17.64 in 1991-2001. The change in percentage points was much higher in Andhra Pradesh than the corresponding period for India for the period of 1921-31. The year 1921 which recorded an overall decline in terms of absolute size of population as well as the growth rate is known as 'great divide' in the demographic history of India. Andhra Pradesh was recording uniformly lower growth rate than that of all India in 1941,1961 to1981 and again 2001 and 2011. Only in 1951 and 1991 did AP registered slightly higher growth rates than that of India. The 2001census had shown a remarkable trend by registering a declining growth rate of population of 42.73 (-42.73%) compared to all India ( -9.19%). The actual growth rates for AP and all India are 13.86%and 21.35% respectively for that period.

**Table-1**  
**Population Size and Growth in Andhra Pradesh and India: 1901-2011**

(Population in millions)

Year of Census	Andhra Pradesh			India		
	Population	Decadal Variation in population (%) Growth	% Decline in Growth Rate	Population	Decadal Variation in population (%)	% Decline in Growth Rate
1901	19.07	--	--	238.30	--	--
1911	21.45	12.41	--	252.0	5.75	--
1921	21.42	-0.11	-100.00	251.20	-0.32	106.00
1931	24.20	13.00	1278.00	278.90	11.03	1039.00
1941	27.30	12.91	-0.69	318.50	14.20	28.74
1951	31.12	14.01	8.52	361.00	13.34	6.06
1961	35.98	15.71	12.13	439.10	21.63	62.14
1971	43.50	20.91	33.10	547.90	24.78	14.56
1981	53.55	23.10	10.47	685.20	25.06	1.13
1991	66.51	24.20	4.76	846.30	23.51	6.18
2001	75.72	13.86	42.73	1027.01	21.35	9.19
2011	84.66	11.10		1210.19	17.64	

Source: Census of India Series, Registrar General, India, New Delhi.

Note: Figures in parentheses are percentage change.

### SEX RATIO IN ANDHRA PRADESH AND INDIA

Ever since the beginning of population data collection started in India, it was evident that there was always a deficit number of women over men. Over the span of 110 years of recorded data on population, this deficit of female population has progressively increased from 972 in 1901 to 940 in 2011 in India. Historically the scenario of female discrimination has 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 of population stabilization is son preference. The desire to have at least one male child over daughters makes couple to opt for more 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 achieved or are closer to achieving replacement level fertility, and have better male-female ratio and higher female literacy levels. To understand this complexity and guide a better policy against gender discrimination, one has to study the sex ratios. The details on sex ratio calculated as number of females per 1000 males is presented in the Table-2 for 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 was maintained all through the century. One reason for this could be the predominantly male dominated culture of the society. This biased importance towards male member in the society has started reflecting in neglecting the female members of the society and their depletion. 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 to 993 in 1921, but since then there was a slow and steady fall in this rate. The India figures show no such fluctuations and show continuous decline. There was a small increase from 927 in 1991 to 933 in 2001 and it further increased to 940 in 2011 females per 1000 males in India. A similar upward movement was found at the state level also rose from 972 to 978 and 993 for the same period.

**Table-2**  
**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	993	940

Source: Census of India 2011

The table-3 gives the district level picture from a different angle. In this table the individual district and its position vis-à-vis the state average sex ratio is reviewed over the entire period. This turnover table clearly presents the movement of districts from one level to the next over the overall time. This table divided the districts either as low or high based on the state average sex ratio for that reference period. Then the same districts movement is seen at the end of the period again

**Table-3**  
**Turnover Table of Sex Ratios in AP at District level for 1901-2011**

	1901- Low (<985)	1901- High (>985)
2011- High (>992)	Adilabad, Nizamabad, Karimnagar, Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari (8 Districts)	Medak, Mahbubnagar, Hyderabad, Rangareddy, Krishna, Guntur, Chittoor (7 Districts)
2011-Low (<992)	Nalgonda, Prakasam, Nellore (3 District)	Warangal, Khammam, Kadapa, Kurnool, Anantapur (5 Districts)
Turnover Table of Sex Ratios in AP at District level for 2001-2011		
	2001- High (>978)	2001- Low (<978)
2011- High (>992)	Adilabad, Nizamabad, Karimnagar, Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur (10 Districts)	Warangal, Khammam, Chittoor (3 Districts)
2011-Low (<992)	Nellore (1 District)	Medak, Mahbubnagar, Nalgonda, Hyderabad, Rangareddy, Kadapa, Kurnool, Anantapur, Prakasam (9 Districts)

### 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 0-6 age 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 if there has been any untoward intervention against a particular sex even before birth, the mortality rates reflect the social factors which influence the survival chances of boys and girls. Table-4 presents the data on child sex ratios at district level in Andhra Pradesh for the years 2001 and 2011. There were 12 districts which are falling behind the state average of 978 in 1991. Out of those 12 districts all the four districts of Rayalaseema and two districts, Hyderabad and Rangareddy from Telangana six districts from Coastal Andhra are seen. All the other 13 districts are above the state average. In 2001 the scene was worse in the sense; the state average child sex ratio has come down to 965 from 978 in 1991. Along with this decline in child sex ratio, the numbers of districts which have recorded less than state average are 14 districts comprising of all the four Rayalaseema districts, seven districts from Telangana and three districts from Coastal Andhra are found.

**Table- 4**  
**Changes in Child Sex Ratio in Andhra Pradesh 2001-2011**

District Name	2001	2011	Difference
Adilabad	962	942	-20
Anantapur	959	927	-32
Chittoor	955	931	-24
Cuddapah	951	919	-32
East Godavari	978	969	-9
Guntur	959	948	-11
Hyderabad	943	938	-5
Karimnagar	962	937	-25
Khammam	971	958	-13
Krishna	963	953	-10
Kurnool	958	937	-21
Mahbubnagar	952	932	-20
Medak	964	954	-10
Nalgonda	952	921	-31
Nellore	954	945	-9
Nizamabad	959	946	-13
Prakasam	955	932	-23
Rangareddy	959	947	-12
Srikakulam	967	953	-14
Visakhapatnam	976	961	-15
Vizianagaram	980	955	-25
Warangal	955	912	-43
West Godavari	970	970	0
<b>Andhra Pradesh</b>	<b>961</b>	<b>943</b>	<b>-18</b>

In terms of absolute decline it is found that 18 of the 23 districts in 2001 have recorded less number of female children in the age 0-6 than their corresponding number in 1991. Nalgonda(-41), Visakhapatnam(-39), Mahabubnagar(-34), Adilabad(-33) and Nizamabad (-31) have recorded steep fall in child sex ratio during 1991-2001.

Table-5 gives the movement of districts from high to low or vice-versa during the period 2001-2011. The districts which have recorded higher child sex ratio than the state average in 2001 have more or less maintained their status in 2011 also. Three district which low in 2001 moved to high in 2011. District Nizamabad which recorded more than state average in 2001 have fallen down to low in 2011, while nine districts remained low both in 2001 and 2011. Biologically it was given that the sex ratio at birth is higher at 105 in favour of boys. This biological imbalance tends to decrease with the higher male infant mortality rate. Female child is biologically stronger to survive. However, one thing that is disturbing in this analysis is the overall decline in the child sex ratio. Analysing the attitudinal difference towards girl child a study conducted by Delhi University in 2005 clearly shows that in the northern Indian districts, there is clear cut discrimination against a girl child. In both urban and rural areas, it was generally expected that the girl child should shoulder more responsibilities. It is urban girl child rather than their rural counter part which shoulder more household responsibilities.

**Table-5**  
**Turnover Table of Child Sex Ratio in Andhra Pradesh 1991-2001**

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

## CONCLUSIONS

The above analysis brings out that in all aspects of demographic trends, Andhra Pradesh stands better than that of India. The state which registered a higher than the national average growth rate in 1991 has registered a sharp decline in population growth between 1991 and 2001. The decline which is more than 42% has drawn much attention. However, in-depth analysis at regional level shows that Telangana region is actually falling behind in terms of demographic progress. This region has recorded higher population growth all through the last fifty years except in the 1951-61 period, than the remaining two regions of Andhra Pradesh. This is evident not only in population growth, but also in other aspects. Growth rates of urban population also was high in Telangana in the last fifty years except in the decade 1951-61. Of the three regions in Andhra Pradesh, the Coastal Andhra is far better in many demographic variables compared to other regions. Sex ratio as measured by number of females per 1000 male members in population was always higher than the national average in Andhra Pradesh. If analysed in different time periods there was a decline the overall sex ratio during 1901-2001. This decline is by .71 percent reflecting a short fall 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 1981-2001, situation has slightly improved by recording about .31 percent increase in number of females. The child sex ratio has shown a short fall of 13 girl children during 1991-2001 period which will have some impact on the fertility rate in the times to come.



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