



## A STUDY ON IMPACT OF FAMILY WELFARE PROGRAMMES ON DECLINE OF FERTILITY AND MORTALITY RATES IN ANDHRA PRADESH FROM 1980-2011

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### **Abstract**

*The present paper aims at examine the family planning programmes in Andhra Pradesh have been evaluated in terms of the fertility indicators, death rates, Age-specific death rates and infant mortality rates and expectation of life at birth and births averts through family planning programmes based on secondary data collected from Sample Registration System, National Family Health Surveys (NFHS-I,II,&III).*

**Keywords:***Birth rate, Death rate, Natural growth rate, Couple Protection Rate, Age-Specific Death Rates, Infant Mortality Rates, Expectation Of Life At Birth and Births Averts.*

### **INTRODUCTION**

Andhra Pradesh is one of the Indian states which have shown a remarkable performance with respect to demographic transition over the last three decades. The impact of the transition can be seen in terms of growth of population and the change in the age structure of population and couple protection rate (CPR). Over the period, both the birth and death rate in the state had fallen to lowest levels. The death rates began to decline steadily, much earlier than the decline of birth rate. Although both the birth and death rates began to decline in the state from the 1960s, there was a sharp decline in mortality rate (CDR) during 1960s and 1970s. Ever since, the pace of decline slowed down especially since the 1990s the trend in mortality rate has almost flattened. Whereas the rate of decline in birth rate was slow during 1960s and 1970s. Thereafter, since 1980s relatively the higher rate of decline in birth rate (due to births avert) than that of mortality rate reduced the gap between birth and death rates (i.e. natural growth) and thus resulted in the sharp decline in rate of growth of population in the state. Thus, it turned to be sharp during 1980s and the sharpness in the rate of decline continued thereafter till date due to increasing couple protection rate (CPR). Hence, the fertility transition in the state, owing high contraceptive prevalence rate among the currently married women in reproductive age group and their higher exposure to family planning methods through media is a remarkable one. The state Andhra Pradesh has witnessed its lowest ever growth of population in the recent past i.e.1990 onwards due to births averted. Further, the change in age structure wherein the share of child population (0-15 years age) has drastically declined during the last two decades and there is a corresponding increase in the share of adult and old age population. The demographic profile of the population in terms of its size, composition and demographic indicators are important in determining the level of development. In the development perspective, age structure, distribution of population and contraception is a crucial demographic factor more than the size of the population. Now, the state is undergoing a rapid demographic transition along with the other south Indian states Kerala and Tamil Nadu. The three critical factors in the process of demographic transition are fertility, mortality and migration. However, it is observed that the role of migration is insignificant in the overall population dynamics in Andhra Pradesh and hence, fertility, mortality and effective contraception are the major contributing factors for the observed demographic transition in the state of Andhra Pradesh.

M. Munikrishna Reddy (1981) in his paper on Fertility and Family Planning Behaviour among Muslims: A Study in a Village in Andhra Pradesh undertaken in a Muslim Community in a village in Andhra Pradesh opined that the Muslim group is considered to be the largest minority community in India. Bose, A. (1993) in his book opined that Family planning in India continues to be synonymous with sterilization, although government policies strive to promote reversible methods. Indeed much of the recent fertility decline in India (especially in the southern states) is attributed to increasing acceptance of sterilization, particularly female sterilization. Family planning evolution and the widespread high use of sterilization has several roots. The family planning programmes in Andhra Pradesh have been evaluated in terms of the fertility indicators, death rates, Age-specific death rates and infant mortality rates and expectation of life at birth and births averts through family planning programmes.



Ziaminu (1986) opined that India, one of the 1st countries to develop family planning, had a 20 per cent decline in its birth rate from 1965-80. This, however, is not adequate in degree or speed. Study in progress of family welfare programmes in India reveals the trends in family welfare aspects over a period of time, which is useful for framing policy regarding the aspects of family welfare determinants.

## METHODOLOGY

The study is based on secondary source of data collected from Sample Registration System, National Family Health Surveys (NFHS-I,II,&III). The Data were analyzed by residence (Rural, Urban and Total) for some family welfare aspects.

## RESULTS AND DISCUSSION

### Birth, Death, Natural growth, Infant mortality and Total fertility

The annual estimates of Birth rate, Death rate, Natural growth rate, Infant mortality rate and Total fertility rate by residence during 1971-2007 in A.P are presented in the Table -1.

**Table-1: Birth rate, Death rate, Natural growth rate, Infant mortality rate and Total fertility rate by residence, 1971-2007**

Year	Birth rate			Death rate			Natural growth rate			Infant mortality rate			Total fertility rate		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1971	34.8	35.6	31.3	14.6	15.7	9.1	20.2	19.9	22.2	106	115	65	4.6	4.8	3.8
1972	35.8	35.7	36.7	16.1	17.0	11.6	19.7	18.7	25.1	116	128	65	4.7	4.8	4.4
1973	31.6	31.7	31.2	16.6	18.0	10.1	15.0	13.7	21.1	105	115	61	4.2	4.3	3.7
1974	34.6	35.2	32.2	15.3	16.5	10.0	19.3	18.7	22.2	111	120	70	4.6	4.8	4.0
1975	34.9	35.9	30.1	15.2	16.3	10.4	19.7	19.6	19.7	123	130	81	4.6	4.8	3.6
1976	33.7	34.6	29.8	14.5	15.6	9.5	19.2	19.0	20.3	122	127	97	4.4	4.6	3.6
1977	32.3	33.3	27.7	14.2	15.6	8.0	18.1	17.7	19.7	125	136	62	4.1	4.3	3.3
1978	33.6	34.7	28.6	13.3	14.3	8.9	20.3	20.4	19.7	117	127	66	4.4	4.6	3.3
1979	32.1	32.8	29.4	12.6	13.6	8.0	19.5	19.2	21.4	106	114	65	4.0	4.2	3.4
1980	31.0	32.0	26.9	11.3	12.4	6.8	19.7	19.6	20.1	92	103	40	3.8	4.0	3.0
1981	31.7	32.7	27.5	11.1	12.2	6.5	20.6	20.5	21.0	86	93	52	4.0	4.2	3.0
1982	31.2	32.0	28.0	10.6	11.8	6.5	20.6	20.2	21.5	79	86	50	3.9	4.2	3.1
1983	30.8	31.5	28.4	10.4	11.2	7.2	20.4	20.3	21.2	77	83	54	3.9	4.1	3.2
1984	31.2	31.4	30.6	11.0	11.7	8.6	20.2	19.7	22.0	78	81	66	4.0	4.1	3.5
1985	29.9	29.8	30.2	10.3	11.1	7.3	19.6	18.7	22.9	83	90	57	3.7	3.8	3.3
1986	31.6	32.4	28.7	9.9	10.7	7.1	21.7	21.7	21.6	82	87	59	3.8	4.1	3.1
1987	30.3	30.9	28.2	9.9	10.7	7.3	0.4	20.2	20.9	79	84	58	3.6	3.8	3.1
1988	27.4	27.6	26.3	10.2	10.9	7.4	17.2	16.7	18.9	83	89	63	3.3	3.4	2.8
1989	25.9	26.3	24.4	9.5	10.2	6.7	16.4	16.1	17.7	81	88	53	3.1	3.2	2.6
1990	26.3	26.6	25.1	9.1	9.7	6.8	17.2	16.9	18.3	70	73	56	3.1	3.2	2.6
1991	26.0	26.5	24.4	9.7	10.5	6.7	16.3	16.0	17.7	73	77	56	3.0	3.1	2.5
1992	24.5	25.1	22.3	9.2	10.1	6.0	15.3	15.0	16.3	71	78	42	2.8	2.9	2.3
1993	24.3	24.6	23.5	8.6	9.7	5.6	15.7	14.9	17.9	64	70	46	2.7	2.8	2.5
1994	23.8	24.1	22.9	8.3	9.0	6.5	15.5	15.1	16.4	65	69	52	2.7	2.7	2.4
1995	24.2	24.8	22.5	8.4	9.2	5.9	15.8	15.6	16.6	67	74	43	2.7	2.9	2.3
1996	22.8	23.5	20.6	8.4	9.2	5.9	14.4	14.3	14.7	65	73	38	2.5	2.7	2.1
1997	22.5	23.1	20.5	8.3	9.1	5.9	14.2	14.0	14.6	63	70	37	2.5	2.6	2.1
1998	22.4	22.8	21.1	8.8	9.7	6.1	13.6	13.1	15.0	66	75	38	2.4	2.6	2.1



1999	21.7	22.0	20.6	8.2	9.0	5.7	13.5	13.1	15.0	66	75	37	2.4	2.5	2.1
2000	21.3	21.7	20.1	8.2	9.0	5.8	13.1	12.7	14.3	65	74	36	2.3	2.5	2.0
2001	21.0	21.4	19.7	8.2	9.0	5.6	12.8	12.4	14.1	66	74	40	2.3	2.4	2.0
2002	20.7	21.1	19.3	8.1	8.9	5.5	12.6	12.2	13.8	62	71	35	2.2	2.3	1.9
2003	20.4	20.9	19.1	8.0	8.8	5.4	12.4	12.1	13.3	59	67	33	2.2	2.3	1.9
2004	19.0	20.2	16.1	7.0	7.9	5.0	12.0	12.3	11.1	59	65	39	2.1	2.3	1.6
2005	19.1	20.1	16.7	7.3	7.9	5.9	11.8	12.2	10.8	57	63	39	2.0	2.2`	1.7
2006	18.9	19.8	16.5	7.3	7.9	5.8	11.6	11.9	10.7	56	62	38	2.0	2.1	1.6
2007	18.7	19.5	16.7	7.4	8.0	5.7	11.3	11.5	11.0	54	60	37	1.9	2.0	1.6
LGR	-1.84	-1.80	-1.84	-2.29	-2.23	-1.85	-1.55	-1.50	-2.00	-2.23	-2.11	-2.09	-2.52	-2.46	-2.47
CGR	-1.87	-1.82	-1.89	-2.19	-2.13	-1.76	-1.44	-1.55	-2.33	-2.16	-2.03	-2.07	-2.58	-2.52	-2.52

### Birth Rate

The total birth rate varies from 35.8 in 1972 and 18.7 in 2007 showing an ever decreasing trend. The birth rate is above 30 per cent up to 1984 and later on it declined to below 20. The LGR is 1.84 and CGR is -1.87 and indicate that the birth rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good. The birth rate in rural India ranges from 35.9 in 1975 and 19.5 in 2007 showing a declining trend. The birth rate is above 30 per cent up to 1995 and later on it declined to 20. The LGR is -1.80 and CGR is -1.82 and indicate that the birth rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good but is higher than the birth rate of urban India. The urban birth rate varies between 36.7 in 1972 and 16.7 in 2007 showing an ever decreasing trend. The birth rate is less than 30 per cent majority of the years of the study period. The LGR is -1.84 and CGR is -1.89 and indicate that the birth rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good.

### Death Rate

The total death rate varies from 16.6 in 1973 and 7.4 in 2004 showing an ever decreasing trend. The death rate is above 30 per cent up to 1990 and later on it declined to 20. The LGR is -2.29 and CGR is -2.19 and indicate that the death rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good. The death rate in rural India ranges from 18 in 1973 and 1.9 in 2004-06 showing a declining trend. The death rate is above 30 per cent up to 1995 and later on it declined to 20. The LGR is -2.23 and CGR is -2.13 and indicate that the death rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good but is higher than the death rate of urban India. The urban death rate varies between 11.6 in 1972 and 5.0 in 2004 showing an ever decreasing trend. The death rate is less than 30 per cent majority of the years of the study period. The LGR is -1.85 and CGR is -1.76 and indicate that the death rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good.

### Natural growth Rate

The total natural growth rate varies from 20.6 in 1981-82 and 0.4 in 1987 showing an ever decreasing trend. The LGR is 1.55 and CGR is 1.44 and indicate that the natural growth rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good. The natural growth rate in rural India ranges from 21.7 in 1986 and 11.5 in 2007 is showing a declining trend. The LGR is 1.50 and CGR is -1.55 and indicate that the natural growth rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good but is higher than the natural growth rate of urban India. The urban natural growth rate varies between 25.1 in 1972 and 10.9 in 2006 showing an ever decreasing trend. The LGR is -2.0 and CGR is -2.33 and indicate that the natural growth rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good.



### Infant mortality Rate

The total infant mortality rate varies from 12.5 in 1977 and 54 in 2007 showing an ever decreasing trend. The LGR is -2.23 and CGR is -2.16 and indicate that the infant mortality rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good. The infant mortality rate in rural India ranges from 136 in 1977 and 60 in 2007 is showing a declining trend. The LGR is -2.11 and CGR is -2.03 and indicate that the infant mortality rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good but is higher than the infant mortality rate of urban India. The urban infant mortality rate varies between 97 in 1977 and 33 in 2003 showing an ever decreasing trend. The infant mortality rate is less than 30 per cent majority of the years of the study period. The LGR is -2.04 and CGR is -2.07 and indicate that the infant mortality rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good.

### Total fertility Rate

The total fertility rate varies from 4.7 in 1972 and 1.9 in 2007 showing an ever decreasing trend. The LGR is -2.52 and CGR is -2.58 and indicate that the total fertility rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good. The total fertility rate in rural India ranges from 4.8 in 1971-72 and 1.9 in 2007 is showing a declining trend. The LGR is -2.46 and CGR is -2.52 and indicate that the total fertility rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good but is higher than the total fertility rate of urban India. The urban total fertility rate varies between 4.4 in 1972 and 1.6 in 2007 showing an ever decreasing trend. The LGR is -2.42 and CGR is -2.57 and indicate that the total fertility rate is decreasing during the study period which is due to awareness of the people on population growth and its consequences and is a good.

### Fertility indicators

The Fertility indicators by residence from 1971 to 2007 at the interval of 5 years have been presented in the Table-2.

**Table-2: Fertility indicators by residence from 1971 to 2007 at interval of 5 years**

Indicators	Age group	1971	1976	1981	1986	1991	1996	2001	2006	2007	LGR	CGR
1	2	3	4	5	6	7	8	9	10	11		
<b>Total</b>												
Age specific fertility rates	15-19	140.1	138.3	122.3	144.1	121.5	119.3	95.7	67.6	55.8	-0.1	-10.3
	20-24	244.8	251.5	234.7	255.1	217.9	221.5	229.6	191.1	207.5	0.0	-2.7
	25-29	215.8	210.6	195.9	179.7	140	105.7	95.7	98.4	88.6	-0.1	-12.2
	30-34	162.4	141.3	124.6	109.2	67.1	43.2	25.6	28	21.5	-0.2	-24.7
	35-39	100.3	86	73.7	50.5	28.6	14.4	10.7	6.5	5.8	-0.3	-33.3
	40-44	43.8	35.4	28.9	21.1	12.3	4.4	2.3	2.1	1.5	-0.3	-37.9
	45-49	14.7	14.1	9.7	9.1	4.3	0.4	0.8	0	0.3	-0.4	-
General Fertility Rate		146.8	138.4	127.1	129.3	102	88.9	78.4	68.5	66.1	-0.1	-10.5
Total Fertility Rate		4.6	4.4	4	3.8	3	2.5	2.3	2	1.9	-0.1	-11.6
Gross Reproduction Rate		2.3	2.1	2	1.9	1.4	1.2	1.1	0.9	0.9	-0.1	-12.4
<b>Rural</b>												
Age specific fertility rates	15-19	148.9	147.2	131.1	158.9	133	136.3	111.2	82.7	65.7	-0.1	-8.7



	20-24	253.7	257	244.9	264.3	218.8	232.4	242	205.5	230.6	0.0	-2.0
	25-29	220.7	219.3	206.8	187.9	145.3	105.1	93.6	99.7	86.5	-0.1	-12.9
	30-34	168.8	145.9	133.1	118.1	70.8	44.8	24.4	27.9	19.6	-0.2	-25.8
	35-39	103.7	91.2	79	52.5	29.9	16.6	9.7	6.5	5.5	-0.3	-34.1
	40-44	46.6	36.7	31.7	23.2	13.5	4.9	2.4	2.2	1.4	-0.3	-38.5
	45-49	15.2	15.4	10.3	10.7	4.9	0.5	1.1	0.1	0.4	-0.3	-46.2
General Fertility Rate		151.3	142.8	132.7	135	105.2	93.3	81.4	73.3	70.3	-0.1	-10.1
Total Fertility Rate		4.8	4.6	4.2	4.1	3.1	2.7	2.4	2.1	2	-0.1	-11.6
Gross Reproduction Rate		2.3	2.2	2.1	2	1.5	1.3	1.2	1	1	-0.1	-11.4
<b>Urban</b>												
Age specific fertility rates	15-19	100.5	98.6	86.7	100.9	80	71.7	50.3	32.6	32.6	-0.1	-14.3
	20-24	210.4	229.6	200.6	227.5	215	191.7	197.3	159.5	159.2	0.0	-3.9
	25-29	192.1	178.3	158.5	155.8	123.3	107.3	101.3	95.7	93.2	-0.1	-9.6
	30-34	131.5	118.2	92.5	77.6	55.1	38.7	29.3	28.1	25.9	-0.2	-20.6
	35-39	82.1	60.8	49	43.9	23.7	7.5	13.6	6.4	6.2	-0.3	-30.0
	40-44	28.3	1.2	16	13	7.7	2.5	2.2	1.8	1.8	-0.3	-22.7
	45-49	12.3	7.3	7.1	2.6	2	0	0	0	0	-0.4	-
General Fertility Rate		125.1	118.6	105.1	110.6	90.8	76.1	69.8	57.4	56.6	-0.1	-10.3
Total Fertility Rate		3.8	3.6	3	3.1	2.5	2.1	2	1.6	1.6	-0.1	-11.1
Gross Reproduction Rate		1.9	1.9	1.5	1.5	1.2	1	0	0.7	0.8	-0.2	-

### Total

The table-2 shows that the fertility in 15 – 19 years decreases from 140.1 in 1971 to 55.8 in 2007. The LGR and CGR are negative at -0.1 and -10.3 showing declining trend. In the age group of 20-24 years, the fertility was 251.5 in 1976 to 191.1 in 2006 and the LGR and CGR are negative at 2.0 and 2.7 showing declining trend. In the age group of 25-29 years, the fertility varies from 215.8 in 1971 to 88.6 in 2007. The LGR and CGR are negative at -0.1 and -12.2 showing declining trend. In the age group of 30-34 years, the fertility varies from 162.4 in 1971 to 21.5 in 2007. The LGR and CGR are negative at 0.2 and 24.7 showing declining trend. In the age group of 35-39 years, the fertility varies from 100.3 in 1971 to 51.8 in 2007. The LGR and CGR are negative at 17.6 and 17 showing declining trend. In the age group of 40-44 years, the fertility varies from 43.8 in 1971 to 1.5 in 2007. The LGR and CGR are negative at 0.3 showing declining trend. In the age group of 45-49 years, the fertility varies from 14.7 in 1971 to 0 in 2006 showing a declining trend. The LGR and CGR are negative at 18.3 and 18.6 showing declining trend.

The general fertility rate varies from 148.6 in 1971 to 66.1 in 2007 showing a declining trend. The LGR and CGR are negative at 0.1 and 10.5 showing declining trend. The total fertility rate varies from 4.6 in 1971 to 1.9 in 2007 showing a declining trend. The LGR and CGR are negative at 0.1 and 12.4 showing declining trend. The gross reproductive rate ranges between 2.3 in 1971 to 0.9 in 2006-07 showing a declining trend. The LGR and CGR are negative at 7.6 and 7.4 showing declining trend.



### Rural

The table shows that the fertility in 15 – 19 years varies from 1148.9 in 1971 to 65.7 in 2007. The LGR and CGR are negative at 0.1 and 8.7 showing declining trend. In the age group of 20-24 years, the fertility varies from 257 in 1976 to 205.5 in 2006. The LGR and CGR are negative at 0 and 2.0 showing declining trend. In the age group of 25-29 years, the fertility varies from 220.7 in 1971 to 86.5 in 2007. The LGR and CGR are negative at 0.1 and 12.9 showing declining trend. In the age group of 30-34 years, the fertility varies from 168.8 in 1971 to 17.6 in 2007. The LGR and CGR are negative at 0.2 and 25.8 showing declining trend. In the age group of 25-39 years, the fertility varies from 103.7 in 1971 to 5.5 in 2007. The LGR and CGR are negative at 0.3 and 34.1 showing declining trend. In the age group of 40-44 years, the fertility varies from 46.6 in 1971 to 1.4 in 2007. The LGR and CGR are negative at 0.3 showing declining trend. In the age group of 45-49 years, the fertility varies from 15.4 in 1976 to 0.1 in 2006 showing a declining trend. The LGR and CGR are negative at 0.3 and 46.2 showing declining trend.

The general fertility rate varies from 151.3 in 1971 to 70.3 in 2007. The LGR and CGR are negative at 0.1 and 10.1 showing declining trend. The total fertility rate varies from 4.8 in 1971 to 2 in 2007. The LGR and CGR are negative at 0.1 and 11.6 showing declining trend. The gross reproductive rate ranges between 2.3 in 1971 to 1 in 2007 showing a declining trend. The LGR and CGR are negative at 0.1 and 11.4 showing declining trend.

### Urban

The table shows that the fertility in 15 – 19 years varies from 100.5 in 1971 to 32.6 in 2007. The LGR and CGR are negative at 0.1 and 14.3 showing declining trend. In the age group of 20-24 years, the fertility varies from 229.6 in 1981 to 159.2 in 2006. The LGR and CGR are negative at 0 and 3.9 showing declining trend. In the age group of 25-29 years, the fertility varies from 192.1 in 1971 to 93.2 in 2007. The LGR and CGR are negative at 0.1 and 9.6. In the age group of 30-34 years, the fertility varies from 131.5 in 1971 to 25.9 in 2007. The LGR and CGR are negative at 0.2 and 20.6 showing declining trend. In the age group of 35-39 years, the fertility varies from 82.1 in 1971 to 6.2 in 2007. The LGR and CGR are negative at 0.3 and 30 showing declining trend. In the age group of 40-44 years, the fertility varies from 28.3 in 1971 to 1.8 in 2007. The LGR and CGR are negative at 0.3 and 22.7 showing declining trend. In the age group of 45-49 years, the fertility varies from 12.3 in 1971 to 0 in 2004-07 showing a declining trend. The LGR is negative at 0.4 showing declining trend.

The general fertility rate varies from 125.1 in 1971 to 56.6 in 2007. The LGR and CGR are negative at 0.1 and 10.3 showing declining trend. The total fertility rate varies from 3.8 in 1971 to 1.6 in 2007. The LGR and CGR are negative at 0.1 and 11.1 showing declining trend. The gross reproductive rate ranges between 1.9 in 1971 and 1985 to 0 in 2004 showing a declining trend. The LGR and CGR are negative at 7.6 and 7.4 showing declining trend.

Further, the fertility indicators of A.P. during 2008-2011 have been calculated and presented in the Table-3.

**Table-3: FERTILITY INDICATORS OF A.P. (2006-2011)**

Sl. No.	State	Years	General Fertility Rate (GFR)			Total Fertility Rate (TFR)			Gross Reproduction Rate (GRR)		
			Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7	8	9	10	11	12
1.	Andhra Pradesh	2006	68.5	73.3	57.4	2.0	2.1	1.6	0.9	1.0	0.7
		2007	66.1	70.3	56.6	1.9	2.0	1.6	0.9	1.0	0.8
		2008	64.6	68.3	56.5	1.8	2.0	1.6	0.9	0.9	0.7
		2009	64.6	67.8	57.4	1.9	2.0	1.6	0.9	0.9	0.8
		2010	62.2	64.8	56.5	1.8	1.9	1.6	0.9	0.9	0.7
		2011	60.7	63.6	54.4	1.8	1.9	1.7	0.9	0.9	0.8

The General Fertility Rate (GFR) varies from 64.6 in 2008 to 60.7 in 2011 showing a declining trend. It is 68.3 in 2008 and 63.6 in 2011 in rural areas and shows a declining trend. The urban GFR varies from 56.5 in 2008 to 54.4

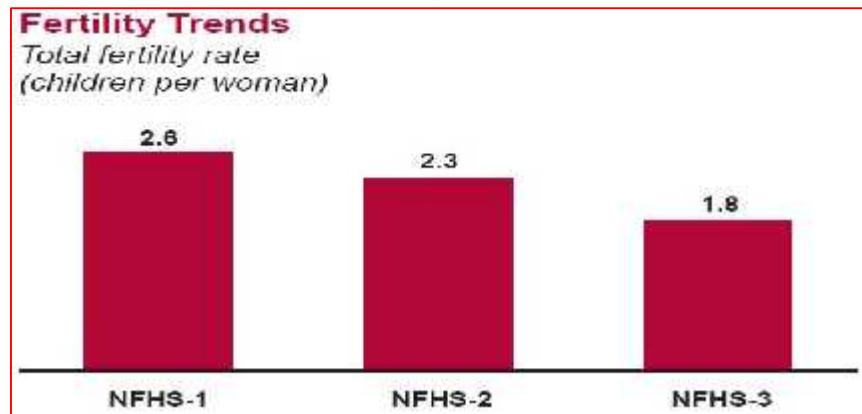


in 2011 showing a declining trend. It is clearly observed that the GFR is higher in rural areas and very low in urban areas. Moreover, the GFR gradually declined in both rural and urban areas.

The Total Fertility Rate (TFR) varies from 2.0 in 2006 to 1.8 in 2011 showing a slight declining trend. It is 2.1 in 2006 and 1.9 in 2011 in rural areas and shows a fractional declining trend. The urban TFR varies from 1.6 during 2006 – 2010 but fractionally increased to 1.7 in 2011. It is clearly observed that the TFR is higher in rural areas and very low in urban areas. Moreover, the TFR gradually declined in both rural and urban areas.

The Gross Reproductive Rate (GRR) is static at 0.9 from 2006 to 2011 showing no change. It is 1.0 in 2006 and 2007 and 0.9 thereafter till 2011 in rural areas and shows a fractional declining trend. The urban GRR varies with up and down with 0.7 and 0.8 during 2006- 2011. It is clearly observed that the GRR is higher in rural areas and very low in urban areas. Moreover, the GRR gradually declined in both rural and urban areas. If one can observe three NFHS data can clearly assess the fertility trends in Andhra Pradesh. (Figures: 1a, b and c).

Fig:1a



### Fertility Levels

At current fertility levels, a woman in Andhra Pradesh will have an average of 1.8 children in her lifetime, which is below replacement level. Fertility decreased by 0.3 children between NFHS-1 and NFHS-2; it decreased more rapidly (by 0.5 children) between NFHS-2 and NFHS-3. Andhra Pradesh, along with Goa and Tamil Nadu, exhibits the lowest fertility among all Indian states. Among births in the three years preceding the survey, only 8 per cent were of birth order four or higher.

Fertility in rural areas is 1.8 children per woman, slightly higher than in urban areas where the fertility rate is 1.7 children per woman. The total fertility rate for Muslims (1.9) is slightly higher than the rate for Hindus (1.8), but the difference of 0.1 children has been cut from 0.3 children since NFHS-2 because the fertility of Muslims fell more rapidly than the fertility of Hindus the seven years between NFHS-2 and NFHS-3. The greatest differentials in fertility are by wealth. At current fertility rates, women in the lowest wealth quintile will have almost one child more than women in the highest wealth quintile.

### Fertility variable with education and household wealth Teenage pregnancy

Among young women age 15-19 in Andhra Pradesh 18 percent have already begun child-bearing, slightly higher than the national average (16%). Young women in rural areas are more likely to be mothers than young women in urban areas (22% and 13% respectively).

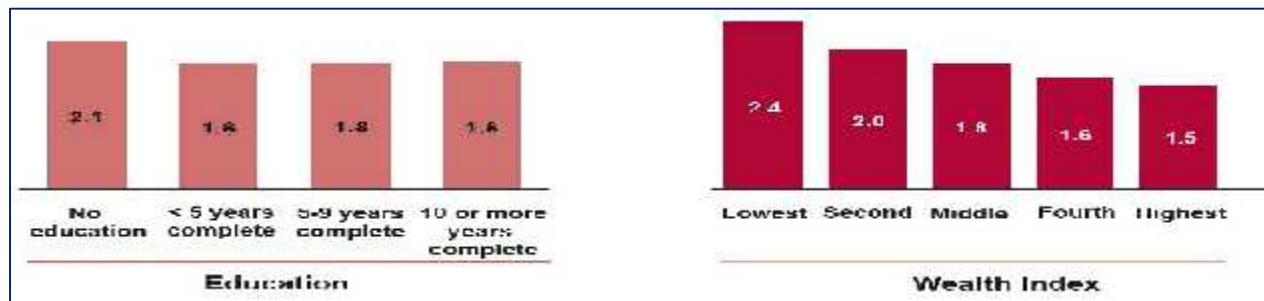
### Birth Intervals

The median interval between births in Andhra Pradesh is in about 31 months. Sixty-one percent of non-first-order births occur within three years of a previous birth, including 12 per cent of births that take place within 8 months



of the last birth and 31 per cent that take place within 24 months. Research shows that waiting at least three years between children reduces the risk of infant mortality.

**Fig: 1b, Fertility variance with educations and Household wealth**



*Total fertility rate (children per women)*

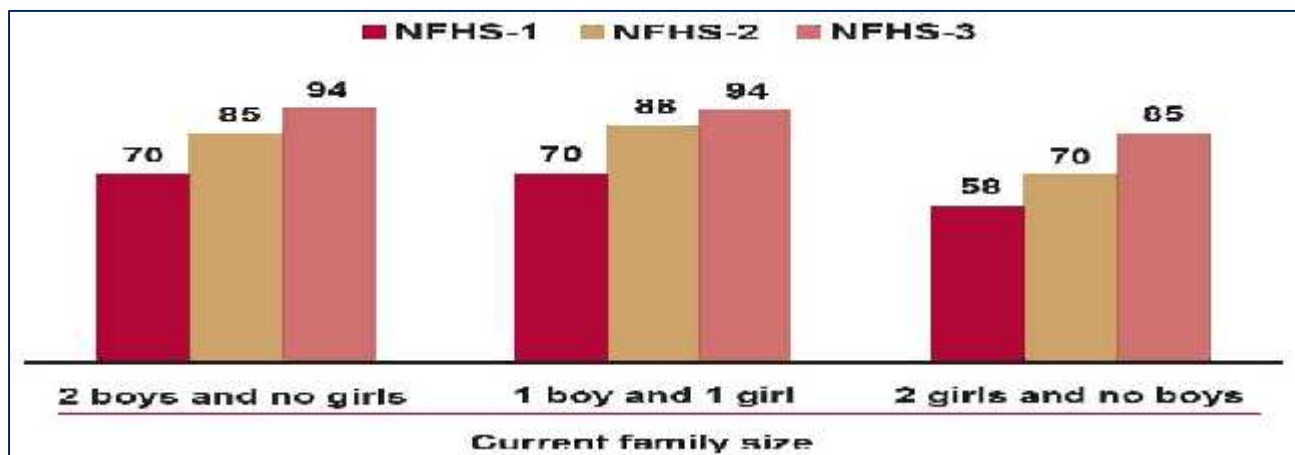
### Fertility Preferences

Almost three-quarters of married women (73%) and men (74%) do not want any more children, are already sterilized, or have a spouse who is sterilized. Among those who want to have another child, 17 per cent of women and 19 per cent of men would like to wait at least two years. Eight out of 10 ever-married women and men consider the ideal family size to be two or fewer children.

In Andhra Pradesh, there is a mild preference for sons. Nine percent of women and 12 percent of men want more sons than daughters, but only 2-3 per cent of currently married than sons. However, most men and women would like to have at least one son and at least one daughter.

The desire for more children is strongly affected by women's number of sons. For example, among women with two children, those with one or two sons (94%) are more likely to want no more children than those with two daughters (85%). Notably, however, the proportion of currently married women with two children who want no more children is higher in NFHS-3 than it was in NFHS-2, irrespective of women's number of sons. Unplanned pregnancies are relatively uncommon. If all women were to have only the number of children they wanted, the total fertility rate would be 1.5 instead of 1.8.

**Fig: 1c Percentage Distribution of Births by Order of Births by Residence**



**Fertility Preferences**





The percentage distribution of births by order of births by residence during 2006-11 in A. P has been presented in the table-4.

**Table-4: Percentage Distribution of Live Births by Order of Birth in A.P (2005 -2011)**

Sl. No.	State	Years	First	Second	Third	Fourth & Higher
1	2	3	4	5	6	7
1.	Andhra Pradesh	2005	46.3	41.2	9.3	3.3
		2006	47.1	38.4	11.0	3.6
		2007	49.9	37.9	9.6	2.5
		2008	50.9	38.0	8.9	2.2
		2009	48.5	41.0	8.5	2.0
		2010	53.8	37.4	7.0	1.7
		2011	48.5	40.9	8.9	1.3

### 1<sup>st</sup> Order birth

The total 1<sup>st</sup> order birth varies from 46.3 in 2005 and increased to 53.8 in 2010 and decreased ever since and indicates the preference of single child.

### 2<sup>nd</sup> Order birth

The total 1<sup>st</sup> order birth varies from 41.2 in 2005 and 41 in 2009 and ever since shows and up and down trend and indicates the preference of single child.

### 3<sup>rd</sup> Order birth

The total 1<sup>st</sup> order birth varies from 9.3 in 2005 and 1.3 in 2011 showing a declining trend and indicates the preference of single child.

It is concluded that the percentage of live births decreased in both rural and urban areas, and the percentage of people wishing for higher order of birth is drastically reduced. But the declining very high in urban areas compared to their rural counter- parts. However, it is expected results, become urban areas have more medical and infrastructure facilities than rural areas. Thus, now it is the time for policy makers to look into it and put efforts to reduce the birth orders in rural Andhra Pradesh.

### Crude Birth Rates in Rural and Urban Areas

The crude birth rates in A.P during 1981-2012 have been presented in the table-5.

**Table-5:Crude Birth Rates in Rural and Urban Areas of Andhra Pradesh 1981, 1991, 2001, 2005 to 2012**

Sl. No.	State/Union /Territory	Area	Crude Birth Rate										
			1981	1991	2001	2005	2006	2007	2008	2009	2010	2011	2012
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Andhra Pradesh	Total	31.7	26.0	21.0	19.1	18.9	18.7	18.4	18.3	17.9	17.5	17.5
		Rural	32.7	26.5	21.4	20.1	19.8	19.5	19.1	18.8	18.3	17.8	17.9
		Urban	27.5	24.4	19.7	16.7	16.5	16.7	16.8	17.0	16.7	16.6	16.6

The table-4 reveals that the total crude birth rate of Andhra Pradesh varies from 31.7 per cent in 1981 to 17.5 per cent in 2012. It shows a 14.2 per cent decrease in birth rate over 3 decades. The crude birthrate of rural A.P ranges between 32.7 in 1981 and 17.9 in 2012. It shows around 14 per cent decrease indicating the health facilities. The



urban crude birth rate is very low compared to total and rural ones. It varies from 27.5 in 1981 to 16.6 in 2012 showing approximately at 11 per cent decline. It is concluded that the crude birth rate in total or rural or urban is showing a declining trend. If birth orders can be reduced then crude birth rates automatically decline, hence the state administration can concentrate on bringing the birth orders low in rural Andhra Pradesh.

### Total Fertility Rate

The total fertility rates of A.P by residence during 2006-11 have been presented in the table-6

**Table-6: Total Fertility Rate (TFR) by Residence of Andhra Pradesh (2006-2011)**

S. No	State	Crude Birth Rate																	
		Total						Rural						Urban					
		2006	2007	2008	2009	2010	2011	2006	2007	2008	2009	2010	2011	2006	2007	2008	2009	2010	2011
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.	Andhra Pradesh	2.0	1.9	1.8	1.9	1.8	1.8	2.1	2.0	2.0	2.0	1.9	1.9	1.6	1.6	1.6	1.6	1.6	1.7

The total TFR is 2.0 in 2006 and continuously decreased to 1.8 in 2011 owing to various reasons while, the TRF of rural areas varies from 2.1 in 2006 to 1.9 in 2011 showing a slight variation. Similarly the TFR of urban people is 1.6 during 2006-10 and 1.7 in 2011 showing a slight decline. It is very interesting to note that the TFR of Andhra Pradesh is below the National average, but when compared to rural- urban differential within Andhra Pradesh still rural areas have higher total fertility rates than urban areas.

### Death rate by sex and residence

The Estimated Death rate by sex and residence of A.P, 1971-2007 has been shown in the Table-7.

**Table-7: Death rate by sex and residence (1971-2007)**

Year	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1	2	3	4	5	6	7	8	9	10
1971	14.6	15.3	14.0	15.7	16.2	15.3	9.1	9.7	8.7
1972	16.1	16.3	16.0	17.0	17.3	17.1	11.6	11.8	10.8
1973	16.6	16.8	16.4	18.0	18.2	18.0	10.1	10.3	9.6
1974	15.3	15.6	15.2	16.5	16.8	16.2	10.0	10.2	9.7
1975	15.2	15.2	15.2	16.3	15.3	16.6	10.4	10.9	9.9
1976	14.5	14.6	14.5	15.6	15.6	15.7	9.5	10.1	8.9
1977	14.2	14.3	14.0	15.6	15.6	15.3	8.0	8.3	7.8
1978	13.3	14.0	12.6	14.3	15.0	13.6	8.9	9.3	8.4
1979	12.6	13.3	11.9	13.6	14.7	12.6	8.0	7.4	8.7
1980	11.3	12.4	10.3	12.4	13.6	11.2	6.8	7.4	6.2
1981	11.1	11.6	10.6	12.2	12.8	11.6	6.5	6.6	6.5
1982	10.6	11.2	10.1	11.8	12.4	11.2	6.5	6.8	6.1
1983	10.4	11.1	9.5	11.2	12.0	10.4	7.2	8.1	6.3
1984	11.0	11.2	10.8	11.7	11.8	11.5	8.6	9.0	8.2



1985	10.3	10.8	9.8	11.1	11.4	10.8	7.3	8.2	6.3
1986	9.9	10.2	9.6	10.7	10.9	10.5	7.1	7.5	6.6
1987	9.9	10.4	9.4	10.7	11.0	10.3	7.3	8.3	6.3
1988	10.2	10.8	9.5	10.9	11.6	10.2	7.4	7.7	7.1
1989	9.5	10.3	8.7	10.2	11.1	9.3	6.7	6.9	6.5
1990	9.1	9.6	8.5	9.7	10.3	9.1	6.8	7.4	6.2
1991	9.7	10.4	9.0	10.5	11.3.	9.8	6.7	7.3	6.1
1992	9.2	9.6	8.9	10.1	10.4	9.7	6.0	6.2	5.8
1993	8.6	9.0	8.1	9.7	10.1	9.3	5.6	6.2	4.9
1994	8.3	9.0	7.6	9.0	9.7	8.2	6.5	7.1	5.9
1995	8.4	9.0	7.7	9.2	9.8	8.6	5.9	6.5	5.2
1996	8.4	8.6	8.2	9.2	9.4	8.9	5.9	6.0	5.8
1997	8.3	9.3	7.4	9.1	10.2	8.0	5.9	6.4	5.4
1998	8.8	9.5	8.2	9.7	10.3	9.1	6.1	6.8	5.4
1999	8.2	9.0	7.4	9.0	9.8	8.1	5.7	6.4	5.0
2000	8.2	8.9	7.5	9.0	9.9	8.1	5.8.	6.0	5.7
2001	8.2	9.2	7.2	9.0	10.3	7.7	5.6	5.7	5.5
2002	8.1	9.0	7.1	8.9	9.9	7.9	5.5	6.1	5.0
2003	8.0	8.9	7.0	8.8	9.9	7.8	5.4	6.0	4.8
2004	7.0	8.0	6.1	7.9	8.9	6.8	5.0	5.6	4.3
2005	7.3	7.7	6.9	7.9	8.4	7.4	5.9	6.1	5.7
2006	7.3	8.5	6.1	7.9	9.4	6.5	5.8	6.5	5.1
2007	7.4	8.1	6.6	8.0	8.9	7.2	5.7	6.2	5.3
LGR	-2.29	-2.03	-2.60	-2.23	-1.92	-2.57	-1.85	-1.68	-2.01
CGR	-2.19	-1.93	-2.50	-2.13	-1.83	-2.47	-1.76	-1.59	-1.91

### Total

The table shows that the total estimated death rate ranges from 16.6 in 1973 to 7 in 2004 and shows a negative trend which is a good sign. Both the LRG and CGR are negative at 2.29 and 2.19 showing a declining trend. The male estimated death rate ranges from 16.8 in 1973 to 7.7 in 2005 and shows a negative trend which is a good sign. Both the LRG and CGR are negative at 2.03 and 1.93 showing a declining trend. The female estimated death rate ranges from 16.4 in 1973 to 6.1 in 2004 and 2006 and shows a negative trend which is a good sign. Both the LRG and CGR are negative 2.60 and 2.50.

### Rural

The table shows that the total estimated death rate ranges from 18 in 1973 to 7.9 in 2006 and shows a negative trend which is a good sign. Both the LRG and CGR are negative at 2.23 and 2.13 showing a declining trend. The male estimated death rate ranges from 18.2 in 1973 to 8.4 in 2005 and shows a negative trend which is a good sign. Both the LRG and CGR are negative at 1.92 and 1.83 showing a declining trend. The female estimated death rate ranges from 18.0 in 1973 to 6.5 in 2005 and shows a negative trend which is a good sign. Both the LRG and CGR are negative 2.52 and 2.47.

### Urban

The table shows that the total estimated death rate ranges from 10.1 in 1973 to 5 in 2004 and shows a negative trend which is a good sign. Both the LRG and CGR are negative at 1.85 and 1.76 showing a declining trend. The male estimated death rate ranges from 10.3 in 1973 to 5.6 in 2004 and shows a negative trend which is a good sign. Both the LRG and CGR are negative at 1.68 and 1.59 showing a declining trend. The female estimated death rate ranges from 9.6 in 1973 to 4.3 in 2004 and shows a negative trend which is a good sign. Both the LRG and CGR are negative 2.01 and 1.91.



### Crude Death Rates (CDR) in A.P

The crude death rates of A.P during 1981-2012 have been presented in the table-8.

**Table-8: Crude Death Rates (CDR) in Andhra Pradesh (1981, 1991, 2001, 2005 to 2012)**

Sl. No.	State	Area	Crude Death Rate										
			1981	1991	2001	2005	2006	2007	2008	2009	2010	2011	2012
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Andhra Pradesh	Total	11.1	9.7	8.2	7.3	7.3	7.4	7.5	7.6	7.6	7.5	7.4
		Rural	12.2	10.5	9.0	7.9	7.9	8.0	8.3	8.5	8.6	8.5	8.4
		Urban	6.5	6.7	5.6	5.9	5.8	5.7	5.7	5.5	5.4	5.2	5.1

As per the above data the total crude death rate (CDR) shows a continuous decreasing trend from 11.1 in 1981 to 7.4 in 2012. The CDR in rural areas decreased from 12.2 in 1981 to 8.4 in 2011 while in urban areas the CDR is low at 6.5 in 1981 and decreased to 5.1 in 2012. It is concluded the CDR is comparatively higher in rural areas due to poor living and health conditions and hence even though there is decrease it is not on par with urban locality. Thus, the state policy makers put an effort to establish required health facilities in rural areas, this will automatically reduce the CDR in this areas.

### Age Specific Mortality Rate by Sex and Residence

The Age specific mortality rate by sex and residence from 1991 to 2007 at interval of 5 years has been presented in the Table-9.

The table shows that the age specific mortality rate by sex decreased in all the ages from 1991 to 2007 in total category, rural and urban category and males and females. Moreover the LGR and CGR indicate negative values. But the age specific mortality rate is higher in rural areas and lower in urban areas. It is also higher in females than males.

The declined age specific mortality is owing to increasing literacy, health due to advanced medicine and medical facilities apart from awareness on mortality and its consequences among the women in urban areas in general, and rural areas in particular. Hence, similar trend is observed in all the respects, viz., total, rural, urban and especially various age groups.

### Total

The table shows that the total infant mortality rate varies from 125 in 1977 to 54 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of infant mortality rate. Similarly the rural infant mortality rate varies from 136 in 1977 to 60 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of infant mortality rate. Likewise, the urban infant mortality rate varies from 97 in 1976 to 37 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of infant mortality rate.

### Neo-Natal Mortality Rate

The table shows that the total infant mortality rate varies from 84.5 in 1977 to 32.6 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of infant mortality rate. Similarly the rural infant mortality rate varies from 94 in 1977 to 40.7 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of infant mortality rate. Likewise, the urban infant mortality rate varies from 68.1 in 1976 to 10 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of infant mortality rate.



### Post-Natal Mortality Rate

The table shows that the total post-natal mortality rate varies from 49.7 in 1972 to 21.7 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of post-natal mortality rate. Similarly the rural post-natal mortality rate varies from 56 in 1972 to 19.8 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of post-natal mortality rate. Likewise, the urban infant mortality rate varies from 34.3 in 1973 to 27 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of post-natal mortality rate.

### Peri-Natal Mortality Rate

The table shows that the total peri-natal mortality rate varies from 79.3 in 1977 to 37.3 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of peri-natal mortality rate. Similarly the rural peri-natal mortality rate varies from 85.6 in 1978 to 44.8 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative

**Table 7.9**  
**Age specific mortality rate by sex and residence from 1991 to 2007 at interval of 5 years**

Age Group	Total							Rural							Urban						
	1991	1996	2001	2006	2007	LGR	CGR	1991	1996	2001	2006	2007	LGR	CGR	1991	1996	2001	2006	2007	LGR	CGR
<b>Total</b>																					
0-4	21.3	17.8	16	15.2	14.6	-9.4	-8.7	23	19.9	18.1	18.3	17.1	-7.0	-6.5	14.7	10.7	9.2	8.3	8.7	-14.0	-12.2
9-May	1.7	1.6	1	0.5	0.6	-30.6	-27.7	1.9	1.9	1.1	0.6	0.6	-32.0	-29.2	0.9	0.6	0.5	0.1	0	-54.8	
14-Oct	1.4	1.1	1.2	0.6	0.6	-21.4	-20.6	1.6	1.2	1.4	0.8	0.7	-19.3	-18.6	0.6	0.7	0.3	0.3	0.5	-12.5	-11.4
15-19	2.6	1.5	1.4	1.4	1.8	-9.8	-7.7	2.9	1.7	1.6	1.4	2	-10.9	-8.9	1.4	1.1	0.7	1.4	1.3	0.8	0.9
20-24	3.2	2.2	2.5	2.1	2.1	-9.5	-8.5	3.6	2.4	3.1	2.3	2.4	-9.1	-8.2	1.9	1.7	0.9	1.7	1.4	-6.6	-5.9
25-29	3	2.7	2.9	2.2	2.4	-6.4	-6.3	3.5	3	3.2	2.6	2.4	-8.8	-8.6	1.7	1.7	1.9	1.4	2.5	7.1	5.9
30-34	3	3.2	3.4	3.2	3.1	0.6	0.7	3.4	3.7	3.6	3.4	3.4	-0.9	-0.8	1.9	1.9	3	2.9	2.2	6.7	7.4
35-39	4.8	3.8	3.5	3.8	3.7	-5.6	-5.1	5.5	4	3.8	4.2	4.4	-4.6	-3.9	2.5	3.1	2.7	2.7	2.3	-3.0	-3.0
40-44	4.7	5.2	5.3	4.5	5.2	0.6	0.6	4.7	5.7	5.7	4.3	5.6	0.8	0.7	5	3.9	3.9	4.9	4.2	-1.4	-1.2
45-49	7.5	8.4	6.1	6.4	7	-4.2	-4.0	8.1	8.7	5.9	6.9	7.2	-4.9	-4.6	4.8	7.4	6.8	5.3	6.5	2.1	2.8
50-54	12.2	13	11.4	8.8	10.5	-6.8	-6.7	12.5	13.8	11.8	8.5	11.8	-5.7	-5.8	11.2	10.1	10.3	9.4	7.1	-9.3	-9.4
55-59	18.5	17.7	19.1	14	14.2	-7.4	-7.4	18.4	17.9	20.1	13.2	14	-8.1	-8.2	18.8	17	15.2	16.6	14.7	-5.2	-5.0
60-64	34.4	28.7	25.6	22.7	25.4	-8.8	-8.1	35.4	29.4	26.6	20.9	26.6	-9.4	-8.7	29.6	25.2	21.6	28.4	21.6	-5.1	-5.0
65-69	52.1	33.5	37.1	37.4	34.7	-7.9	-6.8	52.6	34.8	37.6	39	34.6	-8.0	-7.0	49.6	27.9	34.3	32.3	35	-6.9	-5.4
70+	105.6	85.2	74	75.8	71.2	-9.5	-8.7	107.1	83.3	75.3	76.4	69.3	-10.0	-9.1	97	94.6	68.5	73.8	77.5	-7.3	-6.7
All ages	9.7	8.4	8.2	7.3	7.4	-7.0	-6.6	10.5	9.2	9	7.9	8	-7.1	-6.7	6.7	5.9	5.6	5.8	5.7	-3.5	-3.3
<b>Male</b>																					
0-4	22.3	17.8	15.9	15.8	14.7	-9.9	-9.1	23.9	19.5	18.1	18.9	17.3	-7.1	-6.6	16.1	11.8	9.1	8.8	8.6	-16.5	-14.3
9-May	1.7	1.2	1.3	0.7	0.6	-24.5	-23.1	1.8	1.4	1.4	0.9	0.6	-23.8	-23.2	1.1	0.8	0.9	0.2	0.5	-25.7	-25.6
14-Oct	1.6	1.1	1.2	0.6	0.6	-24.5	-22.6	1.8	1.3	1.5	0.7	0.7	-23.3	-22.2	0.8	0.6	0.3	0.2	0.5	-20.8	-18.4



15-19	2.4	1.3	1.4	1.1	1.3	-16.0	-13.0	2.8	1.5	1.7	1	1.4	-19.6	-16.4	1	0.8	0.6	1.3	1.2	9.2	8.9
20-24	3.7	2.1	2.7	2.6	2.3	-8.6	-7.1	4	2.2	3.2	2.9	2.8	-5.6	-4.3	2.5	1.9	1.2	1.8	1.1	-17.1	-15.6
25-29	2.9	2.2	2.7	2.8	3.2	4.3	4.5	3.3	2.6	3	3.4	3.3	2.6	2.7	1.7	1.2	1.9	1.5	3.2	17.4	16.0
30-34	4	3.1	4.8	4.9	3.9	3.9	4.2	4.6	3.4	5.2	5.2	4.5	3.5	3.9	2.2	2.3	3.6	4.1	2.6	8.8	9.6
35-39	4.7	4.1	4.8	4.9	5.4	4.6	4.7	5.2	4.5	5.5	5.7	6	5.2	5.4	2.9	3.2	2.8	3.1	3.8	5.4	5.2
40-44	5.5	6	7.3	6.3	8	8.0	8.3	4.9	6	8.2	5.9	9.1	12.2	13.0	8	5.9	4.7	7.2	5.5	-5.9	-5.4
45-49	9.8	10	8.7	8.1	10.2	-1.2	-1.3	10.6	10.4	8.8	8.4	10.6	-2.0	-2.1	6.6	9	8.3	7.4	9.3	4.7	5.0
50-54	14.4	14.6	13.7	10.9	12.6	-5.5	-5.4	14.1	15.7	14.5	11	14.3	-3.1	-3.2	15.7	10.3	11	10.8	8.8	-11.7	-10.5
55-59	21.7	22.6	24.9	16.3	16	-8.7	-8.9	21.2	23.2	27.3	16	15.1	-9.4	-10.0	24.1	20.3	15.3	17.3	18.7	-7.2	-6.5
60-64	44.9	31.8	33.2	30.4	29.9	-9.2	-8.2	47.2	32.7	33.9	28.1	32.4	-9.8	-8.6	33.3	27.3	30.5	37.7	21.9	-4.1	-5.0
65-69	61	38.8	45.6	47	38.1	-8.2	-7.2	62.3	41	48.4	52.2	38.4	-7.6	-7.0	53.7	29.5	32.7	30.4	37.2	-8.7	-6.8
70+	105.9	85.9	81.8	93	77.3	-5.6	-5.4	107.7	84.1	859	95.3	75.9	-2.1	-5.6	95.4	95.7	61.8	84.3	81.9	-4.6	-4.2
All ages	10.4	8.6	9.2	8.5	8.1	-5.2	-5.0	11.3	9.4	10.3	9.4	8.9	-4.9	-4.7	7.3	6	5.7	6.5	6.2	-2.7	-2.4
<b>Female</b>																					
0-4	20.2	17.8	16.1	14.6	14.5	-8.8	-8.3	22	20.3	18.2	17.7	16.9	-6.7	-6.4	13.3	9.6	9.3	7.8	8.8	-11.1	-9.8
9-May	1.7	1.9	0.6	0.2	0.6	-39.0	-35.2	2	2.4	0.8	0.3	0.6	-40.2	-36.2	0.6	0.5	0	0	0.5	-21.9	
14-Oct	1.1	1.1	1.1	0.7	0.6	-15.2	-15.3	1.4	1.1	1.4	0.9	0.7	-14.5	-14.7	0.3	0.8	0.3	0.3	0.5	-2.3	0.4
15-19	2.7	1.7	1.4	1.7	2.2	-5.2	-4.0	3	1.9	1.6	1.8	2.6	-4.1	-3.3	1.8	1.4	0.9	1.5	1.4	-5.0	-4.2
20-24	2.8	2.3	2.3	1.6	1.8	-12.5	-11.7	3.2	2.6	2.9	1.6	1.9	-14.8	-14.2	1.4	1.5	0.5	1.7	1.6	4.5	4.0
25-29	3.1	3.1	3	1.6	1.6	-18.1	-18.0	3.6	3.4	3.4	1.7	1.5	-21.7	-21.7	1.6	2.3	2	1.2	1.8	-3.9	-4.1
30-34	2	3.3	2.2	1.6	2.2	-5.8	-5.2	2.2	3.9	2.1	1.6	2.4	-7.8	-6.9	1.4	1.6	2.3	1.6	1.9	5.7	6.3
35-39	5	3.4	2.2	2.6	2	-22.4	-18.9	5.8	3.5	2.1	2.7	2.6	-21.6	-17.0	1.9	2.9	2.5	2.3	0.6	-15.7	-22.4
40-44	3.9	4.4	3.2	2.7	2.5	-13.5	-12.9	4.5	5.3	3.2	2.8	2.4	-18.4	-17.3	1.9	1.6	2.9	2.5	2.8	11.5	13.0
45-49	5.2	6.7	3.2	4.4	3.2	-13.9	-13.0	5.7	7	2.7	5.1	3.1	-15.0	-14.2	3	5.7	5	2.9	3.4	-5.0	-4.2
50-54	10	11.3	9.1	7	8.7	-7.5	-7.3	10.9	11.8	9	6.7	9.8	-7.6	-7.5	6.6	9.8	9.5	8	5.4	-5.3	-5.9
55-59	15.3	13.3	13.4	11.7	12.4	-5.6	-5.3	15.6	13.1	13	10.3	13	-6.2	-5.9	13.9	13.9	15.2	15.9	10.8	-3.0	-3.6
60-64	24.5	25.9	19.2	15.3	21.1	-8.2	-7.9	24.1	26.5	20.7	14	21	-8.8	-8.7	26.4	23.3	13.4	19.4	21.3	-6.8	-5.9
65-69	44.1	28.7	29.8	29	31.7	-7.5	-6.3	43.7	29.2	28.6	27.5	31.2	-8.3	-7.1	46.1	26.5	35.9	34	33	-5.3	-4.1
70+	105.3	84.6	67.8	62.4	66.8	-12.8	-11.4	106.7	82.5	66.5	61.5	64.6	-13.8	-12.2	98.1	93.7	73.3	65.8	74.3	-9.3	-8.7
All ages	9	8.2	7.2	6.1	6.6	-9.3	-8.8	9.8	8.9	7.7	6.5	7.2	-9.5	-8.9	6.1	5.8	5.5	5.1	5.3	-4.1	-4.0

show negative rate of peri-natal mortality rate. Likewise, the urban infant mortality rate varies from 73.7 in 1976 to 37.3 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative rate of peri-natal mortality rate.

### Infant mortality indicators

The Infant mortality indicators by residence from 1971 to 2007 of A.P have been presented in the table-10.



**Table-10: Infant mortality indicators by residence (1971 to 2007)**

Year	Infant mortality rate			Neo-natal mortality rate			Post-natal mortality rate			Peri-natal mortality rate			Still Birth rate		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1971	106.0	115.0	65.0	65.6	70.2	39.3	40.4	44.8	25.7	70.9	75.5	44.0	25.0	27.1	12.7
1972	116.0	128.0	65.0	66.3	72.0	38.7	49.7	56.0	26.3	62.2	64.7	49.6	18.9	20.0	13.6
1973	105.0	115.0	61.0	63.1	70.4	26.7	41.9	44.6	34.3	65.1	70.9	36.0	20.0	21.0	14.8
1974	111.0	120.0	70.0	74.6	81.0	42.1	36.4	39.0	27.9	69.4	74.8	41.2	18.7	20.1	11.5
1975	123.0	130.0	81.0	81.3	86.6	51.8	41.7	43.4	29.2	73.3	76.5	55.5	15.5	15.9	13.7
1976	122.0	127.0	97.0	81.5	85.0	68.1	40.5	42.0	28.9	73.9	76.5	73.7	16.5	15.9	20.1
1977	125.0	136.0	62.0	84.5	94.0	32.0	40.5	42.0	30.0	79.3	85.1	47.0	19.7	19.5	20.9
1978	117.0	127.0	66.0	83.9	92.2	39.6	33.1	34.8	26.4	78.9	85.6	42.7	17.2	17.9	13.6
1979	106.0	114.0	65.0	69.9	75.3	44.2	35.8	38.9	21.1	66.1	70.5	45.0	16.6	17.2	14.1
1980	92.0	103.0	40.0	64.8	72.0	29.3	27.6	31.0	10.7	57.9	63.2	31.4	16.5	17.6	11.3
1981	86.0	93.0	52.0	60.1	64.9	36.7	26.2	28.4	15.0	53.4	58.0	30.5	13.8	15.1	7.3
1982	79.0	86.0	50.0	56.4	62.7	30.1	22.8	23.5	19.7	49.7	54.8	28.0	12.9	14.4	6.7
1983	77.0	83.0	54.0	52.5	58.0	30.3	24.6	24.7	24.1	49.2	52.4	36.5	12.5	12.0	14.1
1984	78.0	81.0	66.0	55.1	58.3	42.7	22.5	22.4	23.0	51.3	53.6	42.4	13.0	13.6	10.5
1985	83.0	90.0	57.0	56.8	64.2	30.2	26.1	25.8	27.2	53.4	57.0	40.6	12.1	9.9	20.1
1986	82.0	88.0	59.0	56.5	62.4	33.3	25.3	25.1	26.0	54.5	58.3	39.3	11.9	10.5	17.2
1987	79.0	84.0	58.0	54.6	59.5	35.0	24.7	25.3	22.6	50.5	54.3	35.3	10.0	9.4	12.2
1988	83.0	89.0	63.0	58.1	64.6	33.0	25.3	24.1	30.1	54.3	57.3	43.0	11.9	9.5	21.5
1989	81.0	88.0	53.0	54.8	61.8	26.6	26.2	26.2	26.0	52.9	56.6	38.2	14.4	12.6	21.7
1990	70.0	73.0	56.0	48.3	51.0	37.7	21.6	22.4	18.4	52.3	53.5	47.5	13.2	12.1	17.7
1991	73.0	77.0	56.0	50.5	53.9	36.6	22.3	22.9	19.7	55.9	58.2	46.8	14.7	13.8	18.5
1992	71.0	78.0	42.0	52.4	57.2	31.8	18.5	20.5	9.9	58.2	62.0	42.0	16.1	15.8	17.6
1993	64.0	70.0	46.0	43.5	47.4	32.4	20.1	22.6	13.1	45.3	47.0	40.6	12.2	11.6	13.8
1994	65.0	69.0	52.0	47.7	50.4	40.0	17.2	18.8	12.5	47.8	49.0	44.4	10.3	9.2	13.5
1995	67.0	74.0	43.0	53.0	59.0	30.0	14.0	15.0	13.0	52.0	56.0	39.0	11.0	10.0	14.0
1996	65.0	73.0	38.0	46.0	50.0	30.0	19.0	23.0	8.0	48.0	50.0	42.0	11.0	10.0	14.0
1997	63.0	70.0	37.0	48.4	54.4	27.7	14.7	16.1	9.7	48.5	52.5	34.7	10.3	9.4	13.6
1998	66.0	75.0	38.0	45.7	51.6	25.8	20.7	23.2	12.2	53.0	58.4	35.0	17.0	17.7	14.9
1999	66.0	75.0	37.0	46.0	52.2	25.6	20.3	22.9	11.8	52.7	57.8	35.9	17.3	18.0	14.9
2000	65.0	74.0	36.0	45.4	51.1	26.5	20.0	23.2	9.1	47.6	51.2	35.3	13.0	12.9	13.2
2001	66.0	74.0	40.0	40.2	43.3	29.5	26.3	31.0	10.3	39.9	40.6	37.6	12.1	11.8	12.9
2002	62.0	71.0	35.0	41.2	46.8	22.7	21.1	23.8	12.2	43.6	48.5	27.1	14.6	16.4	8.7
2003	59.0	67.0	33.0	35.5	41.3	16.0	23.3	25.3	16.7	28.8	33.6	12.5	7.9	8.6	5.7
2004	59.0	65.0	39.0	35.6	41.7	16.6	23.0	23.2	22.2	33.2	38.6	16.5	10.7	11.5	8.2
2005	57.0	63.0	39.0	34.8	42.8	11.3	22.2	20.2	28.0	36.9	44.4	14.9	10.9	12.4	6.6
2006	56.0	62.0	38.0	33.3	41.2	10.2	22.8	21.0	28.3	37.2	43.7	18.0	11.9	13.0	8.6
2007	54.0	60.0	37.0	32.6	40.7	10.0	21.7	19.8	27.0	37.3	44.8	16.2	11.8	13.3	7.7
LGR	-2.23	-2.11	-2.09	-2.17	-1.97	-2.40	-2.34	-2.42	-1.62	-1.81	-1.65	-1.91	-1.54	-1.57	-1.01
CGR	-2.16	-2.03	-2.07	-2.20	-1.96	-2.81	-2.11	-2.18	-1.78	-1.85	-1.65	-2.29	-1.47	-1.43	-1.19

### Still Birth Rate

The table shows that the total still birth rate varies from 25 in 1971 to 11.8 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR



are negative and show negative still birth rate. Similarly the rural still birth rate varies from 27.1 in 1971 to 13.3 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Both the LGR and CGR are negative and show negative still birth rate. Likewise, the urban still birth rate varies from 20.9 in 1977 to 7.7 in 1983 showing an up and down trend. Both the LGR and CGR are negative and show negative still birth rate.

### Infant mortality rate by sex and residence

The Infant mortality rate by sex and residence from 1982 to 2007 of A.P has been presented in the Table-11.

**Table-11: Infant mortality rate by sex and residence from 1982 to 2007**

Year	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1	2	3	4	5	6	7	8	9	10
1982	79	84	75	86	92	81	50	50	49
1983	77	78	76	83	84	81	54	56	53
1984	78	83	72	81	88	73	66	66	65
1985	83	86	79	90	91	89	57	68	47
1986	82	83	80	87	88	87	59	64	55
1987	79	80	77	84	92	77	58	68	47
1988	83	91	76	89	99	78	63	59	67
1989	81	89	73	88	98	77	53	51	54
1990	70	72	68	73	74	73	56	65	47
1991	73	76	70	77	78	75	56	65	47
1992	71	73	68	78	80	75	42	43	40
1993	64	70	57	70	76	64	46	53	38
1994	65	73	56	69	81	57	52	50	56
1995	67	65	69	74	71	79	43	43	42
1996	65	67	63	73	73	72	38	44	-32
1997	63	64	62	70	72	69	37	37	38
1998	66	65	68	75	74	76	38	36	40
1999	66	69	64	75	79	71	37	35	40
2000	65	66	64	74	76	73	36	34	37
2001	66	65	68	74	74	75	40	37	42
2002	62	64	60	71	69	72	35	47	23
2003	59	59	59	67	65	68	33	36	30
2004	59	59	58	65	64	66	39	42	35
2005	57	56	58	63	62	64	39	38	40
2006	56	55	58	62	61	63	38	37	41
2007	54	54	55	60	60	61	37	36	38
LGR	-1.6	-1.8	-1.3	-1.3	-1.6	-0.9	-2.4	-2.6	-2.1
CGR	-1.6	-1.8	-1.3	-1.3	-1.7	-0.9	-2.3	-2.5	-2.1

### Total

The table shows that the total infant mortality rate by sex varies from 79 in 1982 to 54 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Similarly the rural





infant mortality rate by sex varies from 84 in 1982 to 54 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Likewise, the female infant mortality rate by sex varies from 75 in 1982 to 55 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures.

### Rural

The table shows that the total infant mortality rate by sex varies from 86 in 1982 to 60 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Similarly the male infant mortality rate by sex varies from 92 in 1982 to 60 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Likewise, the urban infant mortality rate by sex varies from 89 in 1985 to 61 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures.

### Urban

The table shows that the total infant mortality rate by sex varies from 68 in 1985 and 1987 to 35 in 2007 showing an ever decreasing trend which is good and posing sign of family planning measures. Similarly the rural infant mortality rate by sex varies from 68 in 1987 to 34 in 2000 showing an ever decreasing trend which is good and posing sign of family planning measures. Likewise, the female infant mortality rate by sex varies from 67 in 1988 to 23 in 2002 showing an ever decreasing trend which is good and posing sign of family planning measures.

It is concluded that both LGR and CGR are very low and negative and hence the infant mortality rate by sex and residence from 1982-2007 decreased due to improvement in medicine, health care etc.

The table-12 indicates Infant mortality rates by residence from 2006 to 2012.

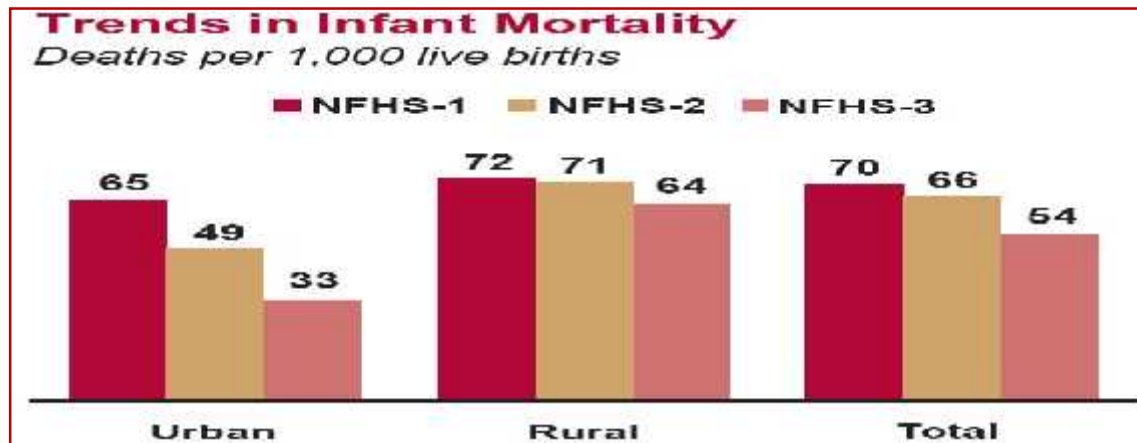
**Table-12: Infant Mortality Rate by Residence in Andhra Pradesh (2006 to 2012)**

Sl. No.	State	Total							Rural							Urban						
		2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	Andhra Pradesh	56	54	52	49	46	43	41	62	60	58	54	51	47	46	38	37	36	35	33	31	30

The table-12 data reveals that the total infant mortality rate varies from 56 in 2006 to 41 in 2012 showing an ever decreasing trend which is good and posing sign of family planning measures. In rural areas, the total infant mortality rate varies from 62 in 2006 to 46 in 2012 showing an ever decreasing trend which is good and posing sign of family planning measures while in urban areas, the total infant mortality rate varies from 38 in 2006 to 30 in 2012 showing an ever decreasing trend which is good and posing sign of family planning measures. It is concluded that the IMR is high in rural areas and low in urban areas. If we observed the data from NFHS- 1, 2 and 3 the same situation can be noticed. (Fig-2)



Fig-2



Infant mortality in NFHS-3 is estimated at 54 deaths before the age of one year per 1000 live births, down from the NFHS-1 estimate of 70. The under-five mortality rate is 63 deaths per 1000 live births. These rates imply that, despite declines in mortality, 1 in 19 children still die within the first year of life, and 1 in 16 die before reaching age five. Infant mortality in rural areas of Andhra Pradesh is almost double that in urban areas of the state.

In the first year of life, girls in Andhra Pradesh face a lower risk of mortality than boys; but between ages 1 and 5, girls have a slightly higher mortality rate. The under-five mortality rate for the 10 years before the survey is considerably lower girls (71 per 1000) than for boys (86 per 1000). Children born to mothers under the age of 20 years are much more likely to die in infancy than children born to mothers in the prime childbearing ages. The infant mortality rate is 89 per 1000 for teenage mothers, compared with 53 per 1000 for mothers age 20-29. Having children too close together is especially risky. The risk of death in the first year of life is more than three times as high for children born less than two years after a previous birth than the children whose mothers waited four or more years between births. Children whose mothers have no education are almost twice as likely to die before their first birthday as children whose mothers have completed 10 or more years of school. Children from scheduled castes and scheduled tribes are at greater risk of dying than children not belonging of these groups. Between NFHS-2 and NFHS-3, the infant mortality rate in Andhra Pradesh dropped from 66 to 54 deaths per 1000 live births.

### Expectation of Life birth by Sex and residence

The expectation of life at birth by sex and residence in A.P India during 1970-2010 has been furnished in the table-13.

**Table-13: Expectation of Life at Birth by Sex and Residence in Andhra Pradesh (2002-2006)**

State	Total			Rural			Urban		
	Total	Males	Female	Total	Males	Females	Total	Males	Females
Andhra Pradesh	64.4	62.9	65.5	63.1	61.7	64.3	67.8	66.1	69.4

### Expectation of Life at Birth by Sex and Residence in Andhra Pradesh (2006-2010)

State	Total			Rural			Urban		
	Total	Males	Female	Total	Males	Females	Total	Males	Females
Andhra Pradesh	65.8	63.5	68.2	64.6	62.2	67.1	68.9	66.9	70.9



The total life expectancy during 2002-2006 in Andhra Pradesh is 64.4 and it is 62.9 for males and 65.5 for females. In case of rural areas, the life expectancy is 63 and 61.7 for males and 64.3 for females while it is 67.8 for total, 66.1 for males and 69.4 for females in urban areas. During 2006-10, the total life expectancy in Andhra Pradesh is 65.8 and it is 63.5 for males and 62.8 for females. In case of rural areas, the life expectancy is 64.6 and 62.2 for males and 67.1 for females while it is 68.9 for total, 66.9 for males and 70.9 for females in urban areas.

## CONCLUSION

Emphasis and strategies of the Family Welfare Programme have changed over time. The family planning programmes in Andhra Pradesh have been evaluated. The fertility indicators, percentage of live births by order, the age specific mortality rate by sex and residence from 1991 to 2007 at interval of 5 years and the Infant mortality indicators by residence from 1971 to 20011 have been decreased and the LGR and CGR are negative showing declining trend. It is clearly observed that the GRR is higher in rural areas and very low in urban areas. Moreover, the GFR gradually declined in both rural and urban areas, the TFR is higher in rural areas and very low in urban areas. Moreover, the TFR and GRR gradually declined in both rural and urban areas. The percentage of live births decreased in both rural and urban areas as the percentage of people wishing for higher order of birth is drastically reduced. But the declining very high in urban areas compared to their rural counterparts. The total life expectancy during 2006- 2010 in Andhra Pradesh is 65.8 and it is 63.5 for males and 66.9 for females.

Now, the state is undergoing a rapid demographic transition along with the other south Indian states Kerala and Tamil Nadu. The three critical factors in the process of demographic transition are fertility, mortality and migration. However, it is observed that the role of migration is insignificant in the overall population dynamics in Andhra Pradesh and hence, fertility, mortality and effective contraception are the major contributing factors for the observed demographic transition in the state of Andhra Pradesh.

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