

CHAPTER - 3

ESTIMATES OF FERTILITY INDICATORS

Since inception, SRS has been providing data for estimating various fertility measures. The fertility indicators considered in this chapter are Crude Birth Rate, General Fertility Rate, Age Specific Fertility/Marital Fertility Rates, Total Fertility/Marital Fertility Rates and Gross Reproduction Rate. Apart from this, the chapter includes sex ratio at birth and for the age group 0-4. The data on the sex ratio should enable the readers to gauge the gender disparity at birth and to map the improvements in the age group 0-4. To examine the changes in the levels of fertility during the last decade, the average values of these fertility indicators for the years 2008-10 are compared with that for 1998-00.

3.2 The crude birth rate (CBR) at all India level had declined from 36.9 in 1971 to 33.9 in 1981, registering a fall of about 8 per cent. During 1991-2010, the decline has been about 25.1 per cent from 29.5 to 22.1. The rural-urban differential has also narrowed over these years. However, the CBR has continued to be higher in rural areas compared to urban areas in the last three decades. The total fertility rate (TFR) has declined from 5.2 to 4.5 during 1971 to 1981 and from 3.6 to 2.5 during 1991 to 2010. The TFR in rural areas has declined from 5.4 to 2.8 from 1971 to 2010 whereas the corresponding decline in urban areas has been from 4.1 to 1.9 during the same period. In 2010, around 60 per cent of the deliveries were institutional which includes Government as well as private hospitals. The percentage of institutional deliveries in urban areas is 84.2 as against about 54 percent recorded in rural areas.

3.3 The data on most of the fertility indicators has been presented by age, sex and residence for all India and bigger States. It also includes data on fertility by level of education, order of birth, birth interval and medical attention at birth.

3.4 Apart from the fertility indicators at State and national levels, the SRS sample from 2004 onwards also provides estimates of birth rates at sub-State, viz. NSS Natural Division Level in rural areas. NSS natural divisions have been formed taking into consideration the geography of the State and by grouping contiguous districts having similar topography, population density, cropping pattern and rainfall etc. The Table 11 of this report contains data on birth rate besides death and infant mortality rate for 56 Natural Divisions of 16 bigger States. The Table 11 also contains data on birth rate besides death and infant mortality rate for four metro mega cities viz. Chennai, Delhi, Kolkata and Mumbai.

3.5 Based on the figures in the Statement 14 given below, the graphical representation of birth rate of bigger States by residence is depicted in Chart 8 and the distribution of bigger States by levels of birth rate in rural and urban areas is presented in Chart 9. Andhra Pradesh, Delhi, Himachal Pradesh, Jammu & Kashmir, Kerala, Maharashtra, Punjab, Tamil Nadu and West Bengal are the major States having birth rate below 20 both in rural and urban areas. On the other hand, Madhya Pradesh and Uttar Pradesh both have the highest birth rate in rural (29.2) areas and Uttar Pradesh, the highest in urban (24.2) areas followed by Rajasthan (22.9). The lowest CBR (11.5) has been estimated in urban areas of Himachal Pradesh.

Statement 14

CBR (Crude birth rate) by residence, India and bigger States, 2010

India and bigger States	Total	Rural	Urban
India	22.1	23.7	18.0
Andhra Pradesh	17.9	18.3	16.7
Assam	23.2	24.4	15.8
Bihar	28.1	28.8	22.0
Chhattisgarh	25.3	26.8	18.6
Delhi	17.8	19.7	17.5
Gujarat	21.8	23.3	19.4
Haryana	22.3	23.3	19.8
Himachal Pradesh	16.9	17.5	11.5
Jammu & Kashmir	18.3	19.5	13.5
Jharkhand	25.3	26.7	19.3
Karnataka	19.2	20.2	17.5
Kerala	14.8	14.8	14.8
Madhya Pradesh	27.3	29.2	20.5
Maharashtra	17.1	17.6	16.4
Odisha	20.5	21.4	15.2
Punjab	16.6	17.2	15.6
Rajasthan	26.7	27.9	22.9
Tamil Nadu	15.9	16.0	15.8
Uttar Pradesh	28.3	29.2	24.2
West Bengal	16.8	18.6	11.9

3.6 Statement 15 below provides the percentage change in average birth rate between the periods 1998-00 and 2008-10 for India and bigger States separately for rural and urban areas. At the national level, the rate of decline in birth rate is 13.8 per cent. The rate of decline in average birth rate varies from 24.1 per cent in Himachal Pradesh to 11.7 per cent in Bihar. Such decline in rural areas is from 23.6 per cent in Himachal Pradesh to 11.1 per cent in Bihar. In urban areas, the decline ranges from 30.8 per cent in Himachal Pradesh to 6.8 per cent in Rajasthan. In Kerala, the average crude birth rate in rural areas is same as in the urban areas during 2008-10.

Statement 15

Percent change in average crude birth rate between 1998-00 and 2008-10 by residence, India and bigger States

India and bigger States	Total			Rural			Urban		
	1998-00	2008-10	% Change	1998-00	2008-10	% Change	1998-00	2008-10	% Change
India	26.1	22.5	-13.8	27.7	24.1	-13.0	20.9	18.3	-12.4
Andhra Pradesh	21.8	18.2	-16.5	22.2	18.8	-15.3	20.6	16.9	-18.0
Assam	27.3	23.6	-13.6	28.2	24.9	-11.7	19.2	15.8	-17.7
Bihar*	31.5	27.8	-11.7	32.4	28.8	-11.1	24.6	21.1	-14.2
Gujarat	25.4	22.2	-12.6	26.9	23.7	-11.9	22.0	19.9	-9.5
Haryana	27.1	22.7	-16.2	28.1	23.8	-15.3	23.2	20.1	-13.4
Himachal Pradesh	22.8	17.3	-24.1	23.3	17.8	-23.6	16.9	11.7	-30.8
Karnataka	22.1	19.5	-11.8	23.4	20.6	-12.0	19.2	17.7	-7.8
Kerala	18.1	14.7	-18.8	18.1	14.7	-18.8	17.8	14.7	-17.4
Madhya Pradesh*	31.1	27.2	-12.5	32.9	29.0	-11.9	23.4	20.4	-12.8
Maharashtra	21.5	17.5	-18.6	22.2	18.1	-18.5	20.5	16.8	-18.0
Odisha	24.7	21.0	-15.0	25.3	21.8	-13.8	20.5	15.6	-23.9
Punjab	21.8	17.0	-22.0	22.9	17.6	-23.1	18.6	15.9	-14.5
Rajasthan	31.4	27.1	-13.7	32.8	28.3	-13.7	24.9	23.2	-6.8
Tamil Nadu	19.3	16.1	-16.6	19.8	16.3	-17.7	18.1	15.8	-12.7
Uttar Pradesh*	32.7	28.2	-13.8	33.8	29.2	-13.6	27.3	24.2	-11.4
West Bengal	20.9	17.1	-18.2	23.1	19.0	-17.7	14.5	12.1	-16.6

* Bihar, Madhya Pradesh and Uttar Pradesh include Jharkhand, Chhattisgarh, and Uttarakhand respectively.

3.7 The Statement 16 below presents sex ratio at birth during the period 2008-10. The sex ratio at birth for the country for the period 2008-10 (3-years average) has been estimated as 905. It varies from 907 in rural area to 898 in urban area. Among the bigger States, the sex ratio at birth varies from 985 in Chhattisgarh to 832 in Punjab. In the rural areas, the highest and the lowest sex ratio at birth are in the States of Chhattisgarh (995) and Punjab (822) respectively. The sex ratio in urban areas varies from 974 in Kerala to 836 in Haryana. Chart 10 depicts the variation in sex ratio by residence among bigger States in the country.

Statement 16

**Sex ratio (female per 1000 male) at birth by residence,
India and bigger States, 2008-2010**

India and bigger States	Total	Rural	Urban
India	905	907	898
Andhra Pradesh	920	921	919
Assam	928	933	889
Bihar	912	914	890
Chhattisgarh	985	995	922
Delhi	884	879	885
Gujarat	903	920	873
Haryana	848	853	836
Himachal Pradesh	942	944	915
Jammu & Kashmir	873	870	888
Jharkhand	919	932	851
Karnataka	943	948	934
Kerala	966	963	974
Madhya Pradesh	921	920	927
Maharashtra	895	888	906
Odisha	938	940	918
Punjab	832	822	852
Rajasthan	877	884	850
Tamil Nadu	927	930	923
Uttar Pradesh	870	869	878
West Bengal	938	935	951

3.8 The Statement 17 below presents the sex ratio for the age group 0-4. The sex ratio for the age group 0-4 for all India is 914. It varies from 916 in rural areas to 908 in urban areas. The maximum sex ratio of 1007 has been estimated in Chhattisgarh and the minimum of 828 in Haryana. For rural areas, the minimum sex ratio of 829 has been observed in Punjab and the maximum, 1026 in Chhattisgarh. In the urban areas, the maximum sex ratio is observed in West Bengal (975) and the minimum, in Haryana (821).

Statement 17

Sex ratio of child (age group 0-4), India and bigger States, 2008-2010

India and bigger States	Total	Rural	Urban
India	914	916	908
Andhra Pradesh	937	940	932
Assam	939	938	950
Bihar	914	913	922
Chhattisgarh	1007	1026	907
Delhi	883	866	886
Gujarat	897	917	862
Haryana	828	830	821
Himachal Pradesh	946	946	949
Jammu & Kashmir	887	889	873
Jharkhand	919	926	881
Karnataka	955	957	950
Kerala	965	970	949
Madhya Pradesh	936	937	933
Maharashtra	907	909	905
Odisha	946	948	932
Punjab	843	829	867
Rajasthan	879	883	865
Tamil Nadu	946	944	947
Uttar Pradesh	879	878	881
West Bengal	971	970	975

3.9 Estimates of General Fertility Rate (GFR), a refined measure of fertility, defined as the number of live births per thousand women in the reproductive age-group 15-49 years, is a useful tool for measuring fertility. The GFR for all-India and bigger States are given below in Statement 18 separately for rural and urban areas. At the national level, 83.9 children were born to every thousand women aged 15-49 years. This number varies from 64.0 in urban areas to 91.9 in rural areas. Among the bigger States, GFR varies from 52.8 in Kerala to 120.1 in Bihar. Chart 11 gives a pictorial comparison of bigger States by level of GFR. The distribution of bigger States by residence and levels of GFR is presented in Chart 12 and from which it is observed that GFR in rural areas of Kerala is just higher than urban areas with the difference of 0.5.

Statement 18

GFR (General fertility rate) by residence, India and bigger States, 2010

India and bigger States	Total	Rural	Urban
India	83.9	91.9	64.0
Andhra Pradesh	62.2	64.8	56.5
Assam	84.9	91.0	52.8
Bihar	120.1	124.1	87.8
Chhattisgarh	94.4	101.8	64.1
Delhi	65.7	74.2	64.3
Gujarat	82.1	89.5	71.1
Haryana	83.2	88.7	71.2
Himachal Pradesh	59.3	61.5	39.1
Jammu & Kashmir	64.4	69.9	45.3
Jharkhand	98.6	105.4	71.6
Karnataka	68.1	73.2	59.7
Kerala	52.8	53.0	52.5
Madhya Pradesh	106.8	116.7	75.0
Maharashtra	63.8	68.9	57.6
Odisha	75.3	79.3	52.3
Punjab	61.3	64.1	56.8
Rajasthan	105.5	112.8	84.4
Tamil Nadu	56.8	58.7	54.5
Uttar Pradesh	114.6	121.1	89.9
West Bengal	60.8	68.3	41.8

3.10 Changes in the average level of GFR between 1998-00 and 2008-10 for India and bigger States are shown below in Statement 19. At the all India level, a decline of 17.4 per cent in GFR has been registered during the decade and it varies from 16.7 per cent in rural to 15.8 per cent in urban areas. Among the bigger States, the percentage decline in GFR varies from 25.4 in Himachal Pradesh to 13.0 in Gujarat.

Statement 19

Percent change in average GFR (General fertility rate) between 1998-00 and 2008-10 by residence, India and bigger States

India and bigger States	Total			Rural			Urban		
	1998-00	2008-10	% Change	1998-00	2008-10	% Change	1998-00	2008-10	% Change
India	104.2	86.1	-17.4	113.5	94.6	-16.7	77.7	65.4	-15.8
Andhra Pradesh	82.5	63.8	-22.7	85.3	66.9	-21.6	74.4	56.8	-23.7
Assam	106.2	87.3	-17.8	111.1	93.8	-15.6	67.7	53.0	-21.7
Bihar	137.0	117.5	-14.2	141.9	123.1	-13.2	101.2	82.2	-18.8
Gujarat	97.1	84.5	-13.0	105.5	92.0	-12.8	80.2	73.3	-8.6
Haryana	110.2	85.6	-22.3	116.5	91.2	-21.7	88.6	73.6	-16.9
Himachal Pradesh	81.4	60.7	-25.4	83.1	63.0	-24.2	60.3	40.1	-33.5
Karnataka	81.8	69.3	-15.3	88.3	74.8	-15.3	67.8	60.3	-11.1
Kerala	61.6	52.4	-14.9	62.1	52.4	-15.6	59.9	52.2	-12.9
Madhya Pradesh	130.7	106.1	-18.8	142.0	115.7	-18.5	88.8	73.7	-17.0
Maharashtra	84.5	65.7	-22.2	89.9	70.8	-21.2	76.5	59.5	-22.2
Odisha	94.6	77.6	-18.0	97.6	81.7	-16.3	73.7	54.0	-26.7
Punjab	83.5	63.0	-24.6	88.7	66.2	-25.4	69.0	58.0	-15.9
Rajasthan	133.0	109.5	-17.7	141.3	117.5	-16.8	97.6	86.5	-11.4
Tamil Nadu	69.0	57.2	-17.1	72.3	59.3	-18.0	62.7	54.6	-12.9
Uttar Pradesh	145.6	116.3	-20.1	153.6	122.8	-20.1	111.1	91.5	-17.6
West Bengal	80.0	62.9	-21.4	90.1	70.8	-21.4	52.9	42.9	-18.9

Fertility by age of women

3.11 Age of women is an important factor affecting the fertility levels. On the basis of data on births to women by specific age groups in the reproductive span 15-49 years as available from SRS, age specific fertility rates have been calculated. Statement 20 below presents the age specific fertility rates for India by residence.

3.12 The data reveals that fertility in all the age groups is higher in rural areas than in urban areas. This distribution of age-specific fertility by residence is presented in chart 13. The fertility reaches the peak in the age group 20-24 and declines thereafter, irrespective of the place of residence. ASFR curve for urban areas falls under the ASFR curve of rural areas. Rural ASFR curve has declined very steeply after attaining peak for age 20-24 where as urban ASFR curve has gradually declined up to the age 25-29 after attaining peak at age 24.

Statement 20

ASFRs (Age specific fertility rates) by residence, India, 2010

Age Groups	Total	Rural	Urban
15-19	37.2	43.1	19.6
20-24	198.6	218.5	147.3
25-29	156.8	167.5	132.9
30-34	66.0	70.1	56.2
35-39	29.7	34.5	18.1
40-44	9.3	11.6	3.8
45-49	3.9	5.2	1.0

3.13 The percentage change in age specific fertility rate during the last decade is presented below in Statement 21 separately for rural and urban areas. The data pertains to changes in the age specific fertility rates for the quinquennial age groups based on average value for three years period viz. 1998-00 and 2008-10 for all-India.

3.14 The data reveals that decline in fertility rates is more in urban areas compared to rural areas except in the age groups 25-29, 30-34 and 35-49. The decline is perceptible for the higher age groups 40-49 in urban areas. During the last decade, the fertility declined by 59.1 per cent in the age groups 40-44 in urban areas as compared to 50.5 per cent in rural areas. It is slower in the middle age groups 20-29 for both the areas. The minimum decline of 7.2 per cent has been noticed in the age group 20-24. The minimum decline of 5.5 percent and 10.9 percent in rural and urban areas respectively has also been noticed in the same age group.

Statement 21

Percent change in age specific fertility rates by residence between 1998-00 and 2008-10, India

Age group	Total			Rural			Urban		
	1998-00	2008-10	% Change	1998-00	2008-10	% Change	1998-00	2008-10	% Change
15-19	52.4	39.1	-25.4	60.2	45.1	-25.1	29.4	21.9	-25.5
20-24	217.4	201.7	-7.2	234.6	221.6	-5.5	170.4	151.8	-10.9
25-29	183.1	157.3	-14.1	194.1	167.7	-13.6	152.5	133.7	-12.3
30-34	102.9	71.5	-30.5	112.7	77.8	-31.0	74.0	56.0	-24.3
35-39	54.1	30.8	-43.1	62.9	36.2	-42.4	30.1	18.0	-40.2
40-44	23.4	11.0	-53.0	27.9	13.8	-50.5	11.0	4.5	-59.1
45-49	8.3	4.5	-45.8	10.2	6.0	-41.2	3.3	1.4	-57.6

3.15 The fertility pattern by age groups in different States is presented below in Statement 22. Except for Delhi, Jammu & Kashmir and Uttar Pradesh where fertility reached its peak in the age group 25-29, the highest fertility in all the other bigger States has been attained in the age group 20-24. Fertility, however, declines after age 30 in all the bigger States. The ASFR in the younger age group 15-19 varies from 6.7 in Jammu & Kashmir to 73.8 in West Bengal. In the age group 30-34, the variation in the level of ASFR is from 22.3 in Andhra Pradesh to 116.2 in Bihar. The rural-urban levels in ASFR for bigger States are shown in Table 3.

Statement 22

ASFRs (Age specific fertility rates), India and bigger States, 2010

India and bigger States	15-19	20-24	25-29	30-34	35-39	40-44	45-49
India	37.2	198.6	156.8	66.0	29.7	9.3	3.9
Andhra Pradesh	45.9	197.8	90.3	22.3	4.5	1.8	0.2
Assam	50.0	152.8	149.6	84.2	43.9	13.7	5.6
Bihar	37.6	242.8	240.4	116.2	67.3	23.3	13.0
Chhattisgarh	38.2	242.3	177.6	72.9	24.4	4.2	1.8
Delhi	10.5	136.5	143.8	61.2	19.8	3.2	1.7
Gujarat	28.9	200.5	160.7	64.5	26.1	8.4	2.6
Haryana	26.3	229.1	145.8	46.9	12.7	4.3	1.2
Himachal Pradesh	11.3	162.7	138.2	38.0	14.5	1.1	0.5
Jammu & Kashmir	6.7	91.4	144.5	92.2	46.1	14.7	6.6
Jharkhand	49.6	198.4	185.7	94.5	43.0	19.4	4.8
Karnataka	41.2	186.4	119.9	34.8	12.7	1.1	0.0
Kerala	19.4	135.5	131.6	53.9	14.0	1.4	0.0
Madhya Pradesh	43.4	268.8	203.0	71.8	31.2	10.8	4.6
Maharashtra	35.1	188.6	102.9	36.1	10.3	2.0	0.6
Odisha	39.3	166.2	148.5	66.4	21.7	5.7	3.2
Punjab	10.8	159.9	123.7	46.7	11.3	3.2	1.1
Rajasthan	36.6	259.4	183.6	84.4	35.2	16.5	5.1
Tamil Nadu	20.1	154.3	117.8	37.9	10.3	1.1	0.8
Uttar Pradesh	32.0	226.4	233.9	111.7	67.3	22.1	10.7
West Bengal	73.8	147.8	91.9	32.7	11.0	3.3	1.3

3.16 The percentage distribution of cumulative fertility by woman's age is shown below in Statement 23 for India and bigger States for the year 2010. The cumulative fertility for a specific age group has been worked out by adding the ASFRs up to that age group. The percentage share of fertility by woman in the age group 15-19 varies from 2.0 in Jammu & Kashmir to 20.5 in West Bengal. By the age 34, the percentage share of cumulative fertility varies from 88.4 in Jammu & Kashmir to 98.7 in Andhra Pradesh. The percentage share in cumulative fertility for women by the age 39 years varies from 96.7 in Jammu & Kashmir to 99.8 in Karnataka. At the national level, less than 2 per cent fertility is from women aged 40 years and above. Chart 14 gives percentage cumulative age specific fertility rate for India by residence.

Statement 23

Percentage distribution of cumulative fertility by age group, India and bigger States, 2010

India and bigger States	15-19	15-24	15-29	15-34	15-39	15-44	15-49
India	7.9	53.1	82.5	94.0	98.3	99.6	100.0
Andhra Pradesh	11.5	70.2	93.2	98.7	99.6	100.0	100.0
Assam	10.7	47.3	76.4	91.8	97.8	99.5	100.0
Bihar	6.2	45.4	75.8	90.4	97.1	99.2	100.0
Chhattisgarh	7.4	57.5	85.4	96.1	99.2	99.8	100.0
Delhi	2.7	42.6	81.8	95.6	99.3	99.8	100.0
Gujarat	5.9	51.2	83.4	94.4	98.5	99.7	100.0
Haryana	5.8	62.8	89.7	97.4	99.3	99.9	100.0
Himachal Pradesh	3.3	49.8	86.9	96.5	99.7	99.9	100.0
Jammu & Kashmir	2.0	30.1	68.8	88.4	96.7	99.1	100.0
Jharkhand	9.6	48.6	78.3	92.2	97.4	99.6	100.0
Karnataka	10.0	62.9	90.0	97.5	99.8	100.0	100.0
Kerala	5.0	42.5	80.5	95.7	99.6	100.0	100.0
Madhya Pradesh	7.9	56.0	85.3	95.0	98.5	99.6	100.0
Maharashtra	9.0	63.1	89.2	97.4	99.5	99.9	100.0
Odisha	8.8	50.0	81.7	95.1	98.7	99.6	100.0
Punjab	2.9	52.0	86.3	97.0	99.2	99.8	100.0
Rajasthan	6.9	55.1	82.9	94.0	98.0	99.6	100.0
Tamil Nadu	4.8	51.1	87.2	97.2	99.6	99.9	100.0
Uttar Pradesh	6.0	47.3	77.1	90.7	97.3	99.3	100.0
West Bengal	20.5	65.6	88.5	96.8	99.2	99.8	100.0

Chart 14

3.17 The difference in the pattern of child bearing can be measured in term of the mean age of fertility, which describes the age pattern of fertility of synthetic cohort of hypothetical group of women viewed as having, in their lifetime, similar fertility experience recorded in a calendar year. The mean age of fertility has been calculated from the age specific fertility rates. The associated standard deviations are also shown. The States having lower values of standard deviation recorded higher concentration of fertility about the mean age as compared to those with higher values. Statement 24 below shows the mean age of fertility for India and bigger States. At the National level, the mean age of fertility is 26.5 years and varies from 24.0 in Andhra Pradesh to 29.4 years in Jammu & Kashmir with standard deviation 5.7, 4.3 and 6.0 respectively.

Statement 24

Mean age of fertility and associated standard deviation, India and bigger States, 2010

India and bigger States	Mean age of fertility			Standard deviation		
	Total	Rural	Urban	Total	Rural	Urban
India	26.5	26.5	26.5	5.7	5.9	5.1
Andhra Pradesh	24.0	23.7	24.8	4.3	4.2	4.3
Assam	27.3	27.4	27.1	6.4	6.5	5.8
Bihar	27.9	27.9	27.2	6.3	6.4	5.7
Chhattisgarh	25.9	25.9	26.2	5.1	5.1	4.6
Delhi	27.0	26.4	27.1	5.0	5.2	4.9
Gujarat	26.4	26.5	26.3	5.4	5.7	4.9
Haryana	25.4	25.3	26.0	4.7	4.8	4.4
Himachal Pradesh	26.0	25.8	27.6	4.4	4.3	5.2
Jammu & Kashmir	29.4	29.5	29.2	6.0	6.2	5.0
Jharkhand	27.2	27.2	27.2	6.2	6.3	5.3
Karnataka	24.9	24.5	25.7	4.6	4.5	4.7
Kerala	26.3	26.2	26.3	4.7	4.7	4.6
Madhya Pradesh	26.2	26.1	26.6	5.5	5.6	4.9
Maharashtra	24.9	24.1	26.2	4.7	4.4	4.9
Odisha	26.3	26.4	26.3	5.5	5.6	4.8
Punjab	26.1	25.8	26.8	4.7	4.6	4.8
Rajasthan	26.6	26.8	26.2	5.8	6.0	5.1
Tamil Nadu	25.6	25.2	26.1	4.6	4.5	4.6
Uttar Pradesh	28.0	28.0	27.9	6.2	6.4	5.6
West Bengal	24.4	24.3	25.0	5.4	5.5	5.1

3.18 The cumulative value of the age specific fertility rates at the end of the child bearing ages gives a measure of fertility known as Total Fertility Rate (TFR). TFR indicates the average number of children expected to be born per woman during her entire span of reproductive period assuming that the age specific fertility rates, to which she is exposed to, continue to be the same and that there is no mortality. The TFRs worked out on the basis of the ASFRs for the year 2010 are given below in Statement 25 for India and bigger States separately for rural and urban areas. The TFR for India in the year 2010 was 2.5 per woman and varies from 2.8 in rural areas to 1.9 in urban areas. Among the bigger States, it varies from 1.7 in Tamil Nadu to 3.7 in Bihar. For rural areas, it varies from 1.8 in Punjab, Kerala and Tamil Nadu to 3.8 in Bihar. For urban areas, such variation is from 1.3 in West Bengal and Himachal Pradesh to 2.7 in Bihar and Uttar Pradesh. Chart 15 presents levels of TFR by residence for India and bigger States, 2010. Distribution of bigger States by level of TFR in rural and urban areas is shown in Chart 16.

Statement 25

TFR (Total fertility rate) by residence, India and bigger States, 2010

India and bigger States	Total	Rural	Urban
India	2.5	2.8	1.9
Andhra Pradesh	1.8	1.9	1.6
Assam	2.5	2.7	1.6
Bihar	3.7	3.8	2.7
Chhattisgarh	2.8	3.0	1.9
Delhi	1.9	2.1	1.9
Gujarat	2.5	2.7	2.1
Haryana	2.3	2.5	2.0
Himachal Pradesh	1.8	1.9	1.3
Jammu & Kashmir	2.0	2.2	1.4
Jharkhand	3.0	3.2	2.1
Karnataka	2.0	2.1	1.7
Kerala	1.8	1.8	1.8
Madhya Pradesh	3.2	3.5	2.2
Maharashtra	1.9	2.0	1.7
Odisha	2.3	2.4	1.6
Punjab	1.8	1.8	1.7
Rajasthan	3.1	3.3	2.4
Tamil Nadu	1.7	1.8	1.6
Uttar Pradesh	3.5	3.7	2.7
West Bengal	1.8	2.0	1.3

3.19 Statement 26 below presents the percentage change in the average level of TFR between the periods 1998-00 and 2008-10 in India and bigger States. During the period TFR has declined by 18.8 percent at the National level. Among the bigger States, the decline varies from 28.0 percent in Punjab to 5.6 percent in Kerala. All bigger States have shown decline in both rural and urban areas.

3.20 Among bigger States, Andhra Pradesh, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Punjab, Tamil Nadu and West Bengal has the average TFR 2.0 and below during 2008-10.

Statement 26

Percent change in average TFR (Total fertility rate) between 1998-00 and 2008-10 by residence, India and bigger States

India and bigger States	Total			Rural			Urban		
	1998-00	2008-10	% Change	1998-00	2008-10	% Change	1998-00	2008-10	% Change
India	3.2	2.6	-18.8	3.5	2.8	-20.0	2.4	1.9	-20.8
Andhra Pradesh	2.4	1.8	-25.0	2.5	2.0	-20.0	2.1	1.6	-23.8
Assam	3.1	2.6	-16.1	3.3	2.8	-15.2	1.9	1.6	-15.8
Bihar*	4.5	3.6	-20.0	4.6	3.8	-17.4	3.3	2.5	-24.2
Gujarat	3.0	2.5	-16.7	3.3	2.8	-15.2	2.4	2.1	-12.5
Haryana	3.2	2.4	-25.0	3.4	2.6	-23.5	2.6	2.1	-19.2
Himachal Pradesh	2.4	1.9	-20.8	2.4	1.9	-20.8	1.8	1.3	-27.8
Karnataka	2.4	2.0	-16.7	2.7	2.2	-18.5	2.0	1.7	-15.0
Kerala	1.8	1.7	-5.6	1.8	1.7	-5.6	1.9	1.8	-5.3
Madhya Pradesh*	4.0	3.2	-20.0	4.3	3.4	-20.9	2.6	2.2	-15.4
Maharashtra	2.6	1.9	-26.9	2.7	2.1	-22.2	2.3	1.7	-26.1
Odisha	2.8	2.3	-17.9	2.9	2.5	-13.8	2.2	1.6	-27.3
Punjab	2.5	1.8	-28.0	2.6	1.9	-26.9	2.1	1.7	-19.0
Rajasthan	4.1	3.2	-22.0	4.4	3.5	-20.5	3.0	2.5	-16.7
Tamil Nadu	2.0	1.7	-15.0	2.1	1.8	-14.3	1.8	1.6	-11.1
Uttar Pradesh*	4.7	3.6	-23.4	4.9	3.8	-22.4	3.6	2.8	-22.2
West Bengal	2.4	1.9	-20.8	2.7	2.0	-25.9	1.6	1.3	-18.8

* Bihar, Madhya Pradesh and Uttar Pradesh include Jharkhand, Chhattisgarh, and Uttarakhand respectively.

3.21 Another refined measure of fertility which accounts for future mothers is the Gross Reproduction Rate (GRR). It measures the average number of female children a woman is expected to give birth during her entire reproductive span conforming to the age specific fertility rates (ASFRs) for a given year, if there is no mortality. The estimated value of GRR for India in the year 2010 is 1.2 and varies from 0.9 in urban areas to 1.3 in rural areas. Values of GRR by residence for India and bigger States for the year 2010 are presented below in Statement 27.

Statement 27

GRR (Gross reproduction rate) by residence, India and bigger States, 2010

India and bigger States	Total	Rural	Urban
India	1.2	1.3	0.9
Andhra Pradesh	0.9	0.9	0.7
Assam	1.2	1.3	0.7
Bihar	1.7	1.8	1.2
Chhattisgarh	1.5	1.6	1.0
Delhi	0.9	1.0	0.9
Gujarat	1.2	1.3	1.0
Haryana	1.0	1.1	0.9
Himachal Pradesh	0.9	0.9	0.7
Jammu & Kashmir	0.9	1.0	0.6
Jharkhand	1.4	1.5	1.0
Karnataka	1.0	1.0	0.8
Kerala	0.9	0.9	0.9
Madhya Pradesh	1.5	1.6	1.1
Maharashtra	0.9	0.9	0.8
Odisha	1.1	1.1	0.8
Punjab	0.8	0.8	0.8
Rajasthan	1.4	1.5	1.2
Tamil Nadu	0.8	0.8	0.8
Uttar Pradesh	1.6	1.7	1.2
West Bengal	0.9	0.9	0.6

Marital Fertility

3.22 Marriage is an important event in the social life of any population. In India, population censuses and large scale demographic sample surveys invariably collect data on the marital status of population separately for males and females. Age at effective marriage of females is a key factor that influences fertility. Marital distribution of the population enumerated through SRS and the age at effective marriage of females has been discussed in Chapter 2. Based on the distribution of live births by age of married females, age specific marital fertility rates (ASMFRs) are calculated. Statement 28 below provides the estimates of the ASMFRs for India separately for rural and urban areas for the year 2010. Marital fertility is higher in rural areas than in urban areas in all the age groups and its peak is in the age group 20-24 years. A perceptible decline in marital fertility is seen for female age 30 years and above both in rural areas and urban areas.

Statement 28

ASMFRs (Age specific marital fertility rates) by residence, India, 2010

Age group	(Per thousand)		
	Total	Rural	Urban
15-19	263.5	268.7	233.9
20-24	313.2	322.0	283.4
25-29	179.4	186.4	162.1
30-34	70.8	74.5	61.4
35-39	32.0	37.1	19.7
40-44	10.3	12.8	4.2
45-49	4.5	6.0	1.1

3.23 Values of the age specific marital fertility rates for the year 2010 in bigger States are given below in Statement 29. It is observed that the age pattern of marital fertility is almost similar to the pattern of age specific fertility. The marital fertility in the age group 15-19 is lesser than the National average in half of the bigger States viz. Andhra Pradesh, Bihar, Chhattisgarh, Delhi, Gujarat, Jammu & Kashmir, Kerala, Madhya Pradesh, Maharashtra and Rajasthan. ASMFR is at peak level in the age group 20-24 in all the bigger States except Assam, Jharkhand, Odisha, Tamil Nadu and West Bengal. There is significant decline in marital fertility for women aged 30 years onwards, for all major States.

Statement 29

ASMFRs (Age specific marital fertility rates), India and bigger States, 2010

India and bigger States	15-19	20-24	25-29	30-34	35-39	40-44	45-49
India	263.5	313.2	179.4	70.8	32.0	10.3	4.5
Andhra Pradesh	251.2	279.0	101.4	24.2	5.0	2.0	0.3
Assam	359.5	288.5	195.9	98.2	49.6	15.8	6.9
Bihar	260.5	338.1	253.2	120.2	70.1	24.7	14.3
Chhattisgarh	245.7	337.4	196.7	78.1	26.9	4.6	2.1
Delhi	143.1	280.3	175.3	65.9	20.9	3.4	1.9
Gujarat	209.6	302.4	178.0	68.4	27.8	9.2	2.9
Haryana	269.1	348.5	157.3	48.5	13.3	4.7	1.4
Himachal Pradesh	280.4	340.5	162.2	40.0	15.3	1.2	0.6
Jammu & Kashmir	184.8	362.6	238.4	108.0	49.5	15.7	7.3
Jharkhand	314.6	304.7	204.6	98.9	45.5	21.1	5.5
Karnataka	268.3	290.9	142.9	39.0	14.4	1.3	0.0
Kerala	238.5	260.8	160.0	59.1	15.3	1.6	0.0
Madhya Pradesh	262.8	367.2	219.5	74.9	32.9	11.7	5.2
Maharashtra	188.1	275.7	118.2	39.3	11.3	2.3	0.7
Odisha	308.9	286.2	177.7	73.0	23.7	6.4	3.8
Punjab	268.7	345.0	154.3	50.2	11.8	3.4	1.2
Rajasthan	185.2	350.0	193.0	86.5	36.6	17.7	5.6
Tamil Nadu	312.6	286.1	141.4	41.2	11.4	1.2	1.0
Uttar Pradesh	287.0	378.6	260.0	115.8	70.4	23.7	11.8
West Bengal	325.6	212.4	104.0	35.2	11.9	3.7	1.5

3.24 Like TFR, Total Marital Fertility Rate (TMFR) is the cumulative value of age specific marital fertility rates at the end of the reproductive period. It indicates the average number of children expected to be born per married woman during the entire span of her reproductive period, if the ASMFRs continue to be the same and if there is no mortality. The TMFRs worked out on the basis of ASMFRs for the year 2010 are given below in Statement 30 for India and bigger States separately for rural and urban areas. The TMFR for India is found to be 4.4 and varies from 3.8 in urban areas to 4.5 in rural areas. The TMFR is 5 and above in the States of Assam, Bihar, Jharkhand and Uttar Pradesh.

Statement 30

TMFRs (Total marital fertility rates) by residence, India and bigger States, 2010

India and bigger States	Total	Rural	Urban
India	4.4	4.5	3.8
Andhra Pradesh	3.3	3.4	3.0
Assam	5.1	5.3	3.8
Bihar	5.4	5.5	5.0
Chhattisgarh	4.5	4.6	3.7
Delhi	3.5	3.3	3.6
Gujarat	4.0	4.2	3.6
Haryana	4.2	4.4	3.6
Himachal Pradesh	4.2	4.2	4.4
Jammu & Kashmir	4.8	5.0	3.7
Jharkhand	5.0	5.1	4.2
Karnataka	3.8	4.0	3.3
Kerala	3.7	3.9	3.2
Madhya Pradesh	4.9	5.0	4.0
Maharashtra	3.2	3.1	3.3
Odisha	4.4	4.5	3.7
Punjab	4.2	4.2	4.0
Rajasthan	4.4	4.5	4.2
Tamil Nadu	4.0	4.0	3.8
Uttar Pradesh	5.7	5.8	5.8
West Bengal	3.5	3.5	3.2

3.25 Statement 31 below presents the percentage change in the average level of TMFR between the period 1998-00 and 2008-10 in India and bigger States. During the period TMFR has declined by 8.5 per cent at the National level. Among the bigger States, the percentage decline varies from 16.3 in Punjab to nil in Himachal Pradesh, Kerala and Tamil Nadu. Assam, Maharashtra, Punjab, Rajasthan and West Bengal have shown substantial decline in rural areas. In urban areas, Maharashtra has shown a decline of 17.5 percent followed by Assam and Odisha with 16.7 percent and 15.9 percent, respectively.

Statement 31

Percentage change in average Total marital fertility rate (TMFR) between 1998-00 and 2008-10, by residence, India and bigger States

India and bigger States	Total			Rural			Urban		
	1998-00	2008-10	% Change	1998-00	2008-10	% Change	1998-00	2008-10	% Change
India	4.7	4.3	-8.5	4.9	4.5	-8.2	4.2	3.8	-9.5
Andhra Pradesh	3.5	3.4	-2.9	3.5	3.4	-2.9	3.6	3.2	-11.1
Assam	6.0	5.1	-15.0	6.1	5.3	-13.1	4.8	4.0	-16.7
Bihar	5.5	5.2	-5.5	5.6	5.3	-5.4	4.9	4.5	-8.2
Gujarat	4.2	4.0	-4.8	4.4	4.2	-4.5	3.6	3.6	0.0
Haryana	4.6	4.3	-6.5	4.6	4.4	-4.3	4.5	4.0	-11.1
Himachal Pradesh	4.5	4.5	0.0	4.5	4.5	0.0	4.7	4.0	-14.9
Karnataka	4.3	3.8	-11.6	4.4	4.0	-9.1	4.1	3.5	-14.6
Kerala	3.7	3.7	0.0	3.6	3.7	2.8	4.0	3.6	-10.0
Madhya Pradesh	5.2	4.8	-7.7	5.4	4.9	-9.3	4.4	4.0	-9.1
Maharashtra	3.9	3.3	-15.4	3.8	3.2	-15.8	4.0	3.3	-17.5
Odisha	4.5	4.3	-4.4	4.6	4.4	-4.3	4.4	3.7	-15.9
Punjab	4.9	4.1	-16.3	5.0	4.1	-18.0	4.4	4.1	-6.8
Rajasthan	5.0	4.4	-12.0	5.2	4.6	-11.5	4.1	4.1	0.0
Tamil Nadu	3.9	3.9	0.0	3.9	4.0	2.6	3.7	3.8	2.7
Uttar Pradesh	6.0	5.6	-6.7	6.1	5.6	-8.2	5.7	5.5	-3.5
West Bengal	4.0	3.4	-15.0	4.1	3.5	-14.6	3.5	3.1	-11.4

Fertility by level of education of the women

3.26 Education, more precisely the female education, has a direct impact on fertility. To ascertain levels of fertility by educational status of the women three indicators viz. general fertility rate, age-specific fertility rate and total fertility rate by educational status of the women have been worked out separately for rural and urban areas. These are discussed in the subsequent paragraphs.

3.27 Statement 32 below indicates the percentage of female population in the age group 15-49 by level of education, at the National level and for the bigger States. At the National level, 32.9 per cent of the female population is reported 'Illiterate' as against 67.1 per cent in the 'Literate' category. Of the literate women, about 82 per cent have education up to Class X, 10 per cent women have education level of Class XII, and only 7.3 per cent have reported education level of graduate and above. Among the illiterates, Kerala (1.4) has the lowest and Bihar (54.5) the highest percentage of illiterate women.

Statement 32

Percentage female population in the age group 15-49 by level of education, India and bigger States, 2010

India and bigger States	Educational level of women								
	Illiterate	Literate							
		Total literate	Without any formal education	Below primary	Primary	Middle	Class X	Class XII	Graduate and above
India	32.9	67.1	2.1	8.8	12.2	19.0	13.2	6.9	4.9
Andhra Pradesh	38.1	61.9	1.5	11.7	11.0	14.1	13.4	6.5	3.8
Assam	24.2	75.8	2.9	6.7	11.8	25.8	18.0	7.3	3.3
Bihar	54.5	45.5	5.2	6.7	7.0	12.9	9.1	3.1	1.6
Chhattisgarh	36.8	63.2	1.0	13.8	17.1	17.1	7.0	4.3	2.9
Delhi	21.9	78.1	0.8	7.1	12.2	14.3	15.8	12.6	15.3
Gujarat	31.9	68.1	0.3	12.2	15.4	15.8	11.3	7.4	5.8
Haryana	28.8	71.2	0.9	6.5	13.6	17.4	18.3	8.6	5.9
Himachal Pradesh	13.4	86.6	0.9	5.9	15.5	18.1	25.4	13.5	7.3
Jammu & Kashmir	35.2	64.8	0.3	3.5	7.1	19.0	18.1	11.0	5.8
Jharkhand	50.5	49.5	4.1	8.0	9.1	14.5	7.9	3.6	2.3
Karnataka	28.3	71.7	0.5	9.2	10.7	20.7	17.6	7.6	5.5
Kerala	1.4	98.6	0.6	4.0	9.9	35.0	25.4	14.0	9.7
Madhya Pradesh	40.9	59.1	1.6	12.1	12.9	16.2	9.0	4.3	3.0
Maharashtra	20.2	79.8	0.6	8.1	13.5	25.7	16.1	9.1	6.7
Odisha	36.0	64.0	2.1	11.8	9.6	23.5	9.3	4.0	3.7
Punjab	24.6	75.4	1.0	5.7	15.0	16.8	20.5	10.3	6.2
Rajasthan	49.0	51.0	4.3	7.5	11.0	12.3	7.7	4.6	3.8
Tamil Nadu	12.3	87.7	0.0	12.0	15.1	21.8	20.1	11.0	7.7
Uttar Pradesh	41.5	58.5	2.7	6.2	11.3	16.3	11.3	6.6	4.1
West Bengal	26.5	73.5	4.2	11.0	15.7	24.0	9.7	4.2	4.8

3.28 Statement 33 below presents the estimates of General Fertility Rate (GFR) by educational status of the women for India and bigger States. It is apparent from the Statement that there is a marked difference between the GFRs of the Illiterate and Literate women with the latter depicting substantially lower levels of GFR, both at the National and State level. However the reason for lower values of GFR for illiterate women as compared to literate in some of the States on account of slightly higher literacy may be due to small sample size in illiterate category as literacy level is significantly high in these States.

Statement 33

General fertility rate by level of education of women, India and bigger States, 2010

India and bigger States	Educational level of women								
	Illiterate	Literate							
		Total literate	Without any formal education	Below primary	Primary	Middle	Class X	Class XII	Graduate and above
India	93.3	80.9	105.8	105.2	91.1	76.2	66.5	66.5	77.8
Andhra Pradesh	51.4	71.0	42.8	75.7	71.0	66.3	77.2	53.7	92.2
Assam	101.4	81.0	85.2	112.1	110.9	78.5	66.6	61.2	50.0
Bihar	144.5	91.3	148.2	121.3	91.8	80.7	65.0	63.2	68.4
Chhattisgarh	67.1	114.3	127.1	156.2	140.7	85.4	73.9	74.5	81.7
Delhi	75.7	63.5	77.6	111.0	63.4	64.5	53.7	45.7	64.4
Gujarat	93.1	78.2	118.5	115.7	88.6	63.7	60.2	54.7	74.1
Haryana	71.0	89.7	74.2	90.6	105.9	92.9	75.0	78.9	104.9
Himachal Pradesh	19.1	66.3	21.8	45.6	44.5	52.8	81.3	81.8	88.0
Jammu & Kashmir	84.9	54.1	122.5	64.5	68.3	63.7	43.1	43.9	49.4
Jharkhand	102.8	94.6	156.8	130.6	82.3	81.1	74.9	75.1	88.9
Karnataka	52.5	76.5	91.9	84.9	88.9	80.5	68.9	64.4	63.2
Kerala	14.8	53.8	14.5	23.2	20.8	47.5	49.9	75.4	104.8
Madhya Pradesh	104.4	112.9	102.1	186.2	136.0	83.7	62.8	76.5	81.1
Maharashtra	42.5	70.1	105.4	40.8	69.3	84.9	67.4	67.1	58.3
Odisha	75.7	76.0	61.4	87.2	82.8	74.6	65.0	69.5	74.2
Punjab	60.6	62.9	73.2	51.6	63.2	54.4	65.0	71.6	72.4
Rajasthan	111.8	101.8	115.5	164.9	115.4	84.1	69.2	59.8	95.1
Tamil Nadu	15.6	64.9	0.0	34.7	56.9	73.6	70.3	65.6	88.0
Uttar Pradesh	126.9	107.7	142.1	162.5	126.0	99.4	77.9	83.5	105.6
West Bengal	52.5	64.9	46.6	94.6	82.0	58.3	48.4	46.0	39.8

3.29 Statement 34 below presents, at the National level, age specific fertility rates by level of education of women separately for rural and urban areas. The data reveals marked rural-urban differences with the rural areas generally reporting higher levels of fertility than the urban areas for all age groups. Fertility attains the peak in the age-group 20-24 years both in the rural and urban areas except for the women having education level 12th and above. 'Illiterate' women have higher levels of age-specific fertility rates both in the rural and urban areas than the 'Literate'. Within the 'Literate' group there is a general decline in the fertility rates with the increase in the educational status both in the rural and urban areas, barring a few exceptions.

Statement 34

Age specific fertility rate by level of education of women and residence, India, 2010

Age group	Educational level of women								
	Illiterate	Literate							
		Total literate	Without any formal education	Below primary	Primary	Middle	Class X	Class XII	Graduate and above
	Total								
15-19	82.5	31.0	131.5	95.5	48.6	23.9	15.9	15.6	0.0
20-24	256.4	185.1	262.9	258.6	233.5	200.8	152.2	103.5	111.6
25-29	194.2	142.8	205.2	158.9	148.9	138.4	138.1	122.8	135.4
30-34	84.8	55.4	76.4	58.8	49.8	53.3	44.7	53.3	74.1
35-39	43.3	19.4	33.2	20.1	18.5	15.4	18.4	18.1	25.2
40-44	14.2	4.7	10.4	6.5	4.9	3.0	3.1	4.4	4.1
45-49	6.2	1.5	3.7	1.6	1.4	1.8	1.0	0.5	1.1
	Rural								
15-19	86.8	36.2	142.6	106.6	53.4	26.3	18.8	21.3	0.0
20-24	264.5	205.5	270.0	266.8	243.6	212.2	163.7	120.8	139.3
25-29	200.0	151.0	206.1	165.6	155.2	143.9	142.1	131.5	147.0
30-34	87.3	56.4	78.1	61.9	52.5	54.9	46.0	53.3	72.3
35-39	46.0	22.1	39.0	22.9	21.2	16.3	23.1	23.1	26.9
40-44	15.6	6.1	12.3	7.2	5.3	3.8	4.3	10.3	8.5
45-49	7.2	2.2	4.2	2.1	1.6	3.1	1.7	0.4	0.6
	Urban								
15-19	56.4	16.9	79.1	48.5	30.6	16.3	9.7	8.8	0.0
20-24	209.8	141.3	228.8	225.8	198.7	169.3	130.5	84.2	94.2
25-29	160.6	129.5	202.1	137.1	132.4	126.9	132.6	114.3	130.2
30-34	69.4	53.8	69.5	49.5	42.8	50.2	43.0	53.3	74.8
35-39	27.7	15.6	11.1	12.3	12.6	13.8	13.6	14.8	24.7
40-44	7.0	2.7	4.2	4.5	4.0	1.7	2.0	1.0	3.0
45-49	1.6	0.7	2.0	0.6	1.1	0.2	0.5	0.5	1.1

3.30 Total fertility rates by education levels of the women for India and bigger States are presented below in Statement 35. At the National level, total fertility rate for the women having educational status 'Illiterate' for 2010 is 3.4. This is much higher than the 'Literate' group of women. Among the 'Literate' (2.2), there is a gradual decline of TFR with the increase in the level of education. Chart 17 presents, at the National level, total fertility rate by level of education of women separately for rural and urban areas for the year 2010. The TFR by levels of education of the women for India and bigger States by place of residence are given in Table-4.

Statement 35

Total fertility rate by level of education of women, India and bigger States, 2010

India and Bigger States	Educational level of women								
	Illiterate	Literate							
		Total literate	Without any formal education	Below primary	Primary	Middle Class	Class X	Class XII	Graduate and above
India	3.4	2.2	3.6	3.0	2.5	2.2	1.9	1.6	1.8
Andhra Pradesh	2.0	1.8	1.4	2.2	1.9	1.8	2.0	1.1	1.8
Assam	3.5	2.3	2.9	3.4	3.3	2.3	1.9	1.4	1.2
Bihar	4.5	2.7	4.3	3.3	3.1	2.6	2.0	1.6	1.7
Chhattisgarh	3.0	2.9	7.0	4.0	3.4	2.3	2.1	1.7	1.8
Delhi	2.6	1.8	2.1	3.0	1.8	1.9	1.6	1.2	1.6
Gujarat	3.5	2.1	3.9	3.1	2.4	1.8	1.8	1.4	1.7
Haryana	3.2	2.2	3.5	2.4	2.7	2.4	1.9	1.5	2.1
Himachal Pradesh	1.6	1.9	0.8	2.4	1.7	1.9	2.2	1.7	1.8
Jammu & Kashmir	2.9	1.6	4.5	1.8	2.0	2.1	1.6	1.2	1.1
Jharkhand	3.4	2.6	4.7	3.4	2.6	2.5	2.1	1.9	2.0
Karnataka	2.8	2.0	3.6	2.7	2.4	2.1	1.8	1.5	1.4
Kerala	1.2	1.8	1.3	2.0	1.4	1.7	1.6	1.9	2.4
Madhya Pradesh	3.9	3.0	4.1	4.6	3.3	2.6	1.9	1.8	2.0
Maharashtra	2.3	1.9	6.0	1.6	2.1	2.3	1.8	1.5	1.4
Odisha	2.9	2.0	2.4	2.6	2.3	1.9	1.8	1.6	1.6
Punjab	2.3	1.7	2.3	1.5	2.0	1.6	1.7	1.5	1.6
Rajasthan	3.7	2.7	3.8	3.7	3.0	2.5	2.1	1.6	1.9
Tamil Nadu	1.3	1.8	0.0	1.7	2.0	2.0	1.9	1.6	1.9
Uttar Pradesh	4.3	3.1	4.6	4.2	3.6	3.2	2.5	2.2	2.3
West Bengal	2.3	1.7	2.6	2.8	2.1	1.6	1.3	1.1	1.1

*Note: 0.0 denotes negligible

Birth order

3.31 Information on order of the live birth and interval between current and previous live births are also collected in SRS from 1990 onwards. These provide useful information on spacing of children and level of fertility. The estimated percentages on order of live birth and birth interval for India and bigger States are given in Tables 5, 6 and 7. Based on these tables, two State-wise comparative Statements are presented below.

3.32 The percentage distribution of live births by order for India and bigger States for the year 2010 is presented below in Statement 36. It is observed about 41 percent of the current live births in India are first order births, and 30 percent of total births are second order births. The fourth and higher order births account for about 14 percent of the total births. Among the bigger States, the percentage share of first order birth varies from 31.8 percent in Bihar to 53.8 percent in Andhra Pradesh. On the other hand, the percentage share of fourth and higher order births varies from 1.7 percent in Andhra Pradesh to 24.1 percent in Bihar.

Statement 36

Percentage distribution of current live births by birth order, India and bigger States, 2010

India and bigger States	Birth order			
	1 st	2nd	3rd	4th & above
India	41.5	30.5	14.3	13.7
Andhra Pradesh	53.8	37.4	7.0	1.7
Assam	43.8	26.3	14.6	15.2
Bihar	31.8	25.7	18.4	24.1
Chhattisgarh	39.3	32.0	17.1	11.6
Delhi	50.2	29.1	10.8	9.9
Gujarat	42.3	32.2	13.3	12.2
Haryana	44.1	33.6	13.4	8.9
Himachal Pradesh	51.7	34.8	8.8	4.7
Jammu & Kashmir	42.6	29.2	15.9	12.3
Jharkhand	33.1	27.3	19.6	20.0
Karnataka	48.7	33.7	11.4	6.2
Kerala	50.7	36.9	10.0	2.4
Madhya Pradesh	40.5	30.3	15.8	13.4
Maharashtra	47.9	35.2	11.5	5.4
Odisha	43.1	30.5	15.2	11.2
Punjab	50.8	33.8	11.0	4.4
Rajasthan	35.1	28.3	17.3	19.3
Tamil Nadu	52.4	37.4	8.4	1.9
Uttar Pradesh	35.8	27.4	16.3	20.6
West Bengal	50.2	33.0	10.0	6.7

3.33 Statement 37 below presents the percentage distribution of current live birth by birth order and residence for India and bigger States. It may be observed that the percentage of current live births for 'first' and 'second' order taken together is generally higher for urban areas if compared to the rural areas for bigger States except for Andhra Pradesh. For 'third', 'fourth & above' order live births, the percentage contribution at National level is significantly higher in rural areas (30.4) compared to urban areas (19.5).

Statement 37

Percentage distribution of current live births by birth order and residence, India and bigger States, 2010

India and bigger States	Birth order							
	Rural				Urban			
	1st	2nd	3rd	4th & above	1st	2 nd	3rd	4th & above
India	39.5	30.1	15.1	15.3	48.6	31.9	11.5	8.0
Andhra Pradesh	53.5	37.9	7.2	1.4	54.6	36.2	6.6	2.6
Assam	42.5	26.0	15.2	16.3	56.0	28.9	9.8	5.4
Bihar	31.4	25.6	18.4	24.6	35.8	27.0	17.9	19.3
Chhattisgarh	38.2	31.8	17.5	12.6	47.0	33.2	14.8	5.0
Delhi	44.7	33.4	11.9	10.0	51.3	28.3	10.6	9.8
Gujarat	40.0	30.2	14.5	15.3	46.8	35.9	11.0	6.3
Haryana	44.0	32.7	13.8	9.4	44.2	36.1	12.2	7.6
Himachal Pradesh	51.1	35.1	9.1	4.7	59.9	31.5	3.8	4.8
Jammu & Kashmir	41.1	28.2	17.1	13.6	50.9	34.6	9.6	4.9
Jharkhand	32.0	26.8	19.8	21.3	39.2	30.1	18.4	12.3
Karnataka	47.4	33.3	12.4	6.9	51.5	34.5	9.4	4.7
Kerala	50.2	36.5	10.7	2.7	52.2	38.1	8.1	1.7
Madhya Pradesh	39.7	29.9	16.0	14.4	44.6	32.0	15.0	8.4
Maharashtra	44.7	37.0	12.5	5.8	52.6	32.7	10.0	4.7
Odisha	42.4	30.2	15.4	12.0	49.5	32.8	13.0	4.8
Punjab	50.7	33.3	11.4	4.6	50.9	34.7	10.5	3.9
Rajasthan	33.0	27.6	17.6	21.7	43.0	31.1	15.8	10.1
Tamil Nadu	49.9	37.0	10.5	2.6	55.6	37.9	5.6	0.9
Uttar Pradesh	34.5	27.7	16.5	21.3	42.4	25.8	15.1	16.7
West Bengal	48.2	34.1	10.6	7.1	58.8	28.6	7.6	5.0

Birth interval

3.34 The percentage distribution of second and higher order live births by interval between current and previous live birth is shown below in Statement 38 for India and bigger States for the year 2010. At the National level, 1.6 per cent of the live births occur within one year from the previous live birth. Such percentage varies from 0.2 in Kerala to 2.7 in Punjab. The percentage of births beyond three years of birth interval from the previous live birth for India is 41.2. It varies from 34.0 in Andhra Pradesh and Rajasthan to 62.8 in Kerala.

Statement 38

Percentage distribution of second and higher order live births by interval, India and bigger States, 2010

India and bigger States	Interval between current and previous live birth (in months)			
	10-12	12-24	24-36	36+
India	1.6	26.3	30.9	41.2
Andhra Pradesh	1.1	32.5	32.4	34.0
Assam	1.2	16.5	25.9	56.4
Bihar	1.5	29.6	31.6	37.3
Chhattisgarh	0.9	17.1	37.7	44.4
Delhi	0.9	20.0	25.8	53.3
Gujarat	1.7	26.9	31.1	40.3
Haryana	1.5	30.9	31.9	35.7
Himachal Pradesh	2.3	32.3	28.8	36.6
Jammu & Kashmir	1.4	24.2	26.7	47.7
Jharkhand	0.9	22.6	31.9	44.5
Karnataka	0.7	29.6	33.9	35.8
Kerala	0.2	14.7	22.4	62.8
Madhya Pradesh	1.1	25.1	35.3	38.6
Maharashtra	1.3	29.1	34.3	35.3
Odisha	1.0	15.1	30.4	53.5
Punjab	2.7	30.3	23.6	43.5
Rajasthan	2.2	31.8	32.0	34.0
Tamil Nadu	0.9	30.4	28.6	40.0
Uttar Pradesh	2.5	26.8	29.9	40.9
West Bengal	0.7	17.0	26.1	56.1

3.35 Statement 39 below presents the percentage distribution of second and higher order live births by interval between current and previous live birth separately for rural and urban areas. At the National level, 1.6 percent of live births have been reported within an interval of one year for rural and 1.2 percent in urban areas. The data reveals that so far as spacing of children is considered, there is marginal difference between the rural and urban areas indicate that about half of the birth have spacing 36 months and above in urban compare to about two fifth in rural areas. More than 70 percent of births have birth interval of 24 and more months both in rural and urban areas.

Statement 39

Percentage distribution of second and higher order live births by interval and residence, India and bigger States, 2010

India and bigger States	Interval between current and previous live birth (in months)							
	Rural				Urban			
	10-12	12-24	24-36	36+	10-12	12-24	24-36	36+
India	1.6	26.8	32.1	39.5	1.2	23.9	26.5	48.4
Andhra Pradesh	1.2	31.9	34.1	32.8	0.6	34.1	28.1	37.2
Assam	1.2	17.0	26.4	55.4	0.6	10.3	20.8	68.2
Bihar	1.6	29.6	31.7	37.2	1.1	29.9	30.7	38.3
Chhattisgarh	0.9	16.4	39.0	43.7	1.0	22.2	27.6	49.1
Delhi	1.6	23.0	25.4	50.0	0.8	19.3	25.9	54.0
Gujarat	2.1	29.7	33.6	34.7	0.9	21.1	25.6	52.4
Haryana	1.6	33.0	33.2	32.2	1.4	25.3	28.3	45.0
Himachal Pradesh	2.4	32.9	29.0	35.7	1.6	20.3	26.0	52.1
Jammu & Kashmir	1.7	25.4	26.9	46.0	0.0	16.4	24.9	58.8
Jharkhand	0.9	22.4	32.1	44.6	0.9	24.0	30.8	44.2
Karnataka	0.6	32.2	36.3	30.9	1.0	23.7	28.6	46.7
Kerala	0.2	14.9	22.4	62.5	0.0	14.0	22.2	63.8
Madhya Pradesh	1.1	26.1	36.2	36.6	0.9	19.6	30.5	49.0
Maharashtra	1.5	33.0	37.8	27.7	0.9	22.5	28.3	48.3
Odisha	1.0	15.2	31.0	52.8	0.6	14.8	24.4	60.2
Punjab	2.6	33.7	25.5	38.2	2.7	24.0	20.1	53.1
Rajasthan	2.3	33.4	32.9	31.4	1.9	24.4	28.1	45.5
Tamil Nadu	1.2	32.4	31.0	35.4	0.4	27.5	25.1	47.0
Uttar Pradesh	2.4	26.7	30.9	39.9	2.5	27.3	23.8	46.5
West Bengal	0.8	17.3	27.1	54.8	0.4	15.7	20.9	63.0

Medical attention at delivery

3.36 While recording details of every outcome of pregnancy during continuous enumeration and half yearly survey, the enumerators and supervisors are required to enquire about the type of medical attention received by the mother at the time of delivery/abortion of the new born. In the new sample from 2004, the options on types of medical attention received by the mother at delivery have been modified to capture the deliveries specifically at private hospital/nursing homes. The new options include 'Government Hospital', 'Private Hospital', 'Qualified professional', 'Untrained functionary' and 'others' in comparison to 'Institutional'; 'Doctor, Nurse or trained midwife'; 'Traditional birth attendants'; and 'relatives or others' adopted in 1991 SRS sample. Statement 40 below gives the percentage distribution of live births recorded in the year 2010 by type of medical attention received by the mother at the time of delivery for India and bigger States separately by rural and urban areas. At the National level, 41.1 per cent births were attended by Government Hospitals and vary from 38.4 per cent in rural areas to 50.8 per cent in urban areas. Among the bigger States, it varies from 19.1 per cent in Jharkhand to 60.8 per cent in Karnataka. About 19.4 per cent of birth occurred at Private Hospital. Medical attention by qualified professionals constitutes 15.0 per cent of total delivery whereas untrained and others constitute 24.5 per cent. More than three fourth of deliveries are occurring in institutional and by the qualified professional.

Statement 40

Percent distribution of live births by type of medical attention received by the mother at delivery by residence, India and bigger States, 2010

India and bigger States	Govt. Hospital			Private Hospital			Qualified professional			Untrained functionary and others		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
India	41.1	38.4	50.8	19.4	15.5	33.4	15.0	16.2	10.8	24.5	30.0	5.1
Andhra Pradesh	47.4	49.3	42.7	40.7	35.1	55.4	10.8	14.3	1.7	1.0	1.4	0.2
Assam	40.8	39.1	56.5	13.2	12.0	24.4	17.0	17.3	14.0	29.0	31.6	5.1
Bihar	29.0	27.4	46.9	12.4	10.8	31.0	11.1	10.8	15.0	47.5	51.0	7.1
Chhattisgarh	31.4	27.9	54.6	16.0	15.1	22.3	23.3	24.3	16.9	29.3	32.8	6.2
Delhi	55.0	54.3	55.1	23.3	23.3	23.3	16.5	15.5	16.7	5.3	7.0	5.0
Gujarat	36.9	35.8	39.0	42.9	36.3	55.1	11.4	14.6	5.5	8.8	13.2	0.5
Haryana	27.3	26.3	30.0	35.7	32.6	44.0	30.7	33.3	23.5	6.3	7.7	2.5
Himachal Pradesh	47.9	45.6	81.4	10.0	10.1	8.2	21.1	22.0	7.7	21.0	22.3	2.6
Jammu & Kashmir	60.0	55.8	82.2	9.7	9.5	10.8	11.3	12.5	4.9	19.1	22.2	2.2
Jharkhand	19.1	15.4	40.6	9.8	6.5	29.1	17.6	18.7	11.1	53.5	59.4	19.2
Karnataka	60.8	62.8	56.7	24.9	20.3	34.2	5.0	6.5	2.0	9.3	10.4	7.1
Kerala	45.0	48.1	35.5	54.5	51.4	64.1	0.2	0.2	0.3	0.2	0.3	0.2
Madhya Pradesh	45.0	40.8	66.8	15.0	14.0	20.1	13.5	15.1	5.6	26.5	30.2	7.5
Maharashtra	49.0	42.8	58.0	37.3	35.6	39.8	4.5	6.5	1.7	9.2	15.2	0.5
Odisha	49.4	47.3	66.6	8.2	7.3	16.0	12.1	12.6	8.3	30.3	32.7	9.2
Punjab	27.5	24.8	32.4	40.1	35.1	49.0	29.8	36.5	17.6	2.6	3.5	1.0
Rajasthan	59.1	56.3	69.9	8.9	7.2	15.5	17.3	18.3	13.8	14.7	18.3	0.8
Tamil Nadu	60.2	61.7	58.2	31.0	24.1	40.3	7.9	13.5	0.3	0.9	0.7	1.1
Uttar Pradesh	29.1	28.3	33.2	11.0	8.3	25.0	24.4	23.0	31.3	35.5	40.4	10.5
West Bengal	56.2	54.1	64.9	9.9	7.7	19.4	9.0	10.0	5.0	24.9	28.3	10.7

