Fertility Tables : F-1, F-1 SC, F-1 ST and F-2

I- INTRODUCTION

Questions on 'Fertility' have been canvassed in the Indian censuses from time to time. In the 1931 Census, fertility data was collected and a table on sex of the first-born child was prepared. In 1941 Census, two questions on fertility, mainly 'number of children born to a married woman and number surviving' and 'age of the mother at birth of the first child' were canvassed but due to war, the data could not be tabulated. In 1951 and 1961, no question on fertility was canvassed. However in 1951 Census, States were allowed to include one question in the census to collect data on fertility.

In 1971 Census, two questions, one on the age at marriage and the other on children born during the last year to currently married women were canvassed whereas in 1981 Census, two more questions were added, one on children ever born and the other on children surviving. Though the same questions were retained in 1991 and 2001 Censuses, some additional information on the sex of the child born during the last year has been collected in 2001 Census.

In 1981 Census, canvassing of fertility questions and tabulation of these data was on a sample basis in all the major States, whereas in small States and Union territories, questions were canvassed and data was tabulated on 100 percent basis. In 1991 Census, fertility questions were canvassed on 100 percent basis in all the States, but tabulation of data was done on sample basis for major States as done in 1981 Census. In 2001, both collection and tabulation of data is done on 100 percent basis for all the States.

Data on number of ever married women by parity of children ever born

From fertility point of view, these are the most important data to know the fertility pattern of women by age. This helps to understand the fertility rates among different age-groups of women in terms of mean number of children ever born. Comparison of these rates with the similar rates of past censuses shows the trends in fertility rates among different age-groups of women. Comparison of mean number of children to women in age-group 45-49 with the total fertility rates helps to see the movement of fertility rates since past. Similarly, the percentage distribution of women classified by parity of children ever born and their comparison with past censuses helps in understanding the trends in fertility over a period of time among different age-groups of women. The sex-wise data on number of children ever born facilitates to assess the quality of data. The data of these tables once analysed with the similar data on surviving children becomes useful in studying the survival ratios of children, probability of dying, sex specific differential mortality rates etc.

Tables F-1 & F-2 under F-series present data on total number of women by age, total ever married women and the number of women by parity of children ever born for each age-group. The data has been decided to be released by the Office of the Registrar General, India

in electronic format. A printed volume based on these tables will be brought out separately. The present release is restricted to the following tables:

Table No.	Title of the Table	Lowest level of presentation	
		Electronic Format	Printed Volume
F-1	Number of women and ever married women by present age, parity and total children ever born by sex	District	State
F-1 SC	Number of women and ever married women by present age, parity and total children ever born by sex for Scheduled Castes	District	State
F-1 ST	Number of women and ever married women by present age, parity and total children ever born by sex for Scheduled Tribes	District	State
F-2	Number of women and ever married women by present age, parity, religious community and total children ever born by sex	District	State

II - DATA HIGHLIGHTS : A BRIEF ANALYSIS

As a supplementary to introduction, a brief analysis on some important features of the data of tables F-1 and F-2 has been made here as an aid to the data users to focus their attention on the area of their concern and interest.

Trends in number of children ever born

The data on total number of ever married women (EMW) by age, number of children ever born (CEB) and mean number of children ever born (MNB) per ever married woman since 1981 Census are presented in the following Statement.

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Statement-1
Number of ever married women by age and ever born children –India : 1981-2001

Ages	Total Ever Married Women (EMW)			Total Children Ever Born (CEB)			Mean Number of Children (MNB)		
	2001	1991	1981	2001	1991	1981	2001	1991	1981
1	2	3	4	5	6	7	8	9	10
All ages	273,405,276	220,228,929	174,262,743	828,891,566	676,881,293	588,859,324	3.03	3.07	3.38
Less than 15	1,511,937	2,156,553	2,657,188	468,123	192,102	49,686	0.31	0.09	0.02
15-19	11,501,684	13,143,111	13,271,556	4,818,597	5,229,987	5,202,115	0.42	0.40	0.39
20-24	33,464,024	30,674,816	24,360,770	41,761,985	39,682,944	32,102,728	1.25	1.29	1.32
25-29	39,499,012	33,241,878	24,151,849	87,998,968	77,293,984	60,277,535	2.23	2.33	2.50
30-34	36,104,263	27,980,932	20,554,283	107,861,280	86,340,792	71,867,602	2.99	3.09	3.50
35-39	34,078,560	24,606,495	18,839,879	114,618,999	89,483,818	80,926,219	3.36	3.64	4.30
40-44	25,555,863	19,521,700	16,065,588	93,784,190	78,192,841	76,087,752	3.67	4.01	4.74
45-49	**22,339,303**	**17,053,650**	13,805,697	**86,696,982**	**73,507,198**	**69,341,742**	**3.88**	**4.31**	**5.02**

Note : The figures for 1981 are excluding Assam and for 1991 are excluding Jammu and Kashmir.

As can be seen in Statement-1, there were about 17 crores total ever married women in 1981, which has gone up to 22 crores in 1991(increase of 26.4 percent) and again to 27 crores in 2001 (increase of 24.1 percent). The number of CEB, which was 58.8 crores in 1981, was 67.7 crores in 1991(increase of 14.9 percent) and is 82.9 crores in 2001 (increase of 22.5 percent). The percentage increase in ever born children, which is lower than the percentage increase in ever married women show the decline in fertility.

The mean or average number of children ever born per ever married woman (MNB for all ages), as can be seen in the above Statement, has declined from 3.38 in 1981 to 3.07 in 1991 and 3.03 in 2001.

Mean number of children ever born per EMW in age-group 45-49 (MNB)

The MNB per ever married woman, who have completed the age of childbearing, that is those in age-group 45-49 is considered as a standard measure of the period fertility rate. This has decreased from 5.02 in 1981 to 4.31 in 1991 and to 3.88 in 2001. The rate of decline in terms of percentages is by 15 percent during 1981-1991 and 10 percent during 1991-2001. It is an established fact that the pace of fertility decline is a nonlinear function and hence the rates of decline during 1981-91 and 1991-2001 appear to be supporting this fact.

The MNB per EMW (age-group 45-49) for rural, urban and for different social groups for 1991 and 2001 are presented in the following Statement.

Statement-2
Mean number of children per EMW (age-group 45-49)
by are and social group : India, 1991-2001

Social Group	2001			1991		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
All religious communities	3.88	4.10	3.35	4.31	4.42	3.96
SC	4.19	4.28	3.83	4.38	4.40	4.27
ST	4.11	4.15	3.73	4.27	4.29	4.07
Hindu	3.77	4.00	3.18	4.22	4.34	3.79
Muslim	4.92	5.13	4.56	5.18	5.29	4.98
Christian	3.32	3.59	2.82	4.01	4.19	3.59
Sikh	3.45	3.63	3.03	4.18	4.35	3.65
Buddhist	3.87	4.08	3.55	4.46	4.60	4.16
Jain	2.99	3.46	2.85	3.89	4.39	3.67
Other religious communities	3.83	3.88	3.36	3.81	3.86	3.24

Note: The figures for 1991 are excluding Jammu and Kashmir.

Rural-urban comparison of MNB makes it clear that the MNB in rural (4.10) is much higher than in urban (3.35) and this is valid for EMW in different social groups also. A decline in MNB from 4.42 to 4.10 in rural and from 3.96 to 3.35 in urban during 1991-01 clearly shows that the rate of decrease in MNB is much faster in urban (15 percent) as compared to rural area (7 percent)

In case of Scheduled Castes (SCs) and Scheduled Tribes (STs), MNB is higher for Scheduled Castes (4.19) than Scheduled Tribes (4.11) and the respective figures in 1991 were 4.38 and 4.27 showing a decrease by 4 percent during 1991-01 for both the groups.

Among different religious groups, it is highest for Muslims (4.92) followed by Buddhists (3.87) and Hindus (3.77). It is lowest for Jains (2.99). The data reveal that during 1991-2001, the rate of decline in MNB is very fast among Jains which came down from 3.89 to 2.99 i.e., a decrease of about 23 percent. The rate of decrease in MNB during the same period among Christians and Sikhs is by 17 percent, and then followed by Buddhists (13 percent) and Hindus (11 percent). However among the Muslims the decline in MNB is only by 5 percent.

Mean number of children ever born per woman

To facilitate comparison of mean number of children (MNB) with similar figures as reported in some surveys and case studies, MNB has been calculated per woman for 1991 and 2001 for all States and Union territories and presented in descending order in Statement–3 along with data reported in NFH-II (1998-99).

As can be seen in Statement-3, major States like Rajasthan, Uttar Pradesh, Madhya Pradesh Bihar, Jammu and Kashmir, Assam, Haryana and Chhattisgarh are on the top with mean number above 4.0. In the bottom are the States like Kerala (2.8), Tamil Nadu (2.9), Goa (3.0), Andhra Pradesh (3.2) and Maharashtra (3.4). Other States viz., Punjab, Gujarat, Karnataka, Orissa, West Bengal and Himachal Pradesh are in the middle range of MNB 3.5 and 4.0.

It may also be seen that the NFHS has reported the MNB at 4.6 for all India level, which is more than as found in 2001 Census (3.8). However the difference is more especially for Rajasthan, Uttar Pradesh, Bihar, West Bengal, Jammu and Kashmir, Orissa, Andhra Pradesh and Tamil Nadu. Though such difference may be due to under-reporting of number of children ever born, but misreporting of age and recall lapse etc., are also responsible for such difference. Firstly, it may be noted that the NFHS is a sample survey and the data relates to the period 1998-99. Secondly, as the size of NFHS coverage is limited, there are more chances to control several errors but such chances in census are limited. Moreover, difference in methodology for enumeration of women and children born to them also should be taken into account while making such comparison.

The data presented in Statement-3, facilitate comparison of MNB in 2001 with the same of 1991. It is clear that except for Nagaland, Bihar, Uttar Pradesh and Lakshadweep, in all the remaining States and Union territories the MNB has decreased. The rate of decrease is higher in States and Union territories viz., Kerala, Pondicherry, Goa, Daman & Diu, Punjab, Karnataka, Tripura, Assam etc. The rate of decrease is lower in States, which are on the top of the list. However the reasons for increase in the MNB during 1991-01 in States and Union territories viz., Nagaland, Bihar, Utta r Pradesh and Lakshadweep, which may be probably due to under-reporting of CEB in 1991 requires deeper analysis.

Statement-3

Mean number of children : India, States and Union territories (1991 and 2001)

India/State/UT*	MNB per Woman (age45-49)-2001			MNB per Woman (age 45-49)-Total	
	Total	Rural	Urban	1991	NFHS-II**
1	2	3	4	5	6
INDIA	**3.8**	**4.1**	**3.3**	**4.3**	**4.6**
Nagaland	4.9	5.1	4.0	4.4	-
Lakshadweep *	4.8	5.3	4.2	4.8	-
Arunachal Pradesh	4.7	4.9	3.7	4.0	-
Rajasthan	4.7	4.9	4.0	5.1	5.7
Uttar Pradesh	4.7	4.8	4.1	4.6	5.8
Meghalaya	4.7	4.9	3.9	4.7	-
Madhya Pradesh	4.6	4.8	3.9	-	5.3
Mizoram	4.4	5.0	3.9	-	-
Sikkim	4.4	4.6	3.2	4.7	5.2
Bihar	4.3	4.4	4.1	4.1	5.3
Uttaranchal	4.3	4.5	3.6	-	-
Jammu & Kashmir	4.3	4.5	3.5	-	5.1
Assam	4.2	4.4	3.1	5.1	4.5
Haryana	4.2	4.4	3.6	4.9	4.7
Jharkhand	4.0	4.1	3.8		-
Chhattisgarh	4.0	4.1	3.7	-	-
Manipur	4.0	4.1	3.7	4.3	-
Dadra & N H*	4.0	4.1	3.1	4.4	-
Tripura	3.9	4.2	2.9	4.8	-
Andaman & N I	3.8	4.0	3.3	4.6	-
Himachal Pradesh	3.8	3.8	3.0	4.5	3.9
West Bengal	3.8	4.2	2.9	4.5	4.5
Orissa	3.8	3.8	3.5	4.2	4.4
Daman & Diu	3.7	4.1	3.4	4.6	-
Karnataka	3.6	3.8	3.2	4.4	4.3
Gujarat	3.5	3.8	3.1	4.2	4.2
Punjab	3.5	3.7	3.1	4.3	4.1
Delhi *	3.5	4.0	3.5	4.0	3.7
Maharashtra	3.4	3.6	3.1	-	3.9
Andhra Pradesh	3.2	3.3	2.9	3.8	4.0
Pondicherry *	3.2	3.4	3.0	4.1	-
Chandigarh *	3.1	3.8	3.0	3.5	-
Goa	3.0	3.2	2.8	3.7	3.4
Tamil Nadu	2.9	3.0	2.7	3.4	3.7
Kerala	2.8	2.9	2.6	3.9	3.2

Note: 1. 'Dash' (-) means data not available or not calculated. ** Indicates NFHS-II for the period 1998-99.
2. The Figures 1991 are excluding Jammu and Kashmir.
3. 1991 figures for States of Uttar Pradesh, Madhya Pradesh and Bihar are inclusive of Uttaranchal, Chhattisgarh and Jharkhand respectively.

Ever married women by parity of children ever born

The data on parity help in studying the levels of fertility rates for different ages of women and comparison of these figures with past data facilitate to mark the trends in fertility over a period of time. The data for 1991 and 2001 are presented in Statement-4.

Statement-4

Percentage distribution of ever married women by parity of CEB- India : 1991-2001

Age-group of EMW	Percentage distribution of EMW by parity of CEB											
	2001						1991					
	0	1	2	3	4	5+	0	1	2	3	4	5+
1	2	3	4	5	6	7	8	9	10	11	12	13
ALL AGES	14.6	13.1	19.3	17.4	13.0	22.5	16.7	12.6	16.1	15.9	13.0	25.7
Less than 15	80.4	8.3	11.3	0.0	0.0	0.0	94.1	2.4	3.3	0.0	0.0	0.1
15-19	70.3	21.8	5.2	1.2	1.5	0.0	69.4	22.3	6.1	1.3	0.8	0.0
20-24	31.7	32.5	23.4	8.3	2.4	1.7	29.7	30.8	24.1	10.4	3.4	1.5
25-29	13.4	18.7	30.8	21.2	9.7	6.2	13.1	16.3	27.1	23.3	12.4	7.9
30-34	7.8	9.8	25.7	24.4	16.0	16.3	9.1	8.6	19.8	24.1	18.5	19.9
35-39	6.3	7.8	21.3	23.8	17.4	23.5	7.7	6.1	14.9	20.9	19.4	31.0
40-44	6.2	7.0	17.6	21.9	18.0	29.4	7.9	5.7	11.9	17.3	18.2	39.0
45-49	6.2	7.0	15.1	19.9	18.1	33.8	7.8	5.6	10.1	14.6	16.7	45.2
50-54	7.5	7.4	13.2	17.2	17.2	37.5	8.8	6.6	9.6	12.7	14.8	47.5
55-59	7.5	7.1	11.2	14.9	16.5	42.8	8.7	6.5	8.8	11.5	13.8	50.8
60-64	10.3	7.8	10.2	12.8	14.8	44.1	10.9	8.4	9.5	11.2	12.6	47.5
65-69	10.4	7.6	9.3	11.5	13.8	47.3	10.7	8.3	9.0	10.7	12.1	49.3
70-74	13.5	8.8	9.3	10.6	12.5	45.3	12.4	9.8	9.7	10.9	11.9	45.3
75-79	13.2	9.0	9.4	10.4	11.9	46.1	11.8	9.4	9.5	10.8	11.8	46.7
80+	15.4	9.8	10.0	10.7	11.7	42.4	14.1	10.2	9.8	10.7	11.6	43.5

Note: 1. EMW means Ever Married Women, CEB means Children Ever Born

2. The figures for 1991 are excluding Jammu and Kashmir.

It is very interesting to note from the figures in the above Statement that there is a decrease in proportion of EMW in higher parities and there is an increase in their proportion in lower parities. In brief this can be explained as below:

1. Percentage of EMW of age-groups 25 to 44 in parities 4 and 5+ has decreased but there is an increase in their percentage shares in parities 1 to 3.
2. In case of EMW in age-groups 45 to 59, there is a shift in their shares from parity 5+ to parities 2 to 4.
3. No significant changes are noticed in these percentages for EMW of age 60 years and above and this is only for the reason that the fertility among them is almost complete at their age 50. Any slight change in their share in two censuses may be due to difference in age composition, accuracy of reporting of age etc., in two censuses.
4. The rate of childlessness or infertility (sterility) among women i.e., the percentage of women without a single child ever born in each age-group has gone up for age-groups 20-24 and 70 and above during 1991-01. Though the reason for age-group 20-24 can be explained as a tendency among women to postpone child bearing, but the cause for childlessness among ever married women in age above 50 can be directly related to infertility. There are about 6.8 million ever married childless women in age 50 years and above constituting around 10 percent of the total EMW in this age-group in 2001 (in 1991 also it was 10 percent).

III - CONCLUSIONS

Analysis of data of Tables F-1 & F-2 within and their comparison with the past censuses reveal that the fertility in India has been on decrease. The mean number of children ever born per EMW in age-group 45-49 (MNB), which was 5.02 in 1981 has come down to 4.31 in 1991 (by 15 percent) and again to 3.88 in 2001 (by 10 percent). Rural-urban comparison of MNB indicates that it is higher in rural (4.10) than in urban (3.35). The rate of decrease during 1991-01 is higher in urban (15 percent) than in rural (7 percent). Among the Scheduled Castes (SCs) and Scheduled Tribes (STs), the MNB in 2001 is 4.19 for SCs and 4.11 for STs, which is higher if compared with all categories of ever married women (3.88). The rate of decrease during 1991-01 has been 4 percent among them which is lower.

In case of different religious groups, MNB is highest in the case of Muslims (4.92), followed by Buddhists (3.87) and Hindus (3.77). It is lowest in the case of Jains (2.99). The rate of decrease in MNB during 1991-01 is higher among Jains (23 percent) followed by Christians and Sikhs (17 percent). Among Hindus and Muslims, the reduction in MNB during the same period is 11 percent and 5 percent respectively.

The MNB per woman (age-group 45-49) is relatively higher (more than 4.0) in some of the major States like Rajasthan, Uttar Pradesh, Madhya Pradesh, Bihar, Jammu and Kashmir, Assam, Haryana and Chhattisgarh. In Kerala, Tamil Nadu, Goa, Andhra Pradesh and Maharashtra, the MNB is lower than 3.5. MNB in the States of Punjab, Gujarat, Karnataka, Orissa, West Bengal and Himachal Pradesh is varying in the range of 3.5 to 4.0.

Analysis of the trends in MNB during 1991-01 reveal that, except for Nagaland, Bihar, Uttar Pradesh and Lakshadweep, in all the remaining States and Union territories it has come down. The rate of decrease is higher in Kerala, Pondicherry, Goa, Daman & Diu, Punjab, Karnataka, Tripura, Assam etc. The rate of decrease is lower in Rajasthan, Sikkim, Meghalaya and Manipur. But the reasons for its (MNB) increase in Nagaland, Bihar, Uttar Pradesh and Lakshadweep, which may be probably due to under-reporting of ever born children in 1991 requires some deeper analysis.

NFHS has reported MNB at 4.6 for all India level against 3.8 of 2001 Census. At State level, the difference is more especially for Rajasthan, Uttar Pradesh, Bihar, Orissa, Andhra Pradesh and Tamil Nadu. Such difference in MNB between census and NFHS may be partly due to age misreporting and under-reporting of CEB in census, but difference in methodology and reference period also should be taken into account while making such comparison.

The data on parity in terms of age-group wise percentage distribution of ever married women under different parities reveal that there is a backward shift of women from higher parities to lower parities during 1991-01. The fact that percentage of EMW of age-groups 25 to 44 in parities 4 and 5+ has decreased and their shares in parities 1 to 3 has increased is an evidence of fertility decline. This decline may be due to multiple reasons such as increase in age at marriage, postponement of child bearing, increase in the length of birth interval, sterilization etc., as all these reduce the length of average risk of conception.-o-