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## Some Socio-Economic Characteristics of Fertility

### Introduction

**T**HOUGH the Government has adopted a rather longstanding policy to reduce the prevailing high birth rate through family planning programme, its achievements are not substantial. In this regard it is possible that the improvement in general health conditions caused by varied development activities has led to an increase in the fertility potential of females and this has nullified the effects of fertility regulation programmes.

In Eastern U. P. about 80 percent of population still lives in rural areas. The crucial importance of the rural sector for the integrated development has now been recognised. Consequently, increasing attention is paid to several aspects of social and economic development including the establishment of growth centres and small scale industries in rural areas, and to regional development programmes where high priority is accorded to the planned reclustered of jobs, services and amenities in accordance with the agro-ecological potential and socio-economic needs of each area. Obviously, such activities have an impact on the fertility performance of females.

In order to estimate such effects, it is desirable to know the existing fertility pattern. Fertility varies from female to female and for the same female it is age dependent. In general, fertility is known to rise in the early years of reproductive period, extending from 15 to 50 years, it reaches a maximum somewhere in the range of 20-29 years and declines first slowly, then rapidly to zero at around age 50.

Human fertility is determined by three factors ; age at marriage, duration of fertile-union and age specific fertility potential of the female. These, in turn, are

affected by a number of social and cultural factors such as age at marriage, caste, education etc.

Although, theoretically, it is possible for a female to have a large number of children, it rarely exceeds an average of 10.0. The average number of births to Indian women, leading married life through out the reproductive period, lies between 6.0 and 7.0.

Majority of the demographers, who have tried to correlate fertility pattern with social, economic and cultural factors, are of the opinion that the decrease in family size, follows the economic and social development, while others point to the relevance of age at marriage. Since marriage makes the beginning of the reproductive life of a couple, a rise in age at marriage may tend to affect the level of fertility.

In the light of these positions, we propose here to study fertility differentials in terms of the cumulative performance of females according to age in relation to such variables as caste, education, social status and age at marriage. A brief description of the data and methodology follows, which in turn is followed by fertility analysis according to several characteristics, and then conclusions and findings.

### **Data and Methodology**

A survey entitled "Rural Development and Population Growth—A sample survey 1978" was conducted by the Centre of Population Studies (formerly known as Demographic Research Centre), Banaras Hindu University in the year 1978. The main objective of the survey was to study the existing levels of fertility, mortality and migration in three types of villages representing different levels of social and economic development. The three groups of villages were termed as semi-urban, remote and growth centres. Taking into consideration, the available resources, the first two types of villages were taken from the Varanasi tehsil. The villages of the Tehsil were divided into two strata. The villages having a distance\* of less than 3 km. formed the first stratum known as semi-urban, while the rest belonged to the second stratum called remote villages. Random selection of 8 and 6 villages was done from the two strata respectively. For growth centres, 2 villages were selected where recently sugar mills have been established and 3 villages were selected from an area where a vast net work of carpet weaving units has been recently created. The survey included all 3514 households of the 19 villages. Besides other relevant information, detailed data relating to fertility was collected in the survey. The fertility schedule defines household as "a group of persons who normally stay together and take food from a common kitchen, inclusive of the persons who usually live outside the village but claim the household to be their own". Such persons are

\*Distance has been measured from the boundary of Varanasi Nagar Mahapalika.

*generally out-migrants who stay away to earn their livelihood and visit the households at regular interval of time.*

## **Fertility Differentials**

In order to see how fertility level differs by its various socio-economic determinants, fertility differentials are presented under the following headings.

### *Fertility and Caste*

About 95 percent of the surveyed households were Hindus. The Hindu households in the sample included 35 castes. Keeping in view the large number of castes and too few observations for many of them, the castes have been grouped into 5 categories. The sixth category is formed of Muslims. The grouping is based on the similarity of the pattern of living and the relative positions of different castes in the local hierarchy. The groups are as follows :

1. Upper castes : Brahmin, Bhumihar, Kshatriya, Kayastha, Brahm-bhatta, Gosain, and Mahabrahmin.
2. Middle castes : Kurmi, Koiri, Ahir, Gareria.
3. Business castes : Bania, Teli, Thathera, Sonar, Kalwar, Halwai, Barai.
4. Functional castes : Kahar, Kohar, Lohar Nai, Mali, Mallah, Bind, Nonia.
5. Scheduled castes : Chamar, **Bhar**, Khatik, Dharkar, Dhobi. Nat, Pasi, Bhangi, Musahar.

Table 1 presents the distribution of eligible females according to caste and present age along with the average number of children ever born to them. The average number of births in the Caste group I, II, III, IV, V and VI are 3.52, 3.65, 3.48, 3.87, 3.81 and 3.67. respectively. These figures exhibit some variation which may be due to either the non-homogeneity of the age distribution of female or the differing fertility pattern or both, in different caste groups.

There are very few observations in each caste group corresponding to females aged 15-19 years. It is therefore, not possible to infer anything definite about the fertility performance of this age group. Since a large percentage of females are married at ages between 15 and 20, the couples in the age group get varying exposure periods. Also, frequent visits of females to parents, which usually take place in the early period of married life and differ from caste to caste may be responsible for the variation in fertility. Since the figures in business and muslims groups are based on only a few observations, they should be interpreted with caution. Upper and middle caste groups show comparatively less number of births due to increasing economic activity and massive involvement in education. Scheduled castes group reveal more births due to low literacy, superstition etc.

TABLE 1—DISTRIBUTION OF AVERAGE NUMBER OF CHILDREN EVER BORN ACCORDING TO PRESENT AGE OF WIVES AND CASTE-GROUPS

<i>Present age of wives</i>	1	2	3	4	5	6	<i>Total</i>
15-19	0.42 (64)	0.27 (175)	0.35 (31)	0.52 (75)	0.47 (146)	0.37 (38)	0.41 (629)
20-24	1.49 (152)	1.70 (263)	1.74 (38)	1.81 (216)	1.99 (148)	1.71 (56)	1.74 (873)
25-29	5.11 (HO)	3.32 (218)	3.17 (36)	3.57 (205)	3.63 (43)	3.58 (45)	3.42 (757)
30-34	4.26 (101)	4.76 (179)	4.71 (28)	5.32 (158)	5.37 (110)	4.65 (37)	4.92 (613)
35-39	5.08 (74)	6.00 (156)	5.90 (21)	6.31 (132)	6.26 (106)	6.12 (33)	6.00 (522)
40-44	5.92 (90)	6.60 (105)	5.33 (18)	6.91 (111)	6.69 (72)	6.85 (28)	6.51 (422)
45-49	6.82 (45)	7.15 (87)	7.77 (13)	7.43 (58)	7.07 (44)	8.11* (9)	7.21 (256)
Total	3.52	3.65	3.48	3.87	3.81	3.67	3.71

\*figures based on less than 10 observations  
( ) parantheses has no. of eligible couples.

### *Fertility and Social Status*

It is difficult to define and quantify the socio-economic status of a person or household. In this study the socio-economic status, hence after referred to as social status of a household, is determined on the basis of following factors :

- i. *total* (and (including garden) in the possession of *the household*;
- ii. total income other than that from agriculture;
- iii. maximum education in the household (persons 20 -f- in age);
- iv. caste;
- v. type of residential house (size and quality);
- vi. consumption of milk in the household);
- vii. type of clothes used in winter by the members of the household etc.

Appropriate scores have been assigned to each of the above factors and total score represents the desired index i. e. social status. The total score ranges from 0 to 90. To avoid a large number of groups the households are

classified into five categories according to this score. All the members of the household are assigned the social status of the household to which they belong. The first group corresponds to the index less than 25 while the last group consists of index 65 +. Other groups correspond to the intermediate values. The categories of social status are described as follows :

	<i>Social Status group</i>	<i>Total score</i>
<b>I</b>	Low	<b>0-24</b>
<b>II</b>	Lower middle	25—34
<b>III</b>	Middle	35-44
<b>IV</b>	High	<b>45—65</b>
<b>V</b>	Very high	<b>65 and above.</b>

Table 2 gives the observed number of females and the average number of births to them according to their age and social status. The overall averages for various status groups vary from 2.94 to 4.38. Since the distribution of females according to age in different social groups is different, the variation in the averages may be due to the differing age distributions as well as the very-

TABLE 2—DISTRIBUTION OF AVERAGE NUMBER OF CHILDREN EVERBORN ACCORDING TO PRESENT AGE OF WIVES AND SOCIAL STATUS

<i>Present age of wives</i>	<i>Low</i>	<i>Lower Middle</i>	<i>Middle</i>	<i>High</i>	<i>Very high</i>
15-19	0.71 (48)	0.49 (192)	0.32 (219)	0.30 (169)	0.35 (20)
20-24	2.29 (73)	2.03 (238)	1.64 (255)	1.40 (249)	1.36 (75)
25-29	3.80 (127)	3.66 (234)	3.18 (170)	2.98 (172)	2.89 (55)
30-34	5.37 (113)	5.07 (204)	4.99 (157)	4.05 (123)	3.95 (43)
35-39	6.17 (77)	6.05 (117)	6.35 (142)	5.25 (114)	4.64 (25)
40-44	6.77 (5)	6.49 (119)	6.50 (115)	6.50 (108)	5.14 (28)
45-49	7.67 (12)	7.38 (48)	7.13 (72)	7.15 (48)	4.79 (14)
Total	4.38	3.85	3.54	3.13	2.94

ing age specific rates. However, a strong relationship prevails here between social status and fertility performance. The trend is as below :

Low > **Lower** middle > Middle > High > Very high.

The pattern of fertility potential reveals that if the female and hence the household gets upward shift in social status then fertility can be reduced to a desired level.

#### *Fertility and Educational Status*

There is clear evidence that the fertility performance is higher of those belonging to an uneducated family, whereas lower of those who belong to an educated family. So educational status is an important factor underlying the differences in fertility performance of couples. The educational status of a family may be determined by estimating the educational level of all the members of the family. Appropriate weights have been given to each class which the members of the household possessed. The total score is the index of the status of household and hence that is the educational status of the couple under study. Total score varies from 0 to 10 and they are grouped as below ;

	<i>Educational status</i>	<i>Total score</i>
I	Low	0
II	Lower middle	1-2
<b>III</b>	Middle	3-4
IV	High	5-6
V	Very high	7 and above

Table 3 reflects the fertility performance in educational status groups I, II, III, IV and V as 3.77, 3.59, 3.33, 3.30 and 2.99 respectively. The females possessing low, lower middle and middle educational status groups give more births in early ages of reproductive period, whereas high and very high status groups at older ages of their reproductive life. The table asserts that educational status has a strong and negative relation with fertility performance of females. If high and very high educational status are achieved by the majority of household and hence by females, then fertility may decline to a considerable degree. In high and very high status group, mostly the rich and upper castes in the society are placed and they enjoy comparatively more facilities as good medical care, mass contact, balanced diets etc. They, therefore, are aware about the future consequences of population explosion. Also they preserve their potency upto later ages of reproductive period and give birth, if needed, at later ages, whereas reverse is witnessed regarding rest of the educational status groups,

TABLE 3—DISTRIBUTION OF AVERAGE NUMBER OF CHILDREN **EVER BORN** ACCORDING TO PRESENT AGE OF WIVES AND EDUCATIONAL STATUS

Present age of wives	Educational Status				
	Low	Lower Middle	Middle	Hh	Very high
15-19	0.51 (184)	0.44 (212)	0.33 (163)	0.23 (66)	0.30 (40)
20-24	1.98 (257)	1.86 (203)	1.56 (205)	1.53 (108)	1.30 (H9)
25-29	3.59 (284)	3.23 (187)	3.32 (129)	3.54 (69)	2.90 (89)
30-34	4.64 (242)	4.93 (182)	4.87 (93)	3.81 (64)	4.22 (59)
35-39	5.90 (216)	6.41 (128)	6.01 (100)	5.61 (46)	5.05 (43)
40-44	6.50 (120)	6.74 (103)	6.26 (99)	6.58 (50)	6.16 (32)
45-49	7.15 (57)	7.04 (54)	7.42 (45)	6.91 (22)	6.12 (17)
Total	3.77	3.59	3.33	3.30	2.99

### *Fertility and Age at Return Marriage*

It is generally known that conjugal relation starts after return marriage. It means the females are exposed to the risk of conception only after return marriage, so it is important to consider variation in the age at return marriage for assessing its effect on the fertility performance.

The analysis is based on the information available from the eligible couples where age of the female at return marriage is less than 20 years. The number of couples with females age 20 or over at return marriage is too small for *valid* interpretation. The couples are classified into four groups—I : (10-12); II : (13-14); III : (15-16); and IV : (17-19) according to age of the female at return marriage or at monarche, which ever is later.

Table 4 reveals that the average number of births in any return marriage group is increasing with age of female, a close look at the figures indicate that the pattern of increase differs from group to group. The average number of births in the return marriage groups I, II, III and IV are 4.18, 4.17, 3.51 and 3.14 respectively. These figures indicate some variation which may be due to the differing length of exposure period in the return marriage groups. A/so frequent visits of females to parents which usually takes place in the early

**TABLE 4f—DISTRIBUTION OF AVERAGE NUMBER OF CHILDREN  
EVER BORN ACCORDING TO PRESENT AGE OF WIVES  
AND AGE AT RETURN MARRIAGE**

<i>Present age of wives (in yrs)</i>	<i>Age at Return Marriage of wives (in yrs.)</i>			
	<i>10-12</i>	<i>13-14</i>	<i>15-16</i>	<i>17-19</i>
15-19	0.59 (42)	0.51 (136)	0.33 (197)	0.15 (75)
20-24	2.41 (32)	2.41 (118)	1.83 (268)	1.04 (139)
25-29	3.55 (20)	3.59 (134)	3.66 (193)	2.76 (113)
30-34	6.13 (23)	5.52 (120)	5.00 (155)	4.19 (72)
35-39	7.15 (34)	6.41 (92)	6.05 (130)	5.59 (78)
40-44	6.57 (21)	7.12 (85)	6.30 (93)	6.34 (47)
45-49	7.12* (8)	8.17 (41)	7.20 (63)	7.48 (33)
<b>Total</b>	4.18	4.17	3.51	3.14

fThis Table includes 2562 couples, while total number of couples is 4072.

\*Figures based on less than 10 observations.

period of life and differs among return marriage groups, may be responsible for the variation. The females of return marriage groups I and IF give more births at early age, whereas those of return marriage groups III and IV compensate it in later ages of their reproductive life. Figures indicate that on raising age at return marriage of females, birth control can be possible.

### Conclusions and Interpretation of Findings

The analysis is based on information received from 4072 eligible couples. In general, the average number of children ever born increases with age of the female, however the rate of increase is not uniform throughout the reproductive period. Initially it rises rapidly, reaches maximum in the age group (25-30), then declines slowly and becomes approximately zero at age 49. The decline in fertility after age 30 may be due to secondary sterility (the sterility attained after a certain number of births) or local customs or decreasing fertility potential. It is not possible to separate the effects of these factors. In addition to

these factors, the high incidence of menopause may be responsible for the abrupt fall in number of births in the age group (45-49). The overall average are assumed to represent variation due to differing age specific fertility in the sub-groups.

Caste occupies an important place among socio-economic determinants of fertility. Upper middle and business castes of our society have relatively less births as they are socially high, more educated and economically better etc.

The overall average number of children born decreases as educational status of females increases and its value differs among the status groups. It is however clear that a large part of variation is due to the differing age distribution in status groups. It is evident from the figures that the females in the high and very high status groups are relatively order. Such a trend is expected in the context of the recent expansion of education and increasing age at return marriage. The same patterns are found in the analysis of fertility and social status groups.

Age at marriage plays an important role in the fertility performance of a couple. Higher age at marriage lowers the fertility level and vice-versa. The number of couples with female's of age 20 or over at return marriage is small and hence this age is not included in the analysis. The female in different return marriage groups have differing exposure periods which explain the corresponding variation in the fertility performances. It is concluded that the females married at younger ages have higher fertility at ages less than 35, while those in group IV compensate the deficiency in births during the later part of the reproductive period.

## References

1. Agrawal, G. and Singh, V. K., 1975, Opinion on ideal family size, *Prajna*, B. H. U., Journal, 20-21, 118-132.
2. Bhattacharya, B. N., Yadava, R. C. and Pandey, G. D. 1979, Some characteristics of households in Varanasi (rural). Mimeographed, Demographic Research Centre, B.H.U.
3. Driver, E. D., 1963, *Differential Fertility in Central India*. PrinCeton, Princeton University Press.
4. Here, David, 1965, Aerial differences in Latin American fertility. *Population Studies*, **18**.
5. Singh, S. N. and Yadava, K. N. S., 1975, Some results on out migration from rural areas. Paper presented at *All India Adult disciplinary Seminar on Problems and Perspectives of Population in India*, held at B. H. U., India, Jan. 31 to Feb. 2, 1975.
6. Singh, S. N., Yadava, R. C. and Bhaduri, T., 1970, A demographic survey of Varanasi (Rural) 1969-70. *Prajna*, B. H. U Journal, **16**, 176-189.
7. Stycos, J. Hayone a'd Weller, Robert, H., 1967, Females working roles and fertility. *Demography*, *4*(1),
8. Zarate, Alvan, 1967, Differential fertility in Hontessey Mexico : Prelude to transition. *Mubank Memorial Fund Quarterly*,