

# Sex Preference and Fertility Behaviour in Manipur: A North-Eastern State of India.

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## ABSTRACT

**Background:** Relationship between the desire for sons and population growth is a critical theoretical question in the demographic analysis. A better understanding of the fertility behaviour and sex preference is important. Therefore, the aim of this study was to look into the socio-economic, demographic and cultural correlates of parental sex preference in the state of Manipur. **Methods:** A household survey was conducted from March to November 2009 in all the districts of Manipur. A total of 1120 sampled households were surveyed using pre-tested interview schedule among currently-married women aged 15-49 years. Appropriate statistical models were then used to find the path of fertility and its coefficients, correlates and covariates of fertility intensity etc. Odds ratio with 95% CI values was used. A p value <0.05 was considered as statistically significant. **Results:** Total of 983 eligible women participated. The estimated proportions of women who would have used contraceptives in the absence of any sex preference were found to be increased to 27.9% from 20.9% and 50.7% from 42.4% in rural and urban areas respectively and from 31% to 50.9% in hilly and 28.1% to 44.1% in valley areas. Among women having two children, the odds of having sons is increased by 4%. The odds ratio declined with increasing family size which was found to be statistically significant. **Conclusion:** The present study findings show that there was moderate son preference across residence and socio-economic background but not at the cost of balanced sex composition of a boy and a girl.

**Keywords:** Sex preference, Fertility, Contraceptive, Family size, North-eastern India.

## INTRODUCTION

Couples in most societies have a permutation and combination of preferences for the sex of their children. In patriarchal societies couples generally prefer sons.<sup>[1-4]</sup> Parental preference for sons over daughters is a common phenomenon in India where parents have to pay dowry to get their daughters married and the societal norm of sons continuing the family lineage and also providing support during old age.

Compared to the women in the mainland of the country, the women in Manipur occupy a higher position, both for their contribution to the economy of the household and for their roles in the society. Educationally girls are given equal opportunities as the boys. Women are empowered for household decision. However, women are more engaged in

unorganized sectors and male dominance in the society still persists. Hence, son preference seems to prevail in the state of Manipur, too.

The desires for sons in these societies have a strong bearing on the family size and the population growth. The relationship between the desire for surviving sons and population growth is a critical theoretical question in the demographic analysis and is important for the development of a population policy at the macro level. A better understanding of the fertility behaviour (the way couples respond to family decision process which leads to continuation or discontinuation of child-bearing by resorting to spacing between births and avoiding unwanted pregnancies through contraceptive methods acceptable to the prevailing social and economic set-up) and sex preference (which is a sequence of the conscious and semiconscious decision of parents to have a particular number of surviving children with specific sex composition to fulfil their psychological, social and economic needs) is important.

## Aims & objectives

The aim of the present study was to look into the socio-economic, demographic and cultural correlates

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of parental sex preference in the state of Manipur. The specific objectives were (i) to examine the relationship between sex composition of the children and contraception, in order to find whether sex preference leads to adoption of contraception once their desired sex composition of children is fulfilled (ii) to study the pattern of distribution of boys by family size in order to unearth the characteristics of women with strong son preference and (iii) to analyze the influence of socio-cultural and sex preference factors on children ever-born on the basis of conceptual framework inter-linking explanatory and response variables.

## MATERIALS AND METHODS

As the first step, a household survey was conducted during the period from March to November 2009 in all the eight existing districts of the state of Manipur (Imphal East and Imphal West districts being clubbed together as Imphal because of their close proximity and sharing common characteristics). The household survey was based on 1120 sampled households. The interview schedule used for this purpose had sections on demography and socio-cultural characteristics such as age, sex, marital status, educational level and residential status. This household schedule served as a frame for selecting consenting currently-married women of the reproductive age-group of 15-49 years who were included in an individual survey. For this purpose, a pre-tested interview schedule was used which had details on her background regarding age at marriage, socio-demographic and economic status, maternity background, contraceptive practice, fertility preferences and gender discrimination.

Data collected were analyzed and first, presented descriptively. Appropriate statistical models were then used to find the path of fertility and its coefficients, correlates and covariates of fertility intensity etc. Lastly, odds ratio with 95% CI values was used to assess the effects of family size on proportion of sons. To model this relationship, it was assumed that a child's sex has a binomial distribution and is a Bernoulli random variable. The model adopted for testing the hypothesis that proportion of son decreases with increasing family size was "logit (actual  $\pi_i$ ) =  $\sum k\beta_k$  (family size)<sup>i</sup>" where family size is the number of children born,  $\beta_k$  is the logit regression coefficients. Also, to test the hypothesis that the characteristics of women who have more sons are as that of the women who desired more sons, the model used was "logit (actual  $\pi_i$ ) =  $\sum \beta_k$  (family size)<sup>i</sup> +  $\beta_i$  (background characteristic)<sup>i</sup>". A p value of less than 0.05 was considered as statistically significant.

## RESULTS

A total number of 983 (73.2% from the valley districts and the remaining 26.8% from the hilly

districts) eligible women participated in the study giving a response rate of 87.8%. They were mostly Hindus (527; 53.6%), belonging to joint families (963, 98%), matriculate (395; 40.2%), working inside homes (556; 56.6%). The main source of income was mainly salary (384; 39.1%).

More than two-thirds of the families had 1-3 sons and main reasons for feeling the importance of having boys were old-age support (50%) and enhancing family reputation (30%). And the main reasons for preferring girls were helping the mother (81%). [Table 1]

**Table 1: Eligible women by having sons and sex-preference (n=983)**

Characteristics	No. of eligible women	Percentage
No. of living sons		
• Zero sons	216	22.0
• 1-3 sons	671	68.2
• > 3 sons	96	9.8
Reasons for preferring boys		
• Old-age support	491	49.9
• Enhance family reputation	297	30.2
• Support family	87	8.9
• Others	108	11.0
Reasons for preferring girls		
• Helping mother	797	81.1
• Company to mother	102	10.4
• Others	84	8.5

**Table 2: Contraceptive use by residence and literacy**

Characteristics	Percentage using contraception (absolute number)	Estimated percentage in absence of sex preference
Residence (Rural/Urban)		
• Rural	20.9 (541)	27.9
• Urban	42.2 (356)	50.7
Region of residence (hills/valley)		
• Hills	31.0 (452)	50.9
• Valley	28.1 (445)	44.1
Literacy		
• Illiterate	18.6 (354)	42.1
• Literate	37.0 (543)	49.7

The contraceptive use currently and what would have happened to this figure, had there been no sex preference was estimated by using the most popular method used by Arnold,<sup>[5]</sup> the formula being  $I_p = \frac{\sum C_i P_i}{\sum P_i}$  where  $C_i$  equals the maximum contraceptive use rate at each parity  $i$  and  $P_i$  equals the number of women at each parity  $i$ . The current contraceptive-use rates in the rural and the urban areas were found to be 20.9% and 42.4% respectively. By applying the aforementioned method the estimated proportions of women who would have used contraceptives in the absence of any sex preference were found to be increased to 27.9% and 50.7% respectively. Similarly, the current contraceptive use rate in the hilly areas and the valley areas were 31% and 28.1%

which would have shot up-to 50.9% and 44.1%, had there been no sex preference. Also, the current contraceptive use rate among the literate women and illiterate women would have increased to 42.1% and 49.7% respectively from the current figures of 18.6% and 37% respectively, had there was no sex preference. [Table 2]

The data on current contraceptive use rate when analyzed by the number of living children revealed a preference of sons, more at higher parities in both the urban and rural areas. Among the rural women

having one child and the child being a boy, only 18.9% used contraceptives as compared to 20.8% among women having two children and both being sons. The corresponding figures when the single child was a girl and both living children being girls were 6.1% and 12.5% respectively indicating sex preference. Preference for one son and one daughter was the most acceptable sex combination of children as a quarter of women having two children reported of using contraceptives. [Table 3]

**Table 3: Contraceptive use by number of living children**

Sex composition of children	Rural		Urban	
	Number of women	No. using contraceptives (%)	Number of women	No. using contraceptives (%)
One child				
• One boy	37	7 (18.9)	34	4 (11.8)
• One girl	33	2 (6.1)	34	5 (14.7)
Two children				
• All boys	24	5 (20.8)	18	6 (33.3)
• All girls	24	3 (12.5)	12	2 (16.7)
• One boy & one girl	51	13 (25.5)	61	33 (54.1)
Three children				
• All boys	9	1 (1.1)	10	3 (30.0)
• All girls	6	-	5	-
• Boys > Girls	32	15 (46.9)	31	22 (71.0)
• Girls > Boys	47	11 (23.4)	50	32 (64.0)
Four children				
• All boys	4	-	2	1 (50.0)
• All girls	5	1 (20.0)	6	4 (66.7)
• Boys = Girls	34	9 (26.5)	18	15 (83.3)
• Boys > Girls	17	6 (35.3)	12	6 (50.0)
• Girls > Boys	28	11 (39.3)	9	6 (66.7)
≥ Five children				
• All boys	4	2 (50.0)	1	-
• All girls	2	-	3	-
• Boys = Girls	15	2 (13.3)	0	-
• Boys > Girls	84	15 (17.9)	23	5 (21.7)
• Girls > Boys	85	10 (11.8)	27	7 (25.9)

Another thing noted was as the parity increased two patterns of contraceptive-use emerged. First, women with more number of boys are more satisfied as reflected by higher proportion of them used contraceptives (27.8% in rural and 25.5% in urban areas). Secondly, a pronounced imbalance in the sex combination is evident from the next higher percentage of women using contraceptives when they have a balance sex composition of children (For example, 24.1% when one child is a boy and the another a girl among women having two children, and 38.5% if there is equal number of boys and girls among women who had four children as compared to 0% when the single was a girl or all the four children being girls in the rural areas). This phenomenon was more pronounced in the urban areas. The degree of son preference was present invariably of the socio-economic status of the household or age of the women.

The proportion of boys (and sex ratios) at different family sizes were found to be as (i) 0.514 (1050) at family size of 1 (ii) 0.512 (1030) at family size of 2 (iii) 0.491 (960) at family size of 3 and (iv) 0.483 (930) at the family size of ≥4. Table 4 shows the

effects of family size on the proportion of sons. Among women having two children, the odds of having sons is increased by 4%, while among having three children it is 2% less. The odds ratio declined with increasing family size. These decline was statistically significant ( $P < 0.001$ ) indicating that son preference decreased with increasing family size.

**Table 4: Effects of family size on proportion of sons**

Family size	OR (95% CI)
One child	1.00
Two children	1.04 (1.00-1.08)
Three children	0.98 (0.96-1.05)
Four children	0.97 (0.94-1.01)
≥ Five children	0.95 (0.92-0.98)

Women's background characteristics like schooling, working outside home and the last child being a male child significantly reduced the desire to have more sons whereas, women's age, place of residence, region of residence, type of family and survival status of the last child did not have any significant effect on it.

## DISCUSSION

The present study is the first of its kind in the state of Manipur. Hence, published articles for comparing the study-results are scarcely available. Earlier studies in other parts of the country and abroad have tried to single out characteristics of women associated with desiring additional children based purely on descriptive statistics.<sup>[6,7]</sup> Evidently such studies lack strength for generalization. The multi-level analysis adopted in the present study analysis not only overcomes this limitation but also adds advantage of accommodating dependence structure of individual level information.

Now, from the results of this multi-level analysis it is found that among the significant factors which have inverse association with the desire for having additional children are number of living children, educational attainment of women and working outside their homes.

Son-preference present throughout the state but seemingly stronger in the rural areas may possibly because of the hard nature of means of livelihood in these areas.

The practice of differential stopping behaviour (contraceptive use) found in the current study indicates that sex preference is heterogeneous and not randomly distributed. This contradicts demographers' previous assumptions that socio-economic characteristics are unrelated to the sex-composition of children. The results of the present study confirmed that son preference is associated with women not attended schools, do not work outside home and whose last child happened to be a girl. It is further observed that the characteristics of women who have had high proportion of sons are the same as the characteristics of women who desired ideal proportion of sons.

## CONCLUSION

The present study findings show that there was moderate son preference across residence and socio-economic background but not at the cost of balanced sex composition of a boy and a girl. Son preference was stronger in the rural areas. Similar conclusion holds good for illiterate women and those not engaged in economically gainful activities. Invariably of socio-economic and residence background, women are not at all satisfied with just girl-children although just boys are at least acceptable.

An important aspect of sex-preference is that women satisfied with the present sex-composition of children would look for means to stop childbearing while unsatisfied women still will continue having births. If at all population stabilization is to be achieved, similar studies done at regular intervals will help in the policy framing, implementation, monitoring and evaluation of the various strategies.

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