

# Differentials In Current Fertility In Nepal

Gokarna Regmi \*

## 1 Introduction

With the growing concern about the accelerated growth of population due to rapidly falling mortality the decades of sixties and seventies saw a marked proliferation of the family planning service centers in the developing countries of South and South-East Asia. Nepal is no exception. To curb the rapid population growth, the family planning was started in 1968 with the creation of Nepal Family Planning and Maternal Child Health Project (NFP & MCH Projects). Initially, expansion of family planning services in Nepal was heavily restricted to those places where the health infrastructures such as hospitals, health centers, and healthpost, etc., already existed. It was only in the late seventies, when the expansion of Fp/Mch services was taken seriously, and which brought a sudden switch to the community-based system from the clinic-oriented approach. This led to the opening up of a large number of Panchayat based centers. <sup>1</sup> Even to this date, the expansion of these panchayat based centers still continues and it is expected to continue even during the early years of Sixth Five Year Plan (i. e., 1980-81 to 1984-85). By this time every panchayat in the kingdom will be served by a panchayat field-workers/ village health worker.

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1. A Village Panchayat is defined as a lowest level political/ administrative unit and a Panchayat based center can easily be regarded as similar to community based family planning centers.

The present study under the context above attempts to analyse the differentials current fertility in Nepal. For this study data from the Nepal Fertility Survey has been used. A description of the survey has been summarized in this report as a potential future users. As it may lead to trial use if a service is nearby. However in case of Nepal only about six percent of those who have heard of contraception know where to go for family service and this indicates to a certain extent the sparse distribution of F. P. service centers. In this respect, Rodriguez (1979) has also shown that use of family planning and accessibility to the service are highly related.

Summary of First Country Report ( Nepal Fertility survey ) regarding current fertility (children born during past five years to woman married for at least five years ).

Regarding current fertility (children born during last 5 years ), the first country report tries to make the following fertility differentials, although at times its statistical validity is in question due to large standard errors.

- a) Even with the control of marital duration, respondents, literacy shows a fertility differential, contrary to the expectations and usual trend in the developing countries of the region, literate Nepalese woman are having relatively larger mean number of children born during last five years ( only for women married for at least five years ), compare to the illiterate women.
- b) Regional differences, in the marital fertility rates exists, indicating higher marital fertility rate for hills and mountains ( 7.0 ) compared to Terai ( 6.6 ). The generalisation is based on the marital duration specific fertility rates, calculated through hand tallies, when the questionnaires was received at head quarters.
- c) Older woman whose husbands are illiterate are having higher number of children born during last five years compared women whose husbands are literate.

### Objectives of the Study

In a developing country, like Nepal where fertility has been more or less constant over the years, this study aims at finding, whether the fertility differentials have emerged with a number of variables available in Nepal Fertility Survey 1976. If they do exist in case of Nepal

what are their relative contributions in explaining the variance in current fertility and to what extent the differentials persists in case of Nepal once other variables are controlled.

To be more specific this study aims at answering the following questions:

- a) Are the variables mentioned to have differentials in current fertility in the first country report statistically significant? To what extent do they contribute in explaining variance in the current fertility in Nepal, besides the contributions of the demographic characteristics.
- b) Besides the variables mentioned in the first country report are there any variables for which the fertility exists like (a) what are their relative contributions in explaining the current fertility, once they are controlled at steps for a set of demographic and background characteristics.
- c) To see, what happens to the differential in demographic, and background variables, regarding current fertility, when the same set of variables are introduced as controls.

#### **Source of data:**

The source of data for this study is the Nepal Fertility Survey carried out in 1976 by Nepal Family Planning and Maternal Child Health Project in collaboration with the World Fertility Survey Project.

The survey was conducted on two samples selected independently for the rural and urban areas. In both cases the selection of samples is a three stage design. For the rural sample at first stage districts are selected with a built-in stratification by region. At the second stage Panchayats are selected within districts. Finally at the third stage wards are selected within Panchayats. This three stage selection yielded 96 clusters with an average of 65 households in each cluster. Similarly, the urban selection yielded 10 clusters with 20 household in each of the urban clusters.

A total of 5940 women were successfully interviewed during the field survey by a team of 80 interviewers and field editors and 17 supervisors. For a detailed descriptions of the organization of the survey the reader is referred to the first Country Report of the Nepal Fertility Survey 1976.

#### **Dependent Variables:**

Keeping in mind the foresaid objectives of this study the dependent variables is children born during last five years as a measure of current fertility.

**Independent Variables :**

In his analysis almost all the variables available from the Nepal Fertility Survey have been used, with the exception of a few variables where the splits of the sample were highly uneven, making the analysis prohibitive. Even some of the variables that have been used in the regression analysis have highly uneven splits; yet these were retained because the category sample sizes were thought to be large enough to carry out the analysis. A short description of the variables is given below.

- A) **AGE:** As age-specific fertility rate has an inverted U shape, it was decided that introducing linear and quadratic terms on age would be helpful in capturing that effect. Another way would have been to use age-groups as factors for multiple classification analysis and as dummy variables for the regression analysis. But for the sake of simplicity it was decided to put linear and quadratic terms for age as continuous variables rather than age as a factor.
- B) **YEAR SINCE MARRIAGE :** Like age duration-specific fertility rates also follow an inverted U curve. For similar reasons both linear and quadratic terms on years since marriage have been used.
- C) While for the analysis of Children born during last five years linear and quadratic terms for number of living children born during last five years have been introduced in the model. After the demographic factors, the background characteristics are introduced in the following order.
- D) **Region of Residence:** This variable has three categories, Hill, Terai, and Mountain with respectively 50%, 41%, and 8% of the total sample.
- E) **Ethnicity:** Initially data contained about 22 categories but for this analysis groups with social and cultural similarities have been combined together. Finally eight categories were formed namely 1) Tamang, Gurung etc. 2) Tharu etc. 3) Newar 4) Brahmin 5) Chhettri and Thakuri 6) Mager, 7) Muslims and 8) Others.
- F) **RELIGION:** Religion consists of three groups viz. Hindus, Budhists and Muslims of the total sample. They constitute nearly 92%, 4% and 4% respectively.

- G) Literacy** : Although level and years of education are available for the respondents, it was decided to use literacy as a dichotomous variable, keeping in view the very uneven split of the sample by level of education.
- H) Husband's Literacy** : As respondent's literacy we used husband's literacy rather than level of education for similar reasons.
- I) WORKED BEFORE MARRIAGE**: This variable had nine categories to begin with, but due to the very skewed distribution of the sample, this variable is also treated as a dichotomous variable with worked/did not work categories.
- J) WORKED AFTER MARRIAGE** : For similar reasons this variable is also treated as a dichotomous variable.
- K) Husband's Occupation** : Initially this variable consisted of 10 categories. To avoid high uneven splits of the sample, and for the sake of ease in handling this variable, it has been regrouped into seven categories according to the nature of the occupation. The regrouped categories of husband's occupation are 1) No work and student 2) Professional, technical, clerical and administrative 3) Sales 4) Services 5) Farm fish (own land) 6) Farm fish (tenant) 7) production labour.
- L) Fertility Preference** : A new Variable desire us living five years ago as a fertility preference measure has been created using the following two variables available from the set of variables: 1) No of living children as of five years earlier and 2) No of children currently wanted by the respondent. The subtraction of these two variables results into three categories of women a) those who desire less than living five years ago b) those who desire exactly the same number of children they had five years ago c) those who desire more than the number of children they had five years ago.
- M. Sample Base**: In this case the sample size is restricted to those women who are currently married and have been married for at least five years to allow every respondent in the analysis to have five years of exposure. This restriction resulted in a sample size of 4418 cases, for the analysis of current fertility.

## 2. RELATIONSHIP BETWEEN INDEPENDENTS AND DEPENDENT VARIABLES

### Relationships Between Knowledge Of Contraception And Independent Variables:

In this section we try to present, on the basis of cross-tabulations, how the independent variables and dependent variables are related to each other. The information obtained from the cross-tabulations have been summarized in Table (IA, B, C).

A look at the table ( 1A, B, C ) shows that knowledge of contraception is weakly related with respondent's age, increasing slightly from age 15-19 to 25-29 and declining slowly there after. However contraceptive knowledge gradually increases as the duration of marriage increases, with the exception of respondents having marital duration 10-14 years. This is an indication that contraceptive knowledge to a certain extent is related to the duration since marriage. A similar pattern is also shown by number of living children, with contraceptive knowledge increasing monotonically as the number of living children increases.

Regional differences in contraceptive knowledge are quite pronounced, with 29% of the Terai women having knowledge of contraception compared to 18 percent in the Hills and only 10 percent among the mountain women. This is quite understandable, because of the fact that initially when the official family planning program started in Nepal, a large proportion of the clinic were located in the Terai region because of communication and transportation facilities as well as because of the terai having better facilities for clinical set up. However, with the expansion of the program during the late seventies the clinics are well spread over the Hill and Terai region.

Respondent's literacy also plays an important part in determining contraceptive knowledge in Nepal. Respondents who are literate tend to have more contraceptive knowledge ( 64% ) than illiterate women ( 1% ). This is aptly so because the literate respondents are open to different communication media compared to illiterate ones.

Knowledge of family planning is highest among the Newar followed by the Brahmin and somewhat surprisingly the Muslim, and lowest among the Tharus and the Magars. These

differences in contraceptive knowledge by ethnicity can in part be explained by the association of ethnicity with respondents' literacy as well as region of residence.

We find higher knowledge among wives whose husbands work in the non-traditional sector, including professionals, sales and service, compared with the traditional sector. These differences to a certain extent be explained by the association between husband's occupation and ethnicity as well as husband's literacy.

Fertility preferences also show a strong difference in the proportion having the knowledge of contraception. Here aptly those women who want future birth know less about family planning compared to women who do not desire a future birth, with undecided, others and no response category falling in between. Thus fertility preferences are associated with the knowledge of family planning.

#### **Relationship between the children born during past five years and independent variables.**

After a short description of relationships between the contraceptive knowledge and the demographic and background variables, we now turn to our second independent variable—the number of children born during last five years.

The results showing the relationship have been summarized in the third column to Table ( 2 ). For this variable a synthetic marital fertility rate have been provided. This rate is calculated as the sum of the mean number of children born in the past five years in each five year category of marital duration from durations 5 to 30 and over, and represents the number of children that a woman would bear between durations 5 and 30 and over, if the present rate prevailed and she stayed married continuously during that period. Here a cautious interpretation is needed because due to either the large number of categories of the independent variable or the uneven splits of the sample between the categories, some of the duration-specific marital fertility, used as the synthetic index are based on a small number of cases.

Speaking in general terms, the synthetic marital fertility rate, by no. of living children five years ago looks like an inverted U-shaped curve, indicating higher progression ratios at intermediate parity. Regional differences in synthetic marital fertility rates do

occur with the highest being for the terai women ( 6.66 ) followed by Hills ( 6.46 ) and mountains ( 6.31 ) respectively. Illiterate women have a higher synthetic marital fertility rate ( 6.54 ) than literate women ( 6.01 ). This indicates an association between marital fertility and respondents literary with regard to variations in the synthetic marital fertility by ethnicity only the 'Tharu etc' group stands out among others. The differences among other groups are not that pronounced.

Looking at husband's occupation, the synthetic marital fertility is low among women whose husbands work in the modern sector with the exception of the 'Sales' group where the synthetic marital fertility is ( 7.22 ) compared to women whose husbands work in the traditional sectors. This is an indication of husband's occupation and no. of children born during last five years are associated.

Fertility preferences also show a strong association with marital fertility. Women, whose desired no of children is equal to the numbers of children they had, have the lowest synthetic marital fertility rate ( 5.07 ) followed by women whose desired size is less than the number living five years ago ( 6.43 ). Women who desire more children than they had five years ago have the highest marital fertility rate ( 7.11 ).

#### **Relationships among independent variable**

These relationships have been divided into two parts vi z. a) relationship between background and demographic variables and b) relationship among the background variables. Initially cross tabulations were carried out for the two sample bases 1) all currently married women and 2) currently married women have been married for at least five years. But a look at these two cross tabulations did not show any change in the direction of difference while some change in magnitude of difference was felt at some variables. Thus only the results for all currently married women have been summarized in Tables ( 3 A to E ) with the exception of desired vs living five years ago where only women who have been married for at least five year have been included.

#### **Relationships between demographic and background variable :**

Respondents from the mountain region are somewhat older than the rest and have the highest mean duration of marriage but a smaller number of living children. Although Terai

women are on the average nearly two years younger than the mountain women, difference between their mean marital duration is only .6 years. This and similar reasoning for the Hill and Terai women, is an indication of the fact that Terai women marry earlier compared to the Mountain and Hill women.

Similar distinction in age at marriage can be made when one looks at the difference by ethnicity; although Brahmin women are the youngest among other ethnic group they have the second highest mean duration after the Muslims. Similar reasoning for other ethnic groups leads to the fact that Brahmins, Tharus, Muslims, Chhetri and Thakuris tend to marry earlier compared to other groups. The differences in the mean number of living children can be explained to a certain extent by the age differences in the ethnic groups. The respondents who are literate are on the about four years younger than the illiterate ones. They have about the same mean age at marriage. The mean number of living children the literate have is smaller than for the illiterate women.

The mean age at marriage does not differ that much by the occupations of the husband. Generally women whose husbands work in the modern sector are young compared to women whose husband work in the traditional sector. As the number of children they have till present is also a function of age, the difference in mean number of living children can be attributed to the age differences in these ethnic groups.

Those women who want more children are younger compared to respondents who want no more children and the women who were undecided, or gave no response to this question. Generally these groups have about the same age at marriage. As before part of the difference in mean number of living children by fertility preference can be explained by the age factor. But it is rather amazing that the undecided etc group, although older and with a longer duration since marriage, than those who want no more children, are having about 6 children less.

For the relationships between desired vs living and the demographic variables the sample base is restricted to only those women, who have been married for at least five years.

As expected women who desire less than living children five years ago are older have larger mean duration since marriage and have larger mean number of living children, follo-

wed by women who desire the same number of living children they had five years ago and women who desire more than they had five years ago, respectively.

### Relationships among the Background variables :

A look at table ( 2 ) shows that high proportion of Tamang and Gurungs etc, Newars, Brahmins and Magars are concentrated in the Hills whereas Tharus, Muslims, and 'Others' categories are centred around Terai. Compared to other groups Chhetris and Thakuris are well spread throughout the country.

Respondents' literacy is somewhat higher in the mountains than Terai. Only one percent of the mountain respondents are literate. Brahmins, Newars, Chhetri and Thakuris, and Gurungs are more literate than the rest of the groups. More proportion of the respondents' husbands in the Hills, work in non-traditional sector compared to the Terai and mountain. Ethnic variation regarding occupation shows that more proportion of Brahmins, Newars, Chhetries, Thakuris, as well as Muslims work in the non-traditional sector.

A high percentage of Terai and Hill women say that they do not want any future birth compared to Mountain women. Proportionately more Newar Brahmin, Chhettri and Thakuris say that they do not want more children while this proportion is highest among Magars followed by Tharus etc group. Those who are literate proportionally desire less future birth compared to the illiterate ones. Generally with an exception of 'Service' group respondents whose husbands work in non-traditional sector, desire less future birth compared to women whose husbands work in traditional sector.

Hill has the lowest proportion of respondents whose desired number of children is greater than the number of living children they had five years ago. Ethnic variations in fertility preferences do occur. Muslims, Newars, and Brahmins tend to have higher proportion of women who desire exactly the same number of children as they had five years ago. Fertility preference by respondents' literacy shows that comparatively higher proportion of the literate women are in the group who desire more children than they had five years ago. With the exception of the 'service' category smaller proportion of women whose husbands work in non-traditional sector desire more than they had five years ago when compared to women whose husbands work in traditional sector.

### 3. REGRESSION ANALYSIS OF CURRENT FERTILITY

#### Variables in the Model :

This analysis has been carried out specifically to answer the objectives (a) and (b) outlined earlier for current fertility. In this case children born during last five years have been taken as dependent variable. In order to give equal exposure to all the respondents, this analysis has been restricted to those women who are currently married and have been married for at least five years.

The three demographic variables, age, years since marriage and number of living children five years ago are all represented by linear and quadratic terms so as to take into account the curvilinearity of the fertility pattern by age, duration since marriage or family size. Each of the background variables listed in section 2.2 4 has been represented by a set of dummy variables.

#### Analysis of Variance from Hierarchical Regression :

The variables listed earlier were introduced in a fixed order in a hierarchical regression analysis. At each step a group of variables representing a covariate (linear and quadratic) or a factor (set of dummy variables) was added to see their contribution in the explanation of variance in children born during past five years, after controlling for the variables introduced earlier. Thus a series of thirteen regressions were carried out. The results of the regressions were carried out. The results of the regression analysis have been summarised in table (12). This table has seven columns. The first column gives the list of variables added at each step of the regression analysis while the second and third columns respectively give addition to the degrees of freedom and sum of squares. Dividing the third column by the second one we get the fourth column, i. e., mean sum of squares. Fifth column the F-statistics is calculated by dividing the mean sum of squares by the residual sum of squares. The last but one column (partial  $R^2$ ) shows the contribution the variable is making towards explaining the variance in children born during past five years when controlled for all the variables prior to it. The last

column ( Multiple R ) gives the total percentage of variance explained when all the variables upto that step have been put in the regression equation.

In this case the entire model explains 23.2 percent of the variance in children born during last five years. It is clear from Table (4) that a large proportion of the variance is being explained by the demographic factor notably age and that the contribution of the background variables is relatively small. This is an indication of the fact that the fertility transition has virtually not started or that Nepal is at the threshold of fertility transition as shown by some significant effects of background variables.

Out of ten background variables only four have statistically significant effect on current fertility, after controlling for the demographic variables, namely, respondents work status after marriage, husband's occupation, knowledge of family planning (all significant at  $p < .05$ ) and fertility preference ( $p < .01$ ) five years ago. Except for fertility preference even the statistically significant variables explain a very small proportion of the variance in current fertility. This is mainly due to the uneven splits of the sample in these variables, which tend to make their contribution in explaining the current fertility rather very small. It should be noted, however, that differences in marital fertility rates among categories of a significant factor may be substantial, as we shall see in the next section, even when the factor explains a small proportion of the variance:

#### **Selection of Variables for Further Analysis:**

After the experience of the regression analysis, it was decided to carry out a Multiple Classification Analysis (MCA) of children born during last five years with the most important demographic and background variables, to study differences in mean number of children born during the past five years. With the help of Table (4) the following variables were selected for further analysis.

- a) AGE (linear and quadratic term)
- b) Years since marriage (linear term only)
- c) Living children five years ago (linear and quadratic term)
- d) Ethnicity (8 categories)

- e) Husband's occupations (7 categories)
- f) Fertility preference (3 categories)

As the SPSS sub-program used for MCA permits only five covariates we dropped the square term of marital duration which on the basis of earlier mentioned regression analysis had a smaller contribution in explaining the variance in current fertility. The factors selected for analysis are those with the three largest partial correlations with children born during past five years, all of them over 0.1%. Although not statistically significant, ethnicity was still kept in the analysis as its contribution was larger compared to region and at the same time as ethnicity and Region are highly correlated, it could also be used as a pseudo-control for Region. Respondents' work status was shown to be statistically significant ( $p < .05$ ), yet on the basis of its contribution (i.e.,  $\text{partial } R^2 \times 100 = .10$ ) it was decided to drop this variable in the MCA. For similar reasons knowledge of contraception although statistically a significant variable has not been taken into account in the further analysis because of its contribution ( $\text{partial } R^2 \times 100 = .08$ ) being very small.

#### **The Effect of Demographic Variables :**

Differences in Mean number of children born during past five years (MCBPFY) by age:

For the sake of completion, this analysis with age has been undertaken. Current fertility is a function of age. At this point, we try to see how the differential by age groups persists and changes, when it is controlled for other demographic and background characteristics. In order to do this five different Multiple Classification Analysis tables have been run adding one variable at each step. The resultant means have been summarized in Table (13).

Initially when no other variable is controlled the mean number of children born during last five years (MCBPFY) reaches the peak in the 25-34 age group (1.55) and is lowest in the 45+ group (.33). These sets, of means confirm to the natural age specific fertility pattern with a maximum difference of 1.22 children in five years between the peak and lowest fertility period.

Once other demographic factors such as years since marriage and number of living

children five years ago are controlled, there is a decline in the mean for younger age groups and at the same time an increase takes place in the older age-groups. This is an expected outcome as forcing these demographic controls (YSM, and No. of living children five years ago) we are making the younger age groups somewhat older and the older age group somewhat younger. At this stage the partial correlation drops sharply from .38 to .26 and the maximum difference reduces to .83 from 1.65 in five year period. This decrease in the partial correlation is an indication that to a certain extent the effect of age can be attributed to these demographic controls.

At the second and third stages, ethnicity and husband's, occupation are controlled. These variables do not seem to effect the means that much and partial correlation also only increases slightly.

In the fourth stage desired vs living five years ago has been put in as a control. This variable again increases the mean for the younger cohorts while a decrease in the mean takes places for the youger cohorts. At this point, the maximum difference to .75 children in five year period from an initial difference of 1.22. Similarly the partial correlation also drops from .28 to .25.

Although effect of age on MCBPFY persists even when the demographic and background variables are used as controls, nevertheless the reduction in the partial correlation as well as the reduction in the difference in means clearly show that part of the effect shown by age can be attributed to demographic and background variables.

#### **Differences in Mean number of children born during past five years (MCBPFY) by no. of living children five years ago:**

This analysis has been carried out, with an idea that fertility during the last five years (MCBPFY) is a function of No. of living children the respondent had five years ago. Moreover it was also of interest to know how far the difference in the MCBPFY persisted once the control variables are introduced at steps. For this purpose, five MCA tables have been run and the resultant means are presented in Table (14).

Initially when none of the control variables are introduced MCBPFY is high among the high parity women. MCBPFY is highest (1.46) at the parity one and lowest (.85) at parity

5+ indicating the parity progression ratio to be high among women' who have lower parity and decaersing there after. It confirms to the parity-specific fertility pattern which is in one way similar the age specific fertility pattern as most of the women with higher parity are older and the ones with lower parity are younger.

With the introduction of the demographic controls (age, and duration since marriage) the MCBPFY changes dramatically. The pattern of MCBPFY reverses at the extreme panities. That is after the control of age and years since marriage current fertility increases with age indicating that the parity progression ratio increases as the parity increases. This results mainly because for fixed age and duration since marriage family size becomes a measure of previous fertility which can be expected to correlate well with current fertility. From an inital maximum difference of .42 children in five years, the maximum difference at this stage increases to .58.

Control of ethnicity and husband's occupation at the second and third stage does not effect the MCBPFY that much. The partial correlation is also uneffected at these stages.

Fertility preference when intrduced as a control into the model brings about a large increase in partial correlation (.06) and at the same time MCBPFY decreases for the low parity women while it increases for the high parity women. it is indication of the fact that controlling for all other variables and as well as the fertility preference, the effect of family size on current fertility becomes more pronounced. If woman of all parities had the same fertility preference one could expect even lower fertility at low family sizes and higher fertility at high family sizes. This can easily be seen when one looks at the difference between the maximum and minimum means which has increased to .72 from .58.

### **The Effect of Background Variables :**

Differences in Mean Number of Children born during past five years ( MCBPFY ) by ethnicity.

Although not significant in the regression analysis, ethnicity was used as a psuedo-region variable as a control, yet because there was some interesting diflerence in mean number

of children born during past five years, among ethnic groups, this analysis has been carried out.

Like the effect of demographic variables, here also four separate MAC tables have been run introducing control variables at each step. The resulting means from the MCA have been summarized in Table ( 7 ).

When no control variables are introduced the Tharus etc. group have the highest fertility ( 1.41 ) with Brahmins and the Muslims having the lowest fertility ( respectively 1.16 and 1.18 ). The other groups roughly fall in between these two extremes. The maximum difference is .26 children in 5 year period.

With the control of demographic variables ( age, duration since marriage and family size, ), some changes in the means occur. These controls force the groups with lower mean age, mean duration since marriage and with less no. of children five years ago to have some what higher mean age, higher duration since marriage and with higher no. of living five years ago and vice versa. Thus the increase and decrease in the means is due to initial distribution of their variables within these groups. From table ( 7 ) one can clearly see that all of these groups Tharus, Brahmins and Muslims are quite young compared to other groups. Thus after demographic controls the mean decreases while a slight increase takes place among the Brahmins and the Muslims groups. The maximum difference at this point reduces to .19 children.

With the introduction of husbands occupation as further control mean increases among the Brahmins and decreases among the Tharus, indicating that larger proportion of the former being in the occupation where the fertility is low and large proportion of later being in the occupation where fertility is high. At the same time the partial correlation drops from .05 to .03. Thus part of the effect of ethnicity may be attributed to difference in occupation.

Finally controlling for fertility preferences five years ago does not change the means that much. The difference between the high fertility group the Tharus and low fertility group the Brahmins and the Muslims still persists, although reduced to a large extent. At this point the maximum difference is .10 children in 5 year period.

Differences in Mean Number of Children born during past five years ( MCBPFY ) by husbands occupation.

This analysis was undertaken, in order to see how the differences in mean children born during past five years ( MCBPFY ) change when it is not controlled for any of the variables and controlled for the variables when introduced at each successive steps. In order to do this four separate MCA tables have been run introducing each control at each control variables at sequential steps. The resultant means have been summarized in Table ( 8 ).

A look at the MCBPFY in Table ( 8 ) clearly shows differential fertility by husbands occupation the largest difference being .43 children in five years. The pattern of means show a consistent pattern that respondents whose husband's are working in the non traditional sector had smaller number of children during last five years with an exception of 'Sales' category. A look at Table ( 8 ) shows that the Women whose husbands are in 'Sales' category have the largest mean number of children five years ago and are somewhat older than other categories in other non-traditional sectors, and are having highest synthetic fertility rate ( 7.22 ).

Introduction of age, duration since marriage and family size as the control in the model does not make much of the difference in the means of the traditional sector but two categories 'No work and student' as well as 'Service' categories have an increase in the means. The respondents whose husbands fall under these categories of occupation are the youngest, had the smallest marital duration and had the smallest number of living children five years ago.

Introducing ethnicity, and fertility preferences five years ago as controls does not seem to effect the means substantially. The pattern of difference in the means for different occupation groups persists even after all the control variables are introduced. At this point the maximum difference is .37 children in five years period. Initial and the final partial correlation is .08 and the change in between is very small. This is an indication of the fact that the effect husband's occupation in current fertility can not be attributed to any other variables.

Differences in Mean number of children born during past five years ( MCBPFY ) by fertility preference.

When used in the regression analysis ( Table 4 ) this variable showed its importance in explaining the variance in children born during past five years. In this section we try to present the differences in means fertility between categories of fertility preferences unadjusted and adjusted for other variables. As before, four MCA tables have been run adding one variable at each steps and the resulting means have been summarized in Table ( 9 ).

Initially when it is not controlled for any of the variables the respondents desiring equal to the living children five years ago are having the lowest fertility (.57 children in five year period), while the highest fertility group is of the women whose desired number of children is greater than they had five years ago (1.40) followed by women who desire ten children than they had five years ago (.93). Maximum difference at this stage is .83 children in five year period. Ideally we would expect that the women who desire less than living to have the lowest fertility, but in this case, surprisingly their fertility falls between the two extreme. Although these women already had more children than they desired, they still are having more children in past five years than women who just had the desired family size five years ago.

At the second step, with the control of demographic variables, the mean changes substantially, with a decrease among the women with desired no of children greater than living and increases for the rest of the categories with a sharp decline in the partial correlation (from .30 to .21). At this stage the maximum difference is .41 births. The decline in the partial correlation here implies that part of the effect of fertility preference may be attributed to differences in the demographic composition most notably the differences in the family size five years ago.

With the introduction of ethnicity and husband's education at steps 3 and 4 very little changes in the mean takes place for the women whose deserved number of children is equal or less than they had five years ago while a sharp increase takes place among women who desire more children than they had five years ago. At this point the difference in means still persist with a maximum difference of .58 births. Thus the effect of fertility preference cannot be attributed to difference in ethnic composition or socio-economic status.

A look at tables (3 E. 2, 1 c) and other cross-tabulations shows that women who desired less than living are older, have larger duration since marriage and already had large mean number of children compared to other fertility preference groups. At the same time they are slightly more knowledgeable about family planning and a larger proportion have ever used family planning methods than in other groups. Still it is surprising that these women are bearing more children compared to women whose desired as of now is the same as many as they had five years ago.

Table No 1 (A)

Relationship between Demographic, Background Variables and independent variables :

Variables	Synthetic marital* fertility
<b>No of living children</b>	
0	4.38
1	6.37
2	6.57
3	6.86
4	5.42
5+	4.81
<b>Region</b>	
Hill	6.46
Terai	6.66
Mountain	6.31
<b>R.s Literacy</b>	
Can Read	6.01
Cannot Read	6.54

@ For all currently married women

\* For women Who are married for 5 or more years

Table No 1 (B)

Relationship between Demographic, Background Variables and independent variables :

Variables	Synthetic Marital* Fertility Rate @
<b>Ethnicity</b>	
Tamang, Gurung etc.	6.39
Tharu, etc.	7.07
Newar	6.20
Brahmin	6.34
Thakuri & Chettri	6.60
Magar	6.51
Muslim	6.42
Others	6.40
<b>Husband's occupation</b>	
No work, Student	5.60
Professional	
Technical,	
Administrative, & Clerical	4.81
Sales	7.22
Service	4.93
Farm/fish (Own)	6.67
Farm/ fish ( Tenant )	6.65
Production labour	6.75
Fertility Preference	6.79
Want future birth	Desired vs. living 5 years ago
Yes	D=L5 6.43
No	D=L5 5.07
undecided others, & No Answer	D=L5 7.11

@ For Women who are married for 5 or more years

\* For all currently married women

Table No 2

Variables	For Currently married		For women married for at last 5 years			
	Mean age	Mean Marital duration	Mean no. of living children	Mean age	Mean Marital duration	Mean no. of living Children five years ago
<b>Region</b>						
1) Hill	29.63	13.35	2.50	32.12	16.22	2.13
2) Terai	28.70	13.21	2.36	30.93	15.85	1.87
3) Mountain	30.38	13.81	2.21	32.40	16.05	1.78
<b>Ethnic group</b>						
Tamang, Gurung etc	30.99	12.63	2.55	33.96	15.93	2.28
Tharu etc	28.68	12.92	2.54	30.48	15.07	1.89
Newar	30.91	13.86	2.90	33.36	16.48	2.54
Brahmin	27.93	13.73	2.40	30.45	16.64	2.02
Thakuri+Chhetri	29.09	13.23	2.39	31.32	15.85	1.96
Magar	29.89	12.65	2.38	32.61	15.76	2.06
Musalman	28.61	13.94	2.33	30.75	16.44	1.76
Others	28.95	13.49	2.28	31.58	16.15	1.83
<b>Literacy ( R )</b>						
Can Read	25.44	9.50	2.05	28.44	13.10	1.74
Can not read	29.49	13.53	2.43	31.77	16.17	2.00
<b>Husband's Occupation</b>						
No work and Student	26.47	11.24	1.85	30.88	16.49	1.87
Profersional, technical administrative, clerical	29.07	13.32	2.27	31.23	15.82	1.87
sales	28.60	13.33	2.74	30.87	15.84	2.13
Service	25.48	9.41	1.71	27.54	11.98	1.23
Farm/Fish Own land	29.76	13.67	2.51	32.10	16.38	2.08
Farm/Fish (Tenant)	29.28	13.46	2.44	31.31	15.85	1.93
Production Labour	29.09	23.37	2.28	31.35	16.01	1.80
Want Future Birth				(1)	(1)	(1)
Yes	24.76	8.59	1.33	40.57 <sub>2</sub>	25.04 <sub>2</sub>	5.5 <sub>2</sub>
No	33.47	17.87	3.96	38.69	23.15	3.54
Undecided, N. A,				(3)	(3)	(3)
Others	36.08	20.21	3.34	29.47	13.87	1.38

(1) Desired family size less than living children five years ago

(2) desired family size equal to living children five years ago

(3) Desired family size greater than living children five years ago

Table No 3 (A)

Relationship between Back ground Variables  
Ethnicity by Region (For all Currently married women)

Region	Tamang Gurung	Tharu etc	Newar	Brahmin	Chhettri and Tha- kuri	Magar	Muslims	Others
Hill	94.6	24.5	84.9	74.4	54.0	73.5	1.8	24.8
Terai	5.4	73.9	10.1	20.3	24.4	14.7	98.2	73.3
Mountain	0	1.6	5.0	5.3	21.6	11.6	0	1.9

Table No 3 (B)

Respondents literacy by Region and Ethnicity  
(For all Currently married women)

Region	Can read	Can not read
Hill	7.1	92.9
Terai	6.5	93.5
Mountain	1.0	99.0
Ethnicity		
Tamang, Gurung etc	6.1	93.9
Tharu etc	1.8	98.2
Newar	16.3	83.7
Brahmin	18.1	81.9
Chhettri and Thakuri	6.6	93.4
Magar	2.3	97.7
Muslim	5.2	94.8
Others	4.3	95.7

Table No 3 (C)

## Husband's occupational by Region, Ethnicity and R's literacy

( For all currently married women )

	No work and Stu- dent	Professional Technical ad- ministrative and Clerical	Sales	Service	Farm ( Own )	Fish (Tenant)	Farm fish	Production labour
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## Region

Hill	2.2	6.3	2.8	6.1	76.9	2.4	3.3
Terai	2.9	2.2	5.1	2.6	60.0	12.7	14.4
Mountain	2.7	3.5	1.2	5.0	78.5	4.2	5.0

## Ethnicity

## 1 Tamang, Gurung

etc.	1.4	3.4	1.6	6.2	83.6	1.1	2.7
2 Tharu etc.	1.4	.8	2.2	1.6	61.2	22.2	10.6
3 Newar	3.2	10.5	12.6	3.6	65.6	2.4	2.0
4 Brahmin	4.5	9.1	3.8	9.1	69.5	2.9	1.3
5 Chhetri & Thakuri	3.5	5.6	1.2	7.0	75.1	4.6	3.0
6 Magar	1.2	2.9	.4	5.0	85.0	3.7	1.8
7 Muslim	3.9	2.6	17.1	0.9	52.2	7.9	15.4
8 Others	2.4	3.4	4.6	2.0	60.7	8.7	18.1

## R's literacy

Can Read	8.0	16.3	12.7	17.2	42.0	2.4	1.5
Can not read	2.2	3.6	3.1	3.6	71.6	7.2	8.6

Table No 3 (D)

**D. Whether want future birth by Region, Ethnicity, R's literacy, and husband's occupation**

(For all Currently married women)

	Yes	No	Undecided others, NA
<b>Region</b>			
Hills	53.7	26.8	19.6
Terai	53.5	26.5	20.0
Mountain	61.1	23.8	15.1
<b>Ethnicity</b>			
Tamang, Gurung etc	52.7	24.5	22.7
Tharu etc.	61.9	21.9	16.2
Newar	35.7	44.6	0
Brahmin	50.3	31.2	18.5
Chhetri & Thakuri	57.3	27.6	15.1
Magar	59.6	17.6	22.8
Muslims	49.4	26.4	24.2
Others	53.6	26.6	19.8
<b>R's literacy</b>			
Can Read	59.5	27.9	12.6
Can not Read	54.1	26.2	19.7
<b>Husband's occupation</b>			
1 No Work, Student	62.6	21.6	15.8
2 Professional, Technical, administrative and clerical	53.2	30.4	16.5
3 Sales	42.4	37.9	19.7
4 Service	65.6	22.8	11.6
5 Farm Fish (Ownland)	54.3	25.9	19.8
6 Farm Fish (Tenant)	53.5	29.7	16.8
7 Production Labour	50.7	24.2	25.1

Table No. 3 (E)

E. Desired vs living five years ago by Region, Ethnicity, R'literacy and husbands occupation  
(For women currently married and have been married for at least 5 years)

	D<L5	D=L5	D>L5
<b>Region</b>			
Hill	9.3	13.3	77.4
Terai	6.6	13.8	79.6
Mountain	8.4	12.5	79.1
<b>Ethnicity</b>			
Tamang, Gurung etc	9.1	13.2	77.7
Tharu etc	5.6	11.1	83.3
Newar	14.7	18.0	67.3
Brahmin	9.3	14.4	76.3
Chhettri and Thakuri	8.0	11.5	80.5
Magar	9.0	11.1	79.9
Muslims	3.2	19.6	77.2
Others	7.2	14.0	78.8
<b>R's literacy</b>			
Can Read	7.1	11.6	81.3
Can not Read	8.1	13.4	78.5
<b>Husband's occupation</b>			
No work and Student	7.8	7.8	84.4
Professional, Technical, administrative and clerical	6.7	18.7	74.6
Sales	8.1	22.4	69.6
Service	3.4	13.4	83.2
Farm Fish Own Land	8.8	13.0	78.2
Farm Fish Tenant	6.6	12.5	81.0
Production Labour	5.9	13.2	80.8

Table No. 4

Analysis of variance from Hierarchical Regression of Children born during Last five years (CBPFY) on Demographic and Background Characteristics (For women who are currently married and have been married for at least five years)

Variables added	addition to d.f	addition to sum of Squares	Mean Sum of squares	F	Partial R <sup>2</sup> x100	Multiple R <sup>2</sup> x100
<b>Demographic</b>						
Age	2	700.61	350.30	481.59	16.86	16.86
Marital Duration	2	17.02	8.51	11.70	.41	17.27
Living children & years age	2	65.35	32.68	44.93	1.57	18.84
<b>Back Ground Variables</b>						
Region	2	2.90	1.46	2.01	.07	18.91
Ethnicity	7	7.36	1.05	1.44	.17	19.08
Religion	2	.98	.49	.67	.03	19.11
Literacy (R)	1	.64	.64	.88	.01	19.12
Literacy (H)	1	1.01	1.01	1.38	.03	19.15
Worked before (H)	1	.23	.23	.32	.00	19.15
Worked after	1	4.07	4.07	5.60	.10	19.25
H'S Occupation	6	30.15	5.02	6.90	.73	19.98
Knowledge of F.P	1	3.57	3.57	4.91	.08	20.06
Fertility Preference	2	131.69	65.85	89.36	3.17	23.23
<b>Summary</b>						
Explained	30	965.60	32.19	44.25	-	23.23
Residual	4387	3191.02	.73	-	-	-
Total	4417	-	-	-	-	-

**Table No. 5**

Mean number of children born in the past five years by age, unadjusted and adjusted for demographer and back ground variables via covariance analysis.

Variable controlled	less than				Partial Correlation
	25	25-34	35-44	45+	
None	1.39	1.55	.98	.33	.38
Demographic	1.33	1.47	1.05	.64	.26
Ethnicity	1.34	1.47	1.05	.62	.27
H'S Occupation	1.36	1.48	1.04	.61	.28
Fertility Preference five years ago	.36	1.45	1.05	.07	.25

**Table No. 6**

Mean number of children born in the past five years no. of living children five years ago unadjusted and adjusted for demographic and back ground variables.

Variables Controlled	0	1	2	3	4	5 +	Partial Correlation
None	1.27	1.46	1.36	1.21	1.09	.85	.19
Demographic variables	.95	1.26	1.34	1.37	1.44	1.53	.21
Ethnicity	.96	1.27	1.34	1.37	1.44	1.54	.21
H' occupation	.95	1.27	1.34	1.37	1.43	1.53	.21
Fertility preference	.89	1.21	1.35	1.42	1.55	1.61	.27

Table No. 7

Mean number of children born in the past five years by ethnicity,\* unadjusted and adjusted for demographic and back ground variables via covariance analysis.

Variables Controlled	1	2	3	4	5	5	7	8	Partial Correlation
None	1.23	1.40	1.24	1.16	1.25	1.27	1.18	1.23	.06
Demographic variables	1.27	1.36	1.25	1.17	1.23	1.28	1.22	1.24	.05
Husband's occupation	1.26	1.33	1.27	1.21	1.25	1.27	1.21	1.23	.03
Desired is Living five years ago	1.25	1.32	1.29	1.22	1.24	1.25	1.23	1.24	.03

Table No. 8

Mean number of children born in the past five years by Husband's occupation\*, unadjusted and adjusted for demographic and background variables via Covariance analysis.

Variables Controlled	1	2	3	4	5	6	7	Partial correlation
None	.95	1.01	1.38	1.15	1.26	1.31	1.32	.08
Demographic variables	1.02	1.00	1.33	1.00	1.27	1.30	1.32	.09
Ethnicity	1.03	1.02	1.33	1.00	1.27	1.28	1.32	.09
Fertility Preference five years ago	.99	1.05	1.36	1.05	1.27	1.30	1.31	.08

\* For ethnic Codes See Table No. 3

\* For occupation Codes See Table No. 3

Table No. 9

Mean Number of Children born in the past 5 years by fertility preference 5 years ago, unadjusted and adjusted for demographic and back ground variables Via covariance analysis.

Variables Controlled	Desred less than living	Desired = living	Desired Greater than living	Partial Correlation
None	.93	.57	1.40	.30
Demographic	1.12	.74	1.15	.21
Ethnicity	1.13	.75	1.34	.21
Husband's Occupation	1.13	.76	1.34	.21