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Fertility Differentials in Rural Nepal: Evidence From a Survey of a Hill Area

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INTRODUCTION

Socio-economic differentials in fertility are an important indicator of fertility transition and it is important to know what factors are contributing to the persistence or change in high or low fertility among various subgroups of the population. Caldwell and Ruzicka (1982: 201-202) are of the view that fertility differentials are a valuable source of evidence in determining the way social changes move through society and occur over time. The experience shows that once fertility decline becomes universal across all sections of population, socio-economic differentials tend to disappear. However, before fertility decline becomes universal, fertility differentials are important characteristics of transitory societies. From policy point of view, identification of fertility differential provides important clues to design and implement intervention and promotion programmes such as maternal and child health care and family planning services. The purpose of this paper is to document fertility differentials in a population which is begining the fertility transition (Niraula, 1990) and help understand the dynamic process of interaction between the socio-economic variables and fertility variables.

DATA, METHODOLOGY AND THE CONTEXT

Data and Methodology

Data for this purpose are taken from the Benighat Survey, 1988 (Niraula, 1991). The study area is about 75 km. south-west of Kathmandu. Data were collected in eight main settlement clusters and in a hill district of central Nepal. However, within these main settlement clusters, there are many more sub-settlement areas often delineated by caste and ethnicity, a stream of a trail. The survey was conducted over a period of five months (August, 1988 to January, 1989) using micro-demographic research methodology which has the components of both survey research and anthropological research (Caldwell et al, 1988; Axinn, et al, 1991). Eligible households with ever married women aged 15-54 years were included in the detailed survey. Data on marriage, fertility, family planning, value of children were collected using the structured questionnaire. Attitudinal questions on age at marriage, family planning and values of children form part of structured questionnaire. These were supported by in-depth case studies, probing, observation, group discussion and discourse with key informants. Socio-economic background information collected include education of the women and her husband, household head, landownership, settlement area and caste-ethnicity data on details of methodology are contained in Niraula (1990, 1991). A total of 625

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households were covered which yielded 719 women aged 15-54 years. Socio-economic character associated with individual woman and the mean number of children ever born and completed family size in Benighat area are used as unit of analysis.

Choice of Marriage Duration as a Control for Standardization

The mean number of children ever born (CEB) is positively correlated with marriage duration and age of woman. One of the implications of positive association of age and marriage duration with the mean CEB is that unless these demographic variables are controlled, an examination of fertility differentials will be futile because the differentials may be due to differential exposure to marriage and age of women. Marriage duration measures exposure while age measures fecundity of women. Socio-economic differentials in the mean number of children ever born, therefore, needs to be standardized to remove the effect of uneven distribution of age and marriage duration which account for variation in exposure to the risk of pregnancy in the study population. Given the fact that childbearing takes place within wedlock in Benighat area and that the reproductive career is limited to 15-49 years, there are two demographic variables which can be used as a control: age and marriage duration. In the following section the choice of marriage duration as demographic control variable for the study of fertility differentials is made.

It has been noted in the studied settlement clusters that the ceremonial marriage usually takes place earlier than consummation. In the past, child marriages were prevalent. Marriage comsummation did not take place until the bride was thought to be grown up. After ceremonial marriage, the bride returns to live in her natal home for the period agreed by both the groom's parent and bride's parent. Different variation of the pattern are still observed in almost all communities, specially those which still marry their daughters at a younger age). From the demographic point of view, age at consummation has an important effect on the timing of the reproductive career. Shah and Smith (1981: 9-10) argued that marriage duration is a significant variable in societies where most childbearing takes place within marital unions. Among women who have been married only once, marriage duration is expected to have an effect on fertility similar to that of women's age. Furthermore, Pullum (1978: 7-10) argued that marriage duration is an improvement over age as an indicator of women's potential fertility because it gives an estimate of accumulated exposure to conception and childbearing, particularly if there is little premarital sexual activity and little marital separation or disruption. It was seen that the study population has little marital disruption, there is a narrow range in age at marriage and there is little sexual activity outside marriage (Niraula, 1991).

Application of current age and marriage duration as control variables for the study of fertility differentials revealed that marriage duration was a better demographic control than the current age (Niraula, 1991). The net effect of age at marriage on mean CEB was much greater even after standardization by current age, than the net effect of age at marriage on mean CEB that has been standardized by marriage duration. In addition to that, the indirect effect of age at marriage on mean parity working through current age was smaller than the indirect effect of age at marriage on mean CEB through

marriage duration. In view of these factors, marriage duration has been taken as a control in examining the effect of socio-economic variables on mean CEB.

Pullum (1978) recommended that a check of interaction between the control variable and independent variables should be carried out before the application of standardization. He maintained that if there is interaction between the control and the independent variables, methods other than standardization should be used as the interpretation of the standardized results will be misleading in such a situation. The interaction terms were checked for variables and it was found that there was no interaction between marriage duration, the control variable, and other independent variables.

For the purpose of analysis, marriage duration has been grouped into 0-4, 5-9 and 10 years and longer to reduce the number of empty cells in the classification. The standard population is the total number of ever married women, that is 719 women, distributed by the above categories of marriage duration. However, current age will also be used as a control where necessary, such as in case of fertility differentials by education and contraceptive use. The mean CEB was standardized by the marriage duration using marriage duration distribution of all women interviewed in the study as a standard. This marriage duration takes into account only effective marriage, that is marriage duration as calculated from consummation rather than from ceremonial marriage. The socio-economic differentials in mean CEB presented in the following sections are standardized for marriage duration.

For each of the socio-economic variables under consideration, there is a brief introduction on the nature of the relationship with fertility. The mean CEB is taken as a dependent variable and results from the study village are then interpreted in light of the theories of fertility change and empirical evidence, and case studies are presented to supplement the findings. Descriptive analysis is adopted. Particular emphasis is given to the nature of the relationship and context embodying the relationship. Before dwelling on the findings of the study, it may be pertinent to introduce the context: village settings where from the data were collected.

The Context

Like the majority of rural Nepal, the surveyed area is predominantly agricultural. The study area is a microcosm of Nepali society: major caste-ethnic groups of Nepal are represented in the study population and appears to be a typical Nepali setting. Almost half of the respondents were from the higher caste Hindus (Bahun and Chhetri). Of the remaining half, 17 percent were from the Tibeto-Burman group, about 15 percent from the service caste untouchables and the remainder were the residuals. As in other agricultural societies, land is the only source of employment and income for a large majority of households surveyed. The ever increasing population in the area has put lot of strain on available land resource for cultivation. Distribution of landholding is rather skewed. In general, large sizes of plots are owned and operated by high caste people. The average size of landholding owned by the Bahun households was 1.4 hectare (ha.) which is more than 4 times higher than the average size of land owned by service caste households, the untouchables. Not only the higher caste Hindus own larger size of land

holdings, they also own the quality land which produces better and is thus valued more. Therefore, caste in the studied community also represents class.

In the early seventies, a major road construction project with the technical and financial aid of the Chinese government was initiated linking the settlement area both with Kathmandu, the capital city and Pokhara, a tourist spot and an urban center which further linked the study area with southern Nepal and India. The construction of the highway was a major turnabout in the development of central hills and it affected the village community with forces of modernization reducing its isolation. Many people obtained jobs as rural construction workers and were paid in cash. Development efforts by the government encouraged irrigation facilities and provided incentives for cash crop, mainly vegetables and horticultural crops. Livestock raising was also encouraged. Surplus vegetables, horticultural crops and livestock products had an easy access to the major urban areas: it monetized the village economy while integrating it with the forces of national economy.

SOCIO-ECONOMIC VARIABLES AND FERTILITY

Caste-Ethnicity and Fertility

Since Nepali society is stratified into a number of caste groups deriving from the Indian caste system, the fertility differentials should be similar to the differentials in the Indian caste system. In India, Davis (1951: 74) calculated the child-woman ratio from the 1931 census. The estimated child-woman ratio was higher for the ritually lower castes. Even after limiting the ratio to married women, the differences persisted. As an offshoot of this behavior in Nepal, it can be hypothesized that upper castes people tend to have lower fertility than the people of the lower castes. However, available information on caste-ethnic differentials in fertility is scanty and also far from uniform.

Empirical evidence from the two national surveys (FP/MCH, 1977, 1987) show some differentials in achieved parity amongst caste and ethnic groups. Gubhaju (1983) studied fertility differentials by ethnicity from the 1976 NFS data and found that the standardized mean number of children ever born varied from 2.9 children for Bahun to 3.8 children per woman for Tamangs. Of religious groups, Muslims had the lowest mean number of children ever born. The 1986 Nepal Fertility and Family Planning Survey also covered ethnicity and fertility but noted that there were too few cases to arrive at a conclusion regarding fertility differentials (FP/MCH, 1987: 70). Karki (1984) studied fertility defferentials in the western hill areas of Nepal and did not find any significant relation between caste-ethnicity and fertility. However, Niraula's (1988) study in the eastern Terai village showed a positive association between higher castes and fertility.

Various studies conducted in India and Bangladesh are also far from uniform on the nature of the relationship between caste-ethnicity, religion and fertility. Some of the studies in India (Saksena, 1973; Mahadevan, 1979; Rele and Kanitkar, 1980; Muthiah, 1987) reported higher mean CEB for Muslims than all other groups. Within the Hindu community in India, it was found that lower caste Hindus such as scheduled castes and untouchables had higher fertility than high caste Hindus (Driver, 1963; Saksena, 1973;

Mahadevan, 1979; Dhindsa, 1986; Muthiah, 1987). A study on attitudes and beliefs in Bangladesh (Maloney et al. 1980) found that Hindus had lower fertility than Muslims. From the review of the literature on caste-ethnicity and fertility, it is apparent that the relationship between these two variables is also elusive and needs further investigation.

In Benighat area, the mean CEB tended to be high for the higher castes with each reporting 4.3 children per woman and lowest for the middle caste at 3.8 children. When standardized using marriage duration, there is very little difference in cumulative fertility according to caste-ethnicity. The net effect of caste-ethnicity was a slightly lower mean CEB among the Bahun and mixed (other) castes than all other caste categories. The differentials in the mean CEB, both reported and standardized, are too small to arrive at a conclusion.

Table 1

Standardized* Mean Number of Children Ever Born (CEB) by Caste-Ethnicity

Characteristics	Mean Number of CEB					N
	Reported (1)	Total effect (2)	Standard -ized (3)	Net effect (4)	Indirect effect (5)	
Bahun	4.3	0.2	4.0	- 0.1	0.3	232
Chhetri	4.3	0.2	4.2	0.1	0.1	137
Middle	3.8	- 0.3	4.2	0.1	- 0.4	101
Lower	4.0	- 0.1	4.2	0.1	- 0.2	125
Other	3.7	- 0.4	4.0	- 0.1	- 0.3	124
Overall Mean	**4.1**					

* Standardized by marriage duration.

Note: (2) = (1) - 4.1, (4) = (3) - 4.1, (5) = (1) - (3).

Source: Benighat Survey, 1988.

Household Structure and Fertility

For a long time, the evolution and changes is family (Family and household have been interchangeably used in this analysis to translate the Nepali pariwar.) structure have been the pre-occupation of social scientists. Interest by social demographers in the institution of the family was renewed by the realization that the family is the basic unit where most decisions are made, including those about fertility. The apparent failure of family planning programs to attract many women of reproductive age to birth limitation forced the researchers and policy makers to turn to the study of family structure in developing countries.

Parsons (1954: 214) defined structure as the static aspect of the descriptive mode of treatment of a system. Thus the family is a structure and its members are components of this structure. Radcliffe-Brown (1950: 43) noted that family structure is an arrangement of persons in relationships institutionally defined and regulated. The customary or legally defined rights and duties together with kinship and affinal ties among individual members of the family can be taken as components of family structure. In essence, the family can be regarded as a corporate body involved in the process of raising and replacing its members through births, deaths and migration. This process provides continuity of the family structure and ultimately become a component of the broader social structure.

The family has been recognized as the most influential institution exerting an enormous pressure on its members' behaviour, particularly fertility behaviour. It was argued that the nature of the relations of production within the household determines family morality and mutual obligations, and that changes in the nature of this relation will eventually determine fertility (Caldwell, 1982: 212-215; Ryder, 1983). On the basis of the demographic transition theory, Lorimer (1954) posed the hypothesis that extended family structures are the dominant family type in pre-transition societies. However, evidence from India suggests that fertility is lower in the joint family than in the nuclear family (Driver, 1963; Sen, 1965; Nag, 1975; Bebarta, 1977); it is also noted that family structure in India is diverse and the joint family is not the modal type (Gulati, 1980; Ramu, 1988: 18-22).

An alternative proposition of family structure and fertility was given by Ben-Porath (1980), who argued that as an implicit contract institution, the family establishes reciprocal arrangements and cooperation internally between family members; specialization by identity is the dominant division of labor. In such a situation, the family is the preferred organization for production, mutual insurance and intertemporal transaction with an in-built mechanism for monitoring labor inputs. Such ties are stronger in traditional societies and these societies have higher fertility.

In Benighat area, all family types were grouped into five categories. With regards to the fertility differentials, the reported fertility was higher in the nuclear and 'other' household types than in all other household types in the study village. The differentials in reported mean CEB changed somewhat when standardized using the marriage duration. The standardized mean number of children ever born is highest for lineal joint households and lowest in the lineal-collateral joint households.

Table 2

Standardized* Mean Number of CEB Ever Born by Household Structure

Characteristics	Mean Number of CEB					N
	Reported (1)	Total effect (2)	Standard -ized (3)	Net effect (4)	Indirect effect (5)	
Nuclear	4.4	0.3	4.0	- 0.1	0.4	389
Supplemented	4.0	- 0.1	4.2	0.1	0.2	131
Lineal joint	3.8	- 0.3	4.3	0.2	- 0.5	111
Collaterallineal Joint	2.7	- 1.4	3.8	- 0.3	- 1.1	71
Others	4.4	0.3	4.2	0.1	0.2	17
Overall Mean	**4.1**					

* Standardized using marriage duration.

Note: As in Table 1

Source: Benighat Survey, 1988.

Because households are transitional in nature, it is likely that women in the stem households are an older group than the women in joint households. Therefore, mean CEB for household type was also standardized using 15-24, 25-34 and 35 and over current age distribution of women. Most of the differentials that appeared when standardized by marriage duration are minimized and the joint household was found to have the lowest mean parity. Similar results were reported from Iran by Aghajanian (1978), who found the lowest fertility in extended households while the nuclear households had the highest fertility.

One of the explanations for this phenomenon in Nepal is the effect of grandmother status on older women, who tend to cease childbearing once their children, especially sons, are married. Tan (1983) studied marital fertility of older women in Bangladesh, Nepal and Sri Lanka and concluded that there is evidence for the existence of the custom of terminal abstinence with grandmother status. In the absence of fertility regulation through contraception, entrance to the grandmother status leads to terminal abstinence, reducing childbearing in older ages.

Furthermore, the joint household is a closely knit group of related members, and as she is in close contact with the daughter-in-law, it will be shameful for the mother-in-law to continue having children along with her daughter-in-law. By not having any more children, the mother-in-law maintains her superior status so as to exert authority over the daughter-in-law. Bebarta (1977: 94-95) studied the relationships between family types and fertility in India and found that fertility was lower among the joint

households; he posited that this was because of the fact that women in such households complete their fertility at relatively early ages: the shorter fertility span results in lower fertility. Bebarta's findings are also consistent with the notion of *grandmother status*. In a study of fertility differentials by family types in Karnataka state in India, Balasubramanian (1980; 148) found weak fertility differentials among various types of families, although fertility tended to somewhat higher in nuclear families than for those living in joint families.

Marriage Mediation (Arrangement) and Fertility

The relationship between marriage mediation and fertility is examined in Table 3. There are several channels through which marriage mediation can affect fertility. The arranged marriage which is in the control of the patriarch provides an environment to maintain the status quo. In it a woman has to establish herself by successive live births as a member of the family. There is likely to be a strong desire for sons. In self arranged marriages, unlike arranged marriages, there is more freedom in the control of fertility, which encourages women to decide their own future. Although the desire for sons may be strong, daughters are not despised; this tends to lower a woman's fertility as she is not bound to have many children in the quest for sons.

As can be seen from Table 3, the mean number of children ever born to women whose marriage has been arranged by parents is higher (4.1) than to women whose marriage was primarily self-arranged (3.7). This can be attributed to the greater autonomy enjoyed by women in the latter group. Women whose marriage was organized by other relatives had the highest mean CEB. The *other* category of marriage mediation involves women who lost their parents at an early age or whose parents were incapable of arranging the marriage; such a woman greatly fears insecurity, and protects herself by having many children in the hope that one of them will take care of her when she grows old.

Table 3

Standardized* Mean Number of CEB by Marriage Mediation (Arrangement)

Characteristics	Mean Number of Children Ever Born					
	Reported (1)	Total effect (2)	Standard -ized (3)	Net effect (4)	Indirect effect (5)	N
Parents	4.3	0.2	4.1	0.0	0.2	497
Self	3.2	- 0.9	3.7	- 0.4	- 0.5	165
Other	4.7	0.6	4.4	0.3	0.3	57
Overall Mean	**4.1**					

* Standardized using marriage duration.

Note: As in Table 1

Source: Benighat Survey, 1988.

Education and Fertility

Of the socio-economic variables, education is one of the most widely used for the study of fertility differentials because of its importance in issues such as modernization, exposure to the outside world and female autonomy. Two types of information on this aspect were collected: literacy and years of schooling. Women were asked about their ability to read and write (literacy) first, followed by a question on years of schooling, which is a better measure of the education variable. Even though literacy and education (years of schooling) may not be the same, because of low levels of educational development, more so for female education in the study villages, literacy has been taken as a proxy for education. For this reason, while the literature reviewed in this section is largely on education, the findings are restricted to literacy.

According to Cassen (1976) education alters parents' perceptions of the advantages of small and large families, brings change in the status of women, changes the social and economic aspirations of children, increases parents' earnings and also affects both the attitude towards contraception and the ability to understand and make use of particular methods. In the short run, education may increase fertility by increasing the ability to conceive and carry conception through to live births. Generally, education may lead to better understanding of health, sanitation and use of modern medicine and an improvement in family income through better earning potential. All these factors may increase fertility through an increase in fecundity and successful pregnancies. Because of exposure to the outside world, education may reduce the practice of prolonged breastfeeding, reduction in breastfeeding also tends to increase fertility (Nag, 1980; Smith, 1985). But, in the long-run, fertility declines as a result of the recognized ability to have live births and good survival prospects for those live births.

Caldwell (1982: 301-330) contended that children's education is a more fundamental catalyst of fertility transition than the educational attainment of adults, because children's education increases the expenses of child rearing and changes the relations within the family in such a way as to undermine the family morality. The family morality in traditional societies supports high fertility because it is hierarchical and communal in nature. Education is seen as propagating the Western value system which is basically individualistic. Induction of individualistic values in children together with the increasing cost of schooling puts pressure on the parents and changes their aspirations leading to a decline in fertility. Jain and Nag (1986) advocated a female literacy drive in order to reduce fertility, as they found that fertility decline in some states of India was associated with high female literacy. Education spreads secular ideas and leads to a breakdown of caste barriers. Once education is within the reach of the poor, they can also aspire to a better life for themselves and their children; this reduces the desire to have many children because of the competing needs of schooling and other activities leading to a decline in fertility. Sushama (1989) found this to be the case in Kerala.

In a move forward from Caldwell's hypotheses on education and fertility, Casterline (1985) argued that schooling and fertility interact in atleast two ways. Education can affect fertility through generational effects (parents and children) and through areal effects, such as location of household, localities, schools and nations. In

the analysis of Egyptian data, Casterline observed that parental schooling and children's schooling had independent effects on fertility and that the level of primary school attendance of girls has a negative association with the desire for another birth and current use of contraception; whereas the school attendance of boys was weakly but positively related in a direction contrary to expectation.

In Nepal, no such study has been made, but in a study on schooling participantion of children in the central terai districts, Jamison and Lockheed (1987) found that children were more likely to be in school if their fathers had attended school before, indicating generational effects of schooling, a finding consistent with Casterline's hypothesis.

There may be several factors involved in the relationship between education and fertility at various level of development ; there are different patterns of the relationship. In a review of cross-national studies by Cochrane (1979) , the relationship between education and fertility was far from uniform but tended to be negative. A number of studies supported the existence of a curvilinear relationship between education and fertility increases with educational levels to a certain point after which it tends to decline (Encarnacion, 1974; Hull and Hull, 1977; Alam and Casterline, 1984; Zachariah,1984 Bhattacharjee,1984; Niraula, 1988). In a review of cross-sectional finding from various countries, four patterns of possible relationship between education and fertility have been established for societies from the most developed to the least developed (UN, 1983).

To sum up the discussion on education and fertility, a small amount of schooling may not be a sufficient precondition for a decline in fertility unless it is accompanied by other social and economic developments.

Table 4 shows the reported and standardized mean CEB according to the literacy of the household members. Fertility differentials are considered for literacy of the household head, literacy of the husband and literacy of the respondent or woman. Both the reported and standardized mean CEB according to literacy level show that fertility is higher for the illiterate than the literate. However, differentials in the mean number of children ever born show that women's education seems to have more fundamental effects than the educational levels of household head and husband. Literate women had on an average, 1.7 fewer than the overall mean. Literacy of husband was also found to be associated with lower fertility. Literacy of the household head is also negatively associated with mean parity but with reduced strength.

However, education being a recent phenomenon, the educated women are likely to be younger than the uneducated ones, and the differences observed in the mean parity standardized by marriage duration may not remove the effects. Therefore, mean parity was marriage duration may not remove the effects. Therefore mean parity was also standardized by current age: it was found that the effect of literacy of women, husband's education and household head remained negative but with a somewhat reduced level.

Table 4

Standardized* Mean Number of CEB by Literacy Characteristics

Characteristics	Mean Number of CEB					N
	Reported (1)	Total effect (2)	Standard -ized (3)	Net effect (4)	Indirect effect (5)	
Literacy of household head						
Illiterate	4.3	0.2	4.3	0.2	0.0	355
Literate	3.8	- 0.3	3.9	- 0.2	- 0.1	364
U ratio	0.906		0.906			
Literacy of husband						
Illiterate	4.6	0.5	4.3	0.2	0.3	310
Literate	3.6	- 0.5	3.8	- 0.3	- 0.2	409
U ratio	0.783		0.883			
Women's literacy						
Illiterate	4.3	0.2	4.1	0.0	0.2	643
Literate	2.4	- 1.7	3.3	- 0.8	- 0.9	76
U ratio	0.558		0.808			
Overall Mean	**4.1**					

* Standardized by marriage duration.

Note: As in Table 1

Source: Benighat Survey, 1988.

The relative strength of education or literacy on fertility can also be assessed by calculating the U value, which is the ratio of mean CEB of literate women to mean CEB of illiterate women. Cochrane (1979) and Jain (1981) also used this value to estimate the relative strength of some education on fertility. This can be calculated as:

$$U = \frac{\text{Average number of children ever born to literate women}}{\text{Average number of children born to illiterate women}}$$

The U value calculated from the standardized mean parity shows the effect of a variable that is free from the effect of marriage duration. The value of U will 1 be if there is no effect of education, greater than 1 if education has a positive effect on fertility, and less than 1, if education has a negative effect on fertility. Under the literacy categories in Table 4, it is shown that literacy of women has a stronger effect than literacy of husband and household head. In all, the U value indicates the negative effect of literacy on fertility.

The U value calculated in table 4 included all levels of education for household head and women. When education higher than seven years of schooling was excluded in the calculation of the U value, the effect of' Little education' (a term borrowed from Jain, 1981 which here refers to education up to seventh grade) was still negative in all educational variables studied. The U values were 0.903, 0.814 for little education of household head, respondent and respondent's husband respectively.

Therefore, the findings confirm the proposition stated in the beginning that education has a negative impact on fertility. What was interesting in this study was that the literacy of the major decision makers in the household (the household head, husband and woman) is negatively associated with mean parity; therefore, from a policy point of view, a massive adult literacy program can do much to reduce levels of fertility in the community.

The effect of education of family members including spouse on fertility can be traced through several mechanisms. The most fundamental change education brings is rationalism and exposure to the outside world, which lowers family size norms, leading to fewer children. Educated women are likely to have better contraceptive knowledge and hence use, and are also in a position to influence decisions. Lastly, educated and literate women are likely to enter the labor market outside the home. Once the importance of domestic work is lessened and a woman is exposed to outside work, once she becomes a productive force and her childbearing is constrained by time and wages, she tends to opt for fewer children. Four of the women who were educated up to high school level were working as teachers in the study village.

This is exemplified by a case study of a woman educated up to high school level, from a middle-class Bahun family. After passing the high school examination, she started working at the local school where she fell in love with a fellow teacher who was a Bachelor of Science. Initially, her parents did not approve of the marriage but they were persuaded by her fellow teachers to allow her to marry. When the team met her she was 25 years old, had a son of three years and was pregnant. She reported that she had been using injectables for the last two years; when the boy was two and half years old, the couple decided to have another baby. They have also discussed the possibility of stopping childbearing permanently after the present pregnancy.

This case shows how (1) education leads to higher age at marriage; (2) it provides employment opportunity outside the domestic sphere; (3) it leads to better communication between husband and wife; and (4) finally, it changes aspirations leading to a desire for fewer children.

Landholding and Fertility

This section examines fertility differentials by economic variables. Fertility differentials are analyzed according to amount of land owned and operated, quality of land as measured by value of land, productivity of land, fragmentation of land, farm income and livestock raising; all of which form the core of the rural and agrarian economy in the Benighat area.

Although Mueller and Short (1983) have argued that in rural areas of developing countries, land is a good proxy for income, the effects of landholding and income are treated separately in this study. The available literature on land and fertility suggests atleast two dimensions relevant to fertility behavior, namely land ownership and operational size of landholdings (Schutjer and Stokes, 1982; Stokes and Schutjer, 1984; Stokes, Schutjer and Bulatao, 1986). It has been hypothesized that ownership of land exerts a negative long term effect on fertility because of income returns to equity and the consequent increase in old age security: people have enough income from land owned to support themselves in old age; otherwise, this support would have been expected from children. This is called the 'land-demand' hypothesis. The land-demand hypothesis states that larger operational holdings require more labor to cultivate, and supervise, and are also able to use family labor more effectively: this supports continued high fertility.

However, Cain (1985, 1986b, 1986c) has questioned the land-security hypothesis and argued that the relationship between ownership of land and fertility may be the other way round, that is, fertility contributing to ownership of land. He also contended that land cannot be a substitute for children for old age security and other benefits in most developing countries. Mamdani (1972) also viewed a large number of children, especially sons, as a factor to consolidate larger holdings.

Tenure arrangements will have an important bearing on the income from land. Stokes and Schutjer (1984: 195) identified three different income streams associated with land. These income streams are generated by management returns to those having use rights (share croppers, tenants, renters and lessees), equity returns for those having land ownership rights, and labor input returns to the agricultural production process. While the owner-cultivator will have all these types of income return from land, the landless laborer will only have labor input returns. Management returns for those having use rights will vary according to the contract, but they will not have income from equity return.

The role of landholding in the demographic transition and particularly its effects on marriage patterns have been documented by Hajnal (1953, 1982), Goody (1976) and Krishnaji (1983). In rural Nepal, the primary source of wealth is the land: wealth in terms of landholding is the principal determinant of the socio-economic hierarchy. As income is subject to fluctuations now and then, wealth is a better and stable measure of the long term socio-economic status of the household. Therefore, both income and wealth have been used as explanatory variables in the subsequent discussions.

There is little empirical evidence on the relationship between size of landholdings and fertility in developing countries. A further complication arises because most of the studies on the relationship do not distinguish between the size of

Table 5

Standardized* Mean Number of CEB by Economic Characteristics

Characteristics	Mean Number of CEB					
	Reported (1)	Total effect (2)	Standard -ized (3)	Net effect (4)	Indirect effect (5)	N
A. Ownership of landholding (ha.)						
Up to 0.5	3.7	- 0.4	3.7	- 0.4	0.0	240
0.51 to 1.0	4.1	0.0	4.0	0.1	0.1	200
1.01 to 1.5	4.2	0.1	4.4	0.3	- 0.2	122
1.51 +	4.5	0.4	4.5	0.4	0.0	157
B. Quality of land						
B. 1 Value per ha. of land (Rs) ##						
Up to 19,000	4.2	0.1	4.1	0.0	0.1	172
19,001 to 39,999	4.4	0.3	4.4	0.3	0.0	181
40,000 to 90,000	4.1	0.0	4.4	0.3	0.0	158
90,000 +	3.9	- 0.2	3.8	- 0.3	0.1	175
B. 2 Productivity per ha. of land (Rs) ##						
No production	4.1	0.0	3.9	- 0.2	0.0	41
1 to 3100	4.4	0.3	4.3	0.2	0.1	128
3101 to 5500	4.3	0.2	4.3	0.2	0.0	172
5501 to 8500	4.0	- 0.1	4.0	- 0.1	0.0	177
8501 +	4.0	- 0.1	4.0	- 0.1	0.0	168
C. Rented-out land						
Yes	3.9	- 0.2	3.9	- 0.2	0.0	35
No	4.1	0.0	4.1	0.0	0.0	684
D. Parcel of landholding						
No land	2.9	- 1.2	3.1	- 1.0	- 0.2	33
Up to 2 Pieces	4.0	- 0.1	4.0	- 0.1	0.0	388
3 to 4 Pieces	4.3	0.2	4.3	0.0	0.0	173
5 and above	4.5	0.4	4.2	0.1	0.3	125
E. Land use in years						
Up to 5 years	3.2	- 0.9	3.4	- 0.7	- 0.2	137
5 to 10 years	3.6	- 0.5	3.7	- 0.4	- 0.1	117
10 to 15 years	4.3	0.2	4.1	0.0	0.2	92
5 and above	4.0	- 0.1	4.0	- 0.1	0.0	373
Overall Mean	**4.1**					

* Standardized using marriage duration.

No. of cases is different from other Tables because women without landholdings are excluded.

Note: As in Table 1

Source: Benighat Survey, 1988.

landholdings to which a household has access for cultivation and the amount of land owned. More often these studies relate fertility to landholdings, presumably referring to the size of area cultivated regardless of ownership status (Stokes and Schutjer, 1984). While size of landholdings and fertility show much more consistency in a positive direction, the relationships between ownership and fertility are far from uniform.

It is evident from Table 5 that size of landholding is positively associated with increased fertility in Benighat. The mean parity of women whose landholding is up to half a hectare is 0.8 child fewer than in households whose landholdings exceed 1.5 hectare. This difference remains even if the mean CEB is standardized by marriage duration. A positive relationship between amount of land owned and fertility has also been reported by some other studies. Karki (1984), in another hill district of Nepal, observed that women who owned larger holdings had given birth to almost one more child than those with smaller holdings. In subsistence agriculture, most farmers work in their own land. Lack of irrigation facilities and seasonality of agricultural operation require that a pool of family farm or through wage earning. The production of more children maintains the pool of family labor which can be effectively used in cultivation in the time of need. In Bangladesh, Stoeckel and Chowdhury (1980) found that women whose husbands were landless were less fertile than those whose husbands owned some land.

Tuladhar (et al.; 1982) found contrasting relationships between land owned and fertility in the Hills and the Terai region of Nepal. The overall fertility was somewhat lower in larger land owning households in the hills while for the terai region, there was a positive association between size of land owned and fertility. However, in both the regions, fertility of older women (35-44 years) increased with increasing size of land owned. In a study of a Tamil Nadu village in India, Dharmalingam (1991) found an inverted U-shaped relationship between land owned and fertility. The pattern was, however, clear in the older age group: fertility was positively related to amount of land owned.

One of the propositions with regard to ownership of land was related to the quality of land owned, which is more meaningful as an indicator of permanent income. The quality of land is measured by the following criteria: (1) a piece of land which yields more than another piece of the same size; (2) land which is closer to or attached to the road fetches more than an area of the same size away from the road. While the former criterion is related to productivity including access to irrigation, the latter is connected with level of commercialization. In Benighat, better quality land can result from either of these factors or a combination of both. The land value is therefore, determined by the quality of land. In the next section, the quality of land is taken as a measure to examine fertility differentials in the study village.

As hypothesized, value per unit of land owned shows an inverted U shape in regard to mean parity (Table 5, B.1). Measured in terms of value per hectare of land, fertility was found to be lower in the lowest and highest levels of land quality. In between these two extremes, fertility tended to be high. The case was similar when land productivity was measured in terms of value of reported production per hectare (Table 5: B.2).

The income effect of quality land on fertility can work in different ways. At the lowest level of land quality, fertility is low because the land does not produce much, which does not encourage its owner to put more labor into it. Thus labor demand for cultivation is low. As a result, such households will have fewer children. The highest quality land, because of its accessibility to roads and irrigation, does not require as much labor as would otherwise have been the case, resulting in lower fertility. Between these extremes, fertility will be higher as the more labor put into it, the higher the production, will be with a greater need for children.

For the high-quality land-owning households, the income return from land is high and the labor for cultivation and supervision can be hired, reducing the need for family labor. Furthermore, the high-quality land does not require as much manpower as does low-quality land of the same size. This provides some security which otherwise would have been expected from a large number of children: therefore, fertility tends to be low. However, in between these extremes, fertility is high because a greater labor input into cultivation will result in a better yield, for which also they need more livestock for manuring. Both cultivation and care of livestock are labor-intensive, requiring a constant supply of family labor. This tends to encourage high fertility.

The land reform program which was introduced in 1964 did very little to protect the interest of the tiller (Regmi, 1976: 167-215). The loosely administered reforms, however, encouraged owners to deprive the tiller of cultivation rights and to cultivate on their own from fear of alienation of ownership rights. As a result, there were a few households which had rented-out land (5 percent). Although the number of cases is too small to arrive at a conclusion, the mean parity of women who had rented-out land was slightly lower than among those who tilled their own land (Table 5: C).

Thus as in other agricultural and subsistence-oriented societies, many land owners in Benighat were owner-cultivators who need family labor to withstand the vagaries of nature for day-to-day survival. The more people there are to work in the family production unit, the more secure are food and shelter even for people who had rented-out their land.

Ownership of land is also tied up with fragmentation of land. In general, more pieces of land require more people to look after them; more so, if the land is scattered around. It can be expected, therefore, that women in the household with more pieces of land are likely to have higher fertility than those who have fewer pieces of land. The result presented in Table 5: D in general supports this view.

Finally, the number of years a particular piece of land has been in use by the household is a good indicator of the long-term effect of land owned on fertility. Mean number of years of use of the land by the household has been arrived at by taking an average number of years for each parcel of land a household has owned at the time of the survey. Number of years of use also takes into account the fluctuations in land transactions and is a better indicator of the long-term relationship between land and fertility. The long-term effect of land on fertility also shows a positive relationship and this holds true for both the reported and standardized mean CEB. Those who have used land for less than five years have 0.6 fewer children (net effect) than those who have

used it for more than 15 years, indicating that landholding has a positive effect on fertility (Table 5: E).

Income and Fertility

Income is treated as an independent variable by the micro-economic theory of fertility. The basic model developed by Becker (1960) is popularly known as 'New Household Economics' or the 'Chicago Model'. The theory postulates that income and prices are important determinants of family size. This theory states that given the household's level of efficiency and technology, commodities are produced in the family with the inputs of market goods and household members' time. According to this theory, households derive satisfaction not from the consumption of market goods but commodities produced at home such as 'child services'. Additional child services are considered as a trade-off between devoting additional resources to the upbringing of the existing children, thereby improving child quality and services, and having additional children. Even though the income elasticity is presumed to be positive for both child quality and quantity, increased expenditure on child quality decreases resources for having additional children, hence the negative effect of income on fertility.

Though the micro-economic theory of fertility was developed in the context of more developed countries, improvements and modifications of the theory have made it possible to apply it to developing countries (Easterlin, 1975, 1978; Easterlin, Pollack and Wachter, 1980; Bulatao and Lee, 1983). According to the micro-economic theory of fertility, as income rises, people tend to develop attitudes giving greater importance to the quality of their children's lives.

Empirical findings on income and fertility are far from conclusive. After a review of different historical and analytical contexts, Simon (1974) and Namboodiri (1972) suggested that the income-fertility relationship might be different for couples at different levels of parity. Simon (1974) also concluded that a secular rise in income in traditional subsistence agriculture will increase fertility: before the agricultural sector is much affected by modernization, the direct income effect on fertility is positive. However, in the long run as the agricultural sector modernizes and the way of life is affected by educational aspirations and changes in outlook, the income effect of fertility is negative. Simon also contended that in the short run, education, occupation and other determinants of income and tastes are not subject to change; thus there is a positive relationship of income with fertility. Mueller and Short (1983:628) reviewed both micro and macro level studies dealing with income and fertility and described a number of unresolved issues and propositions. They conclude that the income-fertility relation is positive at low income levels and negative at higher ones. (p. 628). However, the effect of farm size and income on educational aspirations for children and security motives remain uncertain in the studies so far conducted.

Although the above review of income and fertility did not differentiate types of income, household income which includes value of crop produced and income from sale of livestock and livestock products is used as farm income. It is hypothesized that higher farm income will be positively related to fertility.

As hypothesized, Table 6 shows that farm income was positively associated with mean parity. Those who had the highest levels of annual farm income (over 20,000 Rupees) had half a child more than those who had the lowest farm income (below 5000 Rupees).

Although Nelson's (1985) study in the Philippines does not distinguish between farm and non-farm income, he observed that an increase in income for the lowest income strata of people tended to increase fertility while at the other extreme, fertility tended to be lower with an increase in income for the higher income group. The fact that fertility is lower for the highest income group was also reported by Dhindsa (1986) in a study of rural Punjab in India.

Table 6

Standardized* Mean Number of CEB According to Farm Income

Characteristics	Mean Number of CEB					
	Reported (1)	Total effect (2)	Standard -ized (3)	Net effect (4)	Indirect effect (5)	N
Farm income						
Up to 5000	3.7	- 0.4	3.8	- 0.3	- 0.1	163
5001 to 10,000	3.9	- 0.2	3.8	- 0.3	0.1	123
10,000 to 20,000	4.2	0.1	4.3	0.2	- 0.1	239
20,000 +	4.3	0.2	4.3	0.2	0.0	194
Overall Mean	**4.1**					

* Standardized using marriage duration.

Note: As in Table 1

Source: Benighat Survey, 1988.

However, Hull (1975: 321-335) studied fertility differentials by income groups in Indonesia and came to the conclusion that fertility tended to be high in higher income groups. Hull attributed the higher fertility of higher class women to factors such as marital stability, reduced abstinence and lack of fecundity impairments found in the women of the lower class (Hull, 1975: 420). Higher mean CEB for women with higher farm income in Benighat area supports the notion that in subsistence agriculture a rise in income increases fertility before agriculture is affected by the process of modernization.

Ownership and value of livestock. In agricultural societies, livestock rearing is integrated with crop farming which is also true in the study village. More livestock means more manure for the field, and more cash income from the sale of milk, milk

products and goats. Numerous and highly priced livestock also mean that there is a great need for separate labor to tend and tether them.

As expected, Table 7 shows that the number of livestock in the household is positively associated with mean CEB, that is, the higher the number of livestock in the household, the higher the mean CEB of woman in the household. The mean CEB is also positively correlated with the value of livestock owned. Women in households where livestock value is less than 2000 Rupees had half a child less than those with livestock valued at more than 10,000 Rupees. Similarly, households with only up to two heads of livestock had 0.7 fewer children than those with more than 13 heads. This finding is consistent with both theoretical and practical expectation of labor demand hypothesis and survival strategy of the transitory household economy.

Table 7

Standardized* Mean Number of CEB by ownership of livestock

Characteristics	Mean Number of CEB					
	Reported (1)	Total effect (2)	Standard -ized (3)	Net effect (4)	Indirect effect (5)	N
A. Value of livestock						
Up to 2000	3.8	- 0.3	3.9	- 0.2	- 0.1	145
2001 to 5000	4.0	- 0.1	3.8	- 0.3	0.2	103
5001 to 10,000	3.9	- 0.2	4.0	- 0.1	- 0.1	192
10,000 +	4.3	0.2	4.3	0.2	0.0	279
B. Number of livestock owned						
Up to 2	3.8	- 0.3	3.7	0.4	0.1	186
3 to 6	4.1	0.0	4.0	0.1	0.0	177
7 to 12	4.3	0.2	4.3	0.2	0.0	177
13 +	4.2	0.1	4.4	0.3	- 0.2	179
Overall Mean	**4.1**					

* Standardized using marriage duration.

Note: As in Table 1

Source: Benighat Survey, 1988.

Settlement Cluster and Fertility

A variable based on proximity to the highway is used as a proxy of the extent of the effect of modernization. The term modernization is used here broadly to reflect the combined effect of increased contact with the outside world, increasing literacy and schooling, monetization of the economy and proliferation of and access to government services. The settlement areas which were attached or were along the highway were

given a value of cluster I, and the remaining settlement areas were given a value of cluster II. As hypothesized, Table 8 shows that village clusters which are close to the highway have lower fertility than other areas. There is mean parity difference of 0.6 child per women. Access to the highway and service area can affect fertility through modernization: different levels of modernization have varying degrees of effect on fertility.

At a low level of development and modernization, there may not be significant change in reproductive behavior and it is likely to encourage fertility (Nag, 1980). However, with an increase in the level of modernization, fertility is expected to go down as the effects of education and monetization of the economy become more pronounced. Village cluster I is not only close to the highway, it is also the area of main activity, social, economic and political. Local government services including a health post are located in this area, long distance buses running to and from Kathmandu and various destinations of the country stop here now and then for a break. Monetization of the economy has been going on for quite some time but has accelerated in the last decade or so with commercialization of crops and livestock (Niraula,1990). All this has led to a lower mean parity of women in village cluster I.

Table 8

Standardized* Mean Number of CEB by Settlement Clusters

Characteristics	Mean Number of CEB					
	Reported (1)	Total effect (2)	Standard -ized (3)	Net effect (4)	Indirect effect (5)	N
Settlement clusters						
Cluster I	3.9	- 0.2	3.8	- 0.3	0.1	350
Cluster II	4.3	0.2	4.4	0.3	- 0.1	369
Overall Mean	**4.1**					

* Using marriage duration.

Note: As in Table 1

Source: Benighat Survey, 1988.

COMPLETED FERTILITY

Childbearing is usually assumed to take place between ages 15 and 49 years. Even though the mean CEB was standardized by marriage duration in the above discussions, the use of the mean number of children ever born in comparing fertility levels can also be misleading because it assumes linearity in period of exposure, and low averages of CEB may have been resulted from a high number of childless women. In Benighat, very few births occurred to women aged 45 and above, and very few were childless, so the mean number of children ever born to women aged 45 and above approximates completed fertility. Completed fertility for women of different socio economic backgrounds is presented in Table 9.

Table 9

Completed Fertility Rate by Socio-Economic Characteristics

Socio-Economic Characteristics	Mean CEB	Mean Living Children	N
Overall	6.8	5.2	104
A. Caste-ethnicity			
Bahun	7.2	5.7	29
Chhetri	5.6	5.4	24
Middle	6.9	5.1	17
Lower Caste	5.9	4.0	21
Residual	7.7	5.5	13
B. Literacy of household head			
Literate	6.6	5.2	39
Illiterate	6.9	5.2	65
C. Literacy of husband			
Literate	6.9	5.3	33
Illiterate	6.7	5.1	71
D. Ownership of landholdings			
Up to 0.5 ha.	6.1	4.7	26
0.51 to 1.0 ha.	5.7	4.3	32
1.01 to 1.5 ha	6.9	5.2	18
1.51 + ha.	8.5	6.6	28
E. Land use in years			
Up to 5 years +	6.1	4.5	10
6 to 10 years	4.9	3.6	9
11 to 15 years	6.7	4.8	11
16 years and more	7.1	5.5	74
F. Parcel of Land			
Up to 2 Parcels	6.3	4.7	57
3 to 4 Parcels	7.3	5.7	32
5 and more parcels	7.7	5.8	15
G. Farm Income			
Up to 5000	6.1	4.4	17
5001 to 10,000	6.6	4.9	18
10,000 to 20,000	6.7	5.0	39
20,000 - +	7.5	6.0	30

Source: Benighat Survey, 1988.

Completed fertility is 6.8 children per women and varies according to socioeconomic background. The differences that were not visible when standardized by marriage duration, are striking when only women aged 45 and above are considered. Completed fertility is higher for women belonging to the Bahun caste and the residual group. The completed high fertility of women in the higher caste can be explained by more than two children to women belonging to large landholders than for those who were small and marginal cultivators. This finding is consistent with the positive relationship observed between the completed family size and landholding in a village in Tamil Nadu (Dharmalingam, 1991). This gives further credibility to the labor-demand hypothesis put forward earlier.

Other measures of association between economic status and completed fertility confirm the pattern that was observed in the case of land holding. Use of land for a certain number of years measures the permanency of wealth associated with the household. Mean number of years land was in use by the household shows a positive relationship with completed fertility and this holds true for parcels of land as well. The more parcels of land a household has, the higher the completed fertility. Farm income was positively correlated with completed family size; the highest farm income households having almost 1.5 child more than the households with the lowest farm income. This supports the notion that before agriculture is much affected by modernization, a rise in income tends to increase fertility.

Literacy and completed fertility did not show a definite trend: fertility was found to be lower in women whose household heads were literate. Completed fertility was slightly higher for those whose husbands were literate but the difference is too small to be meaningful. The completed fertility of literate respondents was, remarkably, lower by almost two children although only one respondent in this age group was literate. The relatively weak relationship between education and fertility was expected, as this subgroup of the study population was little affected by the forces of modernization.

The mean number of living children for women aged 45 and above was 5.2. On average, women experienced a loss of 1.5 children during their reproductive career. Most of the differences that appear in the completed fertility disappear as the number of children who survive that is going to make a difference to the couple rather than the number of children ever born. Except for the lower castes, who had the lowest mean number of surviving children and highest mortality level (as indicated by the survival ratio), caste differentials in mean surviving children are minimal.

Among economic variables, larger differences were observed when the study population was stratified according to land owned. There is a difference of almost two

children ever born and surviving among the marginal landholders and the large landholders, once again supporting the land-labor demand hypothesis.

As was the case for mean CEB, mean number of living children increases with an increase in farm income but declines with the highest level of non-farm income. It should be noted here that farm income to a large extent represents size of landholding owned. In conformity to earlier findings, these findings suggest that completed family size is positively affected by the ownership of land, and farm income.

CONCLUSION

Drawing upon the larger social, cultural and economic context of Nepalese society, this study analysed data from a 1988 survey of 719 ever married women aged 15 -54 in 625 households in Benighat area in Dhading district. After 1951, many changes, economic and social, were specifically introcuced for the purpose of social engineering; some of the effects were not in the desired direction and have left intact the basic social structure. Despite this, some social change has been brought by the steady penetration of the market economy, expansion of educational institutions, the opening of a new highway, extension services for agriculture emphasizing increased productivity and change in cropping patterns; and the establishment of service centres such as health posts. However, the effects of these changes have not been equally felt in all sections of the society because of differential access to resources between the rich and the poor which translate into differences in family formation and reproduction.

The mean number of children ever born (CEB) was standardized using marriage duration, and differentials were examined. The analysis points to the fact that ascribed status (caste-ethnicity) does have an effect on fertility; however, most of the differntials operate through other factors which are more economic than social. The economic differentials are rooted in the social struture.

Examination of the various parameters of economic status and fertility points to class differentials in fertility: those who are better off have higher fertility than those who are at the bottom of the society. The size of landholding owned showed a positve relationship with fertility: mean CEB was lower by about 0.8 child for women with up to 0.5 hectare of land than for women with 1.5 hectares. This relationship persists for women who had almost completed their reproductive careers (aged 44 and above): women who were in households owning 0.5 hectare of land given birth to 6 children compared to 8.5 children ever born to women in households with more than 1.5 hectares. Consistencies in these results support the 'land-labour demand' hypothesis.

However quality of land owned showed an inverted U-shaped reltionship. It was hypothesized that a piece of quality land can provide better yield, hence income and provide support in old age. Quality of land owned was measured in terms of productivity per unit of land and value of land. Both lowest and highest categories of productivity and the hypothesis was partly supported.

Lower farm income was associated with lower fertility and higher farm income with higher fertility, the difference being 0.5 child between the lowest and highest farm income. The difference in the mean CEB of women who had almost completed their family size was about one and half children between the lowest and highest farm income. This finding is cosistent with Simon's (1974) proposition that before the agricultural sector is much affected by modernozation, a secular rise in income tends to increase fertility in subsistence agriculture. Ownership of livestock, as expected, showed a positive relationship and supported the hypothesis that a large number of livestock requires many working hands, obtained by producing more children.

Literacy, however measured, was associated with lower fertility. Mean CEB was lower by about half a child to women whose husbands or household heads were literate. However, literate women had a mean CEB which was lower by 0.8 child than illiterate women. The lower fertility of the literate group is supported by the higher knowledge, higher ever use and higher current use of contraceptive methods among the literates in the study village (Niraula, 1991). This lends support to the notion that literacy of members of the household, including the respondent is negatively associated with fertility and positively with knowledge and use of contraceptive methods.

Women aged 45 and above can be regarded as nearing completion of their reproductive career and the mean number of children ever born to those women can be considered as completed family size. On an average, women in this age group gave birth to 6.8 children of which 5.2 survived. An examination of completed family size among various socio-economic groups indicated that fertility was higher among higher castes, illiterates, higher farm income groups, and large landholders, supporting the linkage of better socio-economic conditions with larger achieved family size. This is exemplified by the fact that the mean CEB of large landholders is higher by more than two children than that of the small and marginal landholders. As a whole, relative affluence within the society is associated with higher fertility and relative deprivation with lower fertility: the village community studied represents a high-fertility society. The studied area has a demographic regime of early age at marriage, universal marriage and high fertility. The existence of fertility differentials also suggests that women are differentially exposed to proximate determinats of fertility and this needs to be addressed while designing population policy. However, this is only an descriptive analysis and strength of socio-economic variables with fertility variables, more so with proximate determinants needs to be further investigated to arrive at specific conclusions.

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