



**THE ONSET OF FERTILITY DECLINE IN URBAN NEPAL:  
A STUDY OF KATHMANDU CITY**

by

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## ERRATA

Page 117, line 11-12 should read "... studying at the Bachelor level..."

Page 220, 223, Rely should read Rele

Page 269, line 1 should read ... fertility is declining in Kathmandu.

Page 281, line 8-9 should read ... One of the processes assisting in the fertility decline in Nepal is an increasing trend for the proportion of workers in non agricultural occupations to increase.

Page 291, The following should be added after line 15 ... "In India the Medical Termination of Pregnancy Act provides for termination of pregnancy on (1) health grounds, (2) humanitarian grounds, and (3) eugenic grounds. It is also the practice in India that a pregnancy resulting from failure of contraceptives can also be terminated if it will cause 'a grave injury to the mental health of the woman' (Misra, 1995:332). In Nepal abortion should be legalised on some grounds if both husband and wife consent."

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### **Abstract**

This study investigates the causes of change in determinants of fertility such as marriage, value of children, fertility regulation and behaviour among women in the city of Kathmandu, Nepal. The study uses data collected in fieldwork in Kathmandu between November 1991 and May 1992. To explore different mechanisms causing change in fertility behaviour of Kathmandu couples a conceptual framework modified from Freedman (1987b) is adopted.

It was found that a transition is occurring in Kathmandu society from a situation of arranged marriages to one where children are given the scope to either agree or disagree with their parents' choice. The important mechanisms of change in marriage in Kathmandu were found to be attitudinal changes due to increased levels of education and changes in ideas and aspirations. The investigation of the mechanisms causing change in the value of children shows that emotional values and financial costs of children are rising and the traditional socio-cultural values such as dependence on children for old age support are declining in many groups of the study population. This has resulted in a lower demand for children in Kathmandu. The social transformation taking place in Kathmandu is not only impinging upon the value of children but also the values attached to the gender of children. Accordingly, the causes of a higher use of contraception in Kathmandu are not only a result of a decrease in the socio-cultural value attached to children, but also a decrease in the socio-cultural value attached to their sex. Moreover the availability and accessibility of contraception has also contributed to its higher use in Kathmandu.

The massive spread of education has created a favourable climate for rapid social change in Kathmandu. Mass media networks have added to the momentum of the on going social transformation. One of the main reasons for the fertility transition in Kathmandu is a change in traditional family relationships due to socio-cultural change, rather than vast economic change. Even the older generation who used to bless young married couples by saying "may your offspring cover hills and mountains", have started to say "two is enough, more brings sadness", indicating a significant social change in Kathmandu. All these mechanisms of change have contributed to the onset of fertility decline in Kathmandu. Accordingly, the study concludes that Kathmandu's fertility decline is a result of a change in family relationships due to socio-cultural change rather than significant economic change.



## DECLARATION

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the university library, being available for loan and photocopying.

(Ram Hari Aryal)

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## Glossary

### Nepali words

Aankho	Eye
Bela	A kind of hard covered fruit
Bhaktapur	One of the cities of the Kathmandu Valley
Bokshi	Witchcraft
Choro	Son
Danda Kanda	Mountain and Hill
Desain	One of the big festivals in Nepal
Dhakun	Cover
Dhan nach	Rice dance
Dherai	More, Many
Dui	Two
Jaat	Caste
Kaga	Crow
Kaga Bandhya	Name for a woman who gives only one birth in her life time
Karma Chaleko	Socially and religiously eligible to perform religious rituals
Mulki Ain	Civil Code of Nepal
Paap	Sin
Patan	One of the cities of the Kathmandu Valley
Punya	Religious merit

Rodi Ghar	This is a social club for Gurung (one of the ethnic groups in Nepal) boys and girls and it gives ample opportunity for the young boys and girls to develop mutual understanding and love
Sagar Matha	Mount Everest
Samskars	Sacraments
Santan	Family
Terai	Plain land of the southern part of Nepal
Thikka	Right
Tihar	One of the big festivals in Nepal
Ukhan	Proverb
Yeuta	One

### **Abbreviations**

CBS	Central Bureau of Statistics
Cd	Demand for children
CEB	Children ever born
Cn	Supply of Children
CR	The cost of fertility regulation
DHS	Demographic and Health Survey
ESCAP	Economic Commission for Asia and the Pacific
FP/MCH	Family Planning, Maternal and Child Health Division
FPAN	Family Planning Association of Nepal
GC	Gharti Chhetri

GDP	Gross Domestic Product
HMG	His Majesty's Government
ICHSDP	The Integrated Community Health Services Development Program
Id	Proportion divorced
IEC	Information, education and communication
Im	Proportion married
IMR	Infant mortality rate
Ip	Proportion separated
IPPF	International Planned Parenthood Federation
Is	Proportion single
Iw	Proportion widowed
KC	Khatri Chhetri
MAFB	Mean age at first birth
MAM	Mean age at marriage
MSS/MOE	Manpower and Statistical Section of the Ministry of Education
NCP	National Commission on Population
NCPS	Nepal Contraceptive Prevalence Survey
NCRSC	Nepal Contraceptive Retail Sales Company
NFFS	Nepal Fertility and Family Planning Survey
NFHS	Nepal Fertility, Family Planning and Health Survey
NFS	Nepal Fertility Survey
NGO	Non-government Organisation

NPC	National Planning Commission
PAN	Population Association of Nepal
PPR	Parity progression ratio
SLC	School leaving certificate
SMAM	Singulate mean age at marriage
TFR	Total fertility rate
TMFR	Total marital fertility rate
UNFPA	United Nations Population Fund
VOC	Value of children
WFS	World Fertility Survey







## CHAPTER ONE

### INTRODUCTION

**(Dui bhaye thikka dherai bhaye dikka)  
Two is enough, more brings sadness**

#### **1.1 Statement of the research problem**

The slogan quoted above is taken from a family planning advertisement in Nepal. Nepalese, especially in urban Kathmandu, are increasingly taking notice of this message and seeking to control their fertility, although the Hindu culture has traditionally been pro-natalist in orientation. In rural Nepal however, a large number of children has been considered a symbol of social and economic well-being while a woman's status has been directly dependent on her fertility and a childless woman is subject to pity and contempt. (National Commission on Population (NCP), 1988:60-62). A childless woman is not only barred from many social and ritual activities, she is also very likely to be accused of witchcraft (*Bokshi* in Nepali) while a woman who bears only one child of either sex and is infertile thereafter, is equally looked down upon (Stone, 1978:9). A woman who bears only one child is called a *Kaga Bandhya*. In Nepali *Kaga* means a crow, a bird which gives birth to only one baby in its life time. For Hindus the crow is untouchable. Orthodox Hindus believe that the entire day will be bad if they see such *Kaga Bandhya* women early in the morning because they are regarded as inauspicious (Bennett, 1981:17; Stone, 1978:10). A woman's role as childbearer has therefore been crucial to her status in her husband's household and society in Nepal (Molnar, 1980:128).

Sons are considered religiously and socially important in Hindu society. Therefore couples generally wish to have at least two sons, irrespective of their total number of children, in order to have at least one son surviving in their old age. There is a Nepali proverb (*Ukhan*) which says *Yeuta aankho ke aankho yeuta choro ke choro*, and means "one eye is no eye and one son is no son". Because of still high infant and child mortality in Nepal (World Bank, 1994:212) this saying is still popular. Again, a woman who only bears daughters is considered "unfortunate" and suffers several cultural set-backs in her life (Dahal, 1989:78). These complicated socio-cultural values of the Hindu society have encouraged women to have many children. Hence, in the past people often gave the following blessing during the *Desain* festival - *santan le danda kanda dhakun* which means 'may your offspring cover hills and mountains'.

However, in a study based on the 1986 Nepal Fertility and Family Planning Survey (NFFS) Tuladhar (1989) provides some evidence of fertility decline. According to this study the decline was mainly due to the increases in contraceptive use and in the age at marriage of females. Nevertheless, in the 1986 Nepal Fertility and Family Planning Survey (NFFS) report a Total Fertility Rate (TFR) of 6 was estimated using the P/F ratio method (Brass, 1975; United Nations, 1983a) and indicated the persistence of high fertility in Nepal. Using birth history data from the same 1986 NFFS primary data source however, Tuladhar (1989) obtained a TFR of 5.6 for the period 1980-85. This rate was obtained without any adjustment to the raw data on the assumption that there had been no serious problem of omission of births by the respondents (Niraula, 1991:99). The estimated TFR of 5.6 when compared with that for the earlier period 1971/76 was found to have declined by 9 per cent during the past 10 years. Tuladhar accordingly pointed out that the 1986 survey findings herald the onset of fertility decline in Nepal.

It is to be noted however, that data using the same primary source (NFFS, 1986), provide conflicting results. One suggests the persistence of high fertility (Family Planning, Maternal and Child Health Project, HMG (FP/MCH), 1987) and the other indicates the onset of fertility decline (Tuladhar, 1989). Tuladhar (1989:29) also argues however, that in a country where people are largely illiterate it is difficult to obtain accurate survey data and it is not possible to say with a high degree of certainty that fertility has indeed started to decline in rural areas and that any apparent decline in fertility may be an artifact of the under reporting of births (Niraula, 1991). Niraula (1990) also provides some evidence of fertility change in a Nepalese village. He argues that increasing use of family planning services, increases in literacy, improvements in health services, and increases in the age at marriage were responsible for fertility decline in his study village.

With the poor socio-economic conditions of the country, and the traditional importance of children in rural areas there is still considerable controversy over the extent and reasons for the fertility decline in Nepal. However, the studies quoted above suggest that Nepal may have reached an important stage in its demographic history - the onset of the fertility transition. The onset of fertility decline has already been widespread in Asia (Caldwell, 1993) and has recently begun in some countries in Africa (Caldwell *et al*, 1992; Freedman and Blanc, 1992). Given the uncertainty about the onset of fertility decline in Nepal it would seem that if such a decline had occurred it would be most apparent in the urban areas where many of the prerequisites (increase in age at marriage, education, contraceptive use etc.) for fertility transition have been already fulfilled. It is hypothesised here that in major urban centres, age at marriage and the use of contraception have been rising and the socio-cultural values of children are declining. Socio-economic development has occurred more in urban than in other areas, and education levels and contraceptive use are higher than in rural areas. Urban and rural literacy figures show that the

differences in urban and rural literacy are indeed wide. For example at the 1991 census, the literacy rates were 77.4 and 54.3 per cent for males and females respectively in urban area and 54.5 and 25.0 per cent for all Nepal (CBS, 1992). The contraceptive prevalence rate in urban areas was found to be higher than in rural areas in 1991 (Pradhan *et al*, 1993:104). One of the views is that women will not use family planning until they have better education and employment opportunities (Brackett, 1981:21) and better educated women are more likely to be in urban areas.

It is stated that 'the early stages of a fertility transition are led by social innovators, who wish to have fewer children or who have knowledge of and access to the means of reducing fertility' (Hirschman and Guest, 1990:139). Therefore the urban area, where social innovators are more likely to be (Carlsson, 1966:152-154), should lead such a transition in Nepal. It has also been documented that at the initial stage of fertility transition, the change tends to begin in major urban centres (Carlsson, 1966; Cleland and Wilson, 1987; Fialova *et al*, 1990). Cleland and Wilson (1987:24) have shown that in countries such as Taiwan, Thailand, The Republic of Korea and Costa Rica, the fertility transition was initially concentrated in urban centres and among the more educated groups. Carlsson (1966:152-154) is of the view that metropolitan urban areas are the first to adopt an innovation. He reported from a Swedish study, that fertility decline seems to have started at a quicker pace in the capital than other areas of the country. A similar finding was reported from a Czechoslovakian study showing lower fertility in Prague than other areas of the country at the initial stage of fertility transition (Fialova *et al*, 1990:99).

Caldwell and Caldwell (1978:1) also report that 'in urban societies there are couples who deliberately choose to limit their fertility, therefore an examination of the characteristics of such couples may provide important clues as to the motivation for

fertility limitation and the characteristics of demographic innovators'. Ross *et al* (1986:180) and Niraula (1990:65) argue in the context of Nepal that a great deal remains to be learnt from those populations which have already experienced a decline in fertility in order to help in the formulation and implementation of family planning, population and development programs to continue the current decline of fertility. The concept of small family size is gaining ground in urban Nepal as a result of socio-cultural changes relating to fertility. What are the reasons for these changes and why do couples want fewer children ? These questions have provided the basic impetus for undertaking an investigation into the reasons for Kathmandu women opting for fewer children and have motivated the examination of fertility behaviour of these women. Thus the research problem of this thesis is to identify the characteristics of the sub-groups in Kathmandu which have experienced fertility decline and to investigate the processes and mechanisms responsible for this fertility transition.

## **1.2 Objectives of the study**

The purpose of this study is to investigate and identify the sub-groups in the heterogeneous Kathmandu population which have experienced fertility decline and attempt to evaluate the relative importance of socio-economic and cultural factors in explaining changes in fertility. This study investigates the processes and mechanisms of social change with regard to fertility regulation and behaviour placing due emphasis on the different customs and beliefs of the major socio-economic and cultural groups in Kathmandu.

To understand these processes and mechanisms, this study focuses on the social and economic changes which are the most important determinants of socio-economic status in the context of Kathmandu. In doing this the relationship between socio-economic variables and the intermediate variables (Davis and Blake, 1956) of

contraceptive use and age at marriage will be analysed. These intermediate variables merit attention because changes in fertility are achieved through changes in the levels of these intermediate variables.

The more specific objectives of the study are as follows:

1. To establish conclusively whether or not fertility decline has begun in Kathmandu, Nepal.
2. To investigate the socio-cultural changes that have occurred in relation to marriage customs and attitudes and to explain how these changes have affected marriage timing in Kathmandu.
3. To analyse the mechanisms causing changes in the perceived value of children and in parental aspirations for children and to explain how these changes affect demand for lower numbers of children in Kathmandu.
4. To undertake a systematic analysis of contraceptive use of Kathmandu couples and explain the mechanisms causing change in fertility regulation and behaviour.
5. To discuss the prospects for future fertility decline in Nepal and the role of possible policy intervention in this.

There is a lack of urban studies in which the fertility behaviour of individuals can be related to the contexts and characteristics of the urban population in Nepal. Fertility behaviour largely depends on the socio-economic characteristics, as well as residential location of couples. Therefore an effort is made in this study to link the individuals of Kathmandu to the social context of Kathmandu in order to discover how the urban socio-economic context and the behaviour of individuals contributes to an understanding of the determinants of fertility behaviour in urban Nepal. In particular, attention is given to understanding the mechanisms through

which socio-economic characteristics of the urban population affect individual fertility behaviour.

The fertility transition, both in developed and developing countries has usually been explained years after the event. However, it would be interesting from a theoretical point of view if one can examine a situation where the fertility decline has only just begun, find out the determinants of this transition and identify which groups of the population initiated it. In addition, it would be important from the policy point of view to observe the characteristics of these sub-groups which have initiated the fertility decline. Kathmandu is currently experiencing the fertility transition and it therefore, provides a unique opportunity to investigate the causal mechanisms underlying the fertility transition and the characteristics of the subgroups which have already experienced the fertility decline. It will also provide the researcher with a unique opportunity to evaluate the applicability of the earlier theories of fertility transition to the initial stage of fertility change.

From the theoretical point of view the present stage of urban Nepal is an ideal situation for analysis and identification of the processes and mechanisms responsible for the fertility transition. Most studies of fertility have been carried out in countries where considerable economic development was already under way. The present study therefore is important for two reasons: (1) Urban Nepal is in the early stage of the fertility transition, thus providing mechanisms of change with regard to fertility decline, and (2) urban Nepal has not experienced rapid economic development and modernisation, hence understanding the reasons for fertility change is very important from both the theoretical and policy points of view. The socio-cultural and economic development of Kathmandu provides a unique environment for the study.



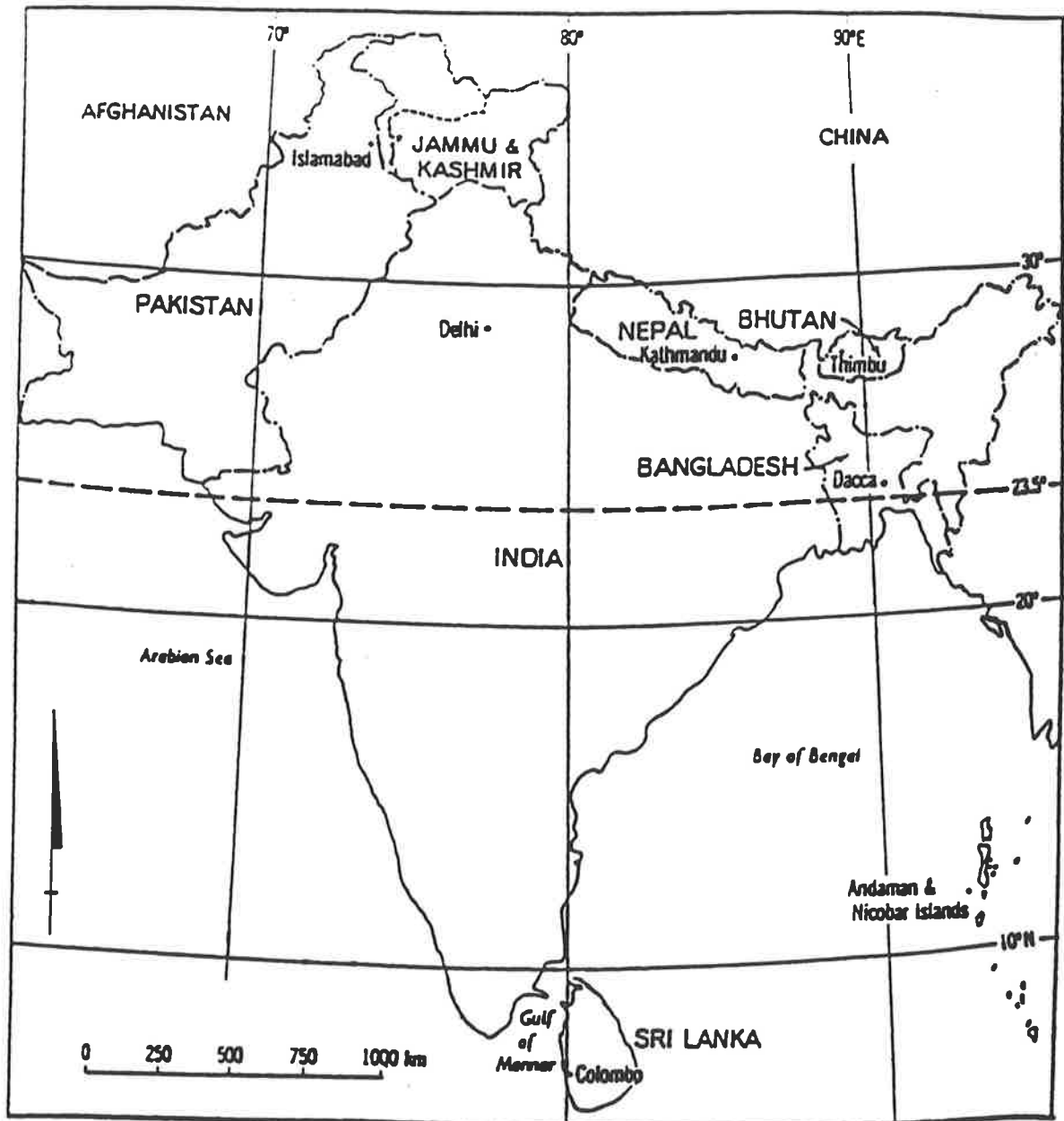
Furthermore, according to transition theory, traditional agrarian populations have high fertility, while modernised, industrial ones tend to have low fertility. But what happens in between is not well explained by theory or defined by empirical generalisation (Hirschman and Guest, 1990:138). Kathmandu is neither a purely traditional, agrarian society nor a highly modernised, industrial society. In such situations it is imperative to investigate changing patterns of fertility from both the theoretical and policy points of view. It is especially important in Nepal where no separate urban studies like the present one have been carried out. As will be discussed later, the process of urbanisation is rapid in Nepal (Sharma, 1989). Therefore separate urban studies are needed in Nepal to understand the characteristics of urban population with regard to demographic processes and social change. It is hoped that the findings of this study will be useful from both the theoretical and policy points of view and help in providing new dimensions to the understanding of fertility behaviour.

The socio-cultural values relating to fertility are very complex in Nepal. In such a situation an understanding of the larger context of Nepalese society is important. Therefore the following background information on the socio-economic and demographic background of Nepal is provided.

### **1.3 Socio-economic and demographic background of Nepal**

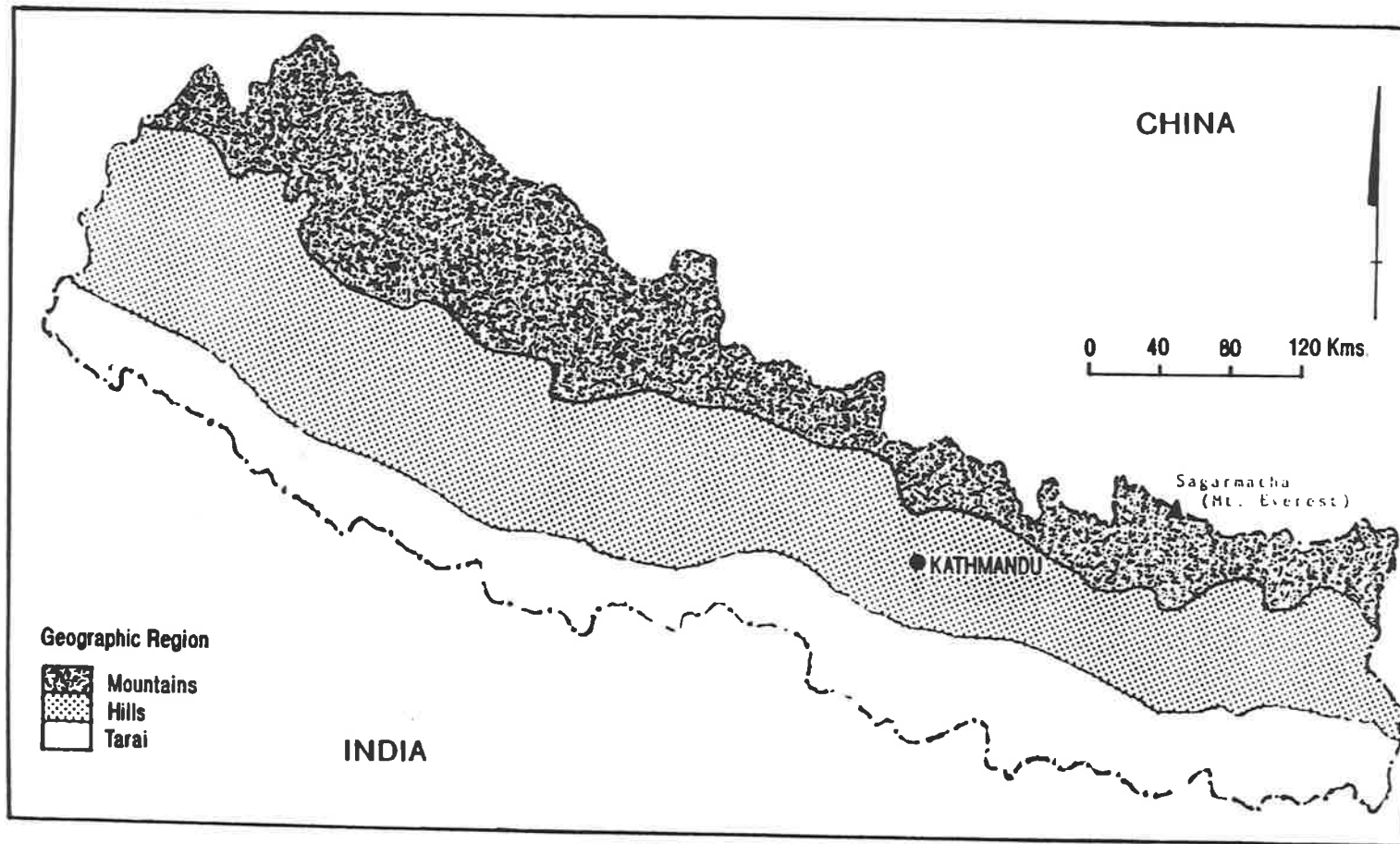
Nepal is sandwiched between the two most populous countries of the world, India in the South, East, and West and China in the North (Figure 1.1). The country is divided into three distinct geographical regions: mountains, hills, and terai (plain) (Figure 1.2). The mountain areas range in altitude from approximately 4,800 meters to above 8,800 meters. The world's highest mountain, *Sagar Matha* (Mount Everest) lies in this region.

Figure 1.1 Location of Nepal



Source: Johnson (1983:24)

Figure 1.2 Regions of Nepal



Source: Gurung (1984:16)

The hill areas which include Kathmandu city, lie at altitudes varying between 600 and 4,800 meters and have been the traditional areas of Nepalese settlement for a long time (Central Bureau of Statistics (CBS), 1987:i). The terai (plains), which include most of the fertile land and forest area of the country is a low flat land belt.

For administrative purposes the country is divided into five development regions, 14 zones and 75 districts. Although the country is small, 147,181 square kilometres in area, the Nepalese society has 50 different languages and as many as 75 ethnic groups (CBS, 1987:iii) which maintain their separate special characteristics.

Nepal is one of the poorest countries in the world. The estimated GNP per capita was US \$ 170.00 in 1992 (World Bank, 1994:162). This figure is lower than the estimated GNP per capita for other South Asian countries in 1992, such as Bangladesh (\$220.00); India (\$310.00); Pakistan (\$420.00); and Sri Lanka (\$540.00) (World Bank, 1994:162). Nepal's economy is based on agriculture and over 60 per cent of its GDP comes from this sector. Moreover, 81 per cent of the labour force is engaged in the agricultural sector and over 70 per cent of Nepal's exports are based on it (CBS, 1987:viii; CBS, 1993a:Table 55).

Although there is a general lack of literature on demographic processes in Nepal (Tuladhar *et al*, 1982:81; Ross *et al*, 1986:180), the history of census taking is long. The first census of Nepal was taken in 1911, but up to the 1941 census information collected was neither reliable nor complete (KC, 1993:2). Systematic, modern censuses began only with the census of 1952/54 but even this failed to meet the strict definition of a census since enumeration did not take place at a single point in time (NCP, 1988:24).

Table 1.1 shows the total population and growth rate of Nepal from 1911 to 1991. Nepal's population has been increasing since the 1930s and not only has the size of the population increased, but so has the population growth rate. The high growth rate observed since the 1970s was mainly due to a substantial decline in mortality and a continuing high level of fertility (CBS, 1987:10). However the annual growth rate of 2.1 per cent during the period 1981 and 1991 is low compared to that in the 1971 and 1981 period (Table 1.1). This may be because of an improvement in the demographic situation of Nepal during 1981 and 1991, because one of the principal factors for the lower growth rate may be changes in the level of fertility. However Joshi (1992:5) from the preliminary analysis of the 1991 census, suspected that there was a significant undercount in the 1991 population census.

**Table 1.1 Population of Nepal by Census Year 1911-1991.**

Year	Population	Intercensal change	Annual growth rate	Doubling time
1911	5,638,749	-	-	-
1920	5,573,788	(-)64,961	(-)0.13	-
1930	5,532,574	(-)4,124	(-)0.07	-
1941	6,283,649	751,075	1.16	60
1952/54	8,256,625	1,972,976	2.30	31
1961	9,412,996	1,156,371	1.65	42
1971	11,555,983	2,142,987	2.07	34
1981	15,022,839	3,466,856	2.66	26
1991	18,491,097	3,468,258	2.10	33

Source: Central Bureau of Statistics, 1987:Table 1.2  
Central Bureau of Statistics, 1993b

Among the three components of population change, the main element in the growth of Nepal is the persistence of high fertility. The total fertility rate in Nepal of around six seems to have remained stable for a considerable period of time and Table 1.2 indicates that fertility decline has remained negligible over the last 20 years. Fertility levels in Nepal are still relatively high compared to other South Asian countries (Table 1.3). The demographic situation of South Asia is compared in Table 1.3. The life expectancy at birth in Nepal is one of the lowest among South

Asian countries (Table 1.3). Table 1.3 also reveals that males in Nepal live longer than the females, which is contrary to the finding in much of the rest of the world, where females outlive males. Except for Sri Lanka, this pattern is seen in all South Asian countries, although the life expectancy of males is estimated to be one year lower than that of females (Table 1.3) and signifies lower social status which females in South Asia enjoy compared to their counterparts in other parts of the world.

**Table 1.2 Total Fertility Rate, Nepal, 1971-1991.**

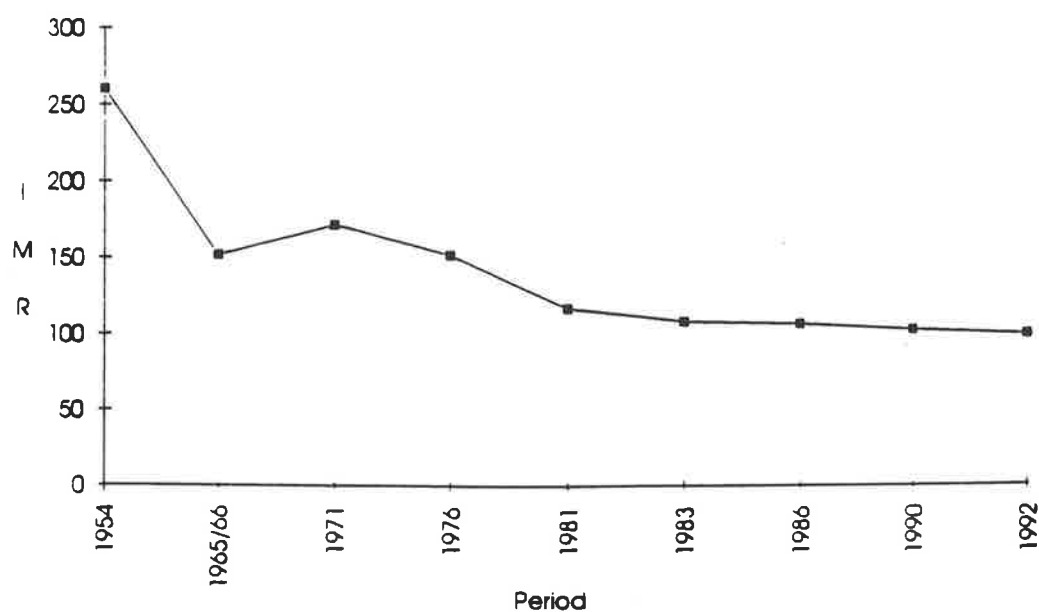
Period	TFR	Sources
1971	6.3	CBS,1982
1976	6.4	CBS,1982
1981	6.3	CBS,1985
1980-85	5.6	Tuladhar, 1989
1986	6.0	FP/MCH,1987
1991	5.7	Joshi,1993

**Table 1.3 The Demographic Situation of South Asia, 1992.**

Countries	TFR	IMR	Life expectancy at birth	
			Female	Male
Nepal	5.5	99	53	54
Bangladesh	4.0	91	56	55
India	3.7	79	62	61
Pakistan	5.6	95	59	59
Sri Lanka	2.5	18	74	70

Source: World Bank, 1994:212-218.

The infant mortality rate (IMR), which is a good indicator of socio-economic well-being and overall health conditions of a population, has shown a gradually declining trend in Nepal (Figure 1.3), although it is still one of the highest among South Asian countries (Table 1.3).

**Figure 1.3: Infant Mortality Rate (IMR), per 1000 Live Births, Nepal.**

Sources: Worth and Shah, 1969; FPMCH, 1977; CBS, 1986; CBS, 1987; FPMCH, 1987; NCP, 1990, The World Bank, 1994.

Although the singulate mean age at marriage has been steadily increasing in Nepal, it is still low (Table 1.4) and hence women in Nepal are exposed to the risk of childbearing from an early age. This tends to increase cumulative fertility if fertility is not deliberately controlled. It is also seen that the difference between the male and female ages at marriage is decreasing. This decreasing difference indicates a trend towards an increasing age at marriage for females.

**Table 1.4 Singulate Mean Age at Marriage, Nepal, 1971-1991.**

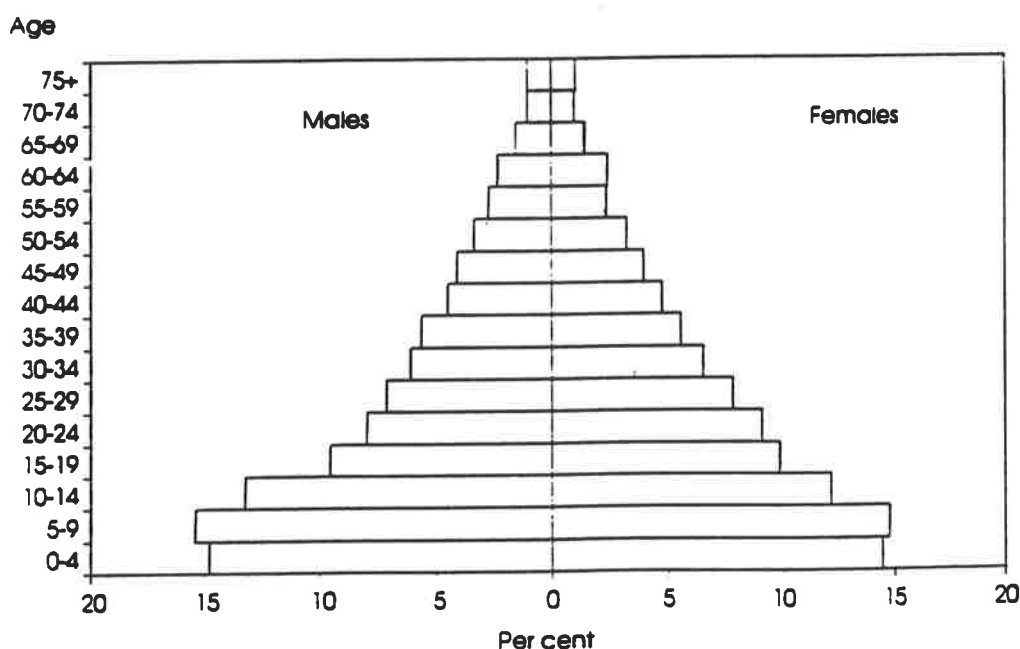
	1971	1981	1991
Males	20.8	20.7	21.0
Females	16.8	17.2	17.8
Difference	4.0	3.5	3.2

Source: GC, 1993:40, Table 4.

The age structure of the population is shaped by the level of fertility, mortality and migration. Examination of Nepal's age pyramid (Figure 1.4) shows that the proportion of population in the age group 0-4 has declined for both sexes which may indicate either a decline in fertility or an undercount of children at the 1991 census.

In a country where the literacy rate is low, there is a high probability of under-reporting of birth. Moreover, a large proportion of younger age structure (Figure 1.4) suggests that there is a potential for future growth of population in Nepal. The overall figure indicates the high fertility of the country because the age structure is influenced mostly by fertility and with high fertility there are more children and a higher dependency ratio.

**Figure 1.4 Population by Age and Sex, Nepal, 1991.**



Source: Central Bureau of Statistics, 1992:Table 4.

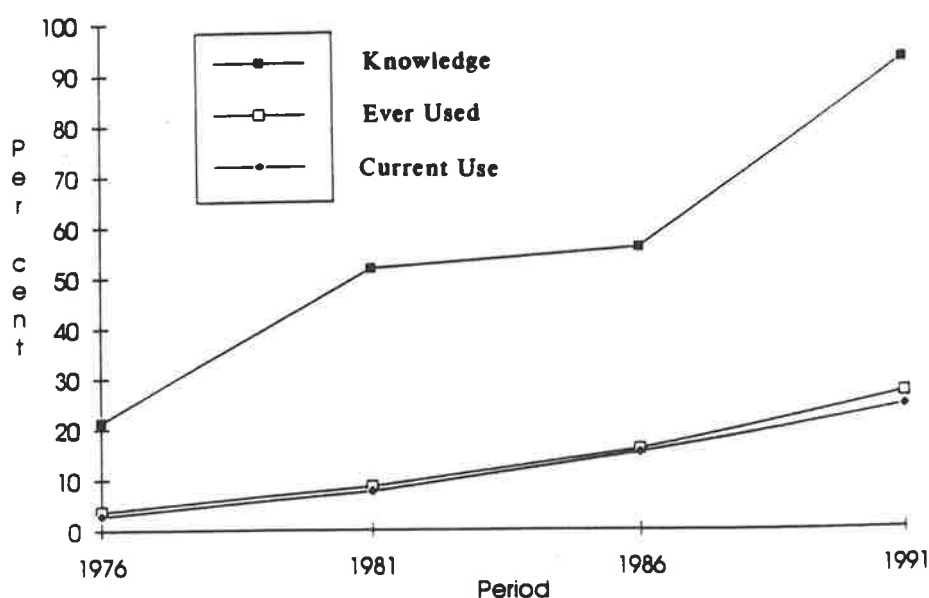


**Table 1.5 Percentage Distribution of Age Group, Nepal, 1971-1991.**

Age group	1971	1981	1991
0-14	40.5	41.4	42.4
15-59	53.9	52.9	51.8
60+	5.6	5.7	5.8
Total	100.0	100.0	100.0

Source: CBS, 1987:61; CBS, 1993b:2

Comparison of broad age groups at different censuses indicates that the proportion of both children under 15 and aged persons over 60 are increasing in Nepal (Table 1.5). Contraceptive use is low in Nepal (Figure 1.5). The overall knowledge of at least one modern method of family planning among currently married women aged 15-49 years has risen to 92.7 per cent in 1991 from 55.9 per cent in 1986 and from 21.3 per cent in 1976. The ever used rate has risen from 3.7 in 1976 to 26.7 in 1991. The ever used rate has risen from 3.7 in 1976 to 26.7 in 1991.

**Figure 1.5 Percentage of Currently Married Women Aged 15-49 with Knowledge, Ever-used and Current Use of Contraception, 1976-1991, Nepal.**

Source: FP/MCH, 1977; FP/MCH, 1983; FP/MCH, 1987, Pradhan *et al.*, 1993.

The current use rate of contraception has risen from 2.9 in 1976 to 15.1 in 1986 and 24.1 per cent for all currently married women in 1991. Although contraceptive use is an increasing trend, it is still very low by comparison with other countries (during 1988-1993) such as Bangladesh (40 per cent) and India (43 per cent), however the use rate of Pakistan was only 14 per cent during 1988-1993 (World Bank, 1994:212).

Nepal is a predominantly agricultural country and migration patterns are closely related to the availability of arable land and access to it. The eradication of malaria in the terai (plain) paved the way for a heavy inflow of migrants from the hills and mountains (KC, 1992:129). Table 1.6 shows the volume of life-time migrants (a life-time migrant is one whose district of birth is different from the district of enumeration) for the census years 1961-1991. It is seen that there has been an increase in life-time migration from 4.6 per cent in 1961 to 8.6 per cent in 1981 and a small decline to 7.9 in 1991. Other studies (CBS, 1987; KC, 1992; KC, 1993) have shown that the majority of migrants originated from the hills, followed by mountain and terai, and that the net losers were the hill and mountain zones, while the net gainer was the terai zone.

**Table 1.6 Life-time Internal Migrants, Census Years 1961-1991, Nepal.**

Year	Native born	Foreign born	Non migrants	Life-time migrants	Life-time migrants as percent of native born
1961	9075376	337620	8652974	422402	4.6
1971	11218535	337448	10711610	506925	4.5
1981	14788800	234039	13516512	1272288	8.6
1991*	18046302	439488	16628096	1418206	7.9

Source: Central Bureau of Statistics, 1987:Table 7.1

\* KC, 1993:Table 9

The population movement from one country to another, i.e. international migration has become a major issue of concern in Asia in the 1990s (Skeldon, 1992:4). In

1952/54 2.3 per cent of the total population was absent from the country for more than six months. Of those who were absent in 1952/54, 79 per cent went to India. The absentee figure was 3.5 per cent of the total population in 1961, out of which 92 per cent had emigrated to India. There was no record of absentee population abroad at the 1971 census (KC, 1993).

In 1981 2.7 per cent of the total population was absent abroad, 93 per cent of which went to India. The absentee population has increased to 3.6 per cent of the total population at the 1991 census and 89 per cent of them went to India. According to the 1991 census, the proportion of absentees going to other countries was 0.76 per cent to South Asia (excluding India), 3.05 per cent to other Asian countries, 0.96 per cent to Arab countries, 0.97 per cent to Europe, 0.33 per cent to North America, 0.09 per cent to other countries and 4.64 per cent were unstated (KC, 1993).

Similarly, the volume of foreign born population in Nepal has been recorded since the 1961 census. In 1961 3.6 per cent of the total population was foreign born, 96 per cent of which were born in India. At the 1971 census 2.9 per cent of the total population was recorded as foreign born in Nepal and 96 per cent of them were India born. In 1981 1.6 per cent of the total population was foreign born and India born constituted 95 per cent of the total foreign born.

Similarly, the 1991 census recorded 2.4 per cent of the total population as foreign born and 95 percent of them were Indians. The above figures suggest that international migration is mainly based in India. The open border to India and absence of passport requirements, facilitates the movement of people going there for manual jobs. This has been the tradition for a long time with Indians also coming to Nepal for manual jobs.

**Table 1.7 Percentage Distribution of Population and Land by Geographical Regions, 1971-1991, Nepal.**

Geographical regions	Land	1971	Population 1981	1991
Mountains	35.2	9.9	8.7	7.8
Hills	41.7	52.2	47.7	45.5
Terai	23.1	37.6	43.6	46.7
Total	100.0	100.0	100.0	100.0

Source: CBS, 1987:18; CBS, 1993a

Table 1.7 shows the percentage distribution of land and population by different geographical regions. The uneven distribution of population according to land is clearly evident. The hills area covers the largest share of land and accommodated 45.5 per cent of the total population in 1991. The terai shares the smallest land area among the three regions of the country, but contained 46.7 per cent of the total population in 1991. Table 1.7 indicates an increasing population pressure in the terai region of Nepal.

The spread of education, regarded as one of the important agents of social change, is very slow in Nepal (Table 1.8). Realising the fact that education has an important relationship with different factors including fertility and family planning, efforts have been made by the government to educate the maximum number of people possible during different plan periods (Shrestha, 1993:95). However, it is very disappointing to note that in spite of these efforts only 39.6 per cent of the population were classified as literate by 1991. Even though the literacy rate of females is also increasing, it is still very low in Nepal (Table 1.8). Poverty and traditional socio-cultural systems may be two of the main reasons for these low rates, because female children are engaged in household work instead of attending school.

**Table 1.8 Literacy Rate of Population Aged 10 Years and Above, Nepal.(percentage)**

Sex	1952/54	1961	1971	1981	1991*
Male	9.5	16.3	24.7	34.9	54.5
Female	0.7	1.8	3.7	11.5	25.0
Both sexes	5.3	8.9	14.3	23.5	39.6

Note: \* Literacy rates for six years and over.

Source: CBS, 1987:128; CBS, 1992:Table 2.

Although there are 50 different languages in Nepal, Nepali is the official language and the *lingua franca* in educational institutions of the country. Nepal is the only Hindu Kingdom in the world and Hinduism is the state religion. According to the 1991 census, the majority of the population is Hindu (86.2 per cent), followed by 7.8 per cent Buddhists, 3.8 per cent Muslim and 2.2 per cent others (CBS, 1992:28). Although the majority of the people are Hindu, they respect the beliefs of other religious groups. Politically, Nepal has a constitutional monarchy and multi-party system, after democracy was restored into the country in early 1990.

#### **1.4 Urbanisation in Nepal**

Data on urbanisation have been recorded in Nepal since the 1952/54 census. At the 1952/54 census, 2.9 per cent of the total population lived in urban centres and the corresponding figures for 1961, 1971, 1981 and 1991 were 3.6, 4.0, 6.4 and 9.2 per cent respectively showing that Nepal is one of the least urbanised countries in the world. Since three urban centres were added after the 1991 census, the urban percentage has reached 12 per cent in 1992 (World Bank, 1994:222). The corresponding proportions for other South Asian countries in 1992 are presented in Table 1.9.

**Table 1.9 The Percentage of Urban Population and Average Annual Urban Growth Rates of Countries in South Asia.**

Countries	Percentage of total population 1992	Average annual growth rate (%)	
		1970-80	1980-92
Nepal	12	8.0	7.9
Bangladesh	18	6.8	6.2
India	26	3.9	3.1
Pakistan	33	4.4	4.5
Sri Lanka	22	1.5	1.5

Source: World Bank, 1994:222

Although the level of urbanisation in Nepal is low, the rate of urban growth has increased in recent years (Table 1.9). These figures suggest that the urbanisation process in Nepal is rapid. Kathmandu has been the capital city of Nepal for a long time. "By the 18th century, elements of a genuine urban economy seem to have been in existence in the Kathmandu Valley" (Sharma, 1989:7). There is no urban centre in the mountain region of the country, while there are 12 urban centres in the hills and 24 in the terai at present in Nepal (KC, 1993:8).

### **1.5 Description of Kathmandu city**

The aim of the present section is to establish the context in which the fertility change analysed in this study occurs. This is necessary because fertility behaviour of couples is shaped by the social, cultural and economic contexts in which it occurs. Context in this sense, means the socio-cultural background and economic conditions of the study population and the extent to what these are changing (McNicoll, 1980; Hull, 1987). Unfortunately, there has not been a great deal of social and economic research published about Kathmandu city. However, available literature and information gathered during fieldwork are assembled here to establish the context of fertility change in Kathmandu city.

Kathmandu, the capital city of Nepal lies in the hills region - one of three distinct geographical regions of Nepal, which include the mountains, hills and terai (Figure 1.2). According to the 1991 census, the hills region includes 45.5 percent of the total population of Nepal and is important in Nepalese society and culture because it is the heartland of traditional Nepalese settlement (CBS, 1987).

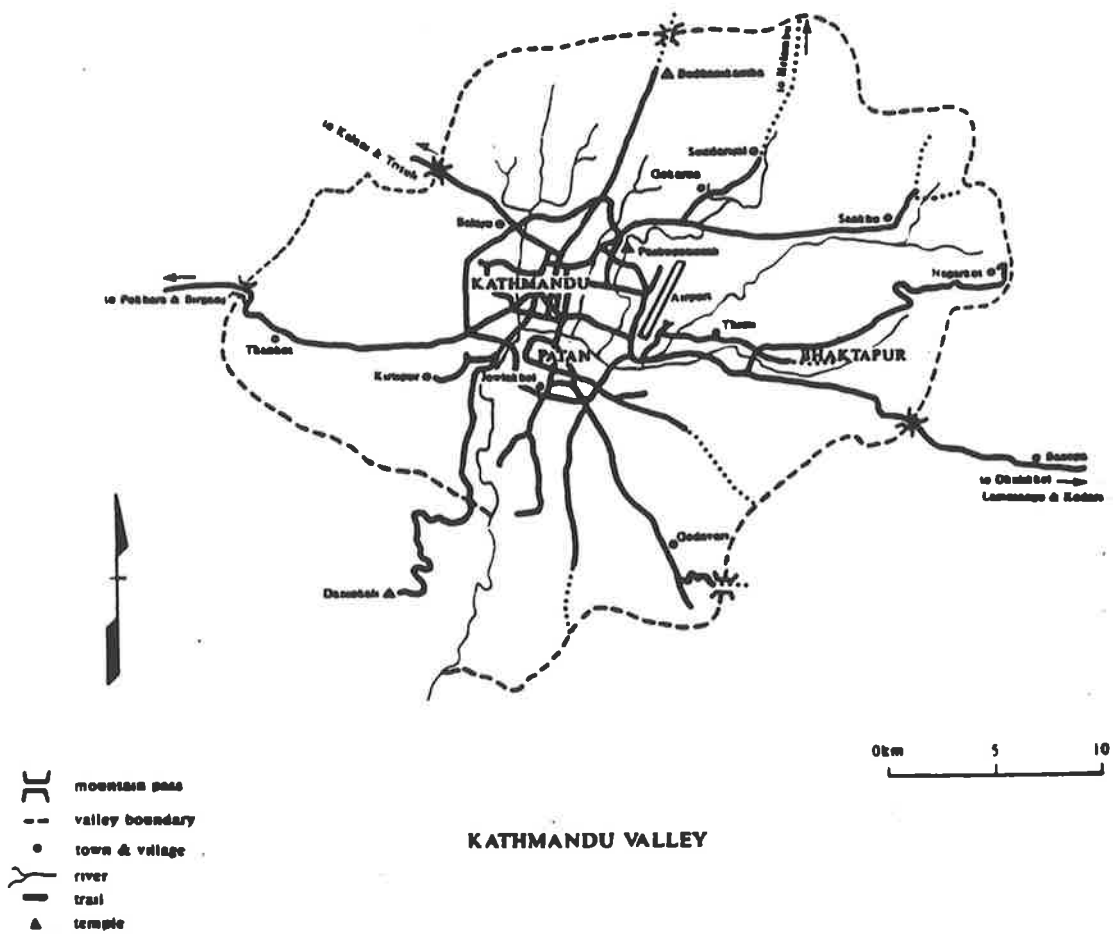
The Kathmandu Valley has three main cities of great historic and cultural interest: Kathmandu, Patan and Bhaktapur (Figure 1.6) and is surrounded by green hills and terraces with the snow capped Himalayas in the distance. Kathmandu city is located approximately 4500 feet above the sea level.

By the twelfth and thirteen centuries, Kathmandu city acquired some semblance of urban character (Sharma, 1989:8) and since the unification of Nepal in 1769, Kathmandu became the capital city. The preeminence of Kathmandu in the political and socio-economic life of Nepal has remained unsurpassed since then. Kathmandu has been the centre of power and decision making in Nepal and it has also been the focus of many people's aspirations for urban opportunities.

As the seat of political and administrative power, Kathmandu also has had the benefit of rapid development in many spheres compared with other parts of Nepal. Kathmandu remains the prime location of white collar employment and the major concentration of the newly emerging middle class in Nepal (Sharma, 1989:23).

Kathmandu is also a major trading centre for people from different parts of Nepal and is the main point of contact with other countries. Moreover, Kathmandu is a main place of innovation in terms of family planning (Banister and Thapa, 1981) and is a major centre for contraceptive availability.

Figure 1.6 Kathmandu Valley and the Location of Kathmandu City



Source: Raj, 1978:99



Nepal is still overwhelmingly an agricultural country, however there have been great changes in the economic activities in Kathmandu city. The economic base of Kathmandu city mainly depends upon the non-agricultural sector and 93 per cent of the total economically active populations are engaged in activities other than agriculture. This figure is higher than for the total urban population (75.6 per cent) and the total population of the country (18.6 per cent) (CBS, 1993a:Table 55). The higher percentage engaged in the non-agricultural sector in Kathmandu is not only due to a decline in the area of cultivated land in and around the capital, but also due to the increasing availability of other jobs in both the formal and informal sectors. Most of the nation's government offices are located in Kathmandu city and it is the major business centre of Nepal. It is to be noted that occupational change in Kathmandu did not go hand in hand with the growth of secondary (manufacturing) industries. Only 7 per cent of the non-agricultural labour force in Kathmandu were engaged in manufacturing industries, and the majority are engaged in administrative services and sales workers (CBS, 1993a), indicating the strength of the informal as well as the formal sector. Accordingly, Kathmandu is largely a non-industrial city.

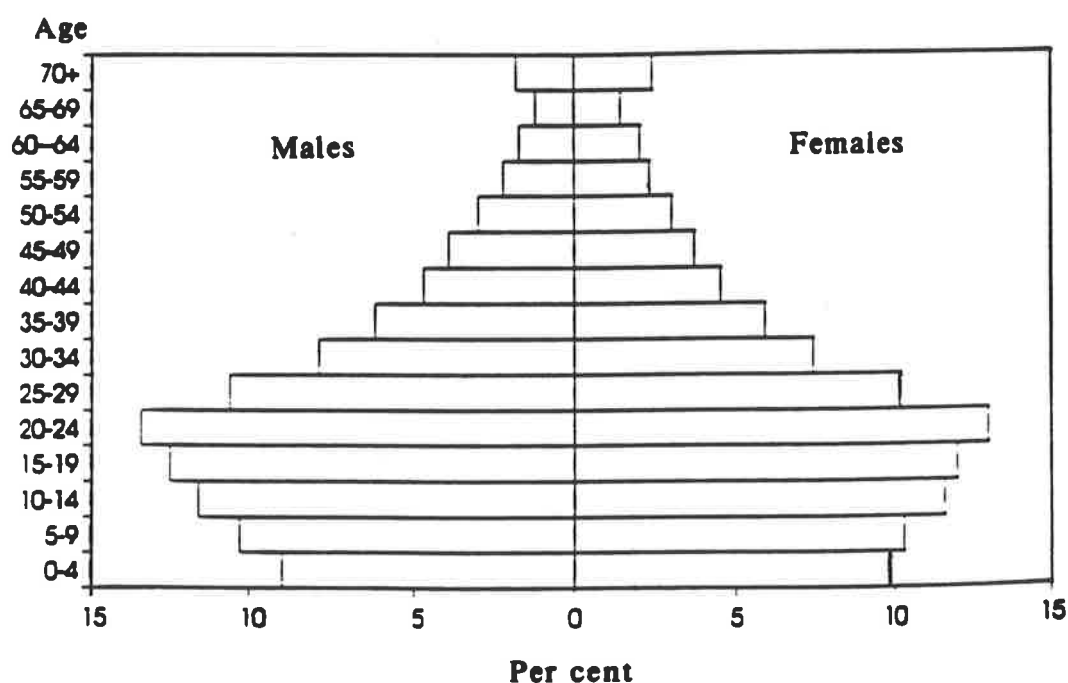
Only 9.2 per cent of the total population of Nepal live in urban areas and the total population of Kathmandu city constitutes 25 per cent of the urban population of the nation (CBS, 1993b:1). Table 1.10 shows the population and growth rate of Kathmandu city and indicates higher annual growth rates than the national average shown in Table 1.1. The growth rate is mainly shaped by the pattern of fertility, mortality and migration. The small proportion of children in the age structure (Figure 1.7) suggests that the increased growth rate is not so much because of high fertility in Kathmandu, but because of in-migration.

**Table 1.10 Kathmandu City, Population and Rate of Growth by Census Year, 1971-1991..**

Population	Average annual			Growth Rate	
	1971	1981	1991	1971-81	1981-91
Total Population	150402	235160	421258	4.5	5.8
Male	81484	129526	222735	4.6	5.4
Female	68918	105634	198523	4.3	6.3

Source: KC, 1993:7 and CBS, 1993a.

**Figure 1.7 Population by Age and Sex, Kathmandu City, 1991**



Source: CBS, 1993a:Table 8

Relatively lower fertility and mortality and a higher rate of migration of working age adults to Kathmandu tend to make the age composition of Kathmandu (Figure 1.7) distinctly different from that of Nepal (Figure 1.4). Sharma (1989:8) states that the higher growth rate of Kathmandu is due to its growing significance as the

political, administrative and cultural capital of Nepal. He further reports that

the phenomenal growth of Kathmandu has been the result of the growth in tourism, consequent developments in infrastructure and services, the construction of ring road circling the cities of Kathmandu and Patan, the rise in bureaucracy as well as ancillary employment opportunities have all contributed to the accelerated pace of in-migration as well as immigration to Kathmandu (Sharma, 1989:8).

The high growth rate of the capital has important socio-economic and demographic implications. The high growth rate has resulted in the economically active population making up a larger share of the population than for the nation as a whole (Table 1.10). Accordingly, Kathmandu has a lower percentage of children and older persons compared with the national level and hence a lower dependency ratio.

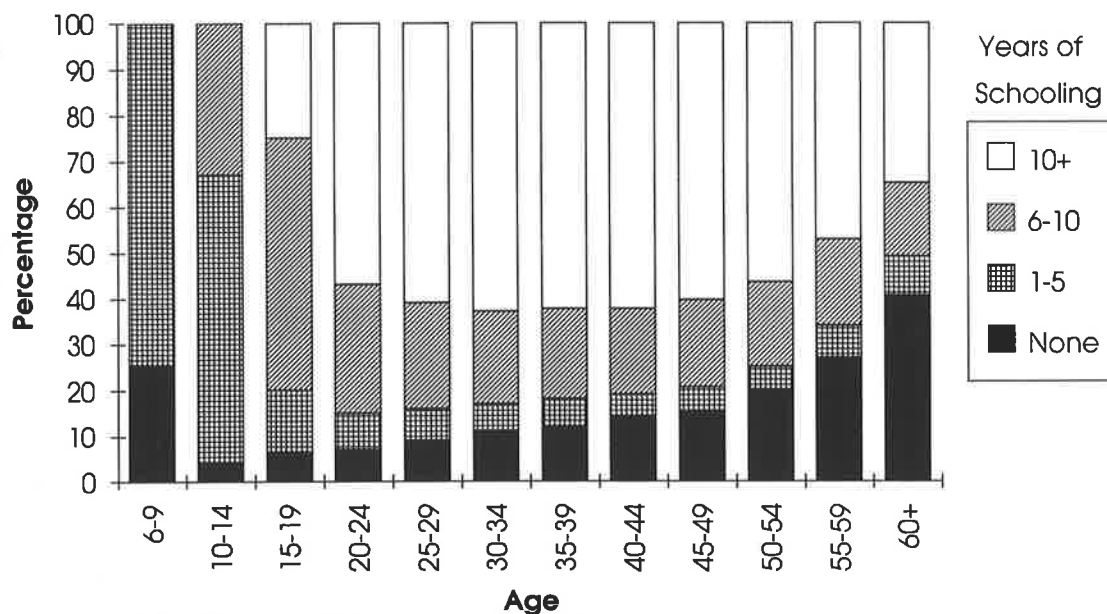
**Table 1.11 Percentage Distribution by Age Group, Kathmandu City and Nepal, 1991.**

Age group	Nepal	Kathmandu
0-14	42.4	31.5
15-59	51.8	63.2
60+	5.8	5.3

Source: CBS, 1993a; CBS, 1993b.

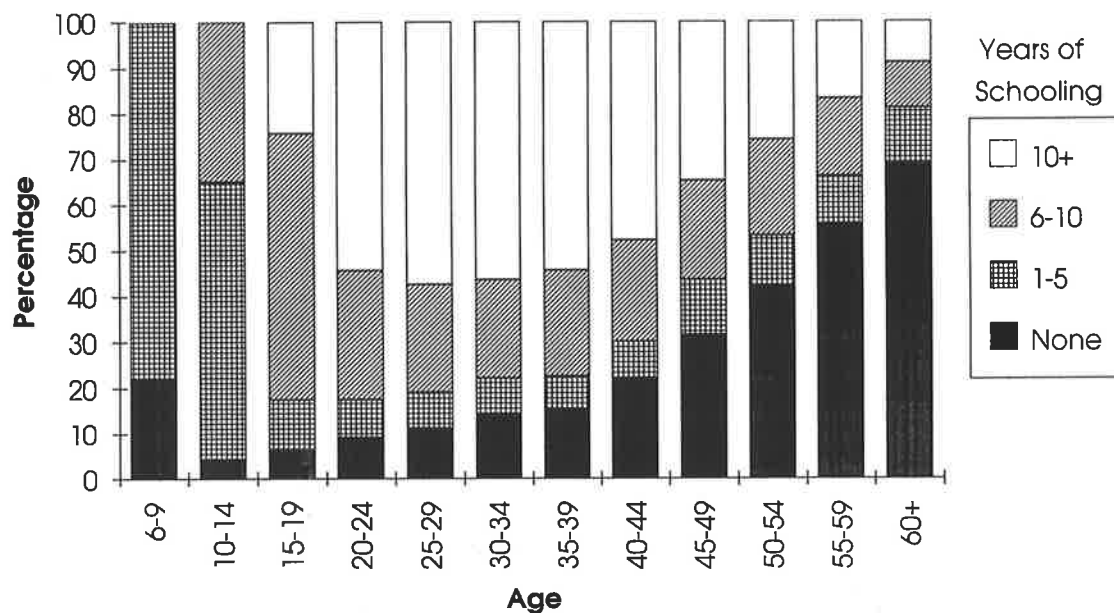
Although age selective migration in urban areas reduces the dependency ratio, it puts pressure on jobs and educational opportunities (Hugo, 1992:39). The higher sex ratio of Kathmandu (112) compared with Nepal as a whole (99.5) (CBS, 1993a) also reflects selective in-migration of males from rural areas. Not only does this high growth rate pose problems in housing and health in Kathmandu, but it also creates unemployment and underemployment in the city. It was observed during fieldwork in Kathmandu that due to economic hardship it was not only people who did not have permanent jobs who wanted to work in the informal sector, often for low wages, but also people who had permanent jobs in the formal sector were compelled to work for extra money in the informal sector to run their households.

**Figure 1.8 Percentage Distribution of Male Population Aged 6 Years and Over by Educational Attainment (Level Passed) and Age, Kathmandu.**



Source: CBS, 1993a:Table 55.

**Figure 1.9 Percentage Distribution of Female Population Aged 6 Years and Over by Educational Attainment (Level Passed) and Age, Kathmandu.**



Source: CBS, 1993a:Table 55.

Although the majority of Kathmandu people are not economically better off, they are better off with regard to opportunities and urban facilities compared with rural

people. However, being the capital city of Nepal, Kathmandu has greater opportunities for higher educational attainment (Figures 1.8 and 1.9). One of the reasons for this higher educational attainment may be the greater availability of schools and campuses (MSS/MOE, 1993). The availability of greater educational opportunities, the migration of educated rural people to Kathmandu and greater awareness of the Kathmandu population regarding education have contributed to the higher educational level found in Kathmandu. Moreover, the wider network of communications available in Kathmandu city, especially television, may have added to the momentum of the ongoing social transformation in the capital. Fifty one per cent of the sample households have either colour or black and white television and eighty nine per cent of the households have radio in Kathmandu which has greatly contributed to the diffusion of new ideas. The number of journals and magazines, both weekly and daily currently being published in Nepal are 226, and 87 of these are published in Kathmandu (HMG/N, 1993:48), indicating the greater availability of mass media in the capital. Moreover, frequent contact with foreigners in Kathmandu and the emigration of Kathmandu people to many parts of the world has also brought about new ideas and aspirations.

The transformation of non-familial, non-agricultural labour opportunity is one of the reasons for the dramatic social change which resulted in the demographic transition from high fertility to smaller family size (Notestein, 1945; Davis 1957; Freedman, 1961-62, Caldwell, 1982; Fricke *et al*, 1990; Axinn 1992a, 1992b; 1993). Fricke *et al* (1990) and Axinn (1992a, 1992b; 1993) report that due to increased children's schooling, social change is under way in rural areas which are close to cities. Therefore, higher educational attainment of Kathmandu people may have brought about social change in a variety of way. As Caldwell (1993:314) points out, modern schooling is the key for these social changes. Moreover, urban people will have progressive and innovative, modern attitudes to change (Hugo,

1992:3). Higher educational levels and mass media have facilitated people's understanding of new ideas and aspirations and modifications of their life style. The availability of non-farm employment, increased educational facilities and mass media may have created a favourable climate for rapid social change in Kathmandu. The extent of social change that has occurred in Kathmandu is remarkable when compared with other parts of the country (Sharma, 1989:8).

Many aspects of urban living exert a direct or indirect influence upon fertility behaviour. It is therefore to be anticipated that if fertility decline has begun in Nepal at all, it will be most evident in Kathmandu. Examination of the major contextual feature of Kathmandu suggests that the conditions necessary for changes in traditional family relationships may be present in Kathmandu, thus fulfilling one of the most important necessary conditions for fertility change (Caldwell, 1982).

## **1.6 Organisation of the thesis**

This thesis consists of nine chapters. The main aim of the present chapter has been to justify and outline the objectives of the study. The next chapter is devoted to understanding the mechanisms of fertility change. In this context, the next chapter contains a review of the theories of fertility change and presents a conceptual framework modified from Freedman (1987b) to guide the analysis of the present study.

Chapter Three presents the methodology employed for data collection. The purpose of the chapter is to describe the strategies and processes of data collection in Kathmandu.

The main empirical analyses of the thesis are presented in Chapter Four to Chapter Eight. In Chapter Four, the trends and timing of age at marriage are described. The main aim of this chapter, as mentioned in the objectives, is to examine the changing

patterns of marriage in Nepal in general and in Kathmandu in particular, which have some implications for fertility behaviour. The transition in the value of children in Kathmandu is presented in Chapter Five. The aim of this chapter is to examine whether the role and value of children, which are some of the determinants of fertility in Nepal, are changing in Kathmandu.

A detailed examination of the fertility regulation behaviour of the study population is made in Chapter Six. The aim of the chapter is to analyse and examine whether the study population is exhibiting deliberate fertility control behaviour, which is one of the major reasons for the fertility transition.

Chapter Seven describes fertility differentials in Kathmandu. In Chapter Eight, the fertility transition in Kathmandu is described. The aim of these chapters is to understand whether Kathmandu couples are deliberately controlling their fertility and to document that the fertility transition is underway in Kathmandu city.

The last chapter of the thesis provides firstly, a summary of the major findings with respect to the objectives of the study. Secondly, prospects for fertility transition in Nepal are discussed. Finally, policy implications are discussed which are followed by recommendations for future research.

## **1.7 Conclusion**

As mentioned earlier, in a country like Nepal, where the population are largely illiterate and woman's status has been directly dependent on her fertility, it is not possible to say with a high degree of certainty that fertility has started to decline. However, we have justified that if such a decline had occurred in Nepal it would be most apparent in the major urban centre, Kathmandu. With this view, an effort is made to establish the onset of the fertility transition in Kathmandu, the capital city of Nepal. Past studies also have shown that the fertility transition was initially

concentrated in major urban centres and among the more educated groups (Carlsson, 1966; Caldwell and Caldwell, 1978; Cleland and Wilson, 1987; Fialova *et al*, 1990).

The main objectives of the study are to analyse and to explain the mechanisms causing change in fertility behaviour of Kathmandu couples by investigating socio-economic and cultural change with regard to fertility behaviour. To understand the mechanisms of fertility changes the next chapter contains a review of the theories of fertility change and presents a conceptual framework to guide the analysis of the study.





## **CHAPTER TWO**

### **THEORIES OF FERTILITY CHANGE AND CONCEPTUAL FRAMEWORK**

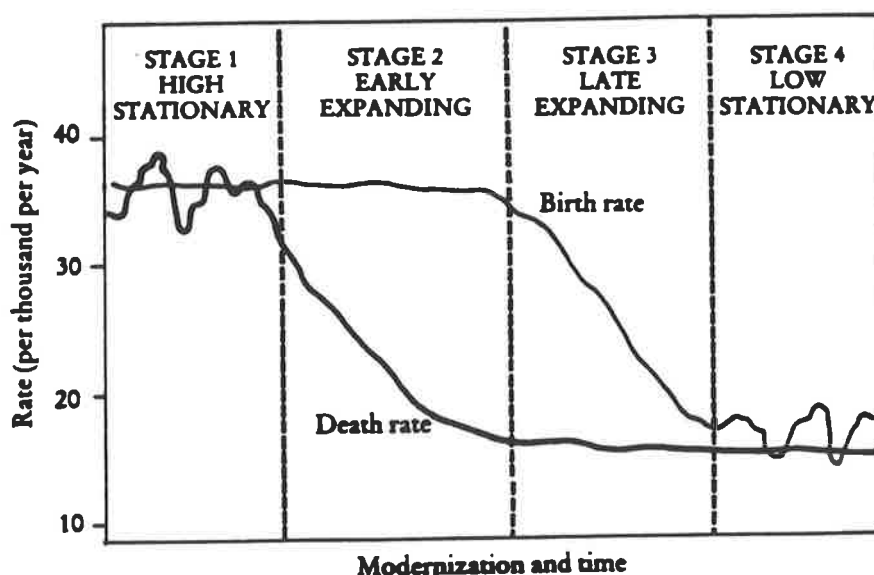
#### **2.1 Introduction**

The present chapter provides the theoretical basis upon which the objectives of the study, presented in the previous chapter, will be pursued. This chapter reviews a range of theories relating to fertility change and provides the theoretical framework which underlies the present study. On the basis of the review of theories, the conceptual framework of Freedman (1987b) is considered to be the most appropriate to the Kathmandu situation and is hence modified and adopted in the study. This conceptual framework incorporates the central ideas of a number of different theories of fertility change and summarises the impact of a range of different variables upon fertility. Reviewing the central ideas of the major theories is a necessary precursor to the analysis and presentation of the empirical evidence of fertility decline (Cleland and Wilson, 1987:6) which is the subject of later chapters. This chapter begins with a review of demographic transition theory and associated wealth flow theory followed by a consideration of the micro-economic theories of fertility. The next section discusses the value of children approach which is followed by an examination of the sociological framework of fertility. Bongaarts' proximate determinants framework and innovation-diffusion theory are also discussed. Finally, a conceptual framework derived from Freedman (1987b:774) is modified and discussed, followed by some concluding remarks.

## 2.2. Demographic Transition Theory

The most widely discussed theory of fertility change in demography is the demographic transition which was first proposed by Thompson (1929) but was first given full status of a theory by Notestein (1945). The original formulation was basically a descriptive interpretation of the transformations which took place in nineteenth century Europe (Thompson, 1929). This saw fertility and mortality passing through a definite pattern of sequential changes as modernisation, industrialisation and urbanisation processes proceeded. This pattern of shift in fertility and mortality levels sees population growth pass from a high equilibrium to a low equilibrium situation as is depicted in Figure 2.1.

**Figure 2.1: The Classical Demographic Transition Model**



Source: Hugo, 1981

However, this conceptualisation of the demographic transition could not be considered a theory until the work of Notestein (Hugo, 1981:3). Notestein (1945) was the first to give an explanation to the patterns described in Figure 2.1. As a result, the demographic transition theory came into a prominent position in the field

of population study. Notestein's (1945) intention was to identify the mechanisms of demographic change which were connected with economic development. The classical statements of the demographic transition recognised four connected phases in the sequence of changes in fertility and mortality (Figure 2.1). In the first stage, known as the 'high stationary' phase, both birth and death rates are high, but with fluctuating mortality rates and hence overall population growth is slow. In the second stage (i.e. 'early expanding') fertility remains at a stable high rate while mortality starts to decline resulting in a high level of natural increase and substantial population growth. The decline in death rates is a result of modernisation. The third stage (i.e. 'late expanding') is characterised by stabilisation of death rates at a low level and the beginning of a reduction in the birth rate. In the fourth stage (i.e. 'low stationary phase') in which both birth and death rates remain at low levels with some fluctuations in fertility and a return to an "equilibrium" situation occurs.

Notestein (1945:39-40) argued that in a traditional society fertility is kept high by high mortality. With the onset of modernisation mortality levels fell rapidly because of economic and social changes including rising levels of living, better nutrition, education and controls over diseases. However, fertility levels responded slowly to modernisation, but ultimately began to decline through the widespread use of contraception due to the impact of growing individualism and rising level of aspirations developed in urban living. Couples in economically advanced societies reduced the number of their children "in response to drastic change in social and economic setting that radically altered the motives and aims of people with respect to family size" (Notestein, 1945:40).

With respect to high fertility in pre-modern societies, the theory maintains that the omnipresence of high mortality in these societies resulted in social systems that were conducive to high fertility. Successful (in terms of their survival) societies

were those in which 'religious doctrine, moral codes, laws, education, community customs, marriage habits and family organizations (props) are all focused towards maintaining high fertility'. When mortality fell, these 'props' were less necessary. Furthermore, urban industrial society was destroying the 'props'. The explanation of fertility change given by Notestein referred to the increased chance of individual advancement, improved health and education, expanding opportunities for women outside of the home, and the weakened importance of the traditional family (Notestein, 1945:39-40).

Davis (1957:88-95) categorised pre-modern societies as being 'familistic societies', in which kinship was the primary basis of social organisation and he explored factors that kept under-developed areas at high fertility levels even though many countries had experienced a sharp decline in mortality. According to him, institutional factors such as family and marriage were responsible for the maintenance of high fertility in developing countries. In particular, early and universal marriage and large family size were considered to be the crucial institutional factors used by pre-industrial societies to maintain a high level of fertility in the face of heavy and fluctuating mortality (Davis and Blake, 1956:215-219; Freedman, 1961-62:48-50). Non-familial activities, increasing standards of living and higher average levels of education increased the costs of children. New aspirations, changes in the functions of the family and new perceptions of costs and benefits of children were the consequences of developmental changes that led to the demand for fewer children (Freedman, 1982). Freedman further adds that these changes were due to greater literacy and the development of effective communication and transportation networks. The world wide communication systems incorporated ideas that transcended family and local community. The new perceptions and aspirations also may have come from interdependence with the world wide communications systems.

Most of the writings on theories of fertility change emphasise the structures and conditions of a society as an important element affecting fertility (Davis and Blake, 1956; Freedman, 1987b; McNicoll, 1980; Caldwell, 1982:157-179). The central assumption of classical demographic transition theory that industrialisation is a pre condition for fertility change, has been criticised by many writers with the use of empirical evidences from developed and developing countries (Caldwell, 1982; Coale, 1975; Van de Walle and Knodel, 1980:32-33). The demographic transition theory is linked to the experience of Western countries whose historical demographic trends were themselves far from uniform. The detailed study of the demographic transition in Europe showed that countries with the same levels of development had different timing in their transition to lower fertility and it was not possible to find a common threshold level of socio-economic development when fertility began to fall (Coale, 1975:351-352; Van de Walle and Knodel, 1980:32-33). It was also found that fertility decline occurred within the limits of common language, religion and customs rather than with similar socio-economic characteristics and that "cultural boundaries impede the flow of information and the process of diffusion" (Van de Walle and Knodel, 1980:34). Moreover in France, fertility began to decline before the spread of industrialisation and urbanisation, and prior to or simultaneously with the decline in mortality (United Nations, 1973; Tietelbaum, 1975).

This theory cannot be applied to developing countries because of the vast variations in socio-economic conditions. The empirical evidence suggests that in contemporary developing countries different variations in the timing and tempo of fertility decline have been found. For example, fertility decline has occurred in a number of developing countries with only limited developmental change and with a poor, rural population such as Sri Lanka, Kerala (India), China, Thailand (Freedman, 1979; Tietelbaum, 1975). Fertility decline therefore not only depends

on economic change and new ideas but also depends on socio-cultural contexts. In societies where women have a low status, lack of education and are highly segregated, they are less likely to accept new ideas (Freedman, 1975). Freedman (1975:15) says

that motivation for fertility decline may come from small subsets of developmental changes, without the high standard of living, urbanization and other hallmarks of the Western industrial complex.

This evidence suggests that demographic transition theory could not clearly specify the conditions initiating the timing of fertility decline. Therefore the assumptions of the classical demographic transition theory are debatable.

In his discussion of fertility reduction in the developing countries, Caldwell (1976) modified the demographic transition theory and proposed a restatement of the theory. Caldwell's contribution to the theories of fertility and demographic transition comes from his intergenerational net wealth flow theory. According to Andorka (1978:24)

Caldwell dismisses two basic assumptions of the demographic transition theory (1) that the poor underdeveloped populations are brutish and behave in an irrational way, and (2) that industrialization and urbanization are preconditions of the demographic transition. On the contrary, he states that (1) in societies of every type and in all stages of development, fertility behaviour is rational and (2) the decline of fertility is the consequence of an emotional and economic nucleation of the family which is only loosely connected to economic development.

Fertility decline is a result of the reversal of net intergenerational wealth flows in favour of children, which then makes it economically irrational to have many children. Caldwell (1982:115-156) identifies two fertility regimes: traditional family based production with high fertility, and capitalist production with low fertility. Each regime is associated with its own mode of production, pattern of intra-familial relations, pattern of intergenerational wealth flows and cultural superstructure.

Caldwell declares that the familial mode of production never favoured highly controlled fertility. In both primitive and traditional societies where there is no economic benefit from low fertility, high fertility helps the security and stability of its members, particularly the head of the family. In such societies Caldwell's intergenerational wealth flow theory states that the direction and magnitude of net wealth flow is from the younger to the older generations and a reversal of flow occurs at a great divide which leads to fertility decline. The great divide separates the situation where there is stable low fertility and no economic benefit from high fertility and the wealth flow is from older to younger generations. Caldwell (1982) claims that a reversal in the direction of this flow is the driving force behind fertility decline. He then addresses the question of what actually causes this reversal in the direction of wealth flows and initiates the transition from high to low fertility. He argues that the reversal in the direction of net intergenerational wealth flows is a result of the changes in the traditional systems of family relationships.

In his explanation of fertility reduction in developing countries Caldwell modified the classical transition theory by combining the concept of the demand for children with the cultural transmission of western ideas and values such as the nuclear family pattern, which ultimately undermines the demand. He maintains that the crucial change in family structure from the extended type to the nuclear type can occur before industrialisation and urbanisation.

Fertility decline in the Third World is not dependent on the spread of industrialization or even on the rate of economic development. It will of course be affected by such development in that modernization produces more money for schools, for newspapers, and so on; indeed, the whole question of family nucleation can not arise in the non-monetized economy. But fertility decline is more likely to precede industrialization and to help bring it about than to follow it (Caldwell 1976:358).

Caldwell claims that the social context of actions must be understood in order to understand their rationality. Caldwell (1980, 1982) postulates that changes from familial production to capitalist production, mass education and westernisation are



important factors in the reversal of the intergenerational wealth flow in favour of children and hence low fertility.

The spread of education makes children costly, while at the same time the widespread diffusion of western ideology through the schooling of children, changes the morality of the family. Caldwell (1982:301-330) claims that mass education is a fundamental determinant which will bring fertility from high to low levels because it reduces the child's potential for work, increases the cost of children, creates dependency both within the family and within the society, speeds up cultural changes and creates new culture. In addition, the school serves to propagate western middle class values.

Caldwell further points out that demographic change is unlikely to penetrate if the movement toward mass schooling is restricted to males only and formal schooling, not just literacy, is one of the causes of fertility transition. One generation of mass schooling appears to be sufficient to initiate fertility decline. He argues that mass education will probably have a much greater impact on the family in developing countries than it did in western countries.

Freedman (1979:69-70) agreed with Caldwell about the major role of the dissemination of western ideas in motivating a desire for smaller family size. But on the basis of evidence from Taiwan, where family planning acceptance rose and fertility fell rapidly to low levels for largely economic reasons. He argues that adoption of the western nuclear family pattern and the abandonment of traditional family values is not always a pre condition for fertility decline. However, in his recent writings, Caldwell (1993:299-316) emphasises the importance of the government's role regarding contraceptive availability and accessibility. This is one of the important factors which initiates and accelerates fertility decline in Asian countries. Caldwell (1993:311) therefore suggests on the basis of the Asian

experience that "any adequate demographic transition theory must now include three separate elements: socio-economic change, the availability and legitimization of contraception, and the pressure exerted by the government". These statements suggest that efforts have been made to update the theory of demographic transition in the light of the experience of less developed countries.

Hawthorn (1978) and Nag (1978) argue that 'westernisation' can not always be credited with bringing about fertility declines, nor can all fertility decline be traced to 'westernisation'. Changes in values and ideas attributed by Caldwell as reasons for fertility decline can neither be generated nor sustained without socio-structural change (Thadani, 1978:460).

According to the "wealth flow" theory the extended kin network causes the persistence of high fertility. However, Cain (1982:159-175) claims that the extended kin network should lead to fertility decline, because it provides alternatives to children as a source of old age security. Cain (1982) holds the view that Caldwell has underestimated the variability of the kinship structure with regard to production, consumption, credit and insurance in different settings.

Schultz (1983:161-168) pointing out the shortcomings of Caldwell's theory, stresses that Caldwell's cost of children and intergenerational transfer omits the consumer benefits of children to parents and neglects changes in the marginal price of children as distinct from the market price of a child. He says the price of a child must be determined independently of the parents' behaviour and not by the parents' choice. He raises the question; how the westernising cultural influences bring about fertility decline and criticises the absence of testable hypotheses and lack of empirical support in Caldwell's theory.

The unanswered puzzle in Caldwell's 'theory' is what explains the strength of parent demand for their children's schooling among so many of the world's poorest people. I find few suggestive answers to this question..., and fewer hypotheses that appear testable (Schultz, 1983:165-166).

Economic development and modernisation were the reasons for fertility decline in the classical demographic transition theory. However, in Caldwell's wealth flow theory emphasis is given to westernisation, western domination of school, and international network of mass media as the reasons for fertility transition. In most developing countries fertility decline started before economic modernisation. It is hypothesized here that fertility decline may have started in Kathmandu also without substantial economic modernisation and westernisation. However, the influence of westernisation may have brought social change which could be one of the factors influencing fertility change in Kathmandu. Fertility decline may also be a result of other mechanisms such as family planning and the government's role regarding population policy.

### **2.3. Micro-economic Theory of Fertility**

Demographic transition theory considers the aggregate relation between socio-economic development and fertility, but it does not test whether these general relationships apply at the individual level. The micro-economic theory of fertility was developed in an attempt to explain the effects of economic development on the fertility decision of the family. Leibenstein (1957) was the first to develop this approach, and Becker (1960, 1965) put forward a more formal version of the economic theory of fertility. The implication of the economic approach to fertility is that the number of children is an economically constrained choice in which traditional income and prices are important conditioning variables (United Nations, 1990:8).

#### **2.3.1 New Household Economics**

The 'new household' economics, which is also known as the 'Chicago school', uses a micro economic model to explain parental decisions about family size based on the pioneering work of Becker (1960, 1965). According to this theory, the household is

an enterprise engaged in the production of household 'commodities'. Children, who are regarded as one of these commodities, provide services to their parents. The demand for children is a function of parental tastes, household income from all sources, and the relative cost of children. The costs include the direct cost of production and the opportunity costs. The opportunity costs include the value of parents' time, particularly the economic value of the mother's time. Therefore, if parents want to have children they must get psychic rewards from the bearing and rearing of children, instead of rewards they may achieve from other activities.

Becker (1965) introduced the concept of 'quality of children' and argues that there is a positive relationship between income and the desired number of children. With rising incomes parents are expected to spend more on themselves and their children. It is the positive relationship between desired expenditure per child and family income which makes children more expensive for wealthier parents than for poorer parents. The value of the mother's time also increases with rising income, thus making children more costly. Like other commodities children provide a utility to consumers. Becker argues however, that the utility of children is not constant because it depends on their quality. High quality children are more costly and it is therefore difficult to afford high quality children. In order to afford high quality children, higher income families generally buy fewer children than lower income groups and the average family size declines over the course of economic development (Jones, 1982a:281). Moreover, affluent parents want fewer children because their opportunity cost is high and because of a strong preference for higher quality children. Education is identified as a major cost of quality.

The central assumption of the new household economics theory is that the major reasons behind a reduction in demand for children are improvement of the social status of women and the increased opportunity cost of women's time (Schultz, 1986; Cleland and Wilson, 1987; United Nations, 1990). This theory hypothesises

that children are both generally time intensive and in particular, female time intensive. As economic development occurs and income rises, the number of children born to a woman falls, while the expenditure upon goods and services per child rises, suggesting that time and income are important factors in determining fertility. The sociologist Blake (1968:1-25) criticised the entire theory on the basis that children should not be treated as consumer durables. Unlike other commodities, parents are not allowed to treat children as they wish but are bound by many conditions and restrictions.

Jones (1982a:282) questioned the applicability of this theory in developing countries and argued that it neglects the supply side. He said that it is not a complete theory because it has nothing to say about situations where the demand for children does not exist and said

that demand theorists also ignore the important constraints on the supply side imposed by the inability of a substantial proportion of parents to attain their desired number of children because of biological factors. Unless such factors operate equally across subgroups in the population over time, which seems most unlikely, it is quite clear that they influence fertility differentials and trends independent of the explanatory variables normally used.

Criticising Becker's (1960:209-231) statements that the lack of access in lower income countries to contraceptive means, results in high fertility Jones (1982a) said that at present, family planning programs are reaching out to remote areas of the Third World countries therefore the importance of a family planning program should be incorporated in the theory.

Cleland and Wilson (1987) challenge the micro-economic approach using both historical evidence and World Fertility Survey data which indicate that the theories do not provide a plausible explanation of fertility trends during the last century (Cleland and Wilson, 1987:5). They argue that ideational forces (arising from the evidence of strong links of culture and education with fertility), diffusion of ideas and attitudes concerning the means of fertility reduction, and the propensity to

translate preferences into behaviour rather than structural changes affecting family economics, are responsible for initiating fertility decline.

Furthermore, from the point of view of rural communities in less developed countries, neither the opportunity cost of the mother's time nor the cost of children can be considered as serious constraints on the number of children desired by the family. In these communities, whenever women work in the field they can take care of their young children, or the extended family can look after children. Therefore explanations of fertility change in these societies cannot be based only on this theory. McDonald (1993:10) argued that "a simple micro-economic model alone can not explain fertility change during the fertility transition".

### **2.3.2. Easterlin and Crimmins framework.**

Easterlin and Crimmins (1985) modified the economic approach further. Their framework was specifically offered as an alternative to the economic approach (United Nations, 1990:12). In the Easterlin and Crimmins (1985) framework three variables namely, demand, supply, and cost of fertility regulation are linked to the process of modernisation to explain fertility decline. This framework explicitly includes the supply of children and therefore provides a sufficient basis for understanding fertility behaviour especially in developing countries (Easterlin, 1975; Easterlin and Crimmins, 1985). The main deviation of this theory of fertility from the usual economic theory (i.e. the concept of 'new household economics') is the inclusion of this supply factor which recognises the concept of natural fertility. This framework proposes that individual decisions regarding contraceptive use and fertility are based on the joint effects of demand for children, supply of children, and regulation cost (DeGraff, 1991:67).

1. The demand for children ( $C_d$ ) is the number of surviving children a couple would want if fertility regulation were costless. The desired number of surviving

children is determined by income, prices, and relative preference for children (United Nations, 1990:14). Demand incorporates the effect of factors such as women's and children's employment opportunities which influence household decisions on family size through their effect on household income and the price of children (Easterlin *et al*, 1988:258).

2. The supply of children ( $C_n$ ) is the number of surviving children a family would have if it did not consciously control its fertility. This is the result of a couple's natural fertility and child survival rates.

3. The cost of fertility regulation ( $CR$ ) includes a couple's attitudes toward, and access to, fertility control services and supplies. It incorporates both the subjective and market costs. Subjective costs include the displeasure associated with the idea of practicing fertility control. Market costs includes the time and money necessary to learn about the use of specific techniques.

The supply of and demand for children jointly determine the motivation for fertility regulation. The value of  $C_n - C_d$  may be positive or negative. With the supply of children added to the theoretical framework, the demand for contraception depends on the net balance between the supply of children and demand for children (Easterlin *et al*, 1988:259). A positive value (i.e.  $C_n > C_d$ ) indicates the number of unwanted children. In this situation parents would be motivated to regulate their fertility and there is a demand for ways of limiting fertility. The greater the excess of supply of children over the demand for children, the higher the probability of contraceptive use. However, contraceptive use also depends on the magnitude of regulation costs. The higher the costs, the less the likelihood of adoption (Easterlin *et al*, 1988:259). It is important to emphasize that the motivation to control fertility depends on both supply of children and demand for children (United Nations, 1990:14).

A negative value (i.e.  $C_n < C_d$ ) implies that the household is unable to have as many children as it desires. For example, a couple may want only two children but if they are unable to achieve that goal, then they have no incentive to limit fertility by adopting contraception and instead a couple would attempt to have children. This is also called a "deficit fertility" situation (United Nations, 1990:14).

The Easterlin-Crimmins' framework also investigates the relationship between the regulation cost, the demand for children and the supply of children with various social, economic and cultural variables. Thus, this theoretical approach sees such socio-economic variables as operating, not directly on contraceptive use or fertility but indirectly via their effects on the demand for children, the supply of children or regulation costs. Cochrane (1979:53) argues that this is an elaboration of a conceptually simple but extremely powerful model because it incorporates the three concepts of fertility, demand, supply and cost. Schultz (1986:129) states that the model offers an exceedingly simple framework for integrating the biological and behavioural determinants of fertility, and for ascertaining empirically what are the more and less important factors affecting fertility different times and places. Pointing out the shortcomings however, Schultz (1986:128) states that

the joint roles of biological supply and behavioural demand in determining fertility under fertility control are clear, but it is not clear how supply, demand, and cost can be usefully separated and suitably represented in an integrated statistical model.

Simmons (1991b:40-42) also criticises the model because it ignores sex preference, as in the case with the 'new household economics' school. He argues that natural fertility and contraceptive technology are both affected by fertility attitudes, which are given prominence on the demand side. Therefore a clear distinction between the two classes of factors that affect fertility is essential for a perfect model. However, this model has incorporated the supply side which provides a sufficient basis for understanding fertility behaviour, especially in developing countries.



## **2.4 Value of children approach**

In every society a certain degree of value will be attached to children. Parents prize children as a source of joy, companionship, pride and social status. In some societies children may also be valued for their potential economic contribution to the family. It is argued therefore that children are required to fulfil various economic and non-economic needs of parents (Poffenberger, 1975; Cassen, 1976; Cain, 1977). However, parents' and households' expectations of children depend on the cultural patterns and the level of modernization and social change in the particular society (Mahadevan and Jayasree, 1989:123). The value of children (VOC) is related to the social structure and is associated with cultural variation and social change (Hoffman, 1972). It has also been postulated by social-psychologists that the higher the value of children the larger the number desired, in the absence of alternative sources of satisfaction to having children (Hoffman, 1972; Hoffman and Hoffman, 1973).

Hoffman and Hoffman (1973:61-71) have developed social-psychological theories to understand how parents make decisions on childbearing involving five interacting components: (a) the value of children (the functions children serve or the needs they fulfil for the parents); (b) alternative sources for fulfilling the values; (c) costs (what must be lost or sacrificed to obtain a value); (d) barriers to realizing the values; and (e) facilitators for achieving the values. These indicate that the net value of children depends on the combination of perceived positive and negative values of children (Hoffman and Hoffman, 1973).

Both 'micro-economic' and 'social-psychological' theories state that couples decide to have children only after weighing the benefits they expect to receive from them and the cost incurred in rearing them. However, "in psychological theories, particular attention is given to the ways in which children or alternatives satisfy basic needs or more general values. In economic theories, the emphasis is upon

income or resources constraints in relation to the cost of children" (Fawcett, 1977:92).

Using the model developed by Hoffman and Hoffman (1973) a pioneering and comprehensive research project on the value of children (VOC) was conducted by the East-West Population Institute. Arnold *et al* (1975) using data from six countries (both developed and developing) emphasised the impact of the value of children in explaining fertility behaviour. The VOC approach emphasises "the needs of individuals that are fulfilled by having children, the alternative ways of meeting these needs, and the interacting among psychological, social and economic values and the costs of children" (Fawcett, 1977:96). Arnold *et al* (1975:11-12) identify 15 categories of the value of children within four dimensions:

1. Positive values: emotional benefits, economic benefits, self-enrichment and development, identification with children, family cohesiveness and continuity.
2. Negative values: emotional costs, economic costs, restrictions, physical demands, family costs.
3. Large family size values: sibling relationship, sex preference, child survival.
4. Small family values: maternal health, social costs.

The VOC framework is useful for understanding values and disvalues of children to parents on the one hand and the societal processes of change that are taking place at the individual and societal level on the other. This approach is also relevant to population policy because policy can be designed to change the values of children "beyond family planning" (Simmons, 1977).

According to the VOC approach, fertility decision making particularly depends on perceptions about, and attitudes towards, children in the society. Bulatao

(1979b:17) argues that lower fertility is an outcome of increased costs and/or reduced values of children which results from the modernisation or development process. He identifies seven explanatory factors (detailed in Chapter Five) and hypothesises the effect of these factors on the value and costs of children as the transition progresses.

Fawcett (1977:97-98) commenting on the VOC study argues that the same type of study with multiple methodologies is needed in order to understand "why people want children and how they reconcile conflicting goals in the process of family formation". Wong (1977) is of the view that the value of children depends on various cultural and societal factors, and therefore it must be examined in its cultural setting. For this purpose anthropological studies such as Hull (1975) and White (1976) are more appropriate than large sample surveys.

Caldwell (1982:333-351) argues that as society changes from a familial mode to the capitalist mode of production and from the extended to the nuclear family, the social and economic advantages of large numbers of children decline. As a result there will be low demand for children. Cain (1989:181-188) argues that the value of children depends on the family formation system of a society. In societies where the North-West European family formation system existed it is more likely that children will not have appreciable value as security assets to parents.

Moreover, in societies where there is no female autonomy and women are economically dependent on men, sons are regarded as sources of support. In this situation the presence of surviving sons is important. This situation was documented by Dyson and Moore (1983) from North and South Indian studies. Sons are highly valued in North India but the situation is reversed in South India as a result of female autonomy.

## 2.5. Sociological frameworks for the study of fertility

The 'intermediate variables' framework was introduced by Davis and Blake (1956) and proposed eleven variables defined as the only factors through which social, economic and cultural conditions can affect fertility. This framework is useful in facilitating the systematic study of how development affects fertility (United Nations, 1990:7).

**Table 2.1: The 'Intermediate Variables' Framework**

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<b>I. Factors Affecting Exposure to Intercourse ("Intercourse Variables")</b>
A. Those governing the formation and dissolution of unions in the reproductive period.
1. Age at entry into sexual unions.
2. Permanent celibacy: proportion of women never entering sexual unions.
3. Amount of reproductive period spent after or between unions.
a. When unions are broken by divorce, separation, or desertion.
b. When unions are broken by death of husband.
B. Those governing the exposure to intercourse within unions.
4. Voluntary abstinence.
5. Involuntary abstinence (from impotence, illness, unavoidable but temporary separation).
6. Coital frequency (excluding periods of abstinence).
<b>II. Factors Affecting Exposure to Conception ("Conception Variables").</b>
7. Fecundity or infecundity, as affected by involuntary causes.
8. Use or non-use of contraception.
a. By mechanical and chemical means.
b. By other means.
9. Fecundity or infecundity, as affected by voluntary causes (sterilization, subincision, medical treatment, etc.)
<b>III. Factors Affecting Gestation and Successful Parturition ("Gestation Variables").</b>
10. Foetal mortality from involuntary causes.
11. Foetal mortality from voluntary causes.

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Source: Davis and Blake (1956:212).

According to sociological frameworks, social organisation affects fertility through social norms acting on the intermediate variables. Davis and Blake (1956:211-235) have identified the eleven intermediate variables and categorised them into three groups; intercourse, conception and gestation variables. These are the variables

through which social and cultural factors operate to influence fertility (Table 2.1). The eleven factors are present in every society, but in any given society some factors may be more important than others in affecting the level of fertility and intermediate variables may have either negative or positive effects upon fertility.

Later this framework was modified by various authors. Freedman (1975:1-21) for example, constructed a model for the sociological analysis of fertility levels where environmental factors and social and economic structure act on fertility via the Davis and Blake (1956) intermediate variables, but adds the effects of societal norms on fertility. His basic argument is that the social and environmental factors influence the organisation of society which in turn affects fertility via social norms. He further adds that the intermediate variables are not always used to limit fertility and often their effect is an unintended result of cultural patterns. Freedman introduced two types of norms in his model; norms about family size and norms effecting the intermediate variables. Freedman (1987b:773-795) later further refined and improved the framework.

## **2.6 Bongaarts' proximate determinants framework**

Although the Davis and Blake (1956:211-235) framework for analysing the determinants of fertility has found wide acceptance, quantifying the link between intermediate variables and fertility has proven difficult. Bongaarts (1978) modified the Davis and Blake (1956) framework and presented a simple but comprehensive model for analysing the relationships between intermediate variables and fertility. To distinguish this classification from that of Davis and Blake, Bongaarts calls these variables 'proximate' determinants (Simmons, 1991a:71) through which the social, economic and environmental factors operate to influence fertility. Bongaarts (1978:106) collapsed the 11 intermediate variables proposed by Davis and Blake

(1956) into eight factors under three broad categories to allow simple quantification.

**Table 2.2 'Proximate' Determinants Framework**

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<b>I. Exposure factors.</b>
1. Proportion married
<b>II. Deliberate marital fertility control factors.</b>
2. Contraception
3. Induced abortion
<b>III. Natural marital fertility factors.</b>
4. Postpartum infecundability
5. Frequency of intercourse
6. Sterility
7. Spontaneous intrauterine mortality
8. Duration of fertile period.

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Source: Bongaarts, 1978:106

Among them, only four factors were found to be important and include proportion married, contraception, induced abortion, and postpartum infecundability. Fertility is lower than its maximum value as a result of changes in those four proximate variables (Bongaarts, 1978, 1982, 1987).

In general socio-economic, cultural and environmental variables affect fertility through intermediate variables. Therefore the primary characteristic of an intermediate fertility variable is its direct influence upon fertility. The intermediate variable framework came into much wider use after it was quantitatively reformulated by Bongaarts. In a society where fertility behaviours are changing there is a rise in the practice of contraception which is virtually the only proximate cause of fertility decline (Bongaarts, 1978, 1982, 1987).

## **2.7 Innovation-diffusion theory**

Diffusion of birth control methods has been found to be an important factor in the fertility transition irrespective of the economic development of a developing country. Therefore in this study an effort is made to explain its importance in

fertility transition. An 'innovation' is an idea or practice that is perceived as new by members of the social system. 'Diffusion' is defined as the process by which an innovation spreads from one locale, social group or individual to another (Rogers, 1968; Brown, 1981; Retherford and Palmore, 1983; Retherford, 1985).

According to diffusion theory, initially only a small proportion of the community with particular characteristics adopts the innovation. As diffusion of the innovation spreads, the proportion adopting the innovation increases. The adoption rate is high in places where it is first introduced and gradually spreads to other areas (Rogers, 1968; Lin and Hingson, 1974; Brown, 1981; Mahajan and Peterson, 1985). This is only possible if traditional cultural barriers to diffusion are weakening. People do not generally adopt an innovation until it has been accepted by opinion leaders or primary groups. Once they have accepted it, it will be diffused to other groups faster than the pace of economic and social change generally. Higher social strata are more likely to adopt an innovation first because they are more modern, socially and economically (Retherford, 1985; Freedman, 1987a). Communication channels such as radio, television, newspapers and magazines and also interpersonal communications, are the means by which information is transmitted to, or within the social system (Carlsson, 1966:173; Mahajan and Peterson, 1985:7; Freedman, 1987a:69).

Innovation and diffusion models were first used by rural sociologists to study the spread of new agricultural cultivation techniques (Lin and Hingson, 1974:189). The innovation and diffusion approach has subsequently been adopted in the analysis of the spread of birth control methods (Tsui, 1985) and according to the innovation diffusion model the timing of the fertility decline and the acceptance of birth control depend on class differentials. Certain communities or social classes led the decline and others followed with an appreciable time lag. Furthermore, diffusion of birth control is considered to begin in metropolitan centres and reach other urban

places with some delay, and rural areas still later (Carlsson, 1966:150-151; Sharlin, 1986:253). In this regard Notestein (1953:16) also stated that "a trend toward birth restriction started in the urban upper classes and gradually moved down the social scale and out to the countryside".

Because of the impact of social interaction, the adoption of birth control by some individuals influences the likelihood of its adoption by others. Social interaction probably increases markedly during the period of fertility transition (Rosero-Bixby and Casterline, 1993:157-163). However the spread of innovation also depends on the behaviour of individuals. Similarly, the effect of distance upon the amount of contact between innovators or knowers of the innovation has been documented in both the sociological and geographical literature (Blaikie, 1975:137). The geographer Hagerstrand (1967), pointing out the heterogeneities in the diffusion process, said that in spatial diffusion theory social interaction about innovation declines with physical and social distance, and individuals vary in their willingness to accept the innovation. In Nepal also it was found that the likelihood of contraceptive use increased with shorter distance between contraceptive supply outlets and vice versa (Tuladhar, 1984).

Diffusion of information about the basic ideas, the means, availability, costs, and legitimacy of family planning through primary groups and the mass media is one of the most important processes in the adoption and continuing use of birth control (Carlsson, 1966:173; Rosero-Bixby and Casterline, 1993:149). Both historical and contemporary evidence points to the importance of diffusion of birth control effects on the timing and pace of fertility transition (Rosero-Bixby and Casterline, 1993:147). Knodel (1977:219-248) presented evidence that innovation-diffusion processes are important in explaining the timing of marital fertility decline. The results of the Princeton study suggested that diffusion processes may have advanced the timing of the fertility transition in less developed areas of Europe.



Freedman (1987a:72) argued that the diffusion of birth control process was mainly based on word of mouth during the western fertility transition. It was also found in Europe that diffusion of birth control and rapid fertility decline occurred in populations which had good inter-communication, common norms, values and institutions and cultural homogeneity (Coale, 1975; Knodel and Van de Walle, 1986). This situation suggests that the adoption of innovation, in this case birth control, depends on the socio-economic and psychological characteristics of the potential adopter. If motivation brought about by the diffusion process is strong enough, fertility will decline even with weak mass media and organisational support (Freedman, 1987a:72).

Although the coitus interruptus method of birth control was the predominant method in Europe during the fertility decline of the nineteenth century, it did not diffuse as rapidly as modern contraceptive methods do in contemporary less developed countries (Tsui, 1985:115). Available evidence suggests that the diffusion of birth control knowledge is an important element in spreading contraceptive practice in developing countries (Tsui, 1985:115; Freedman, 1987b:778). The availability of modern mass communication forms is obviously important here.

Birth control innovation-diffusion is related to the establishment of family planning programs in less developed countries (Retherford and Palmore, 1983:329). Birth control diffusion through the network of family planning and related services, international agencies, private organisations and officials in national governments has been a vital force behind the acceptance of contraceptive use in developing countries over the past several decades (Donaldson and Tsui, 1990:4).

The development of the oral contraceptive pill in the late 1950s provided the first effective fertility control in the developing world, which suggests that if the cost of

innovation is cheap and easy to adopt it will spread rapidly with little change in socio-economic development. In this regard Knodel (1977:219) argued that "the modern fertility transition appears to result from the spread of innovative behaviour and cannot be viewed simply as an adjustment to new socio-economic circumstances based on previously established behavioural mechanisms". Moreover, Tsui (1985:115-138) also reported that the diffusion process also included uneducated couples in the birth control practice and found that the majority of couples proceeded from one stage to the next in the innovation and diffusion process in developing countries. Van de Walle and Knodel (1980:38) argued that in today's less developed countries organised family planning program can work as an "important innovation-diffusion dimension" for the process of change in fertility. Different methods of diffusion could then result in an initiation and acceleration of birth limitation.

Available evidence suggests that despite socio-economic development, diffusion of birth control is one of the principal agents for the fertility transition in less developed countries and organised family planning programs are responsible for this diffusion process (Freedman, 1987a, Cleland and Wilson, 1987). Organised programs for diffusing birth control include not only family planning but also incentives, motivation and legislation for limiting family size (Retherford and Palmore, 1983; Retherford, 1985). Not only is information about birth control essential, but also services and resources through family planning and government institutions should be provided, as Caldwell (1993:312) argued that they can also bring social change in a variety of ways.

In the innovation diffusion perspective, when family limitation is viewed as acceptable behaviour and marital fertility starts to fall, people are more likely to perceive the advantages of smaller families. Van de Walle and Knodel (1980:29) noted that once some couples in a community adopt birth control, it is increasingly

easy for other to follow. In today's less developed countries the rate of fertility decline is not simply because of the socio-economic development but also because of availability of birth control (Caldwell, 1993:312). The change in the level of contraceptive use is a dramatic example of the diffusion of an innovation in developing countries.

## **2.8 Conceptual framework**

The review of fertility change theories has suggested that the vast variations in social and economic development across Asian societies make it impossible to explain socio-economic changes in a single explanatory model for fertility change (McDonald, 1993:13; Leete and Alam, 1993:255). It is hypothesised here that fertility change in Kathmandu is a result of both socio-economic change and the diffusion of birth control ideas through the family planning program. Therefore the aim of this section is to present a framework in which the effect of both socio-economic change and diffusion of birth control ideas on fertility change in Kathmandu can be examined. This framework is modified from the work of Freedman (1987b).

With regard to diffusion of birth control, small primary groups of relatives, friends and neighbours are the people through whom new behavioural patterns are learned and validated (Freedman, 1987a:72). Furthermore Rosero-Bixby and Casterline (1993:148) argue that

in the case of fertility behaviour, an individual's acceptance or rejection of family planning is not explained in terms of socio-economic conditions but in terms of the 'adoptive potential' of the innovation (i.e. as an essential attribute of birth control) and the individual's 'innovativeness'.

Changes in socio-economic conditions and diffusion of ideas regarding fertility control have changed the role of the family on the one hand and parents' aspirations for themselves and for their children on the other. These are some of the main

reasons for fertility change (Freedman, 1979:65). Retherford and Palmore (1983:295) reported that the timing and speed of fertility transition depends primarily on two factors: economic and social development and diffusion of birth control. Social interaction diffusion can in theory, have an impact on the course of fertility transition (Rosero-Bixby and Casterline, 1993:163).

It is also to be noted that the diffusion of innovation ideas depends on the existing beliefs and attitudes of people. If traditional attitudes and beliefs regarding fertility are not changed, diffusion cannot spread rapidly. However, the available literature suggests that social changes regarding fertility behaviour are under way in the Kathmandu Valley resulting in changes in the traditional family relationship (Axinn, 1992b, 1993). People are still however concerned with other people and are affected by their behaviour. As McNicoll (1992:409) said, in a society where gossip-based relationships are involved, network analysis may yield valuable insights. In Kathmandu gossip-based relationships are involved because people are extremely sensitive to the behaviour of others, and therefore it is hypothesised that the effects of diffusion regarding fertility behaviour are still important in Kathmandu. Fertility is an outcome of an individual's decision-making environment which can be affected by other individuals or primary groups. This is especially so if the population is socially integrated and individuals are extremely sensitive to the changes in the fertility behaviour of other (Rosero-Bixby and Casterline, 1993:167). Changes in individual decisions regarding fertility depend on the group of people with whom any single individual has contact. In this context new goals are diffused which are different to traditional views regarding fertility. One of the preconditions for fertility decline mentioned by Coale (1975) is the availability of effective techniques of fertility reduction, is also related to the diffusion and availability of birth control.

These explanations suggest that socio-economic change as well as the diffusion of birth control and availability of contraception through organised family planning programs are some of the main reasons for fertility decline especially in developing countries. This may also be the case in Kathmandu. Therefore Kathmandu is an important context to investigate the changes in fertility and see to what extent they are consistent with major fertility change theories. Thus the fertility behaviour of Kathmandu women will be examined from the perspective of socio-economic development and diffusion of ideas of birth control. Therefore the conceptual framework of the present study is mainly based on the integration of these two.

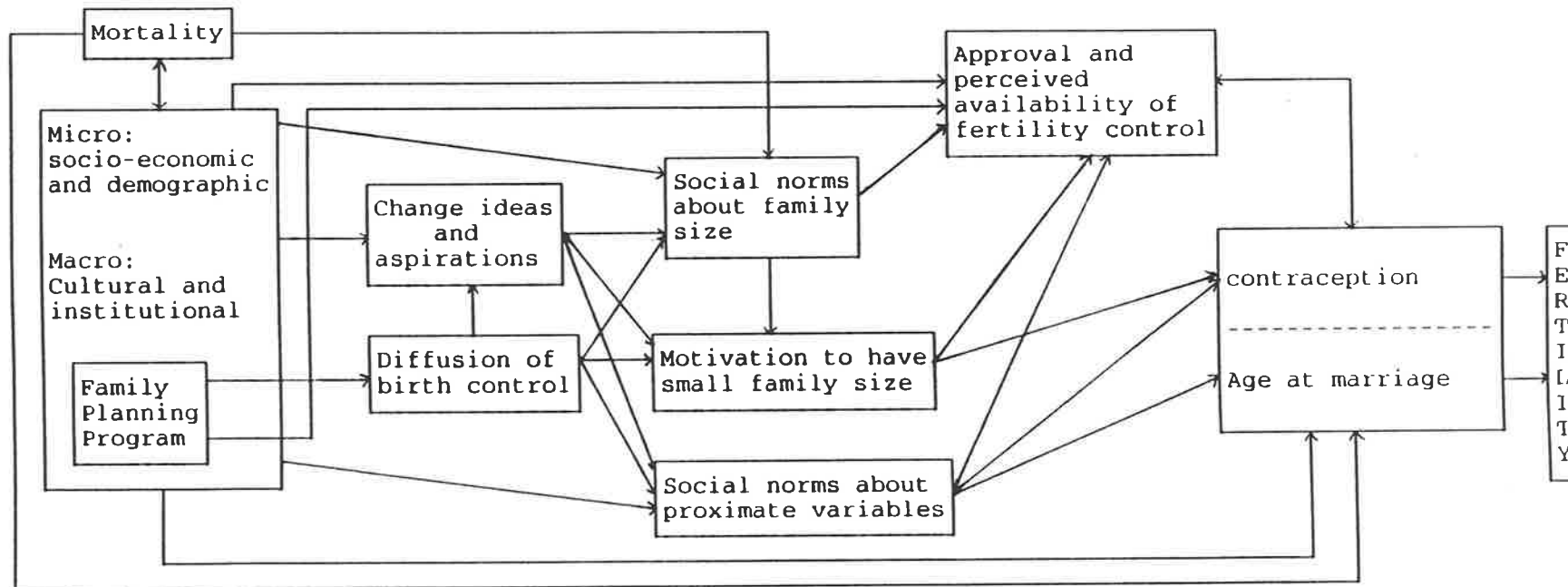
Explanations of the influence of social conditions through the development of norms, values, and attitudes concerning fertility are important. Therefore to examine the onset of fertility transition in a society where both changes in social organisation and socio-economic development are under way needs a multi-level analytical approach. A modified conceptual framework of Freedman (1987b:773-795) is used for this study within which our data are examined. Freedman's (1987b:773-795) framework is a refined and improved development of the earlier work of Davis and Blake (1956:211-235) and Freedman (1975:1-21), and includes the variables responsible for fertility change discussed in the established theories. This framework provides insights into the changes occurring in fertility behaviour. The decision to control fertility is a complex process (Freedman, 1979:68) which involves both the individual and his environment and these decisions are constrained by the individual's demographic and socio-economic characteristics.

Although there have been dramatic advances in both theoretical and empirical research on fertility, the links between macro level socio-economic change which will change ideas and aspirations, and family planning programs which will diffuse the method of contraception and its impact on individual level fertility decisions remain theoretically appealing and important for deriving policy implications.

The present study deals with the relationship between socio-economic factors, family planning program efforts and fertility. It investigates how these factors affect ideas and aspirations and decisions about family size which motivate couples to use contraception and thereby achieve low fertility. This framework is appropriate to examine this relationship because it is based on the theoretical argument that it is the social context as well as the socio-economic and demographic characteristics of people that provide the basis for fertility decisions. It connects macro-level social change to individual level fertility decisions. Thornton and Fricke (1987) argue that macro-level social and economic changes will change individual level demographic behaviour. The framework can be used to explore various aspects of reproductive behaviour confined not only to fertility but including fertility preferences, marriage patterns and contraceptive practice.

Ideas, aspirations and the diffusion process are introduced into the existing framework (Figure 2.2). This explains how these two factors affect fertility behaviour. Since reproductive behaviour is mostly related to women, and since women are usually more receptive to the idea of family limitation (Knodel, 1977) changes in ideas and aspirations are very important in understanding the process of fertility decline. Social, economic, cultural and institutional factors as well as an organised family planning programme are responsible for the diffusion of birth control and influencing the approval and perceived availability of fertility control. Once the motivation to have a smaller number of children exists this variable influences the practice of fertility control.

Figure 2.2 Schema for Factors Affecting Fertility



Source: Modified from Freedman, 1987b:774

One of the interpretations of fertility decline can be an innovation of birth control. Therefore diffusion of birth control and innovative behaviour regarding birth control may help to extend the existing theory of fertility change. Changes in socio-economic and cultural factors change ideas and these new ideas generate rising aspirations among parents, both for themselves and for their children (Freedman and Freedman, 1992:12). Changes in ideas and aspirations affect contraceptive use and age at marriage through changes in social norms about family size and proximate variables, and motivation to have a small family size. Again socio-economic and demographic variables influence contraception and age at marriage directly, as well as indirectly through these norms and motivations to have a small family. Fertility decline is a result of change in marriage patterns as well as changes in marital fertility behaviour. Change in socio-economic conditions, changes in ideas, and aspirations in turn change marriage patterns, for example, age at marriage may increase. Arranged marriages are replaced by greater freedom of spouse selection, and use of contraception may change fertility behaviour. As society changes due to shifts in ideas and aspirations, traditional types of family relationships such as dependence on children and value of children also change. This results in couples having fewer numbers of children by adopting contraception. One of the reasons for high fertility in developing countries is the high infant and child mortality. Therefore the improvement in infant and child mortality motivates couples to use fertility control methods and affects social norms about family size and socio-economic, cultural and demographic variables.

The role of the family planning program has increased the motivation to have a small number of children. The diffusion of birth control and the provision of contraceptives is one of the important factors responsible for fertility decline. It is hypothesised that the diffusion of birth control changes ideas and aspirations. This not only affects the motivation to have a small family size but also affects social



norms about family size and proximate variables that immediately determine fertility. It is also hypothesised that the role of the government has been important in accelerating the motivation to have a smaller number of children through the legitimisation and diffusion of contraceptive use and distribution of contraception. Therefore one of the main reasons for fertility change in Kathmandu may be the availability of contraception and increasing governmental concern regarding fertility control policies which induce social change in a variety of ways. The use of contraception is also affected by the perceived availability of supplies and services (Freedman, 1987b:794). Furthermore, diffusion of birth control may be encouraged by government policies and programs (Cleland and Wilson, 1987:9). Therefore in the present study the role of the family planning program, which has a demographic stake in maintaining a high level of contraceptive use and hence low fertility (Freedman, 1987a:65), and the role of population policies of the government in initiating fertility decline will also be discussed. Moreover, the direct link between socio-economic variables and fertility is also discussed in the study. For the sake of simplicity, the framework does not include all of the possible determinants and causal arrows, and especially ignores the feedback mechanisms, some of which are likely to be important.

To fulfil the objectives of the study, it is imperative to highlight the socio-economic and demographic context within which family decisions are made. In the framework the socio-economic and cultural context within which family size decisions are made is highlighted. Furthermore, the availability of fertility control receives considerable attention in the framework. To understand the causes of fertility decline requires a thorough and careful examination of the changes in women's reproductive behaviour and its causes. An effort is made here to reflect these relationships in the study. This framework will provide a holistic and systematic guide to the analysis of the process of fertility change in Kathmandu.

This framework will be tested empirically with Kathmandu data and presented in subsequent chapters.

## **2.9 Conclusion**

The review above suggests that there is no single coherent theory with regard to fertility determinants. Different explanations of fertility decline suggest that fertility levels of a country depend on the socio-cultural, economic and demographic characteristics of its people as well as an effective family planning program. Therefore an understanding of the causal links between the socio-economic and demographic variables on the one hand and their relationship with fertility on the other is important. The emphasis is given to understanding these relationships in the study. Fertility changes are not only caused by variations in the socio-economic status of individual couples but also by variations in the social context within which fertility decisions are made. In this study we will be able to understand not only how the urban Kathmandu context determines fertility but also how individual characteristics of Kathmandu couples determine fertility. The data which we analyse within the theoretical framework outlined here are critically discussed in the next chapter.



## CHAPTER THREE

### METHODOLOGY

#### 3.1 Introduction

To fulfil the objectives outlined in Chapter One within the theoretical framework presented in Chapter Two, it was necessary to obtain data on contemporary fertility and fertility behaviour in Kathmandu. Accordingly, this chapter critically discusses the sources of data utilised in the study. Since much of the required information was not available from secondary sources, it was necessary to undertake a substantial field survey in Kathmandu during seven months of fieldwork from November 1991 to May 1992. It is with this field survey that the bulk of this chapter is concerned.

Although the present study is largely based on field survey data, intensive methods of focus group discussion, in-depth interviews and informal discussions with different kinds of people were also conducted during the fieldwork in order to improve the quality of the survey data and to arrive at a holistic understanding of fertility behaviour and change in Kathmandu. Hull *et al* (1988:57) point out that qualitative information helps one to understand the processes at work in society and permits a deepening of our knowledge of the social facts collected in surveys. They further report that "the justification of a combination of methods was not just that it leads to greater variety of data collection, but also, in the words of Pleto (1970, p.145) it 'greatly enhances the credibility of research results'". With this in mind, qualitative methods were used here to complement the survey and to provide a more comprehensive picture regarding the fertility behaviour of Kathmandu couples. In addition to outlining the methods of data collection employed here, this

chapter assesses the likely accuracy and limitations of the methods so that the results presented later in the study can be interpreted correctly.

### **3.2 Secondary data sources on fertility in Nepal and in Kathmandu**

#### **3.2.1 Censuses**

The principal sources of fertility data in Nepal are the periodic censuses and a number of sample surveys. Although population counts began in Nepal as early as 1911, the first enumerations of 1911, 1920, 1931 and 1941 were virtually only headcounts and did not collect information on detailed population characteristics. Moreover, no direct questions on reproductive behaviour were asked at the 1952/54 census (CBS, 1987:281). Although the 1961 census provides information on children ever born, data on current fertility was not collected and it is also to be noted that up to the 1961 census, data were processed manually so that detailed information on fertility was not available (CBS, 1987:331). The two censuses of 1971 and 1981 collected data on children ever born and also on current fertility (children born 12 months prior to the census).

However the quality of data, especially on fertility, was evaluated by the Central Bureau of Statistics (CBS, 1987:333-336) and it was concluded that in order to obtain good quality fertility data in Nepal, the census was not the most appropriate method. In both the 1971 and 1981 census there was a serious problem of under reporting of births which was established by using intercensal parity increment methods. Some births were recorded as having occurred during the 12 months preceding the census but were attributed to women over the age of 50 and more births were recorded as having occurred to women aged 50+ (25,874) than women aged 45-49 (14,078) (CBS, 1987:335). It is possible that either the births were wrongly dated or the ages of the women had been misreported, however when the omission of recent births is prevalent in the data, it may suggest a false decline in

fertility (Tuladhar, 1984:67). The Central Bureau of Statistics (CBS, 1987:288) concluded that "unfortunately the number of children reported to be ever born in the 1981 census appears to be the worst of all the three censuses. The completed fertility implied by the 1981 census is only 3.58 live births per woman. Such a low level of fertility is not, at all, consistent with the prevailing low age at marriage and low level of current use of contraception". Moreover, women aged 35-39 in 1961 had borne, on average 4.18 live births, whereas the same women when they reached 45-49 years in 1971 reported only 3.97 live births which clearly indicates that the under reporting of children ever born (CEB) increases with the age of mother resulting mainly from recall lapse (Tuladhar, 1984). Similarly, the reported completed family size of women aged 45-49 at the 1981 census cannot be accepted as an index of the fertility level (CBS, 1987:334).

The completed fertility implied by the 1981 census was only 3.58 (CBS, 1987:288) at the national level, whereas completed fertility implied by the surveys was higher. For example it was 6.1 in the 1976 Nepal Fertility Survey, 5.9 in the 1986 Nepal Fertility and Family Planning Survey (FP/MCH, 1987:64) and 5.9 in the 1991 Nepal Fertility, Family Planning and Health Survey (Shrestha *et al*, 1993:61), indicating no change in completed fertility in Nepal according to the sample surveys. This also indicates that births were highly under reported in the 1981 census.

It is not only children ever born (CEB) that were badly reported in the 1981 census but also the current fertility (CBS, 1987:334). To examine whether fertility data was under reported in Kathmandu in the 1981 census, the average number of children ever born and age specific fertility rates which are based on births occurring in the 12 months prior to the census, are calculated (Table 3.1) and these suggest a low level of completed fertility of 3.40 and total fertility of 2.7 in 1981.

There is no justification for these low levels of fertility rather than the under reporting of births.

**Table 3.1 Age Specific Fertility Rate for Kathmandu City, 1981.**

Age	Number of Women	Average number of children ever born	Age Specific fertility rate
15-19	2857	0.60	0.077
20-24	7927	1.21	0.115
25-29	8012	1.91	0.101
30-34	6956	2.48	0.081
35-39	6222	2.88	0.060
40-44	4881	3.31	0.047
45-49	3958	3.40	0.056
Total	40813		2.685

Source: Calculated from CBS, 1984:Table 14 and Table 17.

Considering the low quality of the 1971 and 1981 census data on fertility and insufficient required information from the census such as detailed birth history, marriage history, fertility preference and other aspects of fertility which can provide a deeper insight into the dynamics of fertility change that are sought in the present study, census information could not be used as a major source of data. At the time of undertaking this research, the 1991 census had not conducted. Accordingly, to examine the dynamics of fertility change in Kathmandu, a field survey was conducted.

### **3.2.2 Large Scale Sample Surveys**

In addition to census data, fertility information has been collected in a number of large scale sample surveys over the last two decades. A brief description of the major demographic surveys undertaken in Nepal is given below.

### **3.2.2.1 Nepal Fertility Survey, (NFS) 1976**

The NFS was undertaken in 1976 with the joint collaboration of His Majesty's Government of Nepal and the World Fertility Survey Project. This was the first scientifically designed and internationally comparable sample survey of fertility in Nepal. The main objective of this survey was to provide estimates of fertility levels at the national level and its differentials by major geographical regions (the hills and the terai), with some indication of at least the level of fertility for the Mountains as well (Tuladhar, 1984:44). The survey covered 33 districts and 5940 ever married women in the reproductive ages (15-49 years) (CBS, 1987:337). Tuladhar (1984) found that the quality of NFS data was better than the Nepal Contraceptive Prevalence Survey (1981) and than the 1971 and 1981 censuses. However, separate fertility information for Kathmandu city was not collected and analysed in this survey.

### **3.2.2.2 The Nepal Contraceptive Prevalence Survey, (NCPS) 1981**

The Contraceptive Prevalence Survey was undertaken in 1981. The primary focus of the survey was to provide the comprehensive data necessary for planning and evaluating the family planning program in Nepal. The detailed evaluation of the data quality indicates that there was under reporting of births occurring in the recent past. Tuladhar (1984:90) found that 28 per cent of births had been under reported for the past year in the NCPS. Application of a correction factor would indicate that fertility had remain constant in Nepal over the ten year period. Tuladhar (1984:48-49) carried out a detailed evaluation of the data quality of this survey and said that the under reporting of recent births occurred in this survey because the question was asked wrongly. A short pregnancy history was used only for those who said yes to the question: "In the past five years did you have any live births?". The survey covered 33 districts and 5882 currently married women in the reproductive ages



(15-49 years) (FP/MCH, 1983:21). Although urban rural information was found in this survey, separate data on fertility in Kathmandu city was not collected.

### **3.2.2.3 Nepal Fertility and Family Planning Survey, (NFFS) 1986**

This survey is the third national demographic survey carried out in Nepal since the Nepal Fertility Survey (NFS) in 1976. The NFS (1976) provided baseline data on fertility, mortality, nuptiality and contraception but the NFFS (1986) collected detailed information on reproductive and contraceptive behaviour. The survey covered 27 districts and 5029 currently married women in the reproductive ages (15-49 years) (Tuladhar, 1989:16). Utmost care was also taken to ensure regional representation in the sample. Although separate data for Kathmandu city was not collected and analysed in this survey, urban level data on current fertility is compared with the present study in Chapter Eight.

### **3.2.2.4 The Demographic and Health Survey, (DHS) 1987**

Nepal was not included in the standard comprehensive national level surveys of the Demographic and Health Survey (DHS) which was designed to collect data on fertility, family planning and maternal and child health (Blanc, 1991). However, under the DHS Project, an in-depth study was conducted by New Era (a research institute in Kathmandu) specifically to find out the reasons for the non-use of family planning among women who want to space and limit their births (Shrestha *et al*, 1988).

### **3.2.2.5 The Nepal Fertility, Family Planning and Health Survey, (NFHS) 1991**

This survey is the largest of all the national surveys conducted in Nepal under the aegis of Family Planning and Maternal Child Health Division (FP/MCH). This survey was conducted to update information on fertility, family planning, infant and child mortality, as well as to get national level information on maternal mortality

(FP/MCH, 1993). This survey, which was also designed to obtain district level information on contraceptive use, covered all 75 districts of the country and 25384 ever married women in the reproductive ages (15-49 years) (Ban *et al*, 1993). Although a separate study for Kathmandu city is not available in this survey, urban level data on current fertility estimated by the survey report is compared with the present study in Chapter Eight.

### **3.2.3 Vital registration**

There is also a system of registering vital events like births, deaths and marriages in Nepal, however the data generated by the system are not of much value because of the incomplete coverage (CBS, 1987:282). When the vital registration system was checked during fieldwork for the present study, it was found to be ineffective and incomplete even in the capital city of Kathmandu so that accurate demographic indicators could not be derived from this system.

Although the different censuses of 1971, 1981, 1991 and the large scale sample surveys could not be used as a major data source for the present study, the results of these censuses and sample surveys were used to provide information for Nepal as a whole and to compare Kathmandu with total Nepal.

### **3.3 Field approach**

Realising that there is a dearth of adequate detailed data on fertility and its dynamics in Nepal, a fieldwork approach was employed to collect more detailed information on birth history, marriage history, value of children, contraception, fertility preferences and other aspects of fertility required to understand the dynamics of fertility change in Kathmandu. Caldwell (1983:476) and Caldwell *et al* (1988:263-273) point out that it is important that the fertility determinants be sought at the family level in order to understand and accelerate the process of

change. To understand the detailed reasons for the dynamics of fertility change, a study of a small area was thought to be an appropriate means of linking fertility behaviour to the socio-economic characteristics of the urban community. Data collected from the survey could then be complemented by further in-depth interviews. With these views, Kathmandu city was chosen for the survey which supplied the main body of data for the study.

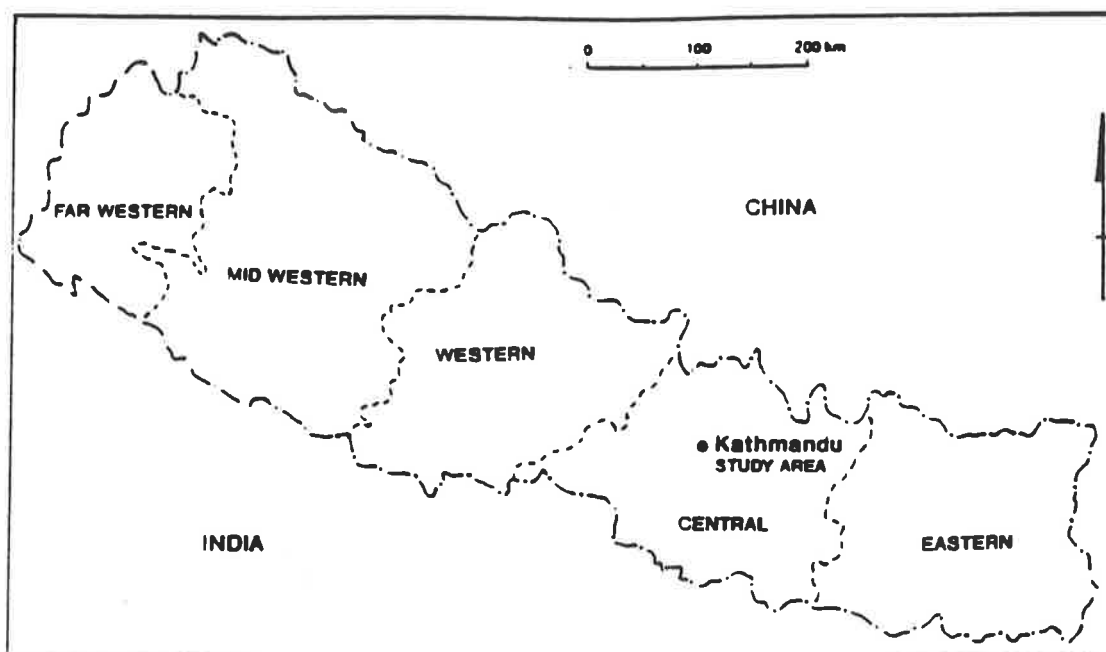
Field research was conducted between November 1991 and May 1992. Four months were spent on conducting the survey in the field and the rest of the period was used to verify the validity of data already collected and to enter data into the computer. Focus group discussions, secondary data and informal data collection, as well as meeting with the key informants, intellectuals, teachers, officials, planners and demographers were also made during the study period. Some of the secondary data, especially the 1991 census information were collected during the second field visit to Kathmandu in October 1993. During that period, some case studies and informal discussions were also conducted in order to provide explanations for relationships found in the quantitative data analysis. Some of the issues found in the survey were raised and discussed with demographers and planners at this time, which was found to be very useful for the study. Through the involvement with Kathmandu people and being a member of the Kathmandu community, it became easier for the researcher to understand the process of socio-cultural change. The continuing contact with Kathmandu people provided an opportunity to understand their socio-cultural behaviour. During the field survey, the researcher participated in different social activities and was involved in discussions with a wide variety of key informants. This approach has helped in the understanding of the process of change in the family relationship, marriage, diffusion of modernity and other behavioural aspects of Kathmandu people. It is expected that this approach will

provide a better understanding of the process of change regarding fertility behaviour in Kathmandu.

### 3.4 Selection of study area

It was hypothesised that fertility may have declined in Kathmandu, where many of the prerequisites for fertility transition have already been fulfilled. Studies suggest that the fertility transition in Asian countries initially occurs in the major urban centres of nations and among the more educated groups (Carlsson, 1966; Fialova *et al*, 1990). It has been found that attitudes towards family size were changing in Kathmandu (Ross *et al*, 1986). In view of this, Kathmandu city was selected for the study. As has been mentioned earlier, Kathmandu (Figure 3.1) provides a prime setting to study fertility decline.

**Figure 3.1** Location Map of Study Area



### 3.5 Sampling frame and sample selection procedures

House number lists of Kathmandu city which were produced at the 1991 census by the Central Bureau of Statistics were used for a sampling frame of the study. After discussion with officers from the Central Bureau of Statistics, staff of the Central Department of Population Studies, Tribhuvan University and relevant officials of His Majesty's Government, 33 wards of Kathmandu city (see Figure 3.2) were clustered into 7 areas (Table 3.2).

**Table 3.2 Total Number of Wards, Selected Wards and Sample Size According to Cluster.**

Cluster	Wards	Selected wards	Total number of houses in selected wards	Percentage of houses in each ward	Sample size
1	9,10	10	5572	18.8	188
2	6,7,8	6,8	3544	12.0	120
3	1,2,3 4,5	3,5	3190	10.7	107
4	11,31, 32,33	31,33	3171	10.7	107
5	19,20 21,22 23,24 25,26 27	19,21 25,27	3929	13.3	133
6	12,13 14,15	14,15	4725	16.0	160
7	16,17, 18,28 29,30	16,28 29	5468	18.5	185
<b>Total</b>	<b>33</b>	<b>16</b>	<b>29599</b>	<b>100.0</b>	<b>1000</b>

It is also to be noted that people who migrate from the eastern part of Nepal live in the eastern side of Kathmandu and those who migrate from the western part of Nepal live in the western part of Kathmandu. The central part of Kathmandu is mostly inhabited by Newars. These facts were also considered while dividing the

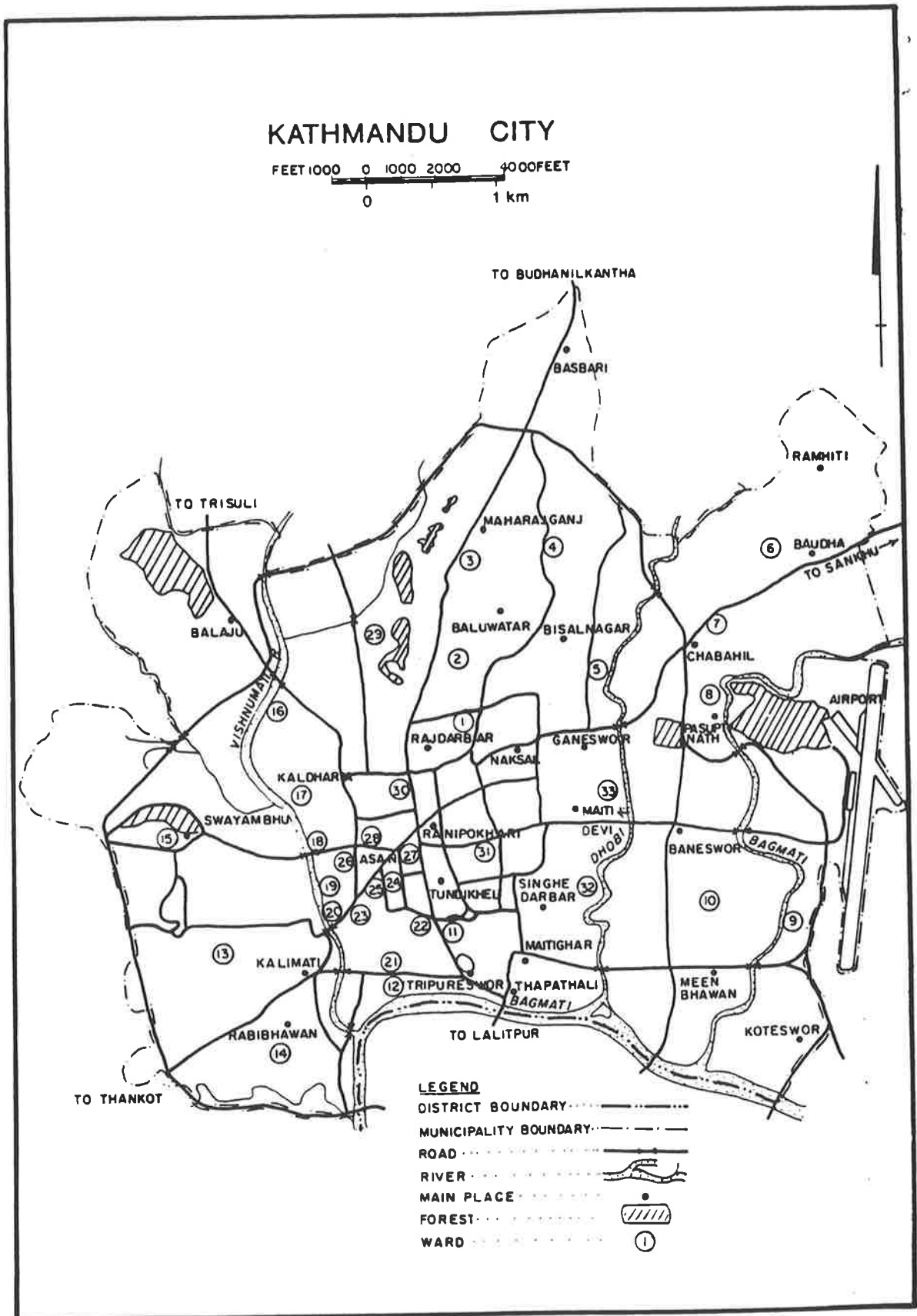
wards into seven clusters (see Figure 3.3). From among the clustered wards, a total of 16 wards were selected for the study (Table 3.3). After selecting the wards, the sample households were selected and one eligible woman from the household was selected for the individual interview. The sample size of the present study was 1000 currently married women aged 15-49. The sample was drawn proportionately according to the percentage of the total house numbers of the selected wards (Table 3.3).

**Table 3.3 Selected Wards, Number of Houses and Sample Size According to Selected Ward.**

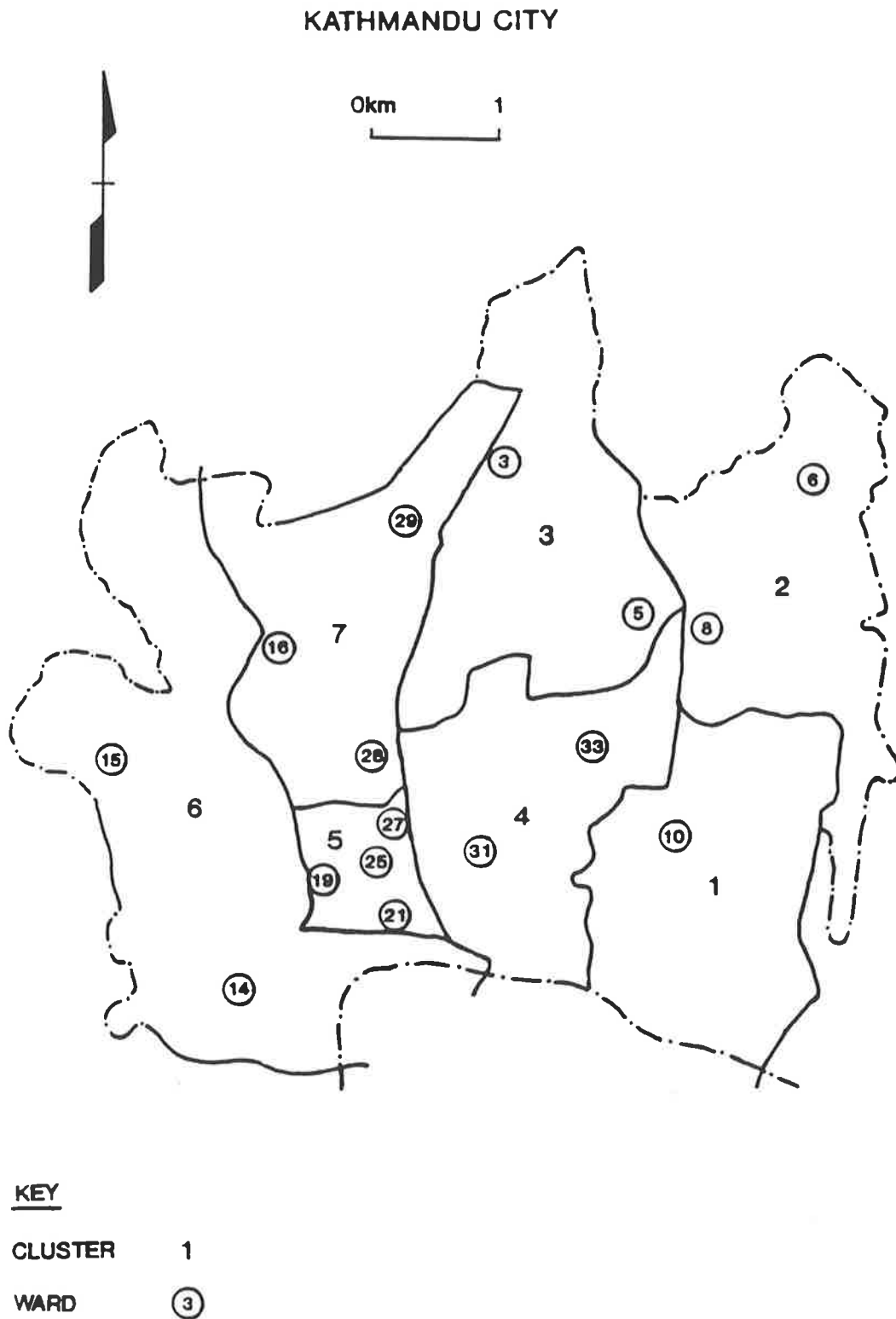
Selected wards	Cluster	Total number of houses	Percentage of houses	Sample size per ward
3	3	2116	7.1	71
5	3	1074	3.6	36
6	2	2423	8.2	82
8	2	1121	3.8	38
10	1	5572	18.8	188
14	6	2413	8.2	82
15	6	2312	7.8	78
16	7	2681	9.1	91
19	5	973	3.3	33
21	5	1277	4.3	43
25	5	648	2.2	22
27	5	1031	3.5	35
28	7	613	2.1	21
29	7	2174	7.3	73
31	4	1218	4.1	41
33	4	1953	6.6	66
Total	7	29599	100.0	1000

Systematic random sampling method, which is a modification of simple random sampling and is ordinarily less time consuming and easier to implement (Fisher *et al*, 1983:29), was employed to choose households from the selected wards. The sample size (1000) of the study is selected from the total house numbers (29599) of Kathmandu city. The sample was drawn from the individually selected wards (Table 3.3) with a random start and a sampling interval of 30 was employed.

Figure 3.2: Wards in Kathmandu City



**Figure 3.3: Clusters and Sample Wards, Kathmandu City**





After selecting the households, interviewers were assigned to different clusters. The researcher accompanied the interviewers on their first visit to each selected household. Initially, the interviewer team was introduced and the objectives of the visit were explained. It was made clear that the research was being conducted only for academic purposes and was not associated with government planning and tax purposes. This enabled better interaction with the respondents and helped in gathering information more accurately.

### **3.6 Questionnaire design**

The main body of data for the present study comes from a questionnaire survey carried out in Kathmandu city. Currently married women aged 15 to 49 were the respondents for this questionnaire schedule. The questionnaire used in the study was finalised in English after discussion with supervisors in Adelaide before leaving for field work. Two types of questionnaire were developed, a household schedule and another individual schedule. (Appendix III).

#### **3.6.1 The household schedule**

The household questionnaire was designed to collect information on the socio-economic status of the sample households. The respondents of this questionnaire were the head of the household or any knowledgeable and responsible adult member of the household. The following information was collected in this schedule:

(a) Household head's background: This section of the questionnaire collected information on age, sex, marital status, religion, caste and ethnicity, occupation of the household head, educational attainment of the household head. The educational attainment of the household members were also collected.

(b) Household background: This section collected information on land holding of the household and extra income of the household such as house or land rent. Information on household possessions were collected by asking whether the household had a television, video cassette recorder, motorcycle, bicycle, refrigerator, car, telephone. A question was also asked to collect information on the main source of cooking fuel of the household.

### **3.6.2 The individual schedule**

The individual schedule collected data on contemporary fertility and fertility behaviour. Respondents for this questionnaire were currently married women identified from the household schedule. The following information was collected in this schedule:

(a) Respondents' background: This section of the questionnaire collected information on age, education, current occupation, occupation before marriage, childhood residence and exposure to the mass media.

(b) Respondents' husband's background: Age, education, occupation, childhood residence and income of the respondents' husband were collected.

(c) Marriage history: To examine the marriage pattern in Kathmandu, information on age at marriage, age at consummation, opinion about respondents' marriage and about their children's marriage and attitude towards marriage were collected.

(d) Birth history: Each woman aged 15-49 was asked to report her complete birth history. The sex of the child, date of birth, complete age and date of death were recorded on birth history forms. This information was recorded in chronological order. Interviewers were asked to tally the responses with mother's age so that apparent errors in birth reporting could be corrected in the proper order. Further probing was used in cases where information seemed doubtful. Information on

children ever born was collected by asking questions about the total number of sons born alive and the total number of daughters born alive. Answers to these questions were combined to obtain the number of children ever born to currently married women.

(e) Family planning: To undertake a systematic analysis of contraceptive use of Kathmandu couples and explain the mechanisms causing change in fertility regulation behaviour, detailed information was collected about contraceptive knowledge, ever used and current use of contraception. In addition, information was also collected on the side-effects of contraception, intentions for future use and detailed information on family planning, including the reasons for use and non-use of family planning methods.

(f) Fertility preference: Information on fertility behaviour, desired number of children, couples' discussion about family size and information on the perceived cost and benefits of children was collected.

(g) Breastfeeding: The last section of the questionnaire recorded breastfeeding information.

### **3.7 Pre-testing the questionnaire**

Firstly, questionnaires were translated from English to Nepali and 40 questionnaires were pre-tested in a non-sample area in Kathmandu. The aims of the pre-test were to detect problems in questionnaire design and clarity of wording, to measure respondents' receptivity to the survey, and to contribute to the training of interviewers (Verrall, 1987:383; Dane, 1990). The questionnaire was pre-tested by one of the interviewers and the researcher. The pre-test was evaluated by discussion with the interviewer and by using pre-test results. Some minor modifications in wording were made after pre-testing the questionnaire.

Although abortion is not legal in Nepal, an attempt was initially made to gather information on it. However, in the pre-test respondents were clearly uneasy in answering those questions. As a result, nobody replied properly and it was decided to drop the question on abortion. Similarly, an attempt was made to collect information on the number of times a person was married by asking a question on age at first marriage. However, the question on age at first marriage had to be changed into the question about age at marriage, because remarriage, especially for females even in an urban area, is socially looked down upon. The question about the number of times married was not acceptable to respondents. In Hindu society remarriage, especially of females is deplored and therefore when the question about remarriage was asked it was seen that respondents felt embarrassed, thus discouraging them from answering further questions.

Modifications on wording were also made in the family planning module after the pre-test in order to obtain accurate answers and to allow more probing on the use of contraception. The pre-test also provided information about the average duration of time taken for each interview, which helped to estimate the number of interviews that an interviewer could do each day. The pre-test also gave an idea of what conditions would be like in the field, which helped interviewers to improve the survey atmosphere. Furthermore pre-test experiences were also found helpful in training the interviewers.

### **3.8 Recruitment and training of field personnel**

The gender of the interviewer can have a significant influence on the responses to some questions such as contraceptive use and fertility behaviour (Fisher and Carlaw, 1983; Axinn, 1989). When conducting a survey in a developing country, it is usually preferable to use female interviewers in order to get accurate information about fertility and family planning (Harpham, 1987:416). Also, given the nature of

the questionnaire, it was desirable that interviewers be educated females. Moreover, it has been stressed that the recruitment of local female interviewers was essential for effective, reliable and valid data on demographic research in Nepal (Fisher and Carlaw, 1983:3-7; Axinn, 1989:21; Axinn, 1991). With these views, a total of eight qualified local female interviewers, who had a wide knowledge of the area, were recruited. Three interviewers were Newars and they were assigned to conduct interviews in the central part of the city where most of the inhabitants were Newars. They used their language for Newar respondents who could not understand Nepali. These three Newari women also became very good sources of information regarding Newari culture and tradition.

One interviewer was recruited before the others to pre-test the questionnaires. All interviewers were given intensive training on methods of conducting interviews, asking questions and recording answers. The quality of the interviewer's work directly determines the quality of the survey (Verrall, 1987) and therefore in the training period the interviewers' role was emphasised as one of the most important roles. The experience gained during the pre-test was found useful in the training of field interviewers. The familiarisation of the survey team with the questionnaires proved invaluable during training. Practice interviews were also organised to provide interviewers with the confidence to conduct interviews successfully in the field, although some of them had been involved in previous fieldwork. Two of the best of these were chosen as supervisors, including one who did the pre-test and they were paid a little more than others. Those who were chosen as supervisors were also involved as interviewers for the first two months and helped the researcher to check the questionnaires already filled in by other interviewers.

A total of eight assistants worked for three months, but were gradually phased out in the latter part of the study when the researcher concentrated on checking the consistency of data already collected. Two interviewers who were chosen as

supervisors and one coder who was recruited in the latter half of the study worked until the end of the field work. Interviewers were interested in the topic and tried to get as much information as possible from the respondents. Therefore the survey was based on a team approach. Moreover, every day the survey team met at night and discussed the progress of the day. This helped in obtaining a lot of additional background information from the interviewers.

### **3.9 Response rate**

The ratio of the actually completed responses to the original sample size is the response rate. The response rate of the present study was quite high (98.3 per cent). A total of 1000 households were selected for interviewing, out of which 983 were successfully interviewed, yielding a very low non-response rate of 1.7 per cent. In order to minimise the incidence of non-response, the interviewers were asked to visit a household up to a maximum of three times to complete the questionnaire. Ten eligible respondents were not at home at the interviewers' third visit. The remaining seven questionnaires were found to be inconsistent when cross checked with other information. It was also not possible to make a second visit because such cases were found at the final stage of the field work when concerned interviewers had finished their jobs and were released from the team. Therefore these cases were dropped from the analysis. Thus, the non-response rate of 1.7 per cent was due to the non-availability of respondents and inconsistent information. Such a low non-response is not likely to have any meaningful effect on the survey results (Risal and Shrestha, 1993:22). The high response rate of the present study indicates the cooperative behaviour of Kathmandu women.

### **3.10 Qualitative data collection**

As well as the survey questionnaire, the field study incorporated a qualitative study to investigate the socio-economic and cultural factors affecting fertility behaviour

and regulation. The information collected through the questionnaire survey was cross checked by in-depth studies. The validity of the responses to the questionnaire were checked through discussions with local people and local interviewers who were very useful at this stage. The study also recorded case studies regarding marriage and value of children in Kathmandu so as to investigate the mechanisms causing change in fertility behaviour. Interesting information regarding fertility behaviour about a particular individual or household was collected as a case study. For example, if a respondent said something new and interesting which should be investigated in detail and was not covered in the questionnaire, it was collected as a case study. Every interviewer kept a personal notebook to record informal discussions with respondents (Appendix IV). These were found to be very useful to validate the answers recorded in the individual interview.

In a society where fertility has just started to decline, there is a need for an investigation of the mechanisms which affect fertility behaviour. In Kathmandu, institutions such as caste, kin group, family and marriage are some of the determinants which may have an important impact on childbearing intentions. To understand the changing pattern of these institutions is very important from the policy point of view. Important mechanisms causing change in fertility behaviour such as family and marriage which have been found to be changing in Kathmandu, have been cross checked by focus group studies and by key informants. The nature of interpersonal relationships among family members largely determines the role they play in the decision making process. An attempt was made to examine these roles in the focus group studies and informal discussions with different kind of people. These were found to be important tools for understanding the mechanisms through which such changes are taking place regarding fertility behaviour over time.

An understanding of the interaction between socio-economic variables and the demographic process is essential for the formulation of plans and policies and the implementation of programs to affect variables which significantly influence fertility. The validity of the collected qualitative information was also cross checked by comparing the information gathered from different groups and by comparing with focus group discussions.

The researcher also took part in marriage ceremonies and some other social events during the period of field work. This provided an opportunity to meet different people with whom the issues regarding marriage and childbearing intentions and fertility behaviour were raised in order to get an idea of opinions about demographic behaviour from different kinds of people. These were important occasions for informal data collection. Collected informal information helped to explain relationships observed from the quantitative data. Moreover, discussions with government officials especially with the staff of the Central Bureau of Statistics, the Family Planning Division of the Health Ministry, the Population Division of the National Planning Commission and the demographers of the Central Department of Population Studies at the Tribhuvan University about fertility behaviour were also found to be very useful.

### **3.10.1 Focus group discussions**

Focus group discussion is one of the methods of qualitative data collection. It is an exercise in group dynamics and provides socio-cultural values and behaviour of a particular context or society about phenomena of interest. The focus group technique has been widely used in marketing research, but recently it has also been a part of social science research methods (Knodel *et al*, 1988:42). Focus group discussion gives an idea of direction and nature of change and provides information on the behaviour, opinions and attitudes of a particular society (Krueger, 1990:30).



Moreover, focus group discussion can help directly in the interpretation of survey results (Knodel *et al*, 1988:43-45; Stewart and Shamdasani, 1990:15). The contemporary focus group discussion generally involves 6 to 12 individuals and discusses a particular topic of interest under the direction of a moderator (Knodel *et al*, 1988; Stewart and Shamdasani, 1990). Different experiences of focus group study have shown that smaller groups may be dominated by one or two members, while larger groups are difficult to manage (Knodel *et al*, 1988; Stewart and Shamdasani, 1990). Focus groups are very flexible, can obtain deeper levels of meaning and allow the researcher to interact directly with respondents (Knodel *et al*, 1988:42; Stewart and Shamdasani, 1990:16; Krueger, 1990:44).

Focus group discussion was one of the main tools for investigating the processes and mechanisms causing changes in fertility in Kathmandu. Altogether, three focus group discussions were held for the study. In order to obtain qualitative information on underlying attitudes and opinions with regard to fertility behaviour, the focus group sessions with older and younger women were conducted separately. It is argued that the homogeneous characteristics of the participants of the focus group assists the free flow of discussion (Knodel *et al*, 1988:42; Krueger, 1990:28). The first focus group consisted of nine women of below 35 years of age from different socio-economic status groups. The second group also consisted of nine women over 35 years of age. These groups provided a free flow of discussion because of the homogeneity in age. Moreover, focus groups were composed of people who did not know each other. If people regularly interact and meet they may respond on the basis of known past experience, events or discussion (Krueger, 1990:29). The participants of the focus group discussion were not respondents to the questionnaire survey. Female participants were selected randomly from the different wards of Kathmandu. The discussions were tape recorded. One interviewer acted as the moderator of the session, while another operated the tape recorder and took notes.

The researcher was not present in those discussions because the nature of the society is that in the presence of males, women do not tend to talk informally and freely. Informal and free discussion is essential in order to find out what they actually think about fertility regulation, behaviour, marriage and the role of children. The third group consisted of eight men of mixed age who were also selected randomly from different wards. The researcher himself conducted the focus group discussion with them and two friends of the researcher were note takers. These group discussions were conducted in a municipality office.

The outcome of the focus group discussions has contributed to improving the quality of the survey data and interpretation of the results. The results obtained in the focus groups may be biased by a very dominant member of the group (Knodel *et al*, 1988:44; Stewart and Shamdasani, 1990:17), however the moderator was instructed to avoid these situations and was asked to encourage each and every member of the group to participate in the discussion. It was also observed in the session that the discussion was relaxed and enjoyable for participants as they shared their ideas and perceptions. It is expected that the discussions have provided insights into what participants actually think and how they behave.

The moderator and note taker who were present in the discussion were carefully monitoring while transcribing. The accuracy and meaning of different intonation was carefully checked. The team approach was used while transcribing the discussion. Knodel *et al* (1988:45) suggested that a considerable amount of subjective judgement is required in interpreting focus group discussions.

### **3.11 Critical assessment of data quality**

The quality of data to a large extent depends on the interview situation and the nature of questions asked. The degree of cooperation of the respondents and interviewers is important in order to collect good quality data. Considerable efforts

were made to minimise errors. For example, questionnaires were thoroughly pre-tested and modifications in wording were made to make them easy to understand. Adequate training was given to interviewers and close supervision was provided during the field work. Interviewers were asked to tally the age of mother and child and age at marriage and marital duration to reduce the degree of error in age, marital duration and birth history reporting.

Re-interviewing is a common technique used for quality control of data collection (Shryock and Siegal, 1976:35; Stone and Campbell, 1984:31). A sample of households were re-interviewed and the answers were compared with the original responses. Re-interviewed responses were found to be close to the original responses. It was also noted by interviewers that most respondents were interested in the topic of research and accordingly cooperative behaviour was found while answering the questions.

It was found that 60 per cent of respondents could report their date of birth in the present survey. Tan (1983:433-444) argued that having a high proportion of women who could report the actual date of their birth improves the accuracy of age data. Some of the factors responsible for this accuracy in reporting age were high literacy among urban women, requirement of providing proof of children's age at the time of beginning school and the requirement in legal and financial transactions of having a citizenship certificate which shows age and participation in elections (Niraula, 1990:59). The accuracy of age data was checked by matching the reported age with the age at marriage and the birth history section. Further probing was also used in cases where age reporting was doubtful. Maximum efforts were made to collect the correct age of both mother and children. In spite of these efforts, no doubt there may still be some errors in age reporting, but the effect of age error is reduced if respondents are grouped into broad age categories, such as five year age groups. The analysis of the present study is therefore based on such age groups.

Given the socio-economic and cultural conditions and the limited knowledge of vital events among women, data on cumulative fertility usually suffer from under-reporting, particularly at higher ages. However, it is also found that women who knew their date of birth were less likely to misreport their birth history (Tan, 1983:442). In general, it was difficult to collect information on deaths of children. Some mothers who have had the experience of child losses were reluctant to talk about it. Thus no matter how well a questionnaire has been developed, pre-tested and revised, some respondents have problems of recall (Stone and Campbell, 1984:30). It cannot be claimed that the present survey has no problem of such reporting however, maximum efforts were made to record all children who were born alive. Information collected in the survey was cross-checked with information gathered from informal and focus group discussions. It is hoped therefore that these cross-checks and the careful supervision of the interviewers helped to provide good quality data for the analysis which follows.

The results of a sample survey of Kathmandu city cannot be generalised to the whole of Nepal nor to all Nepalese urban areas. However, the findings of the present study are strongly indicative of the fertility behaviour of Kathmandu women and provide an opportunity to understand the demographic behaviour of an urban population which should be very valuable to policy makers and planners.

Age, education and occupation of those in the present study are compared with 1991 census data of Kathmandu city (Table 3.4). The proportion of the survey population with no schooling is high compared with that in the 1991 census. However, the proportion with 1-5 years of schooling in the 1991 census is high compared with the survey population, indicating that educational level in this group in the census might have been over stated. However, the proportions with 6-10 and 10+ years of schooling are almost the same. The age and occupation percentage distributions also show a similar pattern.

**Table 3.4 Percentage Distribution of Married Women Aged 15-49 by Age, Education and Occupation of Kathmandu Survey, 1992 and the 1991 Census, Kathmandu City.**

	Kathmandu Survey, 1992	Census 1991
<b>Years of schooling</b>		
No schooling	27.1	15.9
1-5	11.2	24.4
6-10	15.9	11.6
10+	45.7	48.1
<b>Current age</b>		
15-19	4.8	6.0
20-24	18.6	20.9
25-29	21.4	21.9
30-34	18.6	17.2
35-39	16.2	14.1
40-44	10.4	10.9
45-49	10.0	9.0
<b>Employment status</b>		
Working	32.4	24.2
Not working	67.6	75.8
Total	100.0	100.0
(N)	(983)	(79242)

Sources: Kathmandu Survey, 1992 and CBS, 1993a

### 3.12 Data processing

Questionnaires returned from the field were thoroughly checked by two assistants and the researcher. As mentioned earlier, one coder was recruited after three months of the study. He was given thorough training on how to accurately code both closed and open ended questions. Open ended questions were coded according to the contents of the answers recorded. All the coded questionnaires were thoroughly checked. Out of 1000 cases, 983 cases were available for analysis. Questionnaires were given to the computer centre in Kathmandu for data entry. All data entry was printed out and compared with the coded questionnaire for correctness. Data on floppy diskette were brought to Adelaide and were further checked for consistency.

### 3.13 Conclusion

This chapter has described the methodology employed to collect data for the present study and has assessed the strengths and weaknesses of the sources used. Along with the use of survey data and some qualitative information gathered from the focus group discussion, in-depth interviews and informal discussion, other sources such as contemporary literature and official statistics have also been utilised for the study in order to explain the dynamics of fertility change in Kathmandu. Since the main body of data came from the field survey, considerable efforts were made to collect good quality data. No major difficulties were faced in collecting information since all interviewers and the principal investigator were part of and familiar with, Kathmandu community. It was also observed that interviewers and respondents were keenly interested in the topic of research and questions were therefore asked and replied to readily. Hence, it is expected that detailed information collected from the field could explain mechanisms causing change in fertility behaviour in Kathmandu.

One of the important proximate determinants of fertility is marriage and this is especially important in Nepal because fertility out of marriage is negligible. Therefore before analysing other factors relating to fertility behaviour of women, it is imperative to understand the marriage trends and patterns of the study population which are discussed in the next chapter.



## CHAPTER FOUR

### THE MARRIAGE TRANSITION IN KATHMANDU

#### 4.1 Introduction

It has been found from the European demographic transition (Coale, 1975) and results of the World Fertility Survey (McDonald, *et al* 1981) that the higher the age at marriage, the lower the fertility. Coale (1975:349) mentioned that western Europe has experienced two demographic transitions. The first was the transition from early and universal marriage to the west European form of nuptiality; a reduction in the proportion married. This transition was considered as the Malthusian transition since Malthus was of the view that to restrain population growth, late marriage was the solution. The second transition was called the Neomalthusian transition which is based on a reduction of marital fertility by techniques advocated by Neomalthusians (Coale, 1975:349). The aim of this chapter is to discuss the role of age at marriage in the fertility transition and to explain whether marriage is in transition in Kathmandu, since the transition from high fertility to low fertility is also associated with the transition from early marriage to late marriage (Coale, 1975).

Age at marriage is an especially important variable affecting fertility in a society where fertility out of wedlock is strongly disapproved of and marital dissolution is insignificant (McDonald *et al*, 1981:77). Therefore it is an especially important variable shaping the fertility level in Nepal where very few births take place outside of marriage (NCP, 1988:58; Thapa, 1989b:26). Broadly speaking, marriage has become a social obligation in Nepal, reinforced by the belief that a person must marry within a certain time in order to have a position in society. Furthermore, in a



Hindu society, where the kinship system is very strong, a man is considered to be mature only after he is married (Mayer, 1960:215). To examine the mechanisms causing change in marriage, this chapter is organised as follows: firstly, marriage and social organisation are discussed, followed by an analysis of changing patterns of marriage in Nepal in general and in Kathmandu in particular. Finally, the relationship between age at marriage and cumulative fertility are discussed.

#### **4.2 Marriage and social organisation**

Marriage is not a biological event like birth or death, rather it is a social event which is determined by the society within which it occurs. Hajnal (1953, 1982) identified two basic marriage patterns: a "traditional" pattern of early and universal marriage, and a "European" pattern of late marriage and high proportions never marrying. The former type of marriage is characteristic of developing countries, while the latter is typical of more developed countries. The distinction between European and traditional marriage patterns is based on the observation that in societies where marriages occur early, more people ultimately marry than in societies where marriages occur relatively late (Dixon, 1971:215). According to Hajnal (1953), marriage patterns that lie between the traditional and the European patterns are called intermediate patterns and are found in Eastern and Southeast European countries.

Timing of marriage is an integral part of social organisation (McDonald, 1985). In a review of theories of the association between nuptiality patterns and types of social organisation, McDonald (1985:87-90) proposed three basic stages of social organisation which Marx and Weber specified in their studies of social evolution. McDonald (1985:87) argues that the three basic stages of social organisation are useful because most societies can be placed somewhere along the continuum that they represent.

In the first stage of organisation the lineage which provides economic, physical and spiritual security to its members is the principal unit of production and consumption. In this type of organisation, marriage functions not only as the recruitment mechanism for the lineage but also as a means of alliance with other lineages. Since marriage occupies a central role in the security of the lineage, it must be tightly controlled and organised by the generation of elders. Therefore the power of the elders in determining when and whom a member marries is important. According to McDonald (1985), these types of organisation are found in contemporary sub-Saharan Africa.

The second type of social organisation is "characterised by a pre-eminence of power at a higher level than that of the lineage, ranging from tribal or manorial lordship through to the bureaucratised, though not industrialised, nation state" (McDonald, 1985:88). In this type of organisation, rights of access to the property jointly owned by a kin group or individual will be primarily inheritable. Thus the younger generation will be heavily dependent upon the older generation. McDonald (1985) states that alliance through marriage will be important to the ruling classes so that their marriages will be tightly controlled by the parental generation. In a highly differentiated society, freedom in choosing a partner is restricted because of the rules of caste endogamy. According to McDonald, most of the Asian and Latin American countries are placed in this second type of organisation.

The third type of social organisation is the advanced capitalist mode of production which is characterised by urbanisation, industrialisation and individualism in western societies. In such a society, marriage occurs by free choice without any restriction by lineage or elder generations (McDonald, 1985).

Dixon (1971:215-233) also has developed a framework for analysing variations in marriage patterns. She proposed three variables intervening between the social

structure and marriage patterns. The first variable is the availability of mates and is determined by the sex ratios of persons of marriageable ages. If there is an imbalance between the sexes, marriage would be delayed. In a society where marriage occurs by free choice, it should occur later than where elders take on the responsibility of arranging a match for their children.

The second variable which affects the age at marriage is the feasibility of marriage which is determined primarily by the financial situation including residential independence of the newly married couple. According to Dixon (1971), in joint family norm societies, marriage would be more feasible and therefore, would occur earlier than where independent residence is the norm.

The third variable is the desirability of marriage. This variable is primarily determined by the structure of the society and the ethnic group. In particular societies or groups, marriage is not necessarily desirable even if it is economically feasible. The pressures to marry and the penalties of remaining single also often vary and differ for men and women. In societies which offer more options, marriage will be delayed and vice versa. The general prediction is that nuptiality will be high and celibacy low where marriage is perceived as being both feasible and desirable and where potential mates are readily available. Nuptiality will be low and celibacy high in the absence of any of these conditions (Dixon, 1971).

The Nepalese population is ethnically complex, therefore marriage is largely dependent upon ethnic and caste beliefs (Thapa, 1989b:26) and marriage is tightly controlled by the parental generation. However, in urban societies boys and girls are given some freedom in choosing their partners but the freedom is not to the extent of that in western societies. Restrictions are still there because of the customs of caste endogamy. Nepal fits well into the second type of social organisation which McDonald (1985:87-90) has discussed. Moreover it is also found that the

control over marriage is also expected to be stricter in patrilineal societies (Meekers, 1992:64).

### 4.3 Theoretical background

Changes in fertility are achieved through changes in age at marriage and a change in age at marriage is a result of changes in socio-economic conditions. Table 4.1 shows that improved socio-economic conditions and a trend away from arranged marriage results in higher age at marriage. Here major explanations are summarised in Table 4.1 which suggests that the timing of marriage is affected by various factors and patterns of marriage depend upon the social context within which it occurs.

**Table 4.1 Summary of the Theoretical Explanations of Changes in Age at Marriage.**

Explanations	Effects on Age at marriage	References
Increased education and modernisation	Destabilises the traditional relations with the family resulting in high age at marriage	Caldwell, 1982 p. 301-324 Goode, 1963 p. 376-377
Extended family with strong patriarchal control	Associated with arranged marriage resulting in an early marriage	Davis and Blake 1956; Lorimer, 1954; Goode, 1963; Dixon, 1971
Trend away from arranged marriage, urbanisation and diminishing role of elders regarding marriage	Related to late age at marriage resulting in a low level of fertility	Mitchell, 1971 p. 481-489 Dixon, 1971 p. 215-233 Botev, 1990:107
Increased expectation of life at birth **	Reduces the pressure of marrying early	Caldwell <i>et al</i> , 1983:349

Note: \*\* Early marriage was important when mortality was high because parents wanted their children to get married before their (parents) death since the marriage of children was considered a religious duty.

A consistent finding from the review of the literature is that aspects of marriage are determined by societal norms and customs and therefore are more closely related to geographical region than to level of development. Social and economic changes such as increased schooling for women play an essential role in delayed marriage and declining marital fertility.

This chapter examines the trends and changing patterns of age at marriage which prevail in a Nepalese social organisation. An attempt is also made to examine the changing patterns of the marriage institutions and marital timing as indicators of wider socio-cultural change in Nepal in general and in Kathmandu in particular.

#### **4.4 Marriage in Nepal**

Marriage is one of the most important events in family life in Nepal. It signals the completion of a religious duty of parents and increases the social status of children in Nepal. It is one of the important '*Samskars*' (sacrament) in Hindu society. Panday (1969:10) states:

*Samskar* means religious purificatory rites and ceremonies for sanctifying the body, mind and intellect of an individual so that he may become a full fledged member of the community.

Marriage has two significant functions in human society: it is a means for regulating and governing the relations between the sexes and it provides the mechanism by which the relation of offspring to the community is determined (Majupuria and Majupuria, 1978:9). Although there are different types of marriages in Nepal, most are arranged and patriarchal. The rule of thumb for arranging marriage in most cases is clan exogamy and caste (*Jaat*) endogamy, i.e. one must marry outside his/her clan but inside his/her caste. Generally in Nepal, a marriage procession is taken to the bride's house where all the rites connected with the marriage ceremony are observed. The bride is then brought to the groom's house. This type of marriage is very common in Nepal.

Besides arranged marriage, there are other types of marriage in Nepal, important among which are kidnapped marriage, marriage by singing, marriage by purchase and cross cousin marriage (MacFarlane, 1976; Majupuria and Majupuria, 1978; Bista, 1987; Shrestha and Singh, 1987). In "kidnapped marriage" no prescribed rituals are observed. In some ethnic groups such as Kiranthe, Rai, Magar and Lama, the groom has to pay marriage expenses to the former husband of the kidnapped bride (Bista, 1987:30-50). "Marriage by singing" is also in vogue among the some ethnic groups in Nepal such as *dhan nach* (rice dance) among Limbu in the eastern hills of Nepal (Niraula, 1991:56) and *rodi ghar* among Gurung in the western hills of Nepal (MacFarlane, 1976; Bista, 1987). In this type of marriage, he or she who is defeated in singing will accept the victor as his or her spouse. "Marriage by purchase" was also found in Nepal, although it is diminishing. In this type of marriage, payments are made by the husband or his relatives to the relatives of the wife. In this case, it is termed bride-price and when payments are made to relatives of the groom it is known as dowry.

"Cross-cousin marriage" is prevalent among the Thakalies, most of whom live in the western part of the country and Thakuri Chhetries who are scattered all over the country. Among these ethnic groups, it is permitted to marry their father's sister's daughter or the mother's brother's daughter. Fricke and Teachman (1993:180) report that the Tamang community of Nepal also favour cross-cousin marriage. Among Sherpa and Bhotas who live in the mountain region of the country there is a unique marriage system, in which after the death of the elder brother, the brother of the deceased is entitled to marry the widowed sister-in-law. However, the elder brother cannot marry the wife of his deceased younger brother (Shrestha and Singh, 1987:32). A fraternal polyandry system (that is two brothers marrying one joint wife) occurs among these groups (Thapa, 1989b:17).

"Love marriage" is also common in Nepal, however inter-caste marriage (such as either boys or girls choosing a lower caste) may not be approved of in the household. This indicates the importance of the ethnic and caste system in Nepal regarding marriage.

There is provision for remarriage and divorce in Nepal, although according to the Hindu religion widow remarriage, especially that of the female, is looked down upon in the society and therefore it is rare in higher caste groups in Nepal. The concept of divorce varies among ethnic groups in Nepal. In a Hindu marriage the concept of divorce is not common, however the revised 'Mulki Ain' (Civil Code) in Nepal does permit divorces under certain conditions (HMG/N, 1963).

#### **4.5 Marriage patterns in Nepal**

Table 4.2 shows that more than 97 per cent of women are married by age 30-34 years, indicating the near universality of marriage in Nepal. In 1961, 95 per cent of women were married by age 24, but the corresponding figures for 1991 were about 87 per cent, indicating a sharp decline in the proportions married in the younger age groups in recent years. Similar findings were reported by Ban and Shrestha (1993:53) from the 1991 NFHS survey. One of the plausible explanations could be an introduction of the legal minimum age for marriage, which under the existing law is sixteen years for girls and eighteen years for boys with the consent of parents or legal guardians. However, without parents' consent, girls could marry at eighteen years and older and boys at twenty-one years and older (Ban and Shrestha, 1993:5). This was also the case in China that when the minimum legal age at marriage was introduced in the 1970s, age at marriage increased substantially (Coale and Freedman, 1993). Increased age at marriage could also be due to changes in socio-economic status, such as increased education and modernisation. However, the proportion never married of the age group 20-24 in 1991 is similar to that in 1981,

indicating the importance still attached to early age at marriage for females in Nepal.

**Table 4.2 Percentage Distribution of Never Married Women 15-49 Years of Age, Nepal, 1961-1991.**

Age	1961* never married	1971* never married	1981* never married	1991** never married
15-19	26.2	39.3	49.2	52.6
20-24	5.4	7.9	13.1	13.1
25-29	1.9	2.7	5.3	4.0
30-34	1.0	1.4	3.1	2.0
35-39	0.8	1.1	2.6	1.5
40-44	0.7	0.9	2.5	1.3
45-49	0.6	0.8	2.9	1.0

Sources: \*CBS (1987):Table 5.1

\*\* GC, 1993:Table 2

Since direct questions on age at marriage are not asked in Nepalese censuses, the singulate mean age at marriage (SMAM) was calculated. This is an indirect technique developed by Hajnal (1953:111-136) to obtain the mean age at marriage in the absence of direct information on age at marriage. This measure is an estimate of the average number of years lived by a cohort before their first marriage. Table 4.3 presents the singulate mean age at marriage by sex for Nepal 1961 through to 1991.

Table 4.3 shows a steady increase in the singulate mean age at marriage for females from 1961 to 1991 indicating the trend of increasing female age at marriage in Nepal. The calculated SMAM for males in 1991 indicates the constant age at marriage for males between 1981 and 1991. It is argued that direct questions on age at marriage can give a more direct measure (Goldman *et al*, 1979:13-15) and singulate mean age at marriage is less precise for identifying changing nuptiality patterns (United Nations, 1983a). In this study, direct questions on age at marriage are used to examine marriage patterns and trends in Kathmandu.



**Table 4.3 Singulate Mean Age at Marriage by Sex, 1961-1991 Censuses, Nepal.**

Year	SMAM		Difference (male-female)
	female	male	
1961	15.1	19.4	4.3
1971	16.7	20.8	4.1
1981	17.1	21.8	4.7
1991**	18.5	21.7	3.2

Sources: CBS (1987:Table 5.6 :100),

\*\*Calculated from CBS (1992:Table 34)

#### 4.6 Marriage patterns in Kathmandu city

Eighty seven per cent of men and over 91 per cent of women had already married by age 30-34 years in Kathmandu (Table 4.4) compared with 93 per cent of men and 95 per cent of women in the whole of Nepal (GC, 1993:41), indicating the near universality of marriage in Nepal. However, the proportion married in the youngest age group (15-19 years) for Kathmandu was 6 per cent for men and 20 per cent for women (Table 4.4). The corresponding figures for the whole of Nepal were 20 per cent and 45 per cent for men and women respectively (GC, 1993:41), thus suggesting the trend of increased age at marriage in Kathmandu city.

**Table 4.4 Percentage Distribution of Age Sex Specific Marital Status for Population Aged 15-49 Years, Kathmandu City, 1991.**

Age	Male				Female			
	M	S	WDS	Total	M	S	WDS	Total
15-19	6.3	93.6	0.1	100	19.8	79.9	0.3	100
20-24	31.9	67.9	0.2	100	64.2	35.1	0.7	100
25-29	65.4	34.1	0.5	100	85.7	13.2	1.1	100
30-34	86.8	12.6	0.6	100	91.4	6.4	2.2	100
35-39	93.9	5.2	0.9	100	91.6	4.2	4.2	100
40-44	95.3	3.4	1.3	100	88.4	3.9	7.7	100
45-49	95.4	2.8	1.8	100	84.3	3.7	12.0	100
SMAM	Male	25.2			Female	21.3		

Note: M=married, S=single, WDS=widow, divorce, separated (small number of divorce and separated is merged into widowed and named WDS)

Source: CBS, 1993a:Table 40.

It is also seen that a higher percentage of women in the 45-49 age groups were widowed in both Kathmandu and total Nepal compared with men in that age group, indicating a relatively high level of male adult mortality (Ban and Shrestha, 1993:52). Large spousal age difference and high adult mortality increases the likelihood of early and prolonged widowhood (Shah and Cleland, 1993:198). Break up of marriage due to divorce and separation was negligible.

**Singulate mean age at marriage (SMAM):** The calculated SMAM is 25.2 years for males and 21.3 years for females in Kathmandu (Table 4.4). This is higher than the calculated mean age at marriage from the survey population of this study. It is also to be noted that as mentioned earlier, SMAM is based on the proportion never married and mean age at marriage (MAM) is based on a direct question on age at marriage.

**Marital status indexes:** Marital status indexes show the changing patterns of nuptiality in a society where negligible births take place outside of marriage. The index of 'Im' (proportion married) was originally developed by Coale (1970). Hull and Saladi (1977) broadened the use of the marriage index (Im) by decomposing its reciprocal into separate indexes: 'Is' (proportion single), 'Id' (proportion divorced), 'Iw' (proportion widowed), 'Ip' (proportion separated). The procedure employed to calculate these indexes was the same as that described by Coale. "Distribution of women of reproductive age (15-49) of various marital statuses are weighted according to a Hutterite schedule of age specific fertility - which is meant to represent an approximate weighting for potential fecundity patterns" (Hull and Saladi, 1977:3).

Marital status indexes for Kathmandu and Nepal using 1991 census data are presented in Table 4.5. It can be seen that 70 per cent of women presumed to be potentially reproductive are currently married in Kathmandu compared with 84 per

cent in Nepal as a whole. Twenty eight per cent of women are still single in Kathmandu compared with 13 per cent in Nepal. 'Is' constitutes an index of delayed marriage, and the sum ('Id'+ 'Iw'+ 'Ip') is an overall index of marital disruption (Hull and Saladi, 1977:3). The contribution of marital disruption in reducing reproductive potential is smaller in Kathmandu than in Nepal as a whole (Table 4.5). Among indexes of marital disruption, the index of widowhood is higher than the index of divorce and separation in Kathmandu. A similar pattern was found in Nepal as a whole (not shown in table) indicating a high degree of marriage stability.

**Table 4.5 Marital Status Indexes for Kathmandu City and Nepal, 1991.**

	Kathmandu (1991)	Nepal (1991)
Im	0.7017	0.8400
Is	0.2809	0.1360
Iw+Id+Ip	0.0174	0.0240
Total	1.0000	1.0000

Source: CBS, 1992; 1993

Calculated formulae:  $Im = (\sum F_{imi} / \sum F_{iWi})$ ;  $Is = (\sum F_{isi} / \sum F_{iWi})$ ;  $Iw = (\sum F_{iwi} / \sum F_{iWi})$ ;  
 $Id = (\sum F_{idi} / \sum F_{iWi})$ ;  $Ip = (\sum F_{ipi} / \sum F_{iWi})$

Where:  $F_i$  = Hutterites' age specific marital fertility

$W_i$  = total number of women in each age interval

$m_i$  = total number of married women in each age interval

$s_i$  = total number of single women in each age group

$w_i$  = total number of widow women in each age group

$d_i$  = total number of divorce women in each age group

$p_i$  = total number of separated women in each age group

The smaller value of 'Im' for Kathmandu indicates a lower reproductive potential due to marital status than Nepal as a whole. Conversely, the proportion single in Kathmandu is more than double the proportion at the national level. Table 4.5 suggests that there is a pattern of rising age at marriage in Kathmandu. Again, only a small proportion of women of reproductive potential are currently divorced in Kathmandu. The fall in 'Im' in Kathmandu is the result of rising 'Is'. This rising 'Is' may relate to a decreasing trend in parentally arranged unions. This situation will be examined in the later section of this chapter.

#### 4.7 Trends in age at marriage in the survey population

The age at marriage has important social and demographic implications. In every society the status and role of women is changed after marriage. An early age at marriage implies an earlier initiation of childbearing, which implies a longer period of exposure to the risk of pregnancy (Trussell and Reinis, 1989:127). It is also worth mentioning that because of cultural differences in patterns of family formation, the date of first ceremonial marriage may not always indicate the beginning of the exposure to the risk of childbearing because the start of cohabitation may be different from that of ceremonial marriage (McCarthy, 1982; Trussell and Reinis, 1989).

In some studies of Nepal, the start of cohabitation has been used to define age at marriage (FPMCH, 1977). However in this study, although the question on start of cohabitation was asked, age at marriage has been used for the analysis because it was found that only 5 per cent of older women did not start to live with their husband immediately after marriage (Table 4.6 and 4.7). This fact is taken into consideration when interpreting the results of these groups.

**Table 4.6 Mean Age at Ceremonial Marriage and Mean Age at Consummation by Current Age.**

Current Age	Mean age at		Consummation	Standard deviation	Differences	N
	Marriage	Standard deviation				
20-24	19.9	2.4	19.9	2.4	0.0	183
25-29	20.3	3.2	20.3	3.2	0.0	210
30-34	19.3	3.9	19.3	3.9	0.0	183
35-39	19.9	3.7	20.0	3.7	0.1	159
40-44	18.5	3.4	18.5	3.3	0.0	102
45-49	16.1	3.0	17.2	2.8	1.1	99
Total	19.3	3.5	19.5	3.4	0.2	936

Source: Kathmandu Survey, 1992

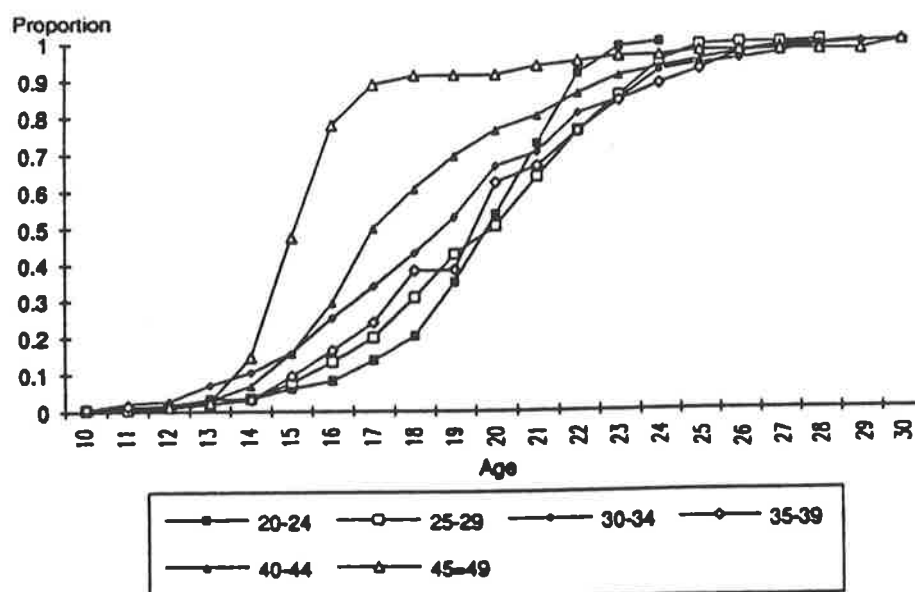
It is to be noted that data on age at marriage collected here are subject to a truncation effect that is more pronounced in the younger age group whose entry into marriage would not have been completed at the time of survey. Therefore, to examine trends and time in the age at marriage in Kathmandu, the mean age at marriage is calculated to standard age cohorts 20-24 years through 45-49 years. The results are presented in Table 4.6.

Table 4.6 indicates that the older cohorts had a lower age at marriage than their younger counterparts, thus implying that the mean age at marriage has been rising in Kathmandu. The mean age at marriage for the cohort aged 20-24 years is almost 4 years more than that of the cohort aged 45-49 years. The mean age at consummation for the younger cohort is almost 3 years more. This indicates that on average, older women started to live with their husbands one year after marriage took place. It was believed in the past that by marrying their daughter off before puberty, parents would get *punya* (merit) (Bista, 1987:7). This may be one of the reasons that older women were married early and did not live with their husband immediately after marriage.

Moreover, it was also believed in the past that young brides would not be able to fulfil the responsibility of the husband's household, therefore even if they were married early they did not go to their husband's home immediately after marriage. The time lag between the age at ceremonial marriage and that at consummation is a transition period for the bride, during which they are taught how to perform household duties (Niraula, 1991:72).

The curves of cumulative proportions of women married (Figure 4.1) were constructed using reported dates of marriage for currently married women and show the different marriage experiences of different cohorts.

**Figure 4.1** Cumulative Proportion of Women Married by Age by Five Year Cohorts, Kathmandu.



Source: Derived from dates of marriage, Kathmandu Survey, 1992.

**Table 4.7** Mean Age at Marriage and Mean Age at Consummation by Marriage Duration for Women Age 20 Years and Above.

Marriage duration (Years)	Mean age at				Differences	N
	Marriage	Standard deviation	Consummation	Standard deviation		
0-4	21.7	2.4	21.7	2.4	0.0	225
5-9	20.4	3.1	20.4	3.1	0.0	171
10-14	19.9	3.5	19.9	3.5	0.0	165
15-19	18.5	3.2	18.5	3.2	0.0	144
20 and over	16.3	2.5	16.8	2.4	0.5	231
Total	19.3	3.5	19.5	3.4	0.2	936

Source: Kathmandu Survey, 1992.

Table 4.7 presents the mean age at marriage by marriage duration and also reflects the trend of increasing age at marriage in Kathmandu, although age at marriage and duration of marriage are strongly correlated. Only for women with a marriage duration of 20 years or more, was marriage consummated some time after the

ceremonial marriage. For women with a marriage duration of less than 20 years, marriage was consummated at the same age at which the marriage ceremony took place.

Of the women in the age group 45 years and above, 92 per cent were married before 18 years of age. However, this proportion had declined to 20 per cent among women 20-24 years of age indicating a sharp decline in the proportion marrying in the younger age groups (Table 4.8). On the other hand, about 72 per cent of women aged 20-24 years and 46 per cent aged 25-29 years married at 19-22 years of age compared with 4 per cent of those aged 45 years and over, providing further evidence of increasing age at marriage in Kathmandu.

**Table 4.8 Percentage Distribution of Women by Age at Marriage and Current Age for Women Aged 20 Years and Above.**

Age at marriage	Current age						N
	20-24	25-29	30-34	35-39	40-44	45+	
Less than 15	3.3	3.3	10.4	3.1	6.9	17.3	61
15-18	16.9	25.2	32.8	35.2	53.9	74.7	329
19-22	71.6	45.7	37.7	37.7	25.5	4.0	386
23-25	8.2	23.3	13.1	16.4	8.8	2.0	125
25+	*	2.5	6.0	7.5	4.9	2.0	35
Total	100	100	100	100	100	100	936
Number	(183)	(210)	(183)	(159)	(102)	(99)	

Source: Kathmandu Survey, 1992.

#### **4.8 Main methods of marriage mediation in Kathmandu**

Of the total respondents, 48 per cent of all the marriages were arranged and these women were married at an average age of 17.5 years. Thirty eight per cent of all marriages were semi-arranged (parents choose prospective spouse, then children make the final decision) and these women were married at an average age of 21 years which is the highest age at marriage among the different methods of marriage mediation. In this latter type of marriage, males or females are free to say 'no' if

they are not happy with their parents' choice. Age at marriage is lower in societies where elders take the entire responsibility to arrange a marriage, and it is higher in societies where marriage occurs by free choice (Goode, 1963; Dixon, 1971; Mitchell, 1971; Caldwell, 1982; Botev, 1990).

**Table 4.9 Mean Age at Marriage (MAM) by Main Method of Marriage Mediation.**

Methods of marriage mediation	MAM	Per cent	Number
1. Parents decide everything	17.5	48.0	472
2. Parents chose prospective spouse, then children make final decision	21.0	38.3	376
3. Children choose themselves then parents make final decision	20.1	6.7	66
4. Children decide everything	20.0	7.0	69
Total	19.2	100.0	983

Source: Kathmandu Survey, 1992.

**Table 4.10 Percentage of Women Married According to Marriage Mediation and Ethnicity.**

Ethnicity	Methods of marriage mediation**				Total
	1	2	3	4	
Brahman	58.4	34.4	4.5	2.7	100.0
Chhetri	42.9	46.3	5.4	5.4	100.0
Newar	41.3	44.2	7.7	6.8	100.0
Mongoloid Tibetan	51.3	13.7	15.0	20.0	100.0
Others	51.2	17.1	7.3	24.4	100.0
Total	48.0	38.3	6.7	7.0	100.0
Number	(472)	(376)	(66)	(69)	(983)

Note: \*\* As of method mentioned in Table 4.9

Source: Kathmandu Survey, 1992.

Marriage mediation by caste/ethnicity shows that arranged marriages are more common for Brahmans in Kathmandu (Table 4.10), indicating their greater belief in Hindu customs of marriage. It is seen that self-arranged marriages are higher in Mongoloid Tibetan and 'others' groups compared with Brahman, Chhetri and Newar, which shows that parental control of marriage for these groups compared



with Brahman, Chhetri and Newar is limited. It is documented in other studies that Mongoloid Tibetans have more freedom in choosing their partners compared to other ethnic groups in Nepal (Majupuria and Majupuria, 1978; Bista, 1987; Levine, 1987). Moreover, among the various ethnic groups, the percentage of arranged marriages for Newars is low, and as a result their age at marriage was higher in Kathmandu.

**Table 4.11 Percentage of Women Married According to Marriage Mediation and Years of Schooling.**

Years of Schooling	Method of marriage mediation**				Total
	1	2	3	4	
No schooling	74.5	12.7	3.1	9.7	100
1-5	67.6	24.3	4.5	3.6	100
6-10	46.8	37.8	7.1	8.3	100
10+	27.8	57.0	9.4	5.8	100
Total	48.0	38.3	6.7	7.0	100
Number	(472)	(376)	(66)	(69)	(983)

Note: \*\* As of method mentioned in Table 4.9

Source: Kathmandu Survey, 1992.

There is a clear relationship between schooling and marriage mediation. The higher the educational level of women, the lower the parental control on marriage (Table 4.11). Coale (1992:337) argues that the increased female participation in education and in labour force activities outside the home erodes the universality of very early arranged marriages. However, the 'no schooling' category has the highest percentage of free choice marriage (type 4), which is mainly because Mongoloid Tibetan and 'others', who had no schooling but married by free choice, dominate this category.

#### **4.9 Attitudes towards age at marriage in Kathmandu**

It is seen that age at marriage in Kathmandu is rising and this may be a result of changing attitudes towards age at marriage. This was examined by asking

respondents whether their age at marriage was late, early or at the 'right' time (Table 4.12). Of all respondents, 49 per cent said they were married early (17 years) while forty eight per cent said that they were married at the right age (21 years). This gives an indication that the current average age at marriage (19.2 years) in Kathmandu is likely to increase in the future because these attitudes may affect their children's age at marriage.

**Table 4.12 Percentage Distribution and Mean Age at Marriage of Attitude Towards Age at Marriage.**

Respondents age at marriage	Per cent	MAM	N
Late	1.6	26.2	16
Early	49.3	17.0	485
Right time	48.2	21.2	473
Do not know	0.9	18.7	9
<b>Total</b>	<b>100.0</b>	<b>19.2</b>	<b>983</b>

Source: Kathmandu Survey, 1992

Table 4.13 presents the socio-economic characteristics of those 49 per cent of women who said that they were married early. This table provides further evidence that Brahmans marry earlier than other major ethnic groups in Kathmandu. The mean age at marriage of Newars who said that they were married early was 17.4 years, which is the highest average age among the ethnic groups who said that they married early.

The seventeen years of age at marriage, which is more than the average age at marriage of urban Nepal in 1986 (NFFS) (Aryal, 1991:172) and just below the average age at marriage (17.3) of urban Nepal in 1991 (NFHS) (Ban and Shrestha, 1993:55), was considered early for each ethnic group in Kathmandu, indicating the change in attitude to age at marriage.

**Table 4.13 Percentage Distribution of Women Who Said They Married Early by Socio-economic Characteristics.**

Socio-economic characteristics	Per cent of total	Total (N)	Per cent of early married	Early married (N)	MAM
<b>Ethnicity</b>					
Brahman	51.9	291	31.1	151	16.6
Chhetri	54.0	261	29.1	141	17.0
Newar	40.6	310	26.0	126	17.4
Mongoloid Tibetan	55.0	80	9.1	44	17.3
Others	56.1	41	4.7	23	16.6
<b>Years of Schooling</b>					
No schooling	73.4	267	40.4	196	15.8
1-5 years	73.0	111	16.7	81	17.2
6-10 years	48.1	156	15.5	75	17.1
10+years	27.4	449	27.4	133	18.6
<b>Occupation</b>					
Not working	60.2	664	82.5	400	16.8
Working	26.6	319	17.5	85	18.0
<b>Before marriage</b>					
Working	20.2	218	9.1	44	18.4
Not working	57.6	765	90.9	441	16.9
<b>Childhood residence</b>					
Kathmandu	38.0	511	40.0	194	17.4
Other city	54.1	135	15.1	73	17.0
Village	64.7	337	44.9	218	16.7
<b>Watch T.V. at least once a week</b>					
Yes	46.3	814	77.7	377	17.2
No	63.9	169	22.3	108	16.3
<b>Read newspaper at least once a week</b>					
Yes	34.0	544	38.1	185	17.8
No	68.3	439	61.9	300	16.5
<b>Sources of marriage mediation**</b>					
1	68.4	472	66.7	323	16.2
2	30.9	376	23.9	116	18.7
3	36.4	66	4.9	24	18.2
4	31.9	69	4.5	22	18.2
<b>Current age</b>					
15-24	46.9	230	22.2	108	18.3
25-34	39.9	393	32.4	157	17.1
35+	61.1	360	45.4	220	16.3
Total	49.3	983	100.0	485	17.0

Note: \*\* As of note in Table 4.9

Source: Kathmandu Survey, 1992.

Table 4.13 also shows that more than 73 per cent of the 'no schooling' category were married at less than 16 years and said that they were married early. This shows that the attitude towards marriage has changed even for people with no schooling. It is also shown that educated women (especially at college level) are even more likely to marry late because 18.6 years of age for marriage was considered early. Women who worked outside the home and who worked before marriage said that their 18 years of age at marriage was early. Similarly, women whose childhood residence was urban and who were exposed to the mass media said that 17 years of age at marriage was early.

Table 4.13 shows that of the women whose marriage was entirely decided by their parents, more than 68 per cent were married at 16 years of age and said that they were married early. However, women whose marriage was not arranged entirely by their parents and who were married at more than 18 years of age also said that they were married early. This also provides evidence that non-parentally-arranged marriage is associated with high age at marriage of women. The examination of the last panel of Table 4.13 by current age provides further evidence of the trend of increasing age at marriage in Kathmandu.

Opinions about marriage mediation also provide evidence of the changing attitude towards marriage. Table 4.14 shows that the overwhelming majority of women (74 per cent) were in favour of the second type of marriage mediation (parents choose prospective spouse, then children make final decision). This indicates that marriages entirely decided by parents are diminishing in Kathmandu, however 9 per cent of women who were married at 16.6 years were in favour of totally arranged marriage. Less than 4 per cent women were in favour of 'love marriage' (children decide everything) and among them, 64 per cent were married by this type of marriage. Further questions were also asked to opine on the type of marriage they preferred for their children and the responses were almost identical to Table 4.14 in

that the majority of respondents (73 per cent) preferred the second type of marriage mediation (parents choose prospective spouse, then children make final decision) (not shown).

**Table 4.14 Percentage Distribution and Mean Age at Marriage of Women by Opinion on Methods of Marriage Mediation.**

Opinion on methods	Per cent	MAM	Number
1. Parents decide everything	9.3	16.6	91
2. Parents choose prospective spouse, then children make final decision	73.7	19.4	725
3. Children choose themselves then parents make final decision	13.3	19.9	131
4. Children decide everything	3.7	19.3	36
Total	100.0	19.2	983

Source: Kathmandu Survey, 1992.

**Table 4.15 Percentage Distribution and Mean Age at Marriage of Women by Their Opinion About the Ideal Age at Marriage for Their Own Children.**

Ideal age at marriage (Years)	Son		Daughter	
	per cent	MAM	per cent	MAM
Below 20	*	*	4.7	16.8
20-22	12.7	17.0	58.0	18.3
23-25	44.9	18.4	34.6	21.0
26-29	11.6	19.6	2.4	21.3
30 and above	30.8	21.1	(0.3)	(23.0)
Total	100.0	19.2	100.0	19.2
Number	(983)		(983)	

Note: \* Indicates no cases.

Figures in the parentheses are based on less than ten cases.

Source: Kathmandu Survey, 1992.

To collect further information on opinions about marriage, the respondents were asked to report their views about the ideal age at marriage for their own children (Tables 4.15). The majority of women preferred their sons to marry between 23 and 25 years followed by 30 years and over. For daughters, more than 56 per cent of

respondents preferred them to marry between 20 and 22 years of age and 34 per cent of those who got married at 21 years of age preferred to marry off their daughters between 23 and 25 years of age. This shows a changing attitude towards age at marriage in Kathmandu.

The results of Table 4.15 are supported by the following statements made by one woman from the Brahman community. These statements not only indicate the importance of female education, but also the changing attitudes towards marriage in Kathmandu.

I can remember when my daughter was small and she was always asking me her homework, but I was not able to teach all what she wanted to learn. This was simply because I was married without completing secondary school. I do not think about my daughter's marriage, it will come in time, she should complete at least certificate level so that she can help her kids in their homework.

These changing attitudes towards marriage of the parents directly affect the age at marriage of their children. This indicates that Kathmandu society has been changing, whereby a transition is occurring from a situation of arranged marriages to one where children are given the freedom to agree or disagree with their parents' choice. Many parents now consult their children before a final decision. The outcome of the focus group discussion also indicated changing attitudes towards marriage. However, in Kathmandu there is still some sort of parental control and responsibility for marriage. According to the second type of social organisation discussed by McDonald (1985), in societies where caste endogamy is practiced regarding marriage, there will be control of elders or parents on their children's marriage. In Nepal, even among educated groups, caste endogamous marriage is important and essential and inter-caste marriage is not totally accepted by the society. Therefore the majority of women were in favour of the second type of marriage arrangement, that is 'parents choose prospective spouse, then children make final decision'. It also revealed that arranged marriages totally decided by the

parents or relatives are going to be diminishing, which is a clear indication of the marriage transition in Kathmandu.

#### **4.10 Differentials in age at marriage**

Changes in age at marriage are a result of changes in socio-economic conditions. Commonly, members of different socio-economic groups have different ages at marriage (Bogue, 1969; Kadi, 1987) and analysis of this differential is useful in understanding the mechanism that determines age at marriage and its relationship with fertility. The aim of this section is to examine the trends in age at marriage between different socio-economic groups of the study population.

It is seen in the preceding sections that different age cohorts have different marriage timing. It is hypothesised that age at marriage differs with current age, as younger cohorts have a higher age at marriage than older cohorts. It is also hypothesised that older women with no education might misreport their age at marriage because of memory lapse (Goldman *et al*, 1979). Moreover, education affects age at marriage indirectly through age. Younger women have a better opportunity for education and therefore are better educated than older women. Accordingly, better educated women are expected to marry later. With these views the effect of age is controlled to examine the effect of socio-economic factors on age at marriage. Socio-economic differentials in age at marriage are standardised for current age and the details of the method of standardisation are presented elsewhere (Pullum, 1978; Little and Pullum, 1979). For the purpose of analysis, current age has been grouped into the age cohorts 15-24, 25-34, 35-49 to reduce the number of small cells in the age classification.

#### 4.10.1 Education and age at marriage

It is well documented that education has a positive relationship with age at marriage (Holsinger and Kasarda, 1976; Cochrane, 1979; Caldwell, 1980; Rindfuss *et al*, 1981; Jain, 1981; Smith, 1983). The spread of basic education and the rise in mass literacy are central features of the development process in Nepal. If there is interruption in education there is more likely to be earlier marriage. However, it is also to be noted that in some societies, less educated groups marry somewhat later than the more educated groups (Preston and Richards, 1975; Cochrane, 1979:83). Therefore, the relationship between education and marriage timing is not consistent. Nevertheless women's marriage chances generally decline with schooling. Table 4.16 reveals that the greater the years of schooling, the higher is the age at marriage in Kathmandu. Even after controlling for the effect of current age on education, the trends are that as the level of education increases, age at marriage increases as well. Although the minimum indirect effect of current age is evident, the net effect of education is pronounced (Table 4.16).

**Table 4.16 Mean Age at Marriage by Years of Schooling and Current Age.**

Age	Years of schooling				Total
	None	1-5	6-10	10+	
15-24	16.3	18.7	19.1	20.3	19.3
25-34	17.2	17.7	18.6	21.7	19.8
35-49	16.5	17.2	18.6	21.5	18.5
Total	16.7	17.7	18.8	21.2	19.2
(N)	(267)	(111)	(156)	(449)	(983)
Age standardised MAM	16.7	17.8	18.7	21.3	19.2

Source: Kathmandu Survey, 1992.

The most direct effect of education on marriage occurs mainly at the highest attainment levels which was also found in the study of southern India by Caldwell *et al* (1983). College attendance has been associated with late marriage and college



going girls in developing countries tend to marry late (Call and Otto, 1977; Hogan, 1978; Smith, 1983). Smith (1983:502) found that the average difference in age at marriage between those with no schooling and those with a college education is sometimes six years or more.

In this study, the differences in age at marriage between no schooling and 10+ years of schooling is 5 years, suggesting higher level of education especially for women is essential in order to increase age at marriage which shortens the exposure to intercourse and suppress fertility.

Furthermore, a higher level of education enables a person to participate more in the decision making process. In this context, it is interesting to present one case study. One Newar family decided to marry off their daughter, who was studying at graduate level, with a rich businessman's son, who had only a certificate level of education (grade 12). Before the final decision they asked their daughter about their decision but she refused to accept because she said the man was not qualified enough. One of our interviewers talked to her and she said that:

all of my friends have qualified husbands and if I tell my friends that I am going to marry, the first question that they will ask is the education of the man who I am going to marry. How can I say that he has only certificate level of education. Therefore I rejected him and also asked my parents if they could wait until I have completed my Bachelor degree before marrying me off.

This was possible only because of the urban environment and the girl's higher educational attainment. But in the rural society, girls may have a negligible role in their marriage mediation, and they must accept whatever their parents decide.

When the age at marriage and years of schooling are cross-classified, it is seen that the more years of schooling a woman had, the more likely she was to marry at an older age (Table 4.17).

**Table 4.17 Percentage Distribution of Age at Marriage by Years of Schooling.**

Age at marriage	Years of schooling				Number
	None	1-5	6-10	10+	
Less than 15	16.1	9.0	5.7	0.4	64
15-18	63.7	52.3	35.9	17.8	364
19-22	16.5	36.0	51.3	51.4	395
23-25	3.0	0.9	6.4	23.6	125
26 and over	0.7	1.8	0.6	6.7	35
Total	100.0	100.0	100.0	100.0	983

Source: Kathmandu Survey, 1992.

#### 4.10.2 Caste/ethnicity and age at marriage

In a society where caste endogamy marriage is in practice, the examination of the relationship between caste/ethnicity and marriage is important. The culture and tradition of different ethnic groups affects the timing of marriage. Different caste/ethnic groups in Kathmandu have their own way of marriage which will affect their age at marriage.

**Table 4.18 Mean Age at Marriage by Caste/Ethnicity and Current Age.**

Age	Caste/ethnicity					Total
	Brahman	Chhetri	Newar	M.Tibetan	Others	
15-24	19.0	19.5	20.2	18.9	16.6	19.3
25-34	19.1	19.4	21.1	19.0	18.6	19.8
35-49	18.2	18.1	19.1	18.3	17.9	18.5
Total (N)	18.8 (291)	19.0 (261)	20.1 (310)	18.7 (80)	17.8 (41)	19.2 (983)
Age standardised MAM	18.7	18.9	20.2	18.7	17.9	19.2

Note: M.Tibetan=Mongoloid Tibetan

Source: Kathmandu Survey, 1992.

A difference in age at marriage across ethnic groups in Kathmandu is evident (Table 4.18). Available literature on Nepal documented the strong relationship between ethnicity and marriage (Tuladhar, 1984; Thapa, 1989b; Aryal, 1991;

Niraula, 1991). It was also found that Brahman's age at marriage was one of the lowest among ethnic groups in Nepal while it was generally higher among the Mongoloid Tibetan (Magar, Gurung, Rai, Tamang) (Furer-Haimendorf, 1964; MacFarlane, 1976; Allen, 1982; Tuladhar, 1984; Schuler, 1987; Thapa, 1989b; Niraula, 1991; Aryal, 1991; Fricke and Teachman, 1993).

In this study, Brahman's age at marriage is low, although the mean age at marriage for Mongoloid Tibetan is the lowest among the ethnic groups. This is because Mongoloid Tibetans, who are scattered in Kathmandu, are not original inhabitants. Since they are not in their majority groups, their customs regarding marriage are affected by the major ethnic groups' customs. As will be discussed later, education plays a mediating role in changing the values of minority groups. One of the reasons for the late age at marriage of Mongoloid Tibetans at the national level is that in the Mongoloid Tibetan community, boys and girls have greater freedom to choose their marriage partner (Blake, 1967; Dixon, 1971; Bista, 1987; Levine, 1987). Moreover, among Mongoloid Tibetan communities, it is acceptable for an unmarried girl to have a child without prejudicing her marriage prospects (Majupuria and Majupuria, 1978:131; Bista, 1987:53) and hence, age at marriage was higher for these groups at the national level. However, because they are a minority group in Kathmandu, the marriage market is also smaller for them to follow their customs and they often follow Brahman and Chhetri marriage systems. This may be the reason for their lower age at marriage in Kathmandu compared with other Mongoloid Tibetans who live in their own community in Nepal. This suggests that to follow a group's original culture, they should be in their own community where the marriage market is broad and leads to the conclusion that as minority groups assimilate socially, they tend to adopt the social patterns of the majority.

It was found that Newars had the highest age at marriage among the ethnic groups in Kathmandu. Various reasons have been documented for the low age at marriage of Brahmans and the higher age at marriage of Newars (Allen, 1982; Bista, 1987). Both Brahmans and Newars believe in marriage before menarche (Allen, 1982), however in the Newar community pre-pubescent girls have to undergo a ceremony, which involves a symbolic marriage with a *bela* fruit (a kind of hard covered fruit) which is still existing in Kathmandu. As a consequence, there is no urgency among Newars to marry off the girls at an early age (Aryal, 1991:171).

Pre-pubertal marriage among Brahmans involves giving a virgin girl to a boy prior to menarche (Bista, 1987:7), however this situation is not found now in Kathmandu. All Brahman respondents of the indepth interview and informal discussion were opposed to the relationship between pre-menarche marriage and *punya* (merit) and reported that it was a traditional view. They said that "these days if someone marries off their daughter before menarche they will not get *punya* (merit), they will get *paap* (sin) instead". The system of marriage among Chhetries is similar to Brahmans, but they marry only when they are fully mature (Bennett, 1981; Winkler, 1979). Even after controlling for the effect of current age on ethnicity, the role of ethnicity is pronounced.

According to Hindu custom, especially among Brahmans and Chhetries, only after her marriage does a woman become eligible to participate in the various rituals of the household (in Nepali: *Karma Chaleko*) (Bennett, 1977:87-88). This was also the case in Kathmandu and one old Brahman woman mentioned to our interviewer that:

it is better to have our daughter *karma chaleko* in time, but nobody cares in the house about this, they only place emphasis on education. Why have things changed so much ?

#### 4.10.3 The effect of caste/ethnicity

Mongoloid Tibetan's age at marriage was found to be lower in Kathmandu compared with the national level. It can be argued that the lower age at marriage of this group in Kathmandu is affected by other major ethnic group's customs and traditions as well as education. It is interesting therefore to examine the effect of caste/ethnicity on age at marriage, controlling for the effect of education. The results are presented in Table 4.19. The total effect, the net effect and the indirect effect are also presented in the analysis. The total effect indicates the gross effect of the independent variables on the dependent variable. The net effect shows the effect of the independent variables on the dependent variable after the effect of the third variable is controlled by means of standardisation. The indirect effect in turn reveals the residual of the total, which is due to the association with the compositional variable (Pullum, 1978:22-27).

**Table 4.19 Mean Age at Marriage and Caste/Ethnicity Controlling for Education.**

Years of schooling	Brahman	Chhetri	Newar	M.T.	Others	Total
None	16.9	16.3	17.1	18.2	16.3	16.7
1-5	17.2	16.9	18.2	19.1	16.0	17.7
6-10	17.5	18.3	20.4	19.8	18.5	18.8
10+	20.7	21.2	21.9	19.4	22.0	21.2
Total (N)	18.8 (291)	19.0 (261)	20.1 (310)	18.7 (80)	17.8 (41)	19.2 (983)
Adjusted MAM	18.5	18.9	19.9	19.1	19.2	19.1
Total effect	-0.4	-0.2	0.9	-0.5	-1.4	
Net effect	-0.6	-0.2	0.8	0.0	0.1	
Indirect effect	0.2	0.0	0.1	-0.5	-1.5	

Note: M.T.=Mongoloid Tibetan

Source: Kathmandu Survey, 1992

Table 4.19 shows that among Brahmans, the net effect of being Brahman reduces the marriage timing by 0.6 years from the average age at marriage. On the other hand, an increase by 0.2 years above the average is due to the indirect effect of

education, indicating that there are still beliefs of Brahman regarding the traditional early Hindu marriage system, however the role of education has begun to eliminate these beliefs.

Among Mongoloid Tibetans, age at marriage is below-average only due to the indirect effect of education, however the age at marriage remains similar to the average because of the net effect of ethnicity. As mentioned earlier, Mongoloid Tibetans had a higher age at marriage at the national level but in Kathmandu their age at marriage has been reduced by education. The same trend is seen in the 'others' category. The net effect has increased age at marriage just over the average, however the indirect effect of education has reduced it to 1.5 years below the average age at marriage. It can be seen in this study that among the ethnic groups, Mongoloid Tibetans and 'others' (lower caste groups), there is a practice of free choice marriage in Nepal (Table 4.19). These groups do not give religious importance to women's virginity (Majupuria and Majupuria, 1978; Bista, 1987) and therefore they select their own partner but in Kathmandu they are following the major ethnic (Brahman and Chhetri) groups marriage practices which may be the reason that age at marriage has been reduced more than average by the effect of education.

Table 4.19 shows that even after controlling for the effect of education, ethnicity still has some impact. It is also seen that education has been eliminating traditional views regarding marriage timing in Kathmandu. Among the ethnic groups, Newars had a higher age at marriage in Kathmandu, even after controlling for the effect of education.

#### **4.10.4 Employment status and age at marriage**

Women who are engaged in economic activity have a higher age at marriage than those who are not. Generally, easy access to equal or desirable work opportunities

lead women to marry later. It is found that women who work outside the home marry later than those who do not work (Walsh, 1970; Becker, 1975; Preston and Richards, 1975; White, 1981). There is a difference of almost 4 years in age at marriage between women who worked outside home and those who did not work in Kathmandu (Table 4.20).

**Table 4.20 Mean Age at Marriage by Employment Status and Current Age.**

Age	Working	Not working	Total
15-24	20.4	19.0	19.3
25-34	21.1	19.0	19.8
35-49	21.6	17.2	18.5
Total (N)	21.1 (319)	18.3 (664)	19.2 (983)
Age standardised MAM	21.1	18.3	19.2

Source: Kathmandu Survey, 1992.

**Table 4.21 Mean Age at Marriage by Work Before Marriage and Current Age.**

Age	Before marriage		Total
	Working	Not working	
15-24	20.4	19.1	19.3
25-34	22.2	19.0	19.8
35-49	22.1	17.5	18.5
Total (N)	21.8 (217)	18.5 (766)	19.2 (983)
Age standardised MAM	21.7	18.5	19.2

Source: Kathmandu Survey, 1992.

The mean age at marriage is more than three years different between women who worked before marriage and those who did not work, even after controlling for the effect of current age, indicating the effect of work outside the home on age at marriage (Table 4.21). Ermisch (1981:347) observed that marriage for women is

delayed as their real and absolute wages rise. In addition, the urban environment provides access to education and the greater availability of suitable work for females.

#### 4.10.5 Childhood residence and age at marriage

Table 4.22 reveals that among women who lived in Kathmandu since childhood, their age at marriage was one year higher than those who lived in other cities and two years higher than those who lived in villages. This shows that childhood residence is found to be one of the important determining factors of marriage, with urban residence being associated with delayed marriage. Trussell (1980) also found from the Sri Lanka data that marriage took place earlier when women grew up on an estate than when they were raised in an urban area.

**Table 4.22 Mean Age at Marriage by Respondents' Childhood Residence and Current Age.**

Age	Kathmandu	Other cities	Village	Total
15-24	19.5	19.6	19.0	19.3
25-34	20.6	19.8	18.5	19.8
35-49	19.8	17.9	17.0	18.5
Total (N)	20.0 (511)	19.1 (135)	18.0 (337)	19.2 (983)
Age standardised MAM	20.0	19.1	18.1	19.2

Source: Kathmandu Survey, 1992.

#### 4.10.6 Exposure to mass media and age at marriage

In the study the mass media exposure was measured by asking a question on whether respondents read the newspaper and watch television at least once a week. It is hypothesised that exposure to mass media makes an individual's outlook broader by providing new ideas and diminishing traditional types of thinking and behaviour. This has an impact on individual behaviour regarding marriage, as



women who were exposed to mass media had a higher age at marriage than those who were not (Table 4.23).

**Table 4.23 Mean Age at Marriage by Exposure to the Mass Media and Current Age.**

Age	At least once a week					
	Read newspaper			Watch television		
	Yes	No	Total	Yes	No	Total
15-24	20.0	18.1	19.3	19.6	18.0	19.3
25-34	20.9	18.1	19.8	20.2	17.6	19.8
35-49	20.7	16.9	18.5	18.9	16.9	18.5
Total (N)	20.6 (544)	17.5 (439)	19.2 (983)	19.6 (814)	17.5 (169)	19.2 (983)
Age standardised MAM	20.6	17.7	19.3	19.6	17.4	19.2

Source: Kathmandu Survey, 1992.

#### **4.11 Relationship between age at marriage and cumulative fertility**

Demographers are interested in understanding the relationship between marriage and fertility because age at marriage is related to fertility in various ways (Hawthorn, 1970). According to the European historical experience, nuptiality patterns played a very significant role in reducing fertility. Late marriage and wide spread celibacy provided one of the mechanisms by which fertility rates were brought to low levels in western Europe during the fertility transition (Lesthaeghe, 1971:415-432). Age at marriage has remained an important variable in any comprehensive study of demography because it is an important determinant of the average length of time a woman is exposed to the risk of childbearing (McCarthy, 1982:7; Coale, 1992). Women who marry early are more likely to have large families because of their longer exposure to the risk of pregnancy and child bearing (United Nations, 1988).

Nepal can be characterised as a 'high nuptiality' (low age at marriage and high proportion married) country where most of women's childbearing years are spent within marriage (Thapa, 1989b:7). In societies where almost all children are produced within socially sanctioned unions, delaying entry into such unions or avoiding them altogether are important methods of birth control (Dixon, 1971:218). Therefore, age at marriage is especially important in a society where fertility out of wedlock is strongly disapproved of and negligible, and marital dissolution is insignificant, as it is the main determinant of a woman's total reproduction (McDonald *et al*, 1981:77). Moreover, in such a society it is expected that there will be strong social pressure for females to marry at young ages to avoid the situations of premarital sexual relations (Meekers, 1992:65).

Late age at marriage can affect cumulative fertility directly by limiting the number of years available for childbearing. Davis (1963:345-366) observed that postponement of marriage was one of the major responses through which the Japanese reduced their fertility during the postwar period. McDonald *et al* (1981:82-86) are of the view that birth intervals may be lengthened or shortened depending upon whether marriage is early or late, relative to other women in the society. They further argue that, in broad terms the path from high to low fertility has been associated with changes in marriage. It is also argued that a population with a later age at marriage are likely to have a higher average level of education and urbanisation, factors which are associated with higher contraceptive use, hence resulting in a lower level of fertility (United Nations, 1987:90).

It was found in developing countries that completed family size usually declines monotonically with increasing age at marriage (United Nations, 1987). Rising age at marriage has caused a decline in female fertility in many Asian countries such as Malaysia (Jones, 1980, 1981; Retherford and Cho, 1973), India (Caldwell *et al*, 1983; Agrawala, 1965), Sri Lanka (Fernando, 1972; 1975) and Bangladesh (Kabir

and Uddin 1987). Changes in fertility due to changes in age at marriage have been found by Retherford and Rele (1989) in South Asian countries, Gubhaju and Shahidullah (1990) in Fiji, Yang (1990) in rural China and Varea (1993) in Morocco.

It is generally found that women with a later age at marriage will have a low level of fertility not only because of fewer "at risk" reproductive years, but also because of deliberate limitation of marital fertility. It was also argued that women who marry late are more likely to have a higher education and are higher contraceptive users (United Nations, 1987:90; McDonald, 1984). In the World Fertility Survey countries, women who marry early are less likely than others to use contraception before the first birth (United Nations, 1987:92).

The transition from high fertility to low fertility is also a result of the transition from early marriage to late marriage (Coale, 1975). It was found that England's population growth was checked for centuries by late female marriage (Wrigley and Schofield, 1981:366-368). The difference in marital fertility in pre-transitional Europe was due to changes in age at marriage. The demographic history of Europe highlighted the importance of age at marriage as a social mechanism for controlling fertility (Hajnal, 1965; Knodel and Van de Walle, 1986). These findings from the literature suggest that age at marriage has an important impact on fertility. Kathmandu data has been used to examine the impact of age at marriage on fertility.

Table 4.24 shows that by the completion of child bearing, women (45-49 years) who had married before the age of 15 years had on average two or more children than those who got married at age 23 years and over. Even after controlling for the effect of current age, mean parity decreases with increasing age at marriage. The net effect of age at marriage was to increase the parity above the average for those

who got married before the age of 19, but to decrease it for those who got married at ages 19 and above. The indirect effect of current age increased the parity above the average by a small amount compared with the net effect of age at marriage for those who got married before the age of 19 years and decreased it more than the net effect of age at marriage for those who married at age 19-22 years. However, the indirect effect of current age increases parity above the average for those who married at age 23 and above, indicating the indirect effect of current age on parity.

**Table 4.24 Mean Number of Children Ever Born by Age at Marriage and Current Age.**

Current age	Age at marriage				Total
	<15	15-18	19-22	22+	
15-19	(2.00)	0.54	*	*	0.53
20-24	(2.50)	1.77	0.78	0.27	0.96
25-29	(3.00)	2.64	1.98	1.24	1.99
30-34	3.21	3.25	2.57	1.86	2.72
35-39	(2.80)	3.54	3.12	2.34	3.07
40-44	(3.86)	4.29	3.12	2.79	3.75
45-49	5.59	4.89	(3.50)	(2.75)	4.87
Total (N)	3.73 (64)	3.31 (364)	1.90 (395)	1.72 (160)	2.51 (983)
Standardised for current age	3.22	3.03	2.33	1.69	2.54
Total effect	1.22	0.80	-0.61	-0.79	
Net effect	0.68	0.49	-0.21	-0.85	
Indirect effect	0.54	0.31	-0.40	0.06	

Note: Mean CEB in the parentheses is calculated from less than ten cases  
Source: Kathmandu Survey, 1992.

Examination of Table 4.25 shows that even after controlling for the effects of marriage duration, the mean parity decreases with increasing age at marriage. However the differences between the observed and standardised means are striking, thus indicating the strong indirect effect of marriage duration. For those who married at between 15 and 22 years of age the contribution of the indirect effect of marriage duration is higher than the net effect of age at marriage, although age at

marriage and marriage duration are closely associated. Varea (1993:4) also reported from the Moroccan data that differences in family size of women still in their active reproductive life are determined by the duration of their marriage. It is also seen that fertility is positively associated with increasing current age and marriage duration. Both tables reveal that the mean number of children ever born decreases with increasing age at marriage.

**Table 4.25 Mean Number of Children Ever Born by Age at Marriage and Marriage Duration.**

Marriage duration	Age at marriage				Total
	<15	15-18	19-22	22+	
0-4	*	0.72	0.75	0.86	0.77
5-9	2.00	2.38	2.17	2.00	2.17
10-14	3.00	2.84	2.66	2.44	2.68
15-19	3.07	3.14	3.09	2.86	3.08
20+	4.47	4.49	3.31	2.25	4.32
Total (N)	3.73 (64)	3.31 (364)	1.90 (395)	1.72 (160)	2.51 (983)
Standardised for marriage duration	3.25	2.61	2.27	1.95	2.41
Total effect	1.22	0.80	-0.61	-0.79	
Net effect	0.84	0.20	-0.14	-0.46	
Indirect effect	0.38	0.60	-0.47	-0.33	

Source: Kathmandu Survey, 1992.

#### 4.12 Explaining delay of marriage in Kathmandu

Several reasons for boys and girls marrying late have been reported by respondents, participants of focus group discussion and different members of Kathmandu society in the informal discussion and case studies. Most respondents gave priority to the education of daughters and no one was in favour of the early marriage of girls in Kathmandu. Most respondents said that girls must be married having had at least 10+ years of schooling (School Leaving Certificate Examination(SLC)). They further mentioned that if girls had less than SLC educational attainment it was

difficult to get a qualified groom, since a qualified groom demands a qualified bride in Kathmandu. Most of the respondents in the informal discussion reported that if their daughters were qualified, a good man could easily be found as their husband. The outcome of the focus group discussion was that "if she has a graduate level of education she can stand by herself and we do not have to worry about her in case her husband dies".

Financial aspects of marriage have also contributed to delayed marriage in Kathmandu. Parents emphasised with regard to boys that they should be married only when they have a good and secure job with sufficient income to support a family, since the cost of living in Kathmandu is very high. On the other hand, parents emphasised the importance of girls obtaining a higher education in order to get a well qualified husband with a good job. Hence, education is an important factor making for delayed marriage in Kathmandu.

Changing marriage mediation was also found to be another reason for delayed marriage in Kathmandu because it was mentioned that not all parents' choices had been accepted by children. In the survey, parents reported that their daughters rejected the groom proposed by them on the grounds of low qualifications, resulting in delayed marriage. Parents added that "marriage is once in a life therefore we should not force our children to marry according to our decision but we should provide the liberty to choose, however it does not mean that we do not want to be involved".

The general out-come of the focus group discussion was that girls should marry later because it promotes development of maturity and the attainment of formal education. They also stated that the education of children is a social prestige for them and not marrying them off early indicates a social change due to education regarding marriage timing in Kathmandu. In sum, it can be said that rising

educational levels and legal and social norms that oppose child and pre-pubertal marriage have delayed marriage in Kathmandu.

#### **4.13 Conclusion**

The age at marriage is increasing in Nepal in general and in Kathmandu in particular. However, it is also evident that there is still considerable parental involvement in marriage, and as a result the process of change is slow. Although the process of change is slow, it is likely that age at marriage in Kathmandu will increase in the future because of the declining trend in arranged marriages on the one hand, and the effect that the changing attitudes of respondents regarding marriage may have on their children's marriage timing, on the other.

It is found that some of the parents were not in favour of very late age at marriage (25 years and above) because of the fear of childlessness and premarital pregnancy. Both are looked down upon in the society, however the incidence of the former is lower than that of the latter. They mentioned that they did not want to be in that situation. Therefore, the second type of marriage mediation (parents choose prospective spouse, then children make final decision) was preferred by the respondents of Kathmandu.

Even after controlling for the effect of current age and marriage duration, increase in age at marriage has a negative effect on fertility. The average age at marriage (19.2) found in Kathmandu, although increasing, is still relatively low to have significant impact on fertility. Therefore, one of the ways of reducing fertility in Nepal is to increase the age at marriage, especially of females. This is possible only through government policy to create social change and increase the existing minimum legal age at marriage in order to have an impact on fertility. Not only legal, but also social pressure is necessary to implement legislation in a society where social organisation is still important as far as marriage is concerned.

Age at marriage is mainly based on the beliefs of different sub-groups of the population which was clearly seen in the differential sections, the summary results of which are presented in Table 4.26.

**Table 4.26 A Summary of Results of Age at Marriage Differentials in Kathmandu.**

Variables	Hypotheses	Results
Education	Higher the education of both husband and wife higher will be the age at marriage	As expected
Ethnicity	Different ethnic groups will have different marriage timing, but Brahman's age at marriage will be lowest even in Kathmandu	Because of minority of Mongoloid Tibetan, their MAM is lower than Brahman
Occupation	Women who work outside home both before and after marriage will marry later than who do not	As expected
Childhood residence	Those who have lived in Kathmandu since childhood will have a higher age at marriage than those who live in other cities or villages	As expected
Mass media	Those who are exposed to mass media will marry later than those who are not	As expected
Marriage mediation	MAM will be lower for those whose marriage is arranged than those whose is not entirely arranged by parents	As expected

According to Caldwell *et al* (1982:709) "when analysing the change in female marriage, it is necessary to distinguish two separate aspects: the disappearance of child or pre-menarchic marriage and the increasing gap between menarche and marriage". These two aspects are evident in this study therefore marriage is in transition in Kathmandu. Furthermore, since there is scope for a considerable further rise in age at marriage in the long run in Kathmandu, there obviously would be a corresponding decline in fertility. It is seen that age at marriage, one of the



important proximate determinants of fertility, is an increasing trend in Kathmandu, although the process is slow. The attitudinal change in the value of children is also a pre-condition of fertility transition (Caldwell, 1982) and the next chapter will analyse whether the value of children in Kathmandu is in transition.



## CHAPTER FIVE

### TRANSITION IN THE VALUE OF CHILDREN IN KATHMANDU

#### 5.1 Introduction

In the previous chapter trends and timing of marriage in Kathmandu were examined. It was found that age at marriage in Kathmandu increased with higher average levels of educational attainment of women. Fertility transition theory suggests that the impact of aspects of modernisation, such as education, urbanisation and changes in occupational patterns brings about social change. As a result, the costs of rearing children increases but their socio-cultural value decreases. This motivates couples toward having fewer children, and lowering fertility levels. The main aim of this chapter is to examine perceptions about, and attitudes toward, children in Kathmandu. To fulfil the aim, a framework put forward by Bulatao (1979a:3) is discussed before detailed findings on the transition in the value of children in Kathmandu are presented.

#### 5.2 The framework for explaining value of children

The transition from high to low fertility means that successive generations of parents have fewer and fewer children. This is a result of a set of changes in the values and disvalues that parents attach to children, which Bulatao (1979a, 1979b) labelled 'the transition in the value of children'. The theory of the transition in the value of children attempts to explain the long term change in fertility levels that accompany modernisation (Bulatao, 1979a:2). Changes in the socio-economic and cultural conditions of a society lead to shifts in the ideas and aspirations of individuals, resulting in a change in the value of children. The importance of the value of children approach lies in the fact that it provides a framework for studying

how many children are valued and for what qualities they are valued by the parents. Therefore the transition in the value of children, which has been caused by changes in values attached to children (Bulatao, 1979a:2), leads to the demand for fewer children, hence fertility decline. Bulatao (1979a:2) provides seven explanations for fertility decline: (1) increased contraceptive availability and efficiency, (2) delayed marriage, (3) mortality reduction, (4) rising aspirations, (5) vanishing economic roles for children, (6) the emergence of the conjugal family, and (7) weakening cultural props for high fertility. The assumptions of Bulatao (1979a:6) indicate that lower fertility is brought about by the increased costs and reduced value of children. Changes in the perceived values and disvalues attached to children have emerged as one precondition for the fertility transition (Coale, 1975).

These explanations for fertility decline (Bulatao, 1979a:3) are discussed within the theoretical framework presented in Chapter Two. Age at marriage has already been covered in a previous chapter and contraceptive use will be examined in the next chapter. The five remaining explanatory factors, all of which are related to socio-economic development and modernisation (Fawcett, 1983:439) and affect the demand for children, are discussed in this chapter using Kathmandu data. Bulatao (1979a:5-6) argues that "demand factors should directly affect the values and disvalues of children that parents perceive, producing changes that may be considered the value of children transition". He claims that mortality reduction provides a demographic explanation, rising aspirations provide a psychological explanation, vanishing economic roles for children provide an economic explanation, emergence of the conjugal family provides a social explanation, and weakening cultural props for fertility provides a cultural explanation.

### 5.3 Explanatory factors for the transition in the value of children in Kathmandu

There are few studies on the value of children in Nepal and those available relate to the 1970s. They cannot then necessarily be interpreted as reflecting the situation in the mid 1990s. The literature on the value of children in Nepal (Moore, 1972; Poffenberger and Furbuchen, 1975:3-14; Messerschmidt, 1976; McDougal, 1966; Nag *et al*, 1978; Kirat, 1980; Molnar, 1980) suggests that children in rural areas contribute to the household economy in various capacities and help parents in many ways to perform domestic chores. As a result, children are economically and socially valuable in traditional Nepali society and culture. However, studies of rural areas adjoining large cities in Nepal, suggest that due to urban influences, educational aspirations for children are rising, consequently it is becoming too expensive to raise a large family (Fricke *et al*, 1990; Axinn, 1992a, 1992b, 1993; Fricke and Teachman, 1993). Fricke *et al* (1990) found that a village located 5 miles north of Kathmandu had undergone a dramatic social transformation resulting in the diminishing value of children. However, respondents in their study reported that in general, sons potentially contribute more throughout their lives because they are expected to always live nearby their parents. Similar findings were reported in the East African country of Rwanda by Clay and Haar (1993:83), and it was shown that children who live farther away from the parental household tend to provide less support to their parents than children who live nearby. Fricke and Teachman (1993) found that the role of children in a Tamang community of the Kathmandu Valley is diminishing as a result of urban influence. Niraula (1991:244) also indicates that a social transformation was taking place in his study village, which was also close to urban facilities. Further, in a village study close to Kathmandu, Axinn (1992b; 1993) pointed out that opportunities for non-familial work have changed the social life in such a way that couples are motivated to limit their fertility. Fricke *et al* (1990) and Axinn (1992b; 1993) suggest that rapid social mobility or transformation from farming to non-farming occupations may be a crucial link in

the chain of events leading to the acceptance of family limitation. These findings indicate that even in rural areas, which are close to the large cities, there are signs of the beginning of the social transformation, which is required to change the value of children. This will lead ultimately to increased contraceptive use and low fertility. It is hypothesised here that the value of children in Kathmandu is in transition. This is because children are less economically beneficial to parents in urban than in rural areas (Bulatao, 1975:24; Buripakdi, 1977:19-21). The modernisation of societies changes the economic calculus of childbearing to the extent that a large number of children become disadvantageous to parents. Before examining the explanatory factors, presented earlier, the reasons for couples wanting children in Kathmandu are presented. These may in turn, provide some insights into the dynamics of change in the value of children in Kathmandu.

### **5.3.1 Reasons for wanting children**

Discussion in this section is based upon respondents' answers to unstructured open ended questions regarding the reasons for having children in Kathmandu. The question asked was "In your opinion what are the reasons for having children rather than having none at all ?" It was necessary to ask an open ended question because open ended questions allow the respondents to conceptualise and express these values in their own language (Arnold *et al*, 1975:40; Bulatao, 1975:19). Separate reasons for sons and daughters might provide a better understanding for the reasons for having sons or daughters, but the question in this study referred to both son and daughter. Answers were categorised into three broad groups: **Emotional reasons** (companionship, happiness, love); **religious and social reasons**; and **security in old age reasons**. Although respondents did not mention direct economic reasons for having children, the old age value incorporates both economic and social support in old age.

**Table 5.1 Percentage Distribution of Women Who Reported Reasons for Wanting Children by Socio-economic Characteristics**

Characteristics	Emotional	Religious, social	Old age security	Total	N
<b>Caste/ethnicity</b>					
Brahman	21.6	32.3	46.1	100.0	291
Chhetri	32.2	31.8	36.0	100.0	261
Newar	32.6	35.8	31.6	100.0	310
M. Tibetan	17.5	45.0	37.5	100.0	80
Others	7.3	26.8	65.9	100.0	41
(X2 value 38.1 with 8 df, significant at 1 per cent)					
<b>Years of schooling</b>					
No schooling	5.6	47.6	46.8	100.0	267
1-5	14.5	53.6	31.8	100.0	111
6-10	17.9	40.4	41.7	100.0	156
10+	45.7	19.1	35.2	100.0	449
(X2 value 179.9 with 6 df, significant at 1 per cent)					
<b>Husbands' years of schooling</b>					
No schooling	4.8	58.1	37.1	100.0	105
1-10	10.2	45.4	44.4	100.0	108
10+	32.2	29.3	38.5	100.0	770
(X2 value 66.5 with 4 df, significant at 1 per cent)					
<b>Childhood residence</b>					
Kathmandu	30.9	28.6	40.5	100.0	511
Other city	23.7	38.5	37.8	100.0	135
Village	22.0	40.8	37.2	100.0	336
(X2 value 16.9 with 4 df, significant at 5 per cent)					
<b>Economic status</b>					
Lower	21.2	40.6	38.2	100.0	532
Low	28.3	28.0	43.7	100.0	280
High	42.3	25.2	32.4	100.0	111
Higher	41.7	21.7	36.6	100.0	60
(X2 value 39.2 with 6 df, significant at 1 per cent)					
<b>Respondents occupation</b>					
Working	46.4	19.1	34.5	100.0	319
Not working	17.5	41.3	41.2	100.0	664
(X2 value 100.5 with 2 df, significant at 1 per cent)					
<b>Current age</b>					
15-24	35.7	23.0	41.3	100.0	230
25-34	29.3	29.8	40.8	100.0	393
35+	18.6	45.8	35.6	100.0	360
(X2 value 43.2 with 4 df, significant at 1 per cent)					
<b>Discussion about family size</b>					
Yes	35.9	26.0	38.1	100.0	674
No	7.4	51.8	40.8	100.0	309
(X2 value 104.9 with 2 df, significant at 1 per cent)					
<b>Total</b>	<b>26.9</b>	<b>34.1</b>	<b>39.0</b>	<b>100.0</b>	<b>983</b>

Source: Kathmandu Survey, 1992.

Table 5.1 shows that 39 per cent of respondents mentioned old age support as a reason for wanting children. Most of these respondents mentioned that children were an important source of support for them in times of difficulty or old age. Of the total, 34.1 per cent of respondents mentioned religious and social reasons for having children. This is not surprising in a Hindu society where the religious importance of children is still high. In a patriarchal society it is believed that only the son can continue the family line (Coombs and Sun, 1981:1237; Levine, 1982; 1987; Arnold, 1985:284). In Hindu society funeral rites and post-death rituals are obligatory for sons (Ramu, 1988). Generally it is believed that sons are necessary to carry out the required rituals. According to Hindu tradition, it is believed that a parent attains salvation only if a son sets fire to the pyre of his deceased parents. Failure to perform such rituals is said to allow the soul's recurrent rebirth, thus retarding its movement towards heaven (Ramu, 1988:87).

Although a social transformation is taking place in Kathmandu, sons are still seen as being needed for required rituals. Participants in the focus group discussion, in this context, mentioned

according to Hindu culture sons are needed to carry out the required rituals after our death. But it does not mean that we will continue having children in order to have a son even having many daughters. If we have property some body will act as a son and do the required ritual in order to get some of our property.

It is also the practice in Nepal that if someone acts as the son of a deceased person and performs the required ritual, he is supposed to obtain some of the deceased persons' property. Levine (1982, 1987), pointing out the importance of children in Nepal, said that divorce almost never occurs after the birth of a child, especially a son. This indicates that children not only bind the husband and wife together, but also permanently fix the woman's position in her marital home.

Daughters are also socially and religiously important in Nepal. They are especially needed in *Tihar* (one of the most important festivals in Nepal). In *Tihar*, every man



must be worshipped by his sister(s). If there is no sister, the men look for someone to act as their sister, but not to have a sister is disappointing for them (Anderson, 1975:171). Another reason for having daughters is that parents want to earn *punya* (merit) by giving their virgin daughter away in marriage. Hindus believe that this is the greatest *punya* parents can earn (Bista, 1987:7). Nevertheless this situation was not present in Kathmandu, indicating the changing socio-cultural norms of Kathmandu society. The older female participants of the focus group discussion mentioned that they were not treated the same as sons when they were young, but said that these days sons and daughters should be treated equally in society. Increased educational aspirations for girls (Table 5.3) and changing marriage mediation in Kathmandu (Chapter 4) also suggest that traditional socio-cultural attitudes towards women are changing in Kathmandu. Moreover, children are highly valued for emotional reasons in Kathmandu. Out of the total respondents, 27 per cent reported 'emotional reasons' for having children. These included happiness for parents and the family and feeling pleasure in the companionship and fun provided by children. Participants in the focus group discussions of both men and women, mentioned that children provide psychological satisfaction. A daughter is not only regarded as a beauty of the house but she is also a companion to her mother. However, nowadays when sons are married they do not care for their parents as much as they used to but rather they care for their wives instead. Daughters, however, still retain affection for their parents more so after marriage than do sons indicating emotional reasons for having a daughter. In the VOC studies also, in the urban middle class, psychological or emotional advantages of having children are emphasised (Arnold *et al*, 1975:50-61).

Table 5.1 presents the reasons for having children by socio-economic characteristics. As many as 46 per cent of Brahmans mentioned old age security for having children and 22 per cent gave emotional reasons but the pattern for the

Newars was the reverse. The pattern for the Chhetri group with regard to emotional reasons is similar to the pattern of the Newar, but socio-religious reasons score lower and old age security scores higher for the Chhetries than for the Newars. The socio-religious reason scores higher for Mongoloid Tibetan and old age security reason scores higher for the "others" group compared with emotional reasons. This indicates higher socio-religious and old age security values and lower emotional values in these groups. It is also to be noted that these groups have less education compared to the other groups and therefore emotional reasons might have been reported less frequently. This is because the relationship between higher educational attainment and emotional reasons for having children was found to be positive in the study (Table 5.1).

The old age security reason is higher for women who had low levels of or, no schooling than for women who had higher levels of schooling (Table 5.1). Similar responses were found for those whose husband also had higher levels of education, indicating a change in the perception of the value of children among educated groups.

It is generally found that more educated groups emphasise the psychological and emotional benefits rather than economic benefits in the discussion of the value of children (Fawcett, 1983:434). The pattern is similar for the higher economic status groups (measurement of economic status is presented in Appendix I) and women who work outside home. It is seen that more highly educated groups and women who work outside home tend to not emphasise old age security and religious reasons for having children. This is because they are exposed to the outside world.

As age increases, emotional reasons for having children decreases among the survey population. However, religious and social reasons have a positive relationship with age. This suggests that older women are more likely to believe in

traditional beliefs which favour religious and social reasons for having children, especially sons. It is also to be noted that most elderly women are not educated. The emotional reasons score higher for those couples who discuss family size compared with those who did not discuss it. However, religious and old age security reasons score higher for those who did not discuss family size. It is found that if society changes, cultural props weaken and emotional reasons increase compared with old age security (Bulatao, 1979b:52).

Discussion about family size is also closely associated with increased educational attainment of both husband and wife, younger age and economic status. It has been demonstrated in this study that parents with lower or no education emphasised old age security as a reason for wanting children, while most educated and prosperous parents showed less concern about economic benefits and more concern about emotional benefits. The chi-square test indicates that there is a significant association between the socio-economic characteristics considered in Table 5.1 and reasons for having children in Kathmandu.

In Nepal, people who are in government and most semi-government positions are eligible for a pension after they retire. Socio-economic benefits from the government are not available to the general public when they are old. It is argued that state provided pension benefits represent a substitute for help from children and so the net expected benefits of children will be reduced when parents are eligible for the old age security program, hence resulting in low long term fertility decline (Entwisle and Winegarden, 1984:332-333). Although there is no government supported social security scheme for the general public in Nepal, the Mulki Ain (His Majesty's Government (HMG/N), 1963:148-150), Nepal's legal code, recognises the importance of old age security and has made a provision for the parents to hold some of the land and other property for their old age if they decide to remain separate from their children.

In Nepal, parents' property should be divided among all sons; daughters who are unmarried until the age of 35 also get a share of the property, but married daughters are not eligible for parents' property. Parents can then keep a share of their property for their old age security. This system not only suggests that parents should not rely on sons for their old age support but also provides a stimulus for sons to take care of their parents in old age. This is because parents' property will be inherited by the son with whom the parents stay until their death. This issue was raised with some old couples in our informal discussion. They stated that "this is a good system because if children know that parents have property that they may inherit, they will show respect and concern for their parents". Some of them also mentioned that "in these days if you have property children look after you if not they don't care". The same kind of reply was found in a study by Goldstein *et al* (1983) in Kathmandu. This may be one of the reasons why more than 60 per cent of the respondents did not mention they valued their children as a form of old age security. This phenomenon also has some implications for fertility decline. However, in a traditional society, old age security or risk insurance is of pivotal importance in explaining fertility motivation (Entwisle and Winegarden, 1984; De Vos, 1985; Cain, 1989:387-388).

### **5.3.2 Mortality reduction**

Bulatao (1979a:6-10) has argued that one reason for the transition in the value of children is a result of the decline in infant mortality which results from the modernisation process. A large body of research has attempted to link fertility and mortality and has found a strong relationship between infant mortality and fertility (Heer, 1983:369). Due to high infant and child mortality, parents want to give birth to many children in order to ensure that at least one or two children will survive to provide them with support in their old age. In a situation of reduced mortality, particularly that of infants, "couples quickly realize that they do not need as many

children as previously for a given number of them to survive to adulthood, and so they limit their childbearing" (Caldwell, 1993:303). Moreover, when the probability of child survival increases with a fall in infant mortality, couples need to have only the number of children which they actually desire, especially when child rearing is expensive (Nayar, 1986:165). Therefore one way of reducing fertility is to reduce infant and child mortality. Cochrane and Zachariah (1983:29) argue that fertility reduction through direct interventions which reduce infant mortality are more cost effective than reducing fertility through family planning programs. Not only does a reduction in infant and child mortality reduce fertility but also a reduction in youth and adult mortality reduces fertility. This is because a decline in adult mortality raises rates of return on investment in education and therefore there will be interaction with greater investment potential for each child to have a good quality education (Becker, 1992:192).

The infant mortality rate (IMR) is lower in urban areas compared to rural Nepal. The IMR in the whole of Nepal was 91 per 1000 live births compared with 56 in urban areas in 1989 (Dongol, 1993:84). Similarly, Goldstein *et al* (1983) mentioned that infant and child mortality had dropped precipitously in Kathmandu. One of the reasons for low infant mortality in Kathmandu is the wide availability and accessibility of medical facilities which facilitate quick medical assistance when needed. It is argued that "a major factor differentiating rural and urban mortality is the greater availability and physical accessibility of health services in urban areas" (Hugo, 1992:43). Moreover, education and the mass media have enabled women to abandon their traditional beliefs and practices regarding pregnancy, child birth, child rearing and food habits and to adopt modern practices which help in raising the survival status of children in Kathmandu. This has some implications for fertility decline in Kathmandu.

### 5.3.3 Rising aspirations for children

One of the main reasons for smaller desired family size (Table 5.8) in Kathmandu is the rising aspirations held by parents for their children. This is indicated by the increased levels of educational attainment desired for their children. In the present survey, a question was asked "what is the level of education you desire for your children (son and daughter) ?". The answers to the question are summarised in Tables 5.2 and 5.3 for sons and daughters respectively. The tables show the expected level of education that respondents want their children to have.

As Kathmandu is a competitive place for good jobs, respondents indicated, especially for sons, the need to have good qualifications. "The aspirations factor draws people out to compete, or to encourage their children to compete, in the wider world" (Bulatao, 1979a:14). Goldstein *et al* (1983:720) based on their Kathmandu study also mentioned that "the emergence of employment as a key to economic success had led to a tremendous emphasis on education and a concomitant shift in the cost/value of sons".

Caldwell (1993:314) argues from the Asian experience that employment outside agriculture and parents' aspirations that children should have jobs in the non-agricultural sector are necessary conditions for fertility transition. He further argues that modern schooling is the key for these processes. When the issue of educational aspirations was raised in both male and female focus group discussion, participants mentioned that educated children will have access to newly available economic and social opportunities, so education is the only way that children can compete in modern society.

**Table 5.2 Percentage Distribution of Women by Educational Aspirations for Sons and Socio-economic Characteristics**

Characteristics	Level of educational aspirations				Total	N
	1	2	3	4		
<b>Caste/ethnicity</b>						
Brahman	*	9.7	38.8	51.5	100.0	291
Chhetri	0.4	6.5	37.5	55.6	100.0	261
Newar	1.3	7.1	37.1	54.5	100.0	310
M. Tibetan	8.8	16.3	52.5	22.4	100.0	80
Others	26.9	24.4	29.3	19.4	100.0	41
(X2 value 177.9 with 12 df, significant at 1 per cent)						
<b>Years of schooling</b>						
No schooling	6.7	14.6	57.7	21.0	100.0	267
1-5	1.8	8.1	59.5	30.6	100.0	111
6-10	1.3	9.0	41.0	48.7	100.0	156
10+	0.2	6.2	21.4	72.2	100.0	449
(X2 value 214 with 9 df, significant at 1 per cent)						
<b>Husbands' years of schooling</b>						
No schooling	11.5	18.1	54.3	16.2	100.0	105
1-10	7.4	15.7	59.3	17.6	100.0	108
10+	0.4	7.0	33.6	59.0	100.0	770
(X2 value 162 with 6 df, significant at 1 per cent)						
<b>Respondents childhood residence</b>						
Kathmandu	1.8	8.8	34.1	55.4	100.0	511
Other city	3.0	8.9	41.5	46.7	100.0	135
Village	3.0	9.8	44.5	42.7	100.0	337
(X2 value 14.7 with 6 df, significant at 1 per cent)						
<b>Respondents' occupation</b>						
Working	1.3	5.3	21.9	71.5	100.0	319
Not working	2.9	11.0	46.7	39.5	100.0	664
(X2 value 88.4 with 3 df, significant at 1 per cent)						
<b>Economic status</b>						
Lower	3.2	11.5	47.2	38.1	100.0	532
Low	1.8	5.7	29.3	63.2	100.0	280
High	0.9	7.2	28.8	63.1	100.0	111
Higher	*	8.3	25.0	66.7	100.0	60
(X2 value 65.6 with 9 df, significant at 1 per cent)						
<b>Current age</b>						
15-24	3.0	12.2	28.3	56.5	100.0	230
25-34	2.5	8.9	37.1	51.4	100.0	393
35+	1.7	7.5	46.9	43.9	100.0	360
(X2 value 22.5 with 6 df, significant at 1 per cent)						
<b>Total</b>	<b>2.3</b>	<b>9.2</b>	<b>38.7</b>	<b>49.8</b>	<b>100.0</b>	<b>983</b>

Note: 1. Up to high school (SLC) 2. Certificate (complete grade 12). 3. Graduate 4. Postgraduate  
Source: Kathmandu Survey, 1992.

**Table 5.3 Percentage Distribution of Women by Educational Aspirations for Daughters and Socio-economic Characteristics**

Characteristics	Level of educational aspirations				Total	N
	1	2	3	4		
<b>Caste/ethnicity</b>						
Brahman	8.6	22.3	37.5	31.6	100.0	291
Chhetri	11.5	28.4	41.8	18.3	100.0	261
Newar	7.4	22.3	48.7	21.6	100.0	310
M.Tibetan	26.3	35.0	32.5	6.2	100.0	80
Others	36.6	24.4	34.1	4.9	100.0	41
(X2 value 85.6 with 12 df, significant at 1 per cent)						
<b>Years of schooling</b>						
No schooling	33.7	38.9	22.5	4.9	100.0	267
1-5	11.7	33.3	47.7	7.2	100.0	111
6-10	3.8	25.6	52.6	17.9	100.0	156
10+	1.1	14.5	47.7	36.7	100.0	449
(X2 value 333.1 with 9 df, significant at 1 per cent)						
<b>Husbands' years of schooling</b>						
No schooling	43.8	40.0	13.3	2.9	100.0	105
1-10	24.1	33.3	39.8	2.8	100.0	108
10+	5.5	21.8	45.7	27.0	100.0	770
(X2 value 217 with 6 df, significant at 1 per cent)						
<b>Respondents childhood residence</b>						
Kathmandu	7.2	21.1	46.6	25.1	100.0	511
Other city	8.9	32.6	36.3	22.2	100.0	135
Village	19.3	27.9	36.2	16.6	100.0	337
(X2 value 46.7 with 6 df, significant at 1 per cent)						
<b>Respondents occupation</b>						
Working	2.5	12.2	47.7	37.6	100.0	319
Not working	15.9	31.2	38.7	14.2	100.0	664
(X2 value 123.2 with 3 df, significant at 1 per cent)						
<b>Economic status</b>						
Lower	17.0	30.3	40.6	12.2	100.0	532
Low	7.1	20.0	45.4	27.5	100.0	280
High	3.6	16.2	41.4	38.7	100.0	111
Higher	*	18.3	33.3	48.3	100.0	60
(X2 value 106.7 with 9 df, significant at 1 per cent)						
<b>Current age</b>						
15-24	7.4	21.3	47.8	23.5	100.0	230
25-34	7.1	23.2	46.3	23.4	100.0	393
35+	19.2	29.4	32.5	18.9	100.0	360
(X2 value 46.3 with 6 df, significant at 1 per cent)						
<b>Total</b>	<b>11.6</b>	<b>25.0</b>	<b>41.6</b>	<b>21.8</b>	<b>100.0</b>	<b>983</b>

Note: (1) Up to high school (2) Certificate (grade 12). (3) Graduate (4) Postgraduate.  
Source: Kathmandu Survey, 1992.



The issue of higher educational aspirations for sons found in the survey data was raised with a range of Kathmandu residents during the researcher's second field visit to Kathmandu in October, 1993. It was mentioned that in Kathmandu it is very competitive to find work, therefore either higher educational attainment, personal/social networking or sufficient political influence are the only successful ways to obtain jobs. Moreover, the provision for private examination for university degrees for which one does not have to attend university regularly, provides opportunities to complete a university degree even while working. This might be one reason for the higher educational aspirations found in Kathmandu.

Table 5.2 shows significant differences in educational aspirations among the subgroups in Kathmandu. Higher educational aspirations are associated with higher caste, higher educational attainment, work outside home, higher economic status and younger age groups. Couples with higher educational expectations for their sons tend to be couples with higher achievement themselves, indicating the positive association between higher levels of educational aspiration and higher years of schooling (Table 5.2). It may be said then that educational attainment of children has become the way through which parents hope to fulfil aspirations for their children in Kathmandu.

Although educational aspiration for daughters is lower than that for sons (Table 5.3), there is nevertheless a rapidly growing recognition of the importance of daughters' education. In a society where fertility out of wedlock is socially looked down upon, the educational aspirations for daughters are also associated with marriage. This is because higher education means a longer time in school, and the greater risk of premarital sex. Most of the respondents mentioned that daughters should be married in time to avoid premarital sex, because in Nepalese society, premarital sex is looked down upon and respondents did not want their daughters to have premarital sex or a possible premarital pregnancy. This may be one of the

reasons that the preferred female age at marriage is below 25 years of age in Kathmandu (Chapter 4). Table 5.3 also shows a strong relationship between higher economic status of parents and aspirations for higher education of their daughters. This is also indicative of the fact that higher economic status leads to lower fertility through delayed marriage.

Kathmandu couples placed a high value on educating children. This tended to elevate children's costs relative to benefits. Higher educational aspirations for children are associated with the 'quality' of children. The desire for higher child quality requires greater expenditure and requires more parents' time, attention and concern (Bulatao, 1979a:11). Higher education of both boys and girls increases costs and decreases the benefits while children are at school. Fewer better educated children may provide greater satisfaction than more poorly educated children (Freedman, 1982:260). Caldwell (1982) argues that the spread of education makes children costly on the one hand and on the other, schooling of children introduces the western ideology, which in turn changes the morality of the family.

Both female and male participants in the focus group discussion mentioned that high educational level of children is not only necessary for the children's future but also enhances the social prestige of parents. Higher educational aspirations for children are an indication of social change, because education brings changes in the society and thus alters the traditional way of life (Caldwell, 1982). Moreover, rising aspirations for the education of sons and daughters are indications of modernisation (Srikantan, 1989:279). It is argued that urban living is one of the main sources of these rising aspirations (Notestein, 1945:40) because of the greater availability of schools in urban areas compared with rural areas. Also effective communication networks may be equally responsible for these rising aspirations (Bulatao, 1979b:10). The effective communication network might also have contributed to these rising aspirations in Kathmandu.

### 5.3.4 Vanishing economic role of children

If the perceived economic advantage from children is reduced, fertility will also change from a high to a low level (Caldwell, 1982). Table 5.4 gives a clear indication of the vanishing economic role of children in Kathmandu. Of the total sample in Kathmandu, 84 per cent of women did not expect any help from their children. As years of schooling of both husband and wife increased, the percentage expecting help from children decreased, indicating a negative relationship between the need for children's help and education. The case is similar for economic status groups. When one looks at age groups it is seen that older women expect help from children more than younger women. A chi-square test showed that there was a significant association between socio-economic variables and expectancy of help from children.

Although 39 per cent of the respondents in Kathmandu reported that children are needed for old age security (Table 5.1), they did not expect them to perform any work while they were very young. This statement was confirmed by focus group discussions. However, in rural Nepal, where the familial mode of production is dominant, children are of net economic benefit to their parents (Nag *et al*, 1978). Further, the reasons for having children for old age security is less important among higher educated and higher economic status groups, indicating the impact of education and economic status upon old age security. The value of child labour has diminished and educational aspirations for children have increased. As a result, a small number of children are preferred among some groups in Kathmandu. The higher cost of raising children in Kathmandu was reported. Fifty nine percent of women perceived that education, followed by food, is the greatest expense in rearing children in Kathmandu. The increase in the perceived necessary level of education raises the cost of bringing up children in Kathmandu. It was found however, that expenditure on education was not mentioned as the greatest expense in rearing children in rural Nepal (Dahal, 1989:83-87).

**Table 5.4 Percentage of Respondents Who Reported Children Were Needed for Assistance in Family Enterprises or to Help Parents in Their Work by Socio-economic Characteristics.**

Need for assistance in family enterprises or to help parents in their work					
Characteristics	Yes	No	Don't know	Total	N
<b>Caste/ethnicity</b>					
Brahman	11.0	88.0	1.0	100.0	291
Chhetri	14.1	85.1	0.8	100.0	261
Newar	14.5	83.9	1.6	100.0	310
M.Tibetan	26.3	71.2	2.5	100.0	80
Others	26.9	70.7	2.4	100.0	41
(X2 value 17.1 with 4 df, significant at 1 per cent)					
<b>Years of schooling</b>					
No schooling	39.0	59.9	1.1	100.0	267
1-5	16.2	83.8	*	100.0	111
6-10	5.1	92.3	2.7	100.0	156
10+	3.6	95.1	1.3	100.0	449
(X2 value 179.2 with 3 df, significant at 1 per cent)					
<b>Husbands' years of schooling</b>					
No schooling	56.2	42.8	1.0	100.0	105
1-10	21.3	77.8	0.9	100.0	108
10+	8.3	90.3	1.4	100.0	770
(X2 value 170.0 with 2 df, significant at 1 per cent)					
<b>Respondents' childhood residence</b>					
Kathmandu	9.6	88.8	1.6	100.0	511
Other city	17.0	81.5	1.5	100.0	135
Village	22.0	77.1	0.9	100.0	337
(X2 value 24.8 with 2 df, significant at 1 per cent)					
<b>Respondents' occupation</b>					
Working	4.1	94.0	1.9	100.0	319
Not working	20.0	78.9	1.1	100.0	664
(X2 value 42.9 with 1 df, significant at 1 per cent)					
<b>Economic status</b>					
Lower	19.5	79.1	1.3	100.0	532
Low	10.4	88.6	1.0	100.0	280
High	8.1	89.2	2.7	100.0	111
Higher	6.7	93.3	*	100.0	60
(X2 value 20.9 with 3 df, significant at 1 per cent)					
<b>Current age</b>					
15-24	3.9	95.7	0.4	100.0	230
25-34	6.6	92.1	1.3	100.0	393
35+	30.8	67.3	1.9	100.0	360
X2 value 117.5 with 2 df, significant at 1 per cent)					
<b>Total</b>	<b>14.9</b>	<b>83.8</b>	<b>1.3</b>	<b>100.0</b>	<b>983</b>

Note: Don't know cases excluded in X2 test because of less than 5 cases in the classification  
Source: Kathmandu Survey, 1992.

Economic costs can be divided into two groups, direct and indirect (Robinson and Horlacher, 1971:23-27). Direct costs include the cost of education, food, clothing, health etc. and while indirect costs include the opportunity cost of mother's time and the restriction of the mother in looking for work outside the home. In general, fertility decreases with an increase in both direct and indirect costs of children.

In rural areas, there are few paid employment opportunities for mothers because of a narrow job market. In the present study, 32 per cent of women of Kathmandu were working outside the home, compared with 2 per cent in all of Nepal (Aryal, 1991:170), indicating the higher involvement of women working outside the home in Kathmandu. Moreover, in Nepal most women in rural areas work on the farm and can mind their children while working (Molnar, 1980:182). This explains the low fertility of educated women living in urban areas compared to uneducated women living in rural areas. It was also found that Kathmandu couples are less likely to use the labour of children in economic production. However the labour of children for economic production is used in rural Nepal (Nag, *et al*, 1978; Dahal, 1989).

Participants in the focus group discussions mentioned that the cost of education is very high in Kathmandu, therefore to provide a good education to children they should have only one or two children. This indicates that education is one of the most important factors influencing fertility behaviour in Kathmandu. In this respect one woman, who had only one son said that:

we would not have faced such financial problems if my husband was well educated and was the only son of his father. Because of his five brothers none of them could get a good education and his father's property was split into five as a result of which everybody was having financial problems. For my son's future and comfortable life I will try my best to provide him good education therefore I do not want to go on having any more children.

Participants in the male focus group discussions on the questions of the old age security and financial support from children, stated that

we could not help our parents therefore how can we expect help from our children. Our responsibility is just to provide good education to our children if we can, but we do not expect any help from them. However, we still say that our duty is to assist and support our parents if we can. But because of financial constraints, it has become increasingly hard for us to support even our own nuclear family.

Respondents in the focus group discussion of both males and females said that "we can not even think of getting any kind of help from our children, they have their own problems and way of life". Goldstein *et al* (1983:718) also reported the similar and even stronger answers from elderly people of Kathmandu: "in these days a person is a fool if he hopes to depend on his children when he is old". They further reported that "attitudes of elderly parents have undergone major changes in terms of the value of sons in old age (and thus receptivity to family planning), the need for independent income in old age, and the need to plan for the future of their wives after they die". These statements indicate that children in Kathmandu make a minimum contribution to the household economy, whilst increasing the costs. Moreover, these statements also reflect the changing attitudes of parents in terms of the value of children to old age and show the increasing cost of maintaining children in Kathmandu. These factors have been instrumental in reducing fertility in Kathmandu.

### **5.3.5 Emergence of the conjugal family**

According to Bulatao (1979a:13) the emergence of the conjugal family is also responsible for a transition in the value of children and hence low fertility. Similarly, Caldwell (1980) argues that westernisation, with its values of the predominance of the nuclear family and its strong conjugal tie, the concept of concentrating concern and expenditure on one's own children, is increasingly gaining ground in developing countries. In a situation of the emergence of the

conjugal family, fertility decisions increasingly come under the couple's control, rather than being controlled by another family member such as the head of the household or mother-in-law (Niraula, 1991). The conjugal family involves an intensification of emotional attachments within the family (Bulatao, 1979a:14). Here, communication between spouse about family size and the desired number of children has been taken as a measure of the emergence of the conjugal family.

#### **5.3.5.1 Communication between spouse about family size**

In a situation of the emergence of a conjugal family, couples discuss family size and as a result, contraceptive use increases and a lower desired number of children can be found (Tuladhar, 1984; Ramu, 1988; Shahid Ullah and Chakraborty, 1993). Table 5.5 reveals that discussion about family size is not only associated with higher educational attainment of both husband and wife, but also with higher caste, urbanisation, sound economic status, and younger age groups. All these groups are associated with educational attainment, therefore the emergence of the conjugal family is evident in higher educational groups. The chi-square test also shows a significant relationship between socio-economic groups and discussion about family size in Kathmandu.

Table 5.1 shows that among those who did discuss family size, 38 per cent cited old age security as reasons for having children, followed by 36 per cent citing emotional and 26 per cent citing religious reasons. Among those who did not discuss family size, 52 per cent gave religious and social reasons for having children. However, among those who did discuss family size, a small percentage mentioned religious reasons and a high percentage mentioned emotional reasons for having children, indicating the emergence of the conjugal family in Kathmandu.

**Table 5.5 Percentage Distribution of Couples Who Discuss Family Size According to Socio-economic Characteristics.**

Characteristics	Discuss family size			N
	Yes	No	Total	
<b>Caste/ethnicity</b>				
Brahman	75.6	24.4	100.0	291
Chhetri	70.5	29.5	100.0	261
Newar	65.5	34.5	100.0	310
M.Tibetan	50.0	50.0	100.0	80
Others	65.1	34.1	100.0	41
(X2 value 21.4 with 4 df, significant at 1 per cent)				
<b>Years of schooling</b>				
No schooling	39.0	61.0	100.0	267
1-5	48.8	51.4	100.0	111
6-10	74.4	25.6	100.0	156
10+	89.1	10.9	100.0	449
(X2 value 219.2 with 3 df, significant at 1 per cent)				
<b>Husbands' years of schooling</b>				
No schooling	29.5	70.5	100.0	105
1-10	52.8	47.2	100.0	108
10+	76.1	23.9	100.0	770
(X2 value 107.0 with 2 df, significant at 1 per cent)				
<b>Respondents childhood residence</b>				
Kathmandu	73.2	26.8	100.0	511
Other city	67.4	32.6	100.0	135
Village	62.0	38.0	100.0	337
(X2 value 11.9 with 2 df, significant at 1 per cent)				
<b>Respondents' occupation</b>				
Working	86.5	13.5	100.0	319
Not working	59.9	43.1	100.0	664
(X2 value 70.6 with 1 df, significant at 1 per cent)				
<b>Economic status</b>				
Lower	60.5	39.5	100.0	532
Low	75.7	24.3	100.0	280
High	81.1	18.9	100.0	111
Higher	83.3	16.7	100.0	60
(X2 value 36.7 with 3 df, significant at 1 per cent)				
<b>Current age</b>				
15-24	80.0	20.0	100.0	230
25-34	77.1	22.9	100.0	393
35+	51.9	48.1	100.0	360
X2 value 73.4 with 2 df, significant at 1 per cent)				
Total	68.6	31.4	100.0	983

Source: Kathmandu Survey, 1992.

### 5.3.5.2 Desired family size

Another measure of the emergence of a conjugal family taken here is the desired family size. This section gives an overview of women's answers to their own



desired family size and the desired family size for their children. Preference for the size of the family or for the sex of a child reflects the values attributed to children by both the society and the individual (United Nations, 1987:51-60).

The question used for measuring desired family size for women who had children still living was "if you could go back to the time and you did not have any children, and could choose exactly the number of children to have in your whole life, how many would that be ?". The second question for those who had no children was "if you could choose exactly the number of children to have in your whole life, how many would that be ?". Similar questions were used to measure desired family size in developing countries (United Nations, 1987). These questions were based on hypothetical situations, therefore it was expected that the responses to them would reflect societal norms. Table 5.6 indicates that a majority (59 per cent) of women wanted to have two children as their desired family size and 35 per cent desired to have three. When classified by different socio-economic variables it was seen that a lower desire for children was associated with higher caste, higher education, urbanisation, work outside home, sound economic conditions, discussion of family size, and younger age groups.

As years of schooling increase the percentage of respondents desiring one or two children increases. The reverse was the case for those who desired three or four children. This pattern was similar with respect to husbands' years of schooling. When one looks at current age, as age increases, the percentage desiring three or four children increases. This is reversed for those who desired one or two children, indicating the pronatalist views of older women compared to younger women. Among the respondents who discussed family size, 74 per cent wanted to have only two children as their desired family size. The corresponding figure for those who did not discuss family size was 29 per cent, indicating the impact of the emergence of the conjugal family.

**Table 5.6 Percentage Distribution of Women Who Reported Their Desired Family Size by Socio-economic Characteristics (Who had at least one live birth)**

Characteristics	Number of children desired				Mean desired children	Total	N
	1	2	3	4			
<b>Caste/ethnicity</b>							
Brahman	4.2	65.3	28.6	1.9	2.4	100.0	259
Chhetri	1.7	59.2	36.2	2.9	2.5	100.0	238
Newar	2.2	59.1	36.9	1.8	2.3	100.0	274
M.Tibetan	1.3	46.1	50.0	2.6	2.7	100.0	78
Others	2.4	51.2	36.6	9.8	2.9	100.0	41
<b>Years of schooling</b>							
No schooling	0.8	31.4	61.3	6.5	3.0	100.0	261
1-5	2.7	36.9	58.5	1.9	2.8	100.0	106
6-10	3.0	68.9	26.7	1.5	2.1	100.0	135
10+	4.5	80.4	14.7	0.5	2.1	100.0	388
<b>Husbands' years of schooling</b>							
No schooling	*	19.0	67.6	13.4	3.2	100.0	105
1-10	2.9	45.1	51.0	1.0	2.6	100.0	102
10+	2.9	67.8	28.1	1.2	2.3	100.0	683
<b>Respondents' childhood residence</b>							
Kathmandu	4.0	70.1	23.3	2.6	2.2	100.0	451
Other city	1.6	53.5	43.3	1.6	2.5	100.0	127
Village	1.0	46.4	49.7	2.9	2.8	100.0	312
<b>Respondents' occupation</b>							
Working	3.5	81.9	14.3	0.3	2.1	100.0	288
Not working	2.1	48.7	45.5	3.7	2.6	100.0	602
<b>Economic status</b>							
Lower	2.1	47.5	46.2	4.2	2.5	100.0	480
Low	2.0	72.9	24.3	0.8	2.4	100.0	255
High	5.8	69.2	25.0	*	2.1	100.0	104
Higher	3.9	84.3	9.8	2.0	2.0	100.0	51
<b>Current age</b>							
15-24	5.9	83.0	11.1	*	2.1	100.0	153
25-34	2.6	68.5	27.0	1.9	2.2	100.0	378
35+	1.1	39.8	54.6	4.5	2.8	100.0	359
<b>Couples discussion about family size</b>							
Yes	2.3	73.9	22.5	1.3	2.2	100.0	601
No	3.1	29.4	62.3	5.2	2.9	100.0	289
<b>Total</b>	<b>2.6</b>	<b>59.4</b>	<b>35.4</b>	<b>2.6</b>	<b>2.4</b>	<b>100.0</b>	<b>890</b>

Source: Kathmandu Survey, 1992.

Table 5.7 reveals a strong desire for sons in Kathmandu. This reflects the patriarchal society where a greater long term economic return may be expected by parents from sons than from daughters (Levine, 1982; 1987). Moreover, son preference is also important from the desire to maintain the family lineage, and as is the case in traditional culture there are other determining religious and cultural factors (Arnold, 1985:284).

Although son preference is still evident among Kathmandu women, it does not boost their fertility because, as will be discussed later, parents do not go on having more and more children in order to meet a desired number of sons if they already have two or three children. When the gender composition issue was raised in the focus group discussion, participants mentioned that they could not afford to continue trying for sons or daughters after two or three children, although they demonstrated the strong cultural importance of sons.

**Table 5.7 Percentage Distribution of Women Who Reported Their Desired Family Size by Sex Composition (Women who had at least one live birth)**

No. of children desired	Per cent	Percentage out of total					
		1 boy	2 boy	3 boy	1 girl	2 girl	Either
1	2.6	34.8	*	*	26.1	*	39.1
(N)	(23)	(8)	*	*	(6)	*	(9)
2	59.4	79.6	3.8	*	79.6	*	16.6
(N)	(529)	(421)	(20)	*	(421)	*	(88)
3	35.4	1.6	98.1	*	98.1	1.6	0.3
(N)	(315)	(5)	(309)	*	(309)	(5)	(1)
4	2.6	*	87.0	8.7	8.7	87.0	4.3
(N)	(23)	*	(20)	(2)	(2)	(20)	(1)
Total	100.0						
(N)	(890)						
Mean number of children desired			2.4				

Note: Figures in the parentheses are number of cases  
Source: Kathmandu Survey, 1992.

Less than 3 per cent of women who had relatively large families and a low level of education preferred to have four children as a desired family size. This indicates

that women who have had many children and a low level of education desire large families (Coombs, 1974; Lightbourne and McDonald, 1982).

**Table 5.8 Percentage Distribution of Women Who Reported Their Desired Family Size by Socio-economic Characteristics (Women who had no children)**

Characteristics	Number of children desired			Mean desired children	Total	N
	1	2	3			
<b>Caste/ethnicity</b>						
Brahman	6.5	77.4	16.1	2.3	100.0	31
Chhetri	9.1	72.7	18.2	2.2	100.0	22
Newar	5.3	84.2	10.5	2.0	100.0	38
M.Tibetan	*	100.0	*	2.0	100.0	2
Others	*	*	*	*	*	*
<b>Years of schooling</b>						
No schooling	*	83.3	16.7	2.3	100.0	6
1-5	*	60.0	40.0	2.5	100.0	5
6-10	*	90.0	10.0	2.1	100.0	20
10+	11.3	75.8	12.9	2.1	100.0	62
<b>Husbands' years of schooling</b>						
No schooling	*	*	*	*	*	*
1-10	*	100.0	*	2.0	100.0	6
10+	8.0	77.1	14.9	2.1	100.0	87
<b>Respondents' childhood residence</b>						
Kathmandu	8.2	80.3	11.5	2.1	100.0	61
Other city	12.5	87.5	*	1.9	100.0	8
Village	4.2	70.8	25.0	2.3	100.0	24
<b>Respondents' occupation</b>						
Working	6.7	80.0	13.3	2.1	100.0	30
Not working	4.8	77.8	17.5	2.1	100.0	63
<b>Economic status</b>						
Lower	2.0	76.5	21.6	2.2	100.0	51
Low	4.2	91.6	4.2	2.0	100.0	24
High	25.0	75.0	*	1.8	100.0	8
Higher	30.0	60.0	10.0	2.0	100.0	10
<b>Current age</b>						
15-24	6.4	76.9	16.7	2.2	100.0	78
25-34	14.3	85.7	*	1.8	100.0	14
35+	*	100.0	*	2.0	100.0	1
<b>Couples discussion about family size</b>						
Yes	5.6	83.3	11.1	2.1	100.0	72
No	14.3	61.9	23.8	2.3	100.0	21
<b>Total</b>	<b>7.5</b>	<b>78.5</b>	<b>14.0</b>	<b>2.1</b>	<b>100.0</b>	<b>93</b>

Source: Kathmandu Survey, 1992.

Table 5.8 is a summary of the answers given by women who had no children. The pattern according to socio-economic groups is similar to women who had at least

one child. When sex composition is examined it was seen that among women who wanted one child, 57 per cent wanted a child of either sex, 29 per cent preferred only a boy, and 14 per cent preferred only a girl (Table 5.10). It is seen that the majority of women who had no children preferred to have two children. Of these women, 75 per cent wanted one son and one daughter. It is also evident however, that women who had no children had less sex preference than the women who had living children, indicating the lesser importance of sex preference among the younger women, who are more educated.

A majority of women stated two children as their desired family size with a marked preference for at least one boy and one girl. This was followed by no preference at all (Table 5.9). The increased availability of education has affected the costs of and aspirations for children, increased contraceptive use and child survival resulting in a decreased desired family size. Moreover, in general there are some specific reasons in having a strong desire for the second child, in that the second child may be a companion to the first child, and the second child may be of the opposite sex to the first child (Fawcett, 1977:104-105). If the two children can meet respective psychological and social needs, the 'two child family' will become an established norm (Lucas and Meyer, 1986:188).

All respondents have thought about how many children they would like to have. No one gave non-numerical responses. Van de Walle (1992:487) argues that numeracy about children was a necessary condition for adopting family limitation. It has also been argued that in countries where contraception has become increasingly available and acceptable, respondents give serious consideration to their proposed family size (Bulatao and Arnold, 1977:145; United Nations, 1987:53).

**Table 5.9 Percentage Distribution of Women Who Reported Their Desired Family Size by Sex (Women who had no children).**

No. of children desired	Percentage out of total				
	per cent	1 boy	2 boy	1 girl	Either
1	7.5	28.6	*	14.3	57.1
(N)	(7)	(2)	*	(1)	(4)
2	78.5	75.3	*	75.3	24.7
(N)	(73)	(55)	*	(55)	(18)
3	14.0	*	92.3	92.3	7.3
(N)	(13)	*	(12)	(12)	(1)
Total	100.0				
(N)	(93)				
Mean desired number of children		2.1			

Source: Kathmandu Survey, 1992.

It was also noted that no women wished to remain childless, indicating the importance of children, especially sons in Kathmandu. In Nepal, woman's status has been directly dependent on her fertility and a childless woman is subject to pity and contempt (NCP, 1988:60-62).

### 5.3.5.3 Sex preference

Sex preference is another indicator of the value of children in society. It was noted earlier that respondents favour having sons rather than daughters in Kathmandu. Accordingly, respondents were asked to report whether they would continue having children if they could not meet the desired sex composition of children. Table 5.10 reveals the strong negative impact on sex preference by factors such as higher caste, higher schooling, urbanisation, work outside home, higher economic status, younger age groups and discussion of family size. Some 92 per cent of women with higher schooling want to stop childbearing after achieving their desired family size, even if they did not meet their desired sex composition. This compares with 61 per cent who had no schooling. The pattern is similar with respect to their husbands' education.

**Table 5.10 Percentage Distribution of Women by Sex Preference on Their Desired Family Size According to Socio-economic Characteristics.**

Characteristics	If desired number met but not sex composition			Total	N
	Stop	Continue	Don't know		
<b>Caste/ethnicity</b>					
Brahman	88.3	11.4	0.3	100.0	291
Chhetri	82.8	16.1	1.1	100.0	261
Newar	77.1	19.7	3.2	100.0	310
M.Tibetan	75.0	21.2	3.8	100.0	80
Others	73.1	22.0	4.9	100.0	41
(X2 value 11.4 with 4 df, significant at 5 per cent)					
<b>Years of schooling</b>					
No schooling	61.0	35.6	3.4	100.0	267
1-5	80.2	17.1	2.7	100.0	111
6-10	86.5	12.2	1.3	100.0	156
10+	92.4	6.5	1.1	100.0	449
(X2 value 109.7 with 3 df, significant at 1 per cent)					
<b>Husbands' years of schooling</b>					
No schooling	51.4	46.7	1.9	100.0	105
1-10	74.1	23.1	2.8	100.0	108
10+	86.8	11.4	1.8	100.0	770
(X2 value 87.8 with 2 df, significant at 1 per cent)					
<b>Respondents' childhood residence</b>					
Kathmandu	84.7	13.1	2.2	100.0	511
Other city	83.7	13.3	3.0	100.0	135
Village	76.0	22.8	1.2	100.0	337
(X2 value 14.5 with 2 df, significant at 1 per cent)					
<b>Respondents' occupation</b>					
Working	91.8	6.3	1.9	100.0	319
Not working	76.6	21.4	2.0	100.0	664
(X2 value 35.9 with 1 df, significant at 1 per cent)					
<b>Economic status</b>					
Lower	77.6	20.5	1.9	100.0	532
Low	85.4	12.8	1.8	100.0	280
High	88.3	9.0	2.7	100.0	111
Higher	86.7	11.7	1.7	100.0	60
(X2 value 14.3 with 3 df, significant at 1 per cent)					
<b>Current age</b>					
15-24	88.7	10.4	0.9	100.0	230
25-34	86.5	10.9	2.5	100.0	393
35+	71.7	26.4	1.9	100.0	360
(X2 value 40.7 with 2 df, significant at 1 per cent)					
<b>Discussion about family size</b>					
Yes	91.7	7.1	1.2	100.0	674
No	59.5	36.9	3.6	100.0	309
(X2 value 141.9 with 1 df, significant at 1 per cent)					
<b>Total</b>	<b>81.6</b>	<b>16.5</b>	<b>1.9</b>	<b>100.0</b>	<b>983</b>

Note: Don't know cases excluded in X2 test because of less than 5 cases in the classification  
 Source: Kathmandu Survey, 1992.

It was also seen that 61 per cent of uneducated women wanted to stop childbearing even if desired sex composition was not met. This indicates that the concept of small family size norms have touched a wide spectrum of the population in Kathmandu. Chi-square testing shows a significant relationship between socio-economic variables and sex preference.

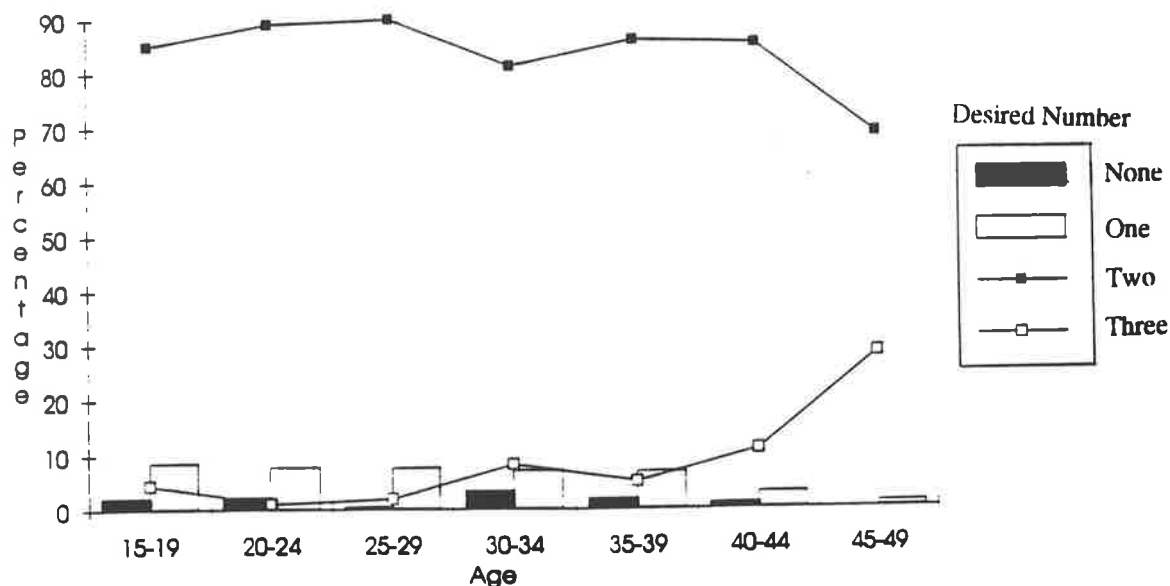
The mean number of children desired for women who had living children is 2.4 and the corresponding figure for women who had no children is 2.1, with a marked preference for at least one boy and one girl. Arnold (1992:94) also found in most of the 26 DHS countries that there was a clear preference for at least one child of each sex. Similarly, Goldstein *et al* (1983:720) reported that most of his elderly respondents said that, given the current economic situation, the desired family size is only two or three children. This small number of desired children provides the evidence of attitudinal change regarding fertility behaviour in Kathmandu families.

#### **5.3.5.4 Desired family size for respondents' children**

A further question was asked to respondents about their children's desired number of children. This question shed further light on the attitudinal change regarding fertility behaviour of Kathmandu couples. It was seen that respondents themselves did not want to remain childless, but almost 2 per cent reported that they would like their children to be childless, and almost 85 per cent wanted two children as a desired family size for their children (Figure 5.1). The pattern is similar in every age group. The percentage preferring three children for their children however, was higher in the older age group. As mentioned earlier, women who had large families and low education (these are in this category) tended to have a larger desired family size.



**Figure 5.1 Percentage Distribution of Women Who Reported Desired Family Size for Their Children**



Source: Kathmandu Survey, 1992

It is found that as a result of the emergence of the conjugal family, many couples discussed their family size preference and had considered a desired number of children for both themselves and for their children. As Van de Walle (1992) points out, in a society where fertility transition is present, desired family size is generally discussed.

### 5.3.6 Weakening cultural props

"Weakening cultural props for high fertility refer to the sanctions that the society, the community, and other large social groupings employ to encourage or discourage fertility" (Bulatao, 1979a:15). In a situation of weakening cultural props there is a decline in the value of children in religious and social obligations. Table 5.1 showed that 34 per cent of respondents reported religious and social reasons for having children. As mentioned earlier, in Hindu society both daughters and sons are religiously and socially important. However, in the subgroups it is found that as

years of schooling increase the percentage citing religious reasons for having children decreases. This is true in the case of economic status groups and women who work outside home. Again, fewer people in younger age groups than older age groups give religious reasons for having children. When looking at the couples who discussed family size, the figure is fifty per cent lower than those who did not discuss it, indicating that the traditional values attached to children are weakening. Moreover, the government has been concerned about fertility reduction programs and the message of the small family size norm is being promoted by both government and non-government agencies and has reached a wide spectrum of the population. The traditional beliefs regarding fertility behaviour have been changing in Kathmandu. As a result, acceptance of the small family size norm is gaining ground as more people aspire a better life in Kathmandu. This is an expected pattern in a society where cultural props are weakening.

#### **5.4 Conclusion**

The findings presented in this chapter suggest that the social transformation taking place in Kathmandu is not only impinging upon the value of children but also the values attached to the gender of children. The pressure of factors such as increased education, the new institutional structure, and the impact of mass media are modifying old concepts as to the value of children in society but further to the change in the relationship between parents and children (Hull, 1975). Similarly Freedman (1987a:69) argues that

the reason that urbanization, education, nonfamilial employment structures, and higher living standards are believed to be conducive to smaller families is that they increase the costs of children and the value of investing in 'higher quality' children, while decreasing the value of large numbers of them.

In the case of Kathmandu, the economic role of children is minimal while the emotional value of children is increasing. Religious, social, and old age security reasons for having children are decreasing. This is the expected pattern in a society

where the value of children is in transition (Bulatao, 1979a; 1979b; Caldwell, 1982). Various reasons mentioned above encourage Kathmandu couples to think carefully about having children. This does not however mean that children have lost their significance in Kathmandu. Instead, it suggests that couples produce only the number of children for whom they can adequately provide good education, food and medical facilities. Overall findings lead to the conclusion that because of social changes brought about by education and mass media, children have been considered a financial burden to the family, which in turn is responsible for the onset of fertility decline.

The findings of this chapter indicate the increasing cost of rearing children in Kathmandu which should be conducive to the use of contraception. A wide range of community factors shape contraceptive behaviour and these include the norms concerning roles of children. This influences the value of children to parents (Entwisle *et al*, 1989). The next chapter will examine whether the trend toward a decrease in the value of children has led Kathmandu couples to use contraception.



## CHAPTER SIX

### FERTILITY REGULATION BEHAVIOUR

#### 6.1 Introduction

It was shown in previous chapters that some of the prerequisites for the fertility transition: increase in age at marriage and decrease in the value of children are present in Kathmandu. The rising use of contraception has been found to be the main proximate determinant of the fertility decline in developing countries (Bongaarts, 1982; United Nations, 1987; Bongaarts *et al*, 1990; Caldwell *et al*, 1992; and Caldwell, 1993). Accordingly one of the main objectives of the present study is to undertake a systematic analysis of contraceptive use, and explore the mechanisms of change in fertility regulation behaviour of Kathmandu couples.

The main aim of this chapter is to achieve this objective and is organised as follows: firstly, the theoretical explanations of contraceptive use are summarised. Secondly, the development of population policy and family planning programs in Nepal are presented. Thirdly, an overview of contraceptive use behaviour in Nepal and a detailed examination of the trends and level of contraception and motivation to use contraception in Kathmandu are presented, followed by analysis of method continuation and method switching and characteristics of non-users. Finally, innovation-diffusion of contraception are discussed, followed by detailed socio-economic differentials in fertility regulation behaviour of Kathmandu women.

## **6.2 Theoretical background**

Bongaarts (1978) modified Davis and Blake's (1956) framework and identified four important intermediate variables (Bongaarts called them proximate determinants) (Chapter 2) and argued that fertility change is a result of changes in those four proximate determinants. One of these four proximate variables is contraception which is also one of the preconditions mentioned by Coale (1975) for the fertility transition.

It is suggested that attitudinal changes regarding the value of children lead to increased use of contraception in the study population (Stycos, 1962). If a population moves through the transition from natural to controlled fertility, there is an increase in deliberate marital fertility control exerted primarily through a rise in contraceptive use (Bongaarts, 1982:184).

The theoretical explanations of fertility change have been discussed in Chapter Two. Here the major theoretical explanations of contraceptive use are presented in Table 6.1, which shows that availability and accessibility of contraception are one of the main reasons for the high use of it. The change in social and cultural norms motivate an increased use of contraception. Family planning programs are not only the main source of availability of contraception in developing countries but are also a centre of diffusion of birth control ideas which are found to be one of the important mechanisms motivating higher use of contraception. The modern communication system has also contributed to the diffusion processes. It is also argued that the availability of contraception and the pressure exerted by the government to adopt contraception can induce social change in a variety of ways (Caldwell, 1993). The mechanisms through which fertility regulation processes are affected in Kathmandu are examined in this chapter.

**Table 6.1 Summary of the Theoretical Explanations of Contraceptive Use**

Program/ socio-economic variables	Contraceptive situation	References
Availability and accessibility of contraception	increases both demand for contraception and motivation to use it	Lapham and Mauldin (1985) Tsui (1985); Freedman (1987a) Retherford and Palmore (1983) Caldwell <i>et al</i> (1992) Caldwell (1993)
Better education, employment and higher income(women)	contraceptive use increases	Brackett, 1981:21
Desired family size declines	deliberate birth control increases	Bongaarts, 1987:133
Change in social and cultural norms*	motivates increased use of contraception	Tabah, 1980:355-389
Aggressive family planning program	encourages use of contraception	United Nations,1987:3 Caldwell <i>et al</i> , 1992; Caldwell, 1993.
Three necessary and facilitating conditions should be fulfilled **	effective control of fertility	Stycos, 1962:305-311
The persuasive influence is a function of six variables ***. If a person is positive on all six variables	the probability of adoption of contraception increases	Bogue, 1969:372-372
Modern communication system	diffuses the idea of fertility control	Knodel and Van de Walle, 1986; Freedman,1982;1987a

Note: \* However, Caldwell (1993) argues that the availability and legitimisation of contraceptives, and the pressure exerted by the government to adopt contraception can induce social change in a variety of ways.

\*\* necessary conditions are: values favouring small family size; awareness of the means of family limitation; and acceptability of the known means.

facilitating conditions are: accessibility of means of birth control; the extent to which family structure facilitates sharing of goals; and knowledge of family size in a hierarchy of values. Three preconditions suggested by Coale (1975) also suggest a similar explanation.

\*\*\*According to the social-psychological "adoption model" contraceptive use is a response to the persuasive influence of six variables: knowledge; motivation; credibility, acceptance; positive attitude towards at least one contraceptive method, and self referral and a sense of competence to practice family planning successfully.

### **6.3 Population policy and the family planning program in Nepal**

This section discusses the development of population policy and the family planning program in Nepal before analysing the fertility regulation behaviour of Kathmandu couples. The realisation that a rapid increase in population is detrimental to economic development has led many third world countries to formulate and adopt population policies in their development plans. Nepal is one of these countries where population policies have been explicitly taken into account in an ongoing series of government development plans since the third five year plan (1965-1970). "Family planning programs provide information and services to help people achieve their own fertility objectives. By contrast, population policy involves explicit demographic goals" (World Bank, 1984:155). Therefore, the family planning program and socio-economic development are not the only impetus for fertility decline, strong government population policies will have a significant effect to increase or reduce the birth rate (Donaldson and Tsui, 1990:34).

The Nepalese government has also adopted the national fertility control policy as a component of the development plan. In the first five year (1956-1961) and second three year (1963-1965) development plans there were no explicit expressions of population policy other than a resettlement policy to absorb the increasing population in the Hills region of Nepal. However, the population problem and the urgency of regulating it was felt in the country in the 1960s when the late King Mahendra of Nepal in 1965 declared "in order to bring equilibrium between the population growth and economic output of the country my government has adopted a policy of family planning" (NCP, 1988:213). Attention was given to the problem of population growth in the third development plan (1965-1970). The fourth plan (1970-1975) recognised that in order to reduce the birth rate, it was necessary to bring about certain changes in economic and social conditions, cultural patterns and aspirations towards life of the common people (NPC, 1972).



In 1974, the National Planning Commission appointed a Task Force on Population to develop a comprehensive population policy for the fifth plan (NCP, nd:1). As a result, for the first time a comprehensive population policy was formulated and incorporated in the fifth plan (1975-1980) to regulate population growth and distribution. In 1975, a population policy and coordination board was established under the National Planning Commission for the formulation and coordination of population policies and programs. This board became the National Commission on Population (NCP) in 1978 under the Chairmanship of the Prime Minister and was reorganised in 1982 as an independent, politically strong support system for population and family planning activities (Thapa and Tsui, 1990:19).

By the fifth plan period (1975-80), it was felt that the family planning programs alone were inadequate for the containment of population growth (ESCAP, 1985:13-17). As a result, elements of population policy beyond family planning aimed at managing both spatial and temporal distributions of the population were adopted. The main objective of the population policy was to regulate the rate of population increase in relation to a prescribed feasible rate of economic development (NPC, 1975).

The Sixth Plan (1980-85) stated its two population objectives as: (1) the annual population growth rate of 2.3 per cent will be regulated, (2) problems of population distribution and migration will be tackled.

It was realised that demographic targets set by the plan turned out to be below actual performance as the population reached 15 million with a 2.66 per cent annual growth rate between 1971 and 1981. This forced the government to adopt more realistic and strategic policies (ESCAP, 1985). Therefore in 1983, the National Commission on Population published its "National Population Strategy". The long run aim of population policy was to reduce the TFR to 2.5 by the year 2000 (NCP,

1983). With this broad framework, the population planning objective stated in the Seventh Plan (1985-1990) is "to strike a balance between population growth and economic development by reducing the adverse effects on population structure and distribution that result from the pressure of unchecked population growth" (CBS, 1987:317). The assumption put forward in the 1983 strategy that the total fertility rate will be brought to 2.5 by the year 2000 was over-ambitious given the level of socio-economic development, the lack of trained health manpower, the low literacy rate, poor resource base for transport, communication and delivery mechanism, lower status of women, socio-cultural traditions which favour sons, low level of contraceptive use, a continued high infant mortality rate and the lack of health personnel and their unwillingness to go to the rural areas of the country. Given these conditions, it was very difficult to increase the contraceptive use rate by the 62 per cent (64 per cent with changes in method mix and continuation level) required to achieve a TFR of 2.5 by the year 2000 (Thapa and Tsui, 1990:22). One can say therefore, that a population strategy was adopted in Nepal without examining its financial viability, the country's administrative capability, socio-economic and cultural conditions. Realising the fact that the target of achieving a TFR of 2.5 by the year 2000 was over-ambitious, the government introduced a revised strategy in the eighth five year plan (1992-1997), targeted to achieve a TFR of 4 by the year 2000. The targets of the government are summarised in Table 6.2. The targets for the year 2000 are long-term targets, while those for 1997 are the targets of the eighth plan. It is mentioned in the eighth five year plan document that the objectives of the national population policy are to fulfil the humanistic needs of the Nepalese people through the establishment of an appropriate balance among population growth, economic and social development. To fulfil these objectives, the long term target of the population policy is to expand the demand for small families through the medium of economic and social development so as to create an

environment for every couple to develop an interest to limit their family size to two children (NPC, 1993).

**Table 6.2 His Majesty's Government's (HMG) Ten Years Targets Based on the 1990 Figures**

Population variables	HMG Targets		
	1990	1997	2000
Maternal mortality (per 1000 live births)	8.5	7.5	4.0
Infant mortality (per 1000 live births)	102	80	50
Life expectancy (years)	54.4	61.7	65.0
Total Fertility Rate	5.8	4.5	4.0
Crude Birth Rate	37.5	30.8	27.5
Crude Death Rate	13.8	11.3	10.3
Contraceptive Prevalence Rate (% of married women of reproductive age)	20.0	31.7	37.6
To manage internal migration			

Source: Population Association of Nepal (PAN), 1992;1(1):62; NPC, 1993.

Particularly in the case of maternal and infant mortality, the targets fixed for the year 2000 from the year 1997 look unrealistic considering the existing socio-economic conditions of the country (Table 6.2). Both maternal and infant mortality tend to be good indicators of socio-economic well-being and the overall health condition of a country, therefore without rapid socio-economic development these targeted rates are unlikely to be achieved within three years. This indicates that targets have been fixed without considering the country's financial viability, administrative capability and socio-economic and cultural conditions. To achieve these targets, not only good coordination between line ministries is important but also an effective implementation of programs is essential.

Although the country has had a long-standing population policy, it has not been effectively enforced. The government's inability to construct an effective program is indicative of low administrative capacity and competence. For effective implementation of government programs and policies, effective institutional

arrangements are needed. The staffing shortage and long absence of staff in health and family planning clinics in rural areas keeps family planning relatively inactive in Nepal. The lack of effective implementation of the program is the main deficiency of Nepal's family planning and population policy. The Nepalese government must pay attention to these problems by formulating an effective program so that the supply of family planning services equals the demand.

Realising that uncontrolled population growth weakens development prospects, many developing countries have implemented family planning programs aimed at reducing their birth rates. The first official family planning program was initiated in India in 1952 to lower the population growth rate (Donaldson and Tsui, 1990:5; Alam and Leete, 1993:149). Today, most of the developing countries are offering family planning services to check the rapid growth of population (World Bank, 1984:127). As in other developing countries (Nortman, 1985:8), the family planning program in Nepal gained legitimacy on demographic grounds. Since its inception, the family planning program has been accorded an increasingly higher priority in successive development plan documents in Nepal.

The concept of family planning was pioneered in Nepal by a private family planning organisation - the Family Planning Association of Nepal (FPAN), a full fledged member of IPPF. The FPAN was formed as early as 1958 as a voluntary social organisation in Kathmandu (David, 1969:11). The Family Planning Association of Nepal (FPAN) is the biggest Non-government Organisation (NGO) involved in population planning activities in Nepal and has contributed substantially to the national family planning program. This was the first family planning organisation in Nepal that continued to provide family planning education, motivational inputs plus some delivery services and temporary family planning methods. Ever since its establishment, the association has been playing a crucial role in inculcating the need and importance of small family norms. It has given

greater emphasis to non-clinical and conventional family planning methods since the mid 1970s so that a greater segment of the larger fertile population in Nepal could be reached. FPAN examines government policies in the field of health and population and formulates its roles and strategies accordingly (FPAN, 1992).

Another NGO involved in contraception distribution in Nepal is the Nepal Contraceptive Retail Sales Company (NCRSC). The main objectives of the NCRSC have been the promotion, sale and distribution of health and family planning products through commercial channels. Its sales efforts are supported by educational campaigns, a highly motivated sales force, and attractive use of promotional media. This organisation supports His Majesty's Government's efforts in expanding the private sectors involvement in the distribution of health and contraceptive products, thus increasing access to and availability of the products in both urban and rural areas.

A government supported family planning program was established in Nepal in 1968 (Tuladhar, 1987:49; Thapa, 1989a:38). In the same year the Family Planning and Maternal Child Health Board was established. This came to be known as the FP/MCH project which has been converted into the FP/MCH Division of the Ministry of Health. Most family planning activities were carried out within the Ministry of Health. The family planning program's aim is to make family planning and maternal child health services available to all of Nepal's fertile couples and encourage an increasing number of these couples to practice contraception. The government mechanism alone was inadequate to meet the demand for service delivery because of constraints of resources, therefore there were four broad institutions including government family planning programs associated with family planning delivery services (Thapa, 1989a:39; NCP, 1988:213-214). They are: the FP/MCH division; The Integrated Community Health Services Development Program (ICHSDP); The Family Planning Association of Nepal (FPAN); and The

Nepal Contraceptive Retail Sales Company (NCRSC), which were providing family planning services to the Nepalese fertile women. Among these four, three are still providing family planning services in Nepal and the other, ICHSDP, which used to be the second largest provider and provide services through village health workers and community health leaders, was a semi-autonomous organisation under the Ministry of Health. In 1987 however, its functions of providing contraceptive services was handed over to the FP/MCH division of Ministry of Health.

The FP/MCH division provides the majority of the family planning services in the country through its clinics and local based health workers (Tuladhar and Stoeckel, 1982). A clinic based family planning program was expanded in Kathmandu Valley during the 1960s. The family planning services were initially limited to urban areas within Kathmandu Valley (David, 1969:13; Tuladhar, 1987:49; Thapa, 1989a:39). Only after 1968 were family planning services gradually provided to the area outside of the Kathmandu Valley (Banister and Thapa, 1981:61). The FP/MCH has regional offices, district offices, and services centres both clinic and village based. The FP/MCH centres not only provide contraception but also provide preventive health care services for children and mothers (Tuladhar and Stoeckel, 1982:286).

Family planning programs have usually been evaluated in terms of the degree to which they have achieved demographic objectives, such as fertility decline or the reduction of infant and maternal mortality (Kaufman *et al*, 1992:73). Although a government supported family planning delivery program was established in Nepal as early as 1968, its impact on fertility at the national level has so far been minimal. The contraceptive prevalence rate, though increasing, has not crossed 25 per cent in 1991. However, the family planning program has been trying to provide information about contraception and as a result, more than 92 per cent of eligible women are aware of at least one method of family planning, but additional knowledge about the choice of methods, understanding side effects and their

significance are still absent (Pradhan *et al*, 1993:108). A full range of effective temporary methods (IUD, Norplant, Injectables) are not widely available in rural Nepal because of limited hospitals and equipped clinics. It is documented that availability increases the likelihood of contraception (Entwisle *et al*, 1984:563; Tuladhar, 1987:49). Therefore services must be made available to the people, especially those in rural areas, close to their doorsteps to increase the number of contraceptive users in Nepal.

Although the availability of contraception was one of the main reasons for high use in Kathmandu, the quality of services are still poor. It was found during fieldwork that even Kathmandu family planning workers themselves do not fully understand the side effects of various methods of family planning. These findings were cross-checked in the focus group discussion. The outcome of the focus group discussion indicated that for both males and females, the interaction between clinic staff and clients was very poor and clinic staff themselves were poorly informed of the side effects of various methods. However, participants of the focus group discussion mentioned that the availability and accessibility of contraception in Kathmandu is not a problem. This will have some implications for higher use of contraception in Kathmandu.

#### **6.4 Knowledge and practice of contraception in Nepal**

Until the mid 1970s, information on contraceptive prevalence was not available in Nepal. Information on contraception was first collected in Nepal in the 1976 Nepal Fertility Survey (NFS), part of the World Fertility Survey (FP/MCH, 1977). To date four major national surveys, viz. Nepal Fertility Survey, 1976; Nepal Contraceptive Prevalence Survey, 1981; Nepal Fertility and Family Planning Survey, 1986; and Nepal Fertility, Family Planning and Health Survey, 1991, have collected information on contraceptive use in Nepal. The national level results of these

surveys was presented in Chapter One (Figure 1.4). Among urban residents, the rate of contraceptive use was 16 per cent in 1976 (Ross, *et al*, 1986), 23.5 per cent in 1981 (FP/MCH, 1983); 31.9 per cent in 1986 (FP/MCH, 1987) and 48.2 per cent in 1991 (Pradhan *et al*, 1993).

Urban Nepalese people realise that they need to provide their children with the skills and educational qualifications to enable them to live a comfortable life in the city. This results in a higher use of contraception in urban, compared with rural areas (Schuler and Goldstein, 1986:69; Ross *et al*, 1986:180). Similarly, an intensive study of fertility, contraceptive use and reproductive decision making in several sites in Kathmandu has revealed an increasing preference for small families (Goldstein *et al*, 1984 cited in Schuler *et al*, 1985:261). Moreover, another reason for high use of contraception in urban areas is that most of the elderly people of Kathmandu do not expect financial help from children in old age, indicating less importance of children for old age security or other socio-economic reasons (Goldstein *et al*, 1983:718) than in some other cultures.

One of the views is that women will not use family planning until they have better education, employment opportunities and higher incomes (Brackett, 1981:21). Accordingly the higher contraceptive use of urban women compared with those in rural areas may be a result of higher educational attainment. In general, urbanisation tends to create a favourable climate for the acceptance of small family size norms and tends to increase the level of contraceptive practice among couples. These findings show that the attitudes of urban people towards family size are changing and that they are controlling their fertility accordingly.

## **6.5 Knowledge and practice of contraception in Kathmandu**

Before examining detailed fertility regulation behaviour some characteristics of users and non-users of contraception in the study population are presented in Table



6.3. It is argued that if contraception is not primarily used to limit family size, there will be little age difference between contraceptors and non-contraceptors (Caldwell and Caldwell, 1976:351). Table 6.3 shows that there is 3 years difference in the mean age of contraceptors and non-contraceptors, suggesting that spacing behaviour is not yet very common in Kathmandu.

**Table 6.3 Some Characteristics of Users and Non Users of Contraception.**

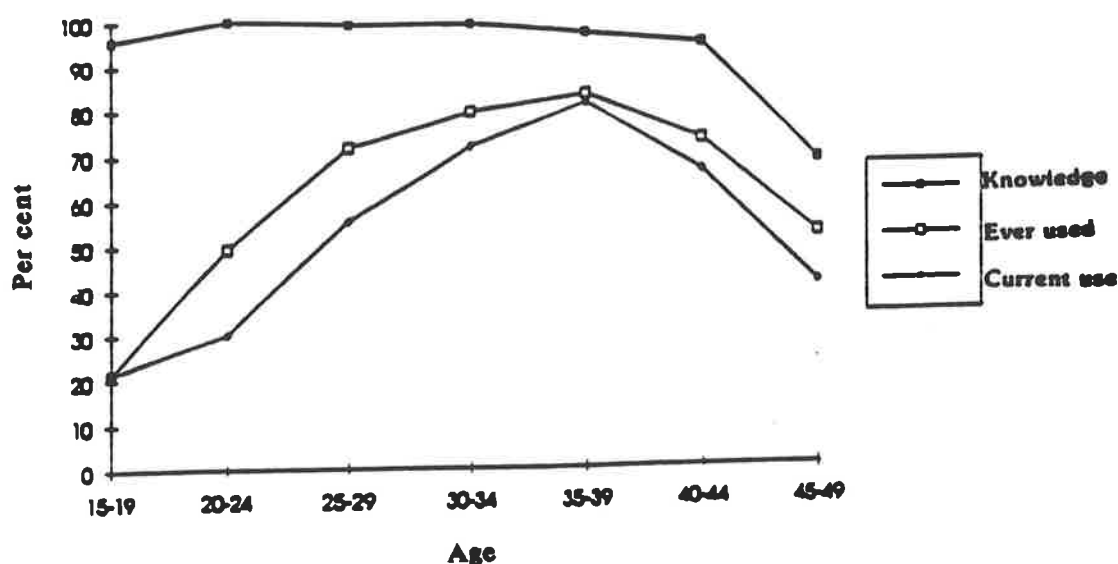
Characteristics	Users	Non-users
Mean age	33.2	30.2
Mean number of children ever born	2.7	2.2
Mean number of living children	2.6	2.0
Mean number of living sons	1.4	1.1
Mean number of living daughters	1.2	1.0
Mean number of desired children	2.3	2.4
Number	548	435

Source: Kathmandu Survey, 1992.

Examination of trends in knowledge and practice of contraception by age and marriage duration provides some insight into the dynamics of fertility in Kathmandu. Figure 6.1 shows knowledge and practice of contraception according to current age of respondents. Knowledge of contraception appears to be widespread in Kathmandu. Over 95 per cent of currently married women recognised a method of family planning. However, knowledge of family planning ranged from 68 per cent among women aged 45-49 to one hundred per cent in the 20-24 age groups.

It is also shown in Figure 6.1 that two thirds of married women of all ages had ever used a contraceptive method and almost 56 per cent of them were currently using some kind of contraception in Kathmandu. Both ever-used and current-use of contraception showed a curvilinear relationship with age. The level of use was lowest at ages 15-19, but increased with age, reaching a maximum for women in their late thirties before declining. By age 45 and over, the level of current use among married women was almost double that at age 15-19, indicating the high acceptance of family planning methods even among the oldest age group in Kathmandu. It has been documented that the use of contraception rises with age, reaching a peak at ages 25-39 before decreasing again (Riphagen and Lehert, 1989:23-46). The current use rate for the age group 30-34 and 35-39 is 72 and 81 per cent respectively, indicating that fertility control is common in these groups.

**Figure 6.1 Percentage Distribution of Women by Knowledge and Use of Contraception and Current Age**



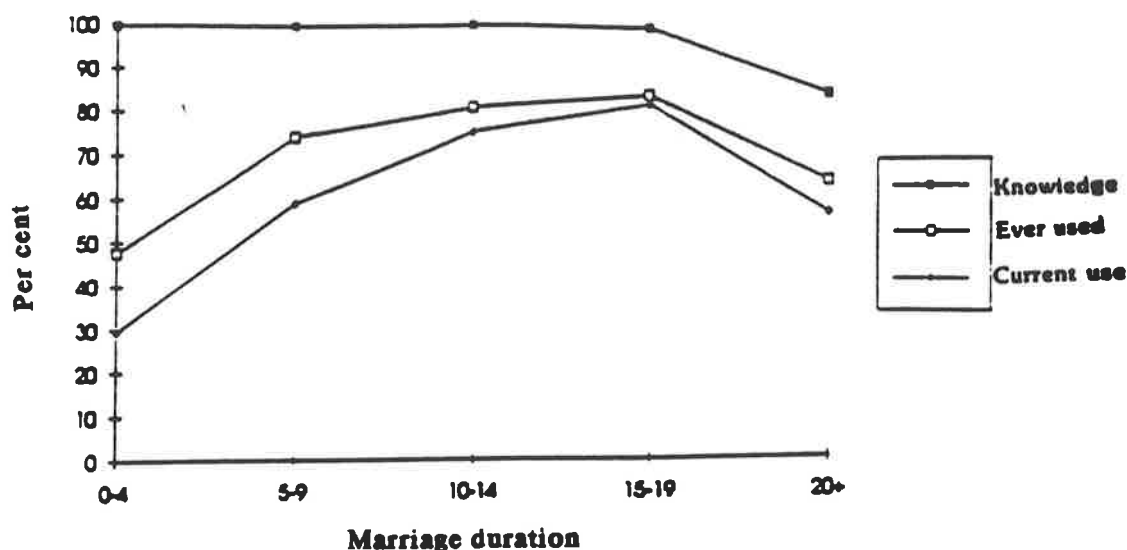
Note: Methods include both traditional and modern  
Source: Kathmandu Survey, 1992.

The pattern of increasing contraceptive use with age (Figure 6.1) suggests that contraceptive users are more interested in limiting, than spacing, births (Way *et al.*,

1987:9). In most developing countries, contraception is used mainly for stopping childbearing altogether rather than for child spacing, whereas in developed countries, contraception is used to postpone the first birth and to space subsequent births (Trussell and Menken, 1978; International Statistical Institute, 1984:17). The current use rate of contraception declines after age 40, a finding similar to patterns reported in Demographic and Health Surveys in Indonesia (Population Council, 1989) and Pakistan (Population Council, 1992). This may be because women aged 40 and over may have a reduced risk of pregnancy because of infrequent sexual intercourse, or they consider themselves too old to produce more children. In addition many women aged 45 and over have reached menopause (United Nations, 1987:137). It was also found that the level of current contraceptive use typically declines more steeply after age 40 than does the level of ever-use, suggesting a response to reduced levels of perceived risk of pregnancy (United Nations, 1987:137). The demand for contraception is likely to be relatively low among young women (15-19) who still have no, or small families. This is also the case in Kathmandu. The lower contraceptive use in the older cohort is associated with their much lower average level of education than among younger women. As will be discussed later, education shows a strong positive relationship to contraceptive use.

Generally, a larger proportion of women with longer marital duration want to stop childbearing than do women with shorter marital durations. Figure 6.2 shows that knowledge of contraception was highest in the 0-4 years marriage duration group and lowest in the 20+ year marriage duration group. When one looks at the pattern of contraceptive use, women with shorter marriage duration tend to have a lower use rate than women with longer marriage durations. However, the use rate declines for women with marriage durations of 20 years and over.

**Figure 6.2 Percentage Distribution of Women by Knowledge and Use of Contraception and Marriage Duration**



Source: Kathmandu Survey, 1992.

The pattern of contraceptive use by age (Figure 6.1) is similar to marriage duration (Figure 6.2). It should be noted however, that age and marriage duration are highly inter-correlated. Most of the younger women have shorter marriage durations, while older women have longer marriage durations. Figure 6.1 and 6.2 show that contraceptive use by younger women and those in shorter marriage durations is low, indicating that these women wanted to have a child soon after marriage. Similar findings were reported from World Fertility Survey data for other developing countries (United Nations, 1987:92). As will be discussed later, one of the main reasons for this pattern in Nepal is socio-cultural in nature.

Table 6.4 shows the method used according to current age. In the youngest age group (15-19), the pill is the most widely used method, followed by traditional (withdrawal and rhythm) methods. One reason that the pill accounts for a larger proportion among methods used by young women may be simply that it is a very popular choice as the first method to be adopted (United Nations, 1987:161). Moreover, the pill's popularity as the first choice is due to the fact that pill is a

method for spacing, and younger women want to space rather than stop childbearing. It is also seen that traditional methods especially withdrawal are widely accepted among all age groups in Kathmandu (Table 6.4).

**Table 6.4 Percentage Distribution of Women by Method of Family Planning Used and Age**

Age	Methods						Total	N
	Pill	Condom	IUD	Injection Norplant*	Sterilisation**	Traditional#		
15-19	8.5	4.3	-	2.1	0.0	6.4	21.3	47
20-24	2.7	3.8	6.7	4.9	1.1	10.9	30.1	183
25-29	1.4	7.5	6.7	11.9	12.9	14.8	55.2	210
30-34	2.2	9.8	3.3	10.9	31.7	13.7	71.6	183
35-39	1.3	5.0	7.5	5.7	45.9	15.7	81.1	159
40-44	*	1.0	5.9	-	45.1	13.7	65.7	102
45+	1.0	1.0	1.0	-	36.4	1.0	40.4	99
Total	1.8	5.4	5.2	6.5	24.6	12.2	55.7	983
Per cent of current users	3.3	9.7	9.3	11.7	44.2	21.8	100.0	
(N)	(18)	(53)	(51)	(65)	(242)	(119)	(548)	

Note: \*\* Either husband or wife sterilised

# Rhythm and withdrawal (5 per cent used Rhythm remaining 95 per cent used withdrawal method)

\* Less than one per cent (0.8%) using Norplant is merged into injection throughout the analysis

Source: Kathmandu Survey, 1992.

Table 6.4 shows that over 44 per cent of current users have adopted sterilisation in Kathmandu. It has also been found at the national level that sterilisation has the largest share of current use. This increased from 67 per cent in 1976 to 74 per cent in 1981 and then to 86 per cent in 1986 (Thapa, 1989a:42). But in 1991 the corresponding figure declined to 81 per cent (Pradhan *et al*, 1993:108). In many developing countries, sterilisation has a higher rate than other methods (Ross and Huber, 1983:69; United Nations, 1989:41-64). One of the reasons for high rates of sterilisation in developing countries is direct cash payments as motivators (Thapa *et al*, 1987:358-359). There is also a system of cash payments for sterilisers in Nepal. This may also be one of the reasons for the high sterilisation rate in Kathmandu.

This was the case in Sri Lanka (Thapa *et al*, 1987), in India (Krishnakumar, 1972; Satia and Maru, 1986), in Bangladesh (Cleland and Mauldin, 1987).

**Table 6.5 Percentage Distribution of Current Users of Family Planning by Methods and Education of Both Husband and Wife**

Years of schooling	Methods						Total	N
	Pill	Condom	IUD	Injection & Norplant	Sterilisation	Traditional		
<b>Wife</b>								
None	1.9	2.6	4.9	6.7	30.7	0.4	47.2	267
1-5	1.8	1.8	6.3	9.0	31.4	4.5	54.9	111
6-10	1.9	4.4	5.1	8.2	26.8	9.0	56.4	156
10+	1.8	8.2	5.1	5.1	18.5	22.0	60.8	449
<b>Husband</b>								
None	1.9	2.9	2.9	4.8	30.5	1.0	43.8	105
1-10	1.9	2.8	8.3	13.0	22.2	0.9	49.1	108
10+	1.8	6.1	5.1	6.1	24.2	15.2	58.3	770
<b>Total (N)</b>	<b>1.8 (18)</b>	<b>5.4 (53)</b>	<b>5.2 (51)</b>	<b>6.5 (65)</b>	<b>24.6 (242)</b>	<b>12.2 (119)</b>	<b>55.7 (548)</b>	<b>983</b>

Source: Kathmandu Survey, 1992.

Table 6.5 shows that among the most educated groups, both husbands and wives were traditional method users. These findings were supported by case study evidence which indicated that educated couples seem very much aware of the side effects of modern contraception. Many educated couples in our informal discussion mentioned that withdrawal is safe from side effects. When the question was asked in informal discussion with withdrawal method users: "Do you know these methods are less reliable and there is a chance of conception"? They replied that if you are really concerned about small family size you should be careful. One couple who has been using withdrawal for seven years said "we have been using withdrawal for seven years and we are successful because we are very careful". The researcher

talked to one man who was also a withdrawal method user. He stated:

I have heard about the side effects of modern contraceptive methods. I have two children. My wife wanted to use sterilisation but she is too weak to have an operation. I wanted to use condoms but there were practical problems. There was a problem of where to keep the condoms and where to throw them away after use. Therefore this withdrawal method is good because we do not have to fear the side effect nor any disposal problems like with condoms.

Caldwell *et al* (1987) found in Sri Lanka also that those who practiced traditional methods tended to be the most educated urban couples. It is possible however, that there may be some under-reporting of traditional methods by the less educated couples. Niraula (1991:163) from his village study in Nepal states that "women refused to reveal the existence of these methods because of the fear that knowledge of these methods might disgrace them and these issues are not to be discussed in public". It was found in Sri Lanka that the level of contraception (especially traditional methods) was under-reported (Gajanayake and Caldwell, 1990).

**Table 6.6 Percentage Distribution of Women Currently Using Contraception by Method and Parity**

Methods	Parity						Total	N
	0	1	2	3	4	5+		
Pill	1.1	2.6	3.5	1.0	0.6	0.9	1.8	18
Condom	6.5	7.4	9.2	3.9	1.9	0.9	5.4	53
IUD	1.1	5.8	5.6	5.9	5.7	4.6	5.2	51
Fem.St	*	*	13.5	14.2	27.8	20.9	12.8	126
Male.St	*	1.6	9.5	23.0	18.4	14.3	11.8	116
Inject & Norplant	*	4.2	10.8	12.3	3.2	0.9	6.5	65
Tradn.	2.1	16.3	23.3	13.2	3.2	*	12.2	119
<b>Current users</b>	<b>10.8</b>	<b>37.9</b>	<b>75.4</b>	<b>73.5</b>	<b>60.8</b>	<b>42.5</b>	<b>55.7</b>	<b>548</b>
<b>(N)</b>	<b>(93)</b>	<b>(190)</b>	<b>(232)</b>	<b>(204)</b>	<b>(158)</b>	<b>(106)</b>	<b>(983)</b>	

Note: Fem.St.=Female sterilisation;  
Tradn=traditional methods

Source: Kathmandu Survey, 1992.

When method use is classified by parity, it is seen that the percentage of traditional method users starts to increase after the first child, reaches a maximum for those who have two children, and declines thereafter (Table 6.6). However, the percentage of sterilisation users starts to increase after two children and continues to increase up to four. It then declines after that, indicating that older women who already had a large family did not use any methods. It also indicates that couples are interested in limiting their total family size.

### 6.6 Motivation to control fertility

The analysis of this section is based on information about those exposed to the risk of pregnancy, i.e. non-pregnant women aged 15-49. Two alternative techniques for measuring motivation have been frequently used viz., questions about the desire for more children and questions about the desired number of children (Hermalin, 1983:10). Answers to questions about the desire for more children reflect not only future demand, but also indicate whether the supply has equalled or exceeded demand. Responses have often been used as a direct measure of motivation to control fertility.

**Table 6.7** Percentage of Current Users Who had at Least One Child and Want More Children by Additional Number of Children Wanted, Controlling for Age

Additional number wanted	Per cent current users				N
	15-24	25-34	35+	Total	
1	18.4	15.5	1.4	35.3	206
2	16.7	16.7	4.1	37.5	24
3+	*	12.5	12.5	25.0	8
Total	17.8	14.0	2.1	35.2	238

Source: Kathmandu Survey, 1992.

The desired number of children may be compared with the actual number of surviving children and can be regarded as another indicator of supply. If the actual



number of living children equals or exceeds the desired number, couples may be motivated to control fertility, but if the desired number exceeds the actual number, motivation to control fertility is considered to be absent (Easterlin, 1975; Hermalin, 1983; Easterlin and Crimmins, 1985).

The answers to the two questions mentioned above were systematically related to contraceptive use. Table 6.7 shows that of the 238 women who are exposed to pregnancy risk, have at least one child and want more children, 35.2 per cent were using contraception compared with 53.7 of the 423 women who did not want any more children (Table 6.9). Table 6.7 shows that for those wanting only one additional child, the proportion using contraception (35.3%) is lower than those who wanted two additional children but higher than those who wanted more than three children. This may be because of a small number of cases of those who wanted two and more children. When looking at the age groups, it is mostly the younger groups who are using contraception. This suggests that they may be using contraception for spacing purposes. When the parity is classified for those who wanted only one additional child, it is seen that 79.6 per cent had only one child, 16 per cent had two children and 4.4 per cent had already had three or more children. Of women who wanted two children, 41.7 per cent had one child, 39.7 had two children and 18.6 had already had three or more children. Of women who wanted three or more children, one woman (12.5 per cent) had one child, three women (37.5 per cent) had two children and four women (50 per cent) already had three children. However, of this group, two had no sons, five had only one son, and the remaining women had two sons, indicating that they wanted to have more sons. Although the use pattern is not clear because of the small number of cases for those who wanted two and more children, the analysis here supports the notion that women who want more children are less likely to use contraception. Similar patterns were found in an overview of World Fertility Survey data that the current

use rate is higher for those who want no additional children than for those who want additional children (United Nations, 1981, Concepcion, 1981).

The desired number of children is compared to the actual number of living children in Table 6.8. The actual number of living children is a measure of the supply of children, and desired family size is a measure of the demand for children (Easterlin and Crimmins, 1985:14). Table 6.8 shows that if desired family size is equal to or smaller than actual family size, the percentage of contraceptive use is higher compared with the situation of desired family size being higher than actual family size.

**Table 6.8 Percentage Distribution of Women Who had at Least One Living Child Currently Using Contraception by Desired vs Living Children, Controlling for Age**

Desired vs Living children	Age			Total	N
	15-24	25-34	35+		
Desired = Living children	5.9	43.8	24.8	74.5	354
Desired < Living children	1.2	17.0	42.5	60.7	341
Desired > Living children	17.3	15.7	1.5	35.5	191

Source: Kathmandu Survey, 1992.

Even so, 35.5 per cent of women whose desired number of children was greater than actual living children used contraception. When looking at different age groups, it is seen that out of this 35.5 per cent, 17.3 per cent of use was by the 15-24 age group, 15.7 per cent of use was by the 25-34 age group, and only 1.5 of use was by the 35 and over age group. It is possible that these young women's desired number of children has not been reached yet and they are using contraception for spacing purposes only. That may be the reason that 35.5 per cent of women, whose desired number of children is greater than actual living children, are still using contraception. Nevertheless these findings support the hypothesis that demand for contraception depends on the net balance between supply and demand for children (Easterlin and Crimmins, 1985:17). Anthony (1979:157) in his study in Nepal also

found that Nepalese women were willing to practice contraception only after reaching or exceeding their desired family size.

### **6.7 Desire for no more children and contraception**

The desire for no more children is a principal motivation for using contraception. Therefore, the study of desire for no more children is important from the policy point of view. Women who desire to cease childbearing but practice no contraception are most likely to be potential clients for family planning programs (De Silva, 1992). This information could provide estimates of 'unmet need' (Kendall, 1979; Pebley and Westoff, 1982; Westoff, 1988).

Table 6.9 shows that of the total sample, 43 per cent of women who are exposed to the risk of pregnancy want no more children. Among them 59 per cent in the age group 15-24, and 60 per cent in the age group 25-34 are currently using contraception. However after age 35, the use rate decreases. The pattern of contraceptive use is similar when classified by marriage duration (second panel of Table 6.9).

The third panel of Table 6.9 shows that the proportion of women practising contraception increases regularly until they have two children and then starts to decrease after three. There is usually no marked increase in contraceptive practice after that. This pattern is compatible with age and marriage duration patterns. Older women had more children and were less likely to adopt contraception.

Differentials in use among those who do not want more children persist within educational categories. At the same time, contraceptive use increases with education. Panel four and five of the table show that as the educational attainment of both husband and wife increases, the current use rate increases as well, suggesting that better education reduces the risk of unwanted pregnancy by

increasing the use of contraception. Similarly, among women who are working outside the home and want no more children, the current use rate is more than double those who do not work, reflecting also the importance of occupation in reducing unwanted pregnancy in Kathmandu.

**Table 6.9 Percentage Distribution of Exposed Women Who Want No More Children by Different Socio-economic and Demographic Characteristics**

Characteristics	Per cent ever used	Per cent current users	Per cent non user	N
<b>Current age</b>				
15-24	58.8	58.8	41.2	34
25-34	74.5	60.1	39.9	208
35-49	53.6	45.3	54.7	181
<b>Marriage duration</b>				
0-4	81.2	59.4	40.6	32
5-9	74.3	60.6	39.4	109
10-14	75.7	69.2	30.8	107
15-19	70.3	65.6	34.4	64
20+	35.1	23.4	76.6	111
<b>No. of children</b>				
1	81.2	75.0	25.0	17
2	87.6	75.2	24.8	145
3	71.3	59.8	40.2	122
4+	31.7	23.0	77.0	139
<b>Respondent's years of schooling</b>				
No schooling	38.4	28.3	71.7	138
1-5	42.4	40.7	59.3	59
6-10	71.7	58.5	41.5	53
10+	90.2	76.9	23.1	173
<b>Husband's years of schooling</b>				
None	32.7	23.1	76.9	52
1-10	48.2	42.8	57.2	56
10+	72.4	60.6	39.4	315
<b>Respondent's occupation</b>				
Working	90.0	80.1	19.9	141
Not working	51.4	40.4	59.6	282
<b>Total</b>	<b>64.3</b>	<b>53.7</b>	<b>46.3</b>	<b>423</b>

Source: Kathmandu Survey, 1992

## 6.8 Continuation of contraceptive use and method switching

In this study, questions were asked as to what method was used to prevent pregnancy between the time the second most recent child was born and conception

of the last child. These responses relate to the current method of contraception. Altogether 296 women (30 per cent) used any kind of method between these periods. Table 6.10 shows that out of 21 women who used an IUD, 10 per cent are continuing, and another 10 per cent switched to sterilisation (permanent method). However, the majority of women switched to less effective methods ('others'), and 19 per cent dropped out. Nevertheless, the proportion of respondents using 'other' methods (less effective methods) fell from 74 per cent (218/296) to 38 per cent at the time of the survey, indicating a tendency to switch from less effective methods to more effective ones. If the method used switched from a less effective to an effective method, the risk of unintended pregnancy may decrease by method switching (Grady *et al.*, 1989:117-118). There is evidence in our sample of a general pattern of movement from less effective methods to more effective ones, except for the IUD users. If these patterns are maintained, there will be overall lower risks of unintended pregnancies.

**Table 6.10 Percentage of Respondents Who Were Using the Methods During Last and Last But One Child and Currently Using by Effectiveness\* Level of Contraceptive Method**

Previous methods used	Previous used methods						Total (N)
	No method	Sterilisation	IUD	Pill	Inject/Norplant	'Others'***	
IUD	19.0	9.5	9.5	4.8	9.5	47.7	100 (21)
Pill	13.2	42.1	7.9	26.3	2.6	7.9	100 (38)
Inject,Norplant	26.3	31.6	--	--	42.1	--	100 (19)
'Others'***	15.6	21.6	6.9	3.2	7.8	44.9	100 (218)
Total (N)	16.2 (48)	24.0 (71)	6.8 (20)	6.1 (18)	9.4 (28)	37.7 (111)	100 (296)

Note: \* Method is categorised according to Bongaarts' (1986:11) method specific effectiveness.

\*\* 'Others' include less effectiveness methods such as condom, withdrawal and rhythm (Bongaarts, 1986:11).

Source: Kathmandu Survey, 1992.

It has also been argued that analysis of contraceptive discontinuation and method switching is important for assessing the need for family planning services and for evaluation of the types of services currently offered (United Nations, 1987:155). It is worth looking at the characteristics of those 16 per cent of women who discontinued the methods. The survey found that 73 per cent of them were in the 15-29 year age group. It is likely that they have discontinued to have another child. Another 21 per cent were in the 30-34 year age group. When they were cross-classified by parity, it was found that 46 per cent had only one child, 29 per cent had two children, 21 per cent had three children, and the remainder had four or more children. When looking at education, 67 per cent had 10+ years of schooling, 19 per cent had 1-10 years of schooling and only 14 per cent had no schooling. These breakdowns provide evidence that young educated women used contraception for spacing and discontinued contraception simply because they wanted to have another child.

### **6.9 Reasons for not using contraception**

Of the 983 women, 34 per cent had never used any method of contraception. The detailed reasons for this non-use of contraception will be of value to the family planning program (Shrestha *et al*, 1988). Firstly, the reasons for non-use of contraception among those 331 (34 per cent) who have never used contraception are examined. Then among the current non-users, those ineligible to use contraception will be excluded and the characteristics of the remainder are presented. Shrestha *et al* (1988) using a focus group approach, identified a total of 40 reasons for non-use of contraception in Nepal. However, not all of those 40 reasons are relevant to the Kathmandu context. Accordingly, reasons which were reported in the survey are presented in Table 6.11. Of the women who reported 'to have another child' as a reason for not using contraception, 89 per cent were 15-29 years of age, indicating that they were young women who had not yet reached their

desired family size. However, of those who gave health reasons for not using contraception, 56 per cent were aged 30 years and over. Of those who desired sons and gave this as a reason for not using contraception, 90 per cent had no sons, 5 per cent had one son and another 5 per cent had two sons. This indicated the strong desire for sons in Kathmandu. Of the women who desired a daughter and gave this as a reason for the non-use of contraception, 67 per cent had one son and 17 per cent had two sons however, another 17 per cent already had one daughter. This suggests that although the desire for sons is strong, there is a desire on the part of women for a balanced sex ratio in their family. Similar findings, that the most common preference pattern in DHS countries is a desire to have at least one child of each sex, were found by Arnold (1992).

**Table 6.11 Reasons for Non-use of Contraception (Per Cent)**

Reasons	Percentage	Number
1. To have another child	31.7	105
2. Health reasons	32.9	109
3. Desire for sons	6.3	21
4. Desire for daughter	1.8	6
5. Husband objection	1.8	6
6. Method not known	14.6	48
7. Family planning not need	8.5	28
8. Others	2.4	8
Total	100.0	331

Source: Kathmandu Survey, 1992.

Of those women who reported husband's objection as a reason for non-use of contraception, 67 per cent were 30 years and above and 83 per cent had already had two or more children. All of them had at least one son and only one woman had no daughter. When education categories are cross classified by contraception, 83 per cent of husbands had 10+ years of education and only one had no education. Further, when informal questions were asked to some of the respondents who reported the reasons as to why husbands opposed using contraception, most of them reported that contraception was found to be unsuitable for them.

Of women who reported 'method not known' as a reason for not using contraception, 56 per cent were 35 years of age and over, 38 per cent were in the 25-34 age group and 6 per cent were in the 15-24 year age group. When education was cross classified, it showed that 52 per cent had no education and 29 per cent had 1-10 years of schooling. Again, when parity was observed for those who reported 'method not known' as a reason for not using contraception, it was seen that 65 per cent of women had already had four and more children, and 21 per cent had 3 children. Of the total non-users, 9 per cent reported that contraception was not needed. Among these, 68 per cent were not educated and 86 per cent were 30 years of age and over.

When women, who were pregnant and those wanting another child are excluded from the total 435 respondents who were not using contraception, 19.9 per cent (196) women were found not using contraception. These remaining 196 women who were still in their reproductive years but were not using any form of contraception were asked the reasons for not using contraception. Among them 20 per cent (41 respondents) said that they had not heard of family planning. Of those who said that they had not heard of family planning, 67 per cent were 40 years of age and over. In addition to these 41 respondents, another 109 respondents have never used contraception. Of the remaining 46 respondents who have ever used contraception, six used the pill but had to stop because of headaches and weakness, eight who used IUD had to stop because of bleeding, and five used injection but had to stop because of irregular menstruation and severe lower abdominal pain. Similar responses about side-effects were the main reasons for not using contraception at the national level (Tuladhar, *et al*, 1978; Schuler and Goldstein, 1986; Shrestha *et al*, 1988). These were also the reasons for not using contraception in other developing countries (Nag, 1986:39-49). The remaining 27 respondents used condoms but stated that they were unsuitable for them.



Of these 196 women 56 per cent were of higher parity with four or more children, and 50 per cent were uneducated and aged 35 years and over. It is argued that unmet need for contraception among the exposed to risk of pregnancy women is higher among the least educated groups (Rodriguez, 1978). It was found from informal discussion that the reason for not using contraception among women aged 35 years and over was not because of lack of accessibility to contraception but because they think they are now too old to have children. Bennett (1981:13-14) found in his study in Nepal that there is a belief among older women that sexual intercourse is physically and spiritually harmful if it is not for the purpose of having more children. Tan (1983:444) found that the prevalence of sexual abstinence among Nepalese grandmothers has a significant impact on both the level and age pattern of marital fertility.

### **6.10 Innovation and diffusion of contraception**

The 'innovation-diffusion model' has also been applied in the area of family planning behaviour to analyse mass media and interpersonal influences leading to the adoption of contraception (Lin and Hingson, 1974:190). According to the diffusion theory, innovations in technology find their first acceptors in the area where they are first introduced, then they are diffused to other areas (Lin and Hingson, 1974:189-190). "Demographic transition theory leads to the expectation that the early stages of a fertility transition are led by social innovators, who wish to have fewer children or who have knowledge of and access to the means of reducing fertility" (Hirschman and Guest, 1990:139). Major urban areas like Kathmandu, where social innovators are more likely to be (Carlsson, 1966:152-154), should lead such a transition. One of the aims of this section is to identify which sub groups in Kathmandu, where contraception was first introduced in Nepal, first employed contraceptive techniques and then examine how they were diffused to other groups.

Social psychological models (Bogue, 1969) describe five steps which lead to a decision to adopt a method of contraception (Table 6.12). These five steps are: becoming aware, becoming informed, evaluating, making a trial, and adopting the innovation. Tsui (1985:115-138) used these models to examine the innovation diffusion process for 28 developing countries and found that 86 per cent of ever-married women became informed of contraception, 48 per cent made a decision to use contraception, 35 per cent tried and one quarter were currently using a contraceptive method, indicating how the diffusion process is spreading contraceptive use in the developing countries.

**Table 6.12 Stages of the Diffusion of Contraceptive\* Innovation and the Operational Measurement**

Stage	Activity content measurement	Operational	Sample
Awareness	Discovery of the existence of an idea or practice	Has ever heard of a method of contraception	Currently married women
Information	Accumulation of information concerning the new practice		
Evaluation	Weighing the alternatives of use or non-use, resulting in a decision to try the new practice	Has ever intended to use a contraceptive method**	"
Trial	First use of the idea or practice method	Has ever used contraceptive	"
Adoption	Full-scale use which becomes habitual and an integral part of behaviour	Currently uses a contraceptive method	"

Note: \*Includes traditional method also

\*\* This is based on currently married women who have ever used and those who have never used but intend to use some method in the future.

Source: Derived from Tsui, 1985:Table 6.2.

The methodology derived from Tsui (1985) is used here to examine the diffusion process in Kathmandu. According to this methodology, awareness and information were merged into awareness (knowledge) and evaluation was estimated by adding the proportion of respondents who were not using contraception but intended to use it in the future to the proportion of respondents who have ever used any method (Tsui, 1985:119). Table 6.13 shows the innovation stage by five year age groups. This analysis shows that the diffusion of contraception in Kathmandu has reached a stage where most couples are aware, 86 per cent are in favour (intending to use contraception in the future and ever used), two thirds have tried and 56 per cent are now using contraception. The percentage proceeding from awareness to evaluation is 90, from evaluation to actual trial is 77, and from trial to current adoption is 84. These percentages indicate that a majority of the couples have progressed from one stage to the next in the innovation process.

**Table 6.13 Percentage of Respondents for Each Stage of Contraceptive Innovation by Age**

Age	Awareness	Evaluation	Trial	Adoption	N
15-19	95.7	93.6	21.3	21.3	47
20-24	100.0	98.9	49.2	30.1	183
25-29	99.0	91.9	71.4	55.2	210
30-34	98.9	89.6	79.2	71.6	183
35-39	96.8	84.9	83.0	81.1	159
40-44	94.1	72.5	72.5	65.7	102
45+	67.7	52.5	51.5	40.4	99
Total	95.0	85.7	66.3	55.7	983

Source: Kathmandu Survey, 1992.

It is seen from Table 6.13 that contraceptive use (adoption) is highest in the 30-34 and 35-39 age groups, using it 72 per cent and 81 per cent respectively. It is more likely that contraception was first used by older women to terminate childbearing, therefore they were likely to be the innovators. Tsui (1985:122) found this pattern in developing countries regarding diffusion and innovation of contraception. However, this study indicates a significant increase of younger women's proportion

in trial and adoption level (Table 6.13). Evaluation level suggests that more than 90 per cent of young women will become persistent users. This suggests that young women also exhibit innovative behaviour in Kathmandu.

Caldwell and Caldwell (1976:351) suggest that to identify the contraceptive innovators we should know when and why such contraceptive behaviour began. Among the couples who we talked to, some of the educated higher caste couples said that even before their marriage, they had already thought of having a small family size for a good and comfortable life in the city like Kathmandu. It shows that their contraceptive innovative attitude was formed before marriage and associated with education.

Looking at stages of innovation by education, we find a consistent feature of the diffusion of contraception is that the proportion of current users as well as ever users increases with higher educational level (Table 6.14). Both husbands' and wives' educational level is strongly associated with contraceptive use. This indicates that better educated groups are the real innovators of contraception in Kathmandu. It is also to be noted however, that uneducated women, who are considered to be a disadvantaged group, are also participating in contraceptive use. Among uneducated women, 66, 56, and 47 per cent were in evaluation, trial and adoption stages respectively. Husband's educational level shows a similar trend. This suggests that innovation and diffusion processes have touched also the uneducated women in Kathmandu.

As mentioned in Chapter Two with regard to innovation and diffusion theory, educated persons are the opinion leaders who seek to secure the adoption of new ideas (Rogers, 1968; Rogers and Shoemaker, 1971). These opinion leaders, who belong to educated higher caste groups, have greater social influence than lower educated and lower castes. It is well documented that education and access to mass

media are responsible for innovation and diffusion, and adoption of new ideas (Rogers, 1968; Rogers and Shoemaker, 1971; Lin and Hingson, 1974; Caldwell and Caldwell, 1976, 1978; Tsui, 1985).

**Table 6.14 Percentage for Contraceptive Innovation Stage by Education**

Years of schooling	Awareness	Evaluation	Trial	Adoption	N
<b>Wives'</b>					
None	83.9	65.5	55.8	47.2	267
1-5	94.6	66.7	57.7	54.9	111
6-10	100.0	83.5	66.7	56.4	156
10+	100.0	95.9	74.6	60.8	449
<b>Husbands'</b>					
None	73.3	57.1	51.4	43.8	105
1-10	93.5	78.7	57.4	49.1	108
10+	98.2	90.6	69.6	58.3	770
<b>Total</b>	<b>95.0</b>	<b>85.7</b>	<b>66.3</b>	<b>55.7</b>	<b>983</b>

Source: Kathmandu Survey, 1992.

The demand for contraception primarily depends on social change, and in a hierarchical society, only higher educated caste groups can initiate social change. Murty and Vos (1984:227) analysed Sri Lanka data and argued that education can be a major promoter of social change and of assimilation. This is not surprising in a hierarchical society where most of the innovation has to come from the educated, better off people (Tuladhar, 1984; Niraula, 1991). That is why educated higher caste groups adopted 'the small family system' before others. Retherford (1985:250) says

the higher social strata are usually the first to adopt contraception because their mortality is generally lower and they are more modernised socially and economically and in outlook

Retherford further argues that birth control diffusion is itself partly a consequence of development because development generates motivation for birth control. Therefore, diffusion of birth control is part and parcel of the development process.

It is argued that availability and accessibility of contraception motivate couples to use it. In this respect Caldwell and Caldwell (1976:354) state that

as suitable contraceptives have become readily available, and more people have become aware of their availability and method of use, the society has easily come to use them, appreciating that they facilitate behaviour patterns which have already developed

The increase in contraceptive supply will not only fulfil unmet needs but will itself be an agent of change by rapidly diffusing the innovation (Tsui, 1985:129). As will be discussed later, knowledge and practice of contraception has already diffused to the large section of the population in general, and in Kathmandu in particular, through effective information, education and communicative approach of the family planning programs, as well as through the people's access to mass media. Since it is argued that contraceptive use is expected to spread from the city to the village (Carlsson, 1966; Sharlin, 1986), birth control methods in Nepal can be expected to gradually diffuse to other parts of the country if family planning programs continue to play an active role in diffusion processes. All this is expected to have a positive effect on fertility transition at the national level.

### **6.11 Differentials in contraceptive use in Kathmandu**

It is found that the use of contraception is influenced by the socio-economic and demographic characteristics of couples (Kabir *et al*, 1986:23-33). Oni (1986:273-283) in his study in urban Ilorin, Nigeria states that most urban women were aware of the risks to health from too frequent births, but their ability to prevent too frequent births varied among the different groups according to the level of education and contraceptive knowledge. This suggests that socio-economic factors play an important role in determining contraceptive prevalence, even in urban areas of developing countries. This section examines the role of socio-economic and demographic factors in determining contraceptive use in Kathmandu.

### 6.11.1 Parity and contraception

World Fertility Survey findings for developing countries show that current use of contraception increases with parity (Palmore and Concepcion, 1981:40). Similar findings were reported from Kenyan data by Njogu (1991:90) that as parity increases use of contraception increases.

Table 6.15 presents the ever and current use of contraception by number of children ever born and sex controlling for current age. It is seen that 23 per cent of childless women had ever-used contraception, only 11 per cent of whom were currently using contraception and most of them were in the 15-24 age group. Young, newly married women would use contraception initially, then would stop to have a child. Similarly, it was also found that childless women in many developing countries are very unlikely to use contraception (United Nations, 1987:137).

**Table 6.15 Percentage Distribution of Ever and Current Users of Contraception by Parity Controlling for Age**

Parity	Per cent ever used				Per cent current users				N
	15-24	25-34	35+	Total	15-24	25-34	35+	Total	
0	17.2	4.3	1.1	22.6	7.5	3.3	-	10.8	93
1	31.6	23.7	3.1	58.4	18.4	16.8	2.7	37.9	190
2	9.1	57.3	19.4	85.8	8.6	47.0	19.8	75.4	232
3	1.1	42.6	37.2	80.9	1.0	38.7	33.8	73.5	204
4	0.6	14.6	50.0	65.2	0.6	13.9	46.3	60.8	158
5+	-	2.8	47.2	50.0	-	1.9	40.6	42.5	106
<b>Number of sons</b>									
0	19.1	20.9	5.8	45.8	11.1	13.8	4.9	29.8	225
1	13.7	39.6	20.9	74.2	8.9	33.8	19.8	62.5	349
2	3.1	32.3	41.4	76.8	3.1	28.4	39.4	70.9	285
3	-	15.2	43.8	59.0	-	14.3	36.2	50.5	105
4+	-	10.6	36.8	47.4	-	10.6	31.5	42.1	19
<b>Number of daughters</b>									
0	19.5	28.5	10.5	58.5	11.1	24.6	9.3	45.0	313
1	10.4	40.2	25.2	75.8	7.9	32.6	24.8	65.3	326
2	1.8	26.1	40.1	68.0	1.3	22.1	34.7	58.1	222
3	-	13.5	41.3	54.8	-	11.2	37.4	48.6	104
4+	5.6	16.7	55.5	77.8	5.6	16.7	55.5	77.8	18
Total	10.2	30.0	26.1	66.3	6.6	25.1	24.0	55.7	983

Source: Kathmandu Survey, 1992.

Table 6.15 shows that both ever-used and current-use of contraception rises up to two children and remains almost the same at a third child, then declines. The use rate of contraception is higher for those who had already achieved a parity of two or three, indicating the small family size norms in Kathmandu. This is compatible with the age pattern of contraceptive use which decreased after age group 40 years and over (Figure 6.1). Table 6.15 also shows ever and current use of contraception by sex. Examination of Table 6.15 suggests that use rates are lower for those who had a lower number of sons than daughters, indicating that sons are more important than daughters. This is the expected pattern in a patriarchal society where sons are still preferred.

### **6.11.2 Children still living and contraception**

The larger the number of surviving children, the higher will be the rate of contraceptive use. Therefore the number of living children is also an important factor in determining contraceptive use in the study population. Even so, 11 per cent of women with no surviving children were using contraception (Table 6.16). The pattern of contraceptive use in different age groups is similar to that for children ever born. Similar patterns were reported by Jejeebhoy (1984:197) from an Indian study, by Joesoef *et al* (1988:164-167) from an Indonesian study and by Oyeka (1989:171) from an urban Nigerian study which showed that women with no living sons were least likely to have used contraception. Arnold and Zhaoxiang (1986) found in China that couples without a son are less likely to use contraception than are couples with at least one son. Contraceptive use increased directly with the number of living sons. This was also the case in Nepal (Tuladhar, 1984:182).

When the use rate was examined by sex (second panel of Table 6.16), it is seen that of women with one female child, only 35.4 per cent were using contraception. However, of women with one male child, 42.3 per cent were using contraception.



Highest ever and current use were seen in women with two living children, both sons. The current use rate for women with three children including two sons was 75 per cent, which is slightly lower than for women with two living sons.

**Table 6.16 Percentage Distribution of Ever and Current Users of Contraception by Children Still Living Controlling for Age**

Children still living	Per cent ever used				Per cent current users				N	
	15-24	25-34	35+	Total	15-24	25-34	35+	Total		
0	16.5	6.2	1.0	23.7	7.2	4.1	-	11.3	97	
1	32.1	23.8	3.1	59.1	19.2	17.6	2.6	39.4	193	
2	8.0	58.2	19.0	85.2	7.6	48.5	19.0	75.1	237	
3	0.9	37.0	40.6	78.5	0.9	33.3	37.4	71.7	219	
4	0.6	13.3	48.8	62.7	0.6	12.6	44.0	57.2	166	
5+	-	2.8	49.3	52.1	-	1.4	42.3	43.7	71	
<b>Sex composition</b>										
children	sons									
0	0	16.5	6.2	1.0	23.7	7.2	4.1	-	11.3	97
1	0	26.8	24.4	2.4	53.5	17.1	15.9	2.4	35.4	82
	1	36.0	23.5	3.6	63.1	20.7	18.9	2.7	42.3	111
2	0	11.4	48.6	8.6	68.6	8.6	28.5	8.6	45.7	35
	1	7.6	61.0	18.7	87.3	7.6	51.9	18.5	78.0	118
	2	7.1	58.4	23.8	89.3	7.1	52.3	23.8	83.3	84
3	0	-	21.4	42.9	64.3	-	21.4	35.7	57.1	14
	1	-	41.7	34.5	76.2	-	39.3	31.0	70.2	84
	2	1.9	30.8	48.1	80.8	1.9	26.0	47.1	75.0	104
	3	-	64.7	23.5	88.2	-	58.8	11.8	70.6	17
4+	0	25.0	50.0	25.0	100.0	25.0	50.0	25.0	100.0	4
	1	-	20.4	52.3	72.7	-	18.2	50.0	68.2	44
	2	-	7.1	54.0	61.1	-	6.2	48.7	54.9	114
	3	-	7.8	37.5	45.3	-	7.8	29.7	37.5	64
	4+	-	-	54.5	54.5	-	-	45.5	45.5	11
Total		10.2	30.0	26.1	66.3	6.6	25.1	24.0	55.7	983

Source: Kathmandu Survey, 1992.

The study by Tuladhar and Stoeckel (1982:275-286) shows that the proportion of ever and current use of contraception increased with the number of living sons in Nepal. Similar findings were reported by Gadalla *et al.*, (1985) in a study in Egypt. However, the present analysis suggests that after parity three the number of sons increases and the use rate decreases. The sex composition effect was more marked

at smaller family sizes than at the larger ones. A similar finding, that the effects of sex preference are generally smaller at higher parity levels, was found in Korea by Arnold (1985). This is also evidence to show that although sons are considered important, couples do not wait for sons if they already had more than two or three children. This indicates the predominance of small family size norms in Kathmandu.

### 6.11.3 Education and contraception

Women with more education tend to participate more in fertility decisions, so contraceptive use is more likely when the education of girls has been emphasised (Oppong, 1984:328; Ogawa, 1978:41-57).

**Table 6.17 Percentage Distribution of Ever and Current Users of Contraception by Respondent's and Husband's Education Controlling for Respondent's Age**

Years of schooling	Per cent ever used				Per cent current users				N
	15-24	25-34	35+	Total	15-24	25-34	35+	Total	
<b>Wives'</b>									
None	4.9	16.5	34.4	58.8	3.7	15.0	28.5	47.2	267
1-5	5.4	26.2	26.1	57.7	4.5	25.2	25.2	54.9	111
6-10	14.2	36.5	16.0	66.7	10.3	30.1	16.0	56.4	156
10+	13.2	36.7	24.7	74.6	7.8	29.3	23.7	60.8	449
<b>Husbands'</b>									
None	1.9	11.4	38.1	51.4	0.9	10.5	32.4	43.8	105
1-10	10.2	27.8	19.4	57.4	6.4	25.1	17.6	49.1	108
10+	11.2	32.9	25.5	69.6	7.4	27.1	23.8	58.3	770
<b>Total</b>	<b>10.2</b>	<b>30.0</b>	<b>26.1</b>	<b>66.3</b>	<b>6.6</b>	<b>25.1</b>	<b>24.0</b>	<b>55.7</b>	<b>983</b>

Source: Kathmandu Survey, 1992.

Educational attainment leads to small families, changes the status of women in society and changes the social and economic aspirations which children have. This affects both attitudes towards contraception and the ability to understand and make use of particular methods (Cassen, 1976:790). Table 6.17 shows that the proportion of contraceptive users varies according to educational attainment of couples. The

pattern is very clear in both husband and wife education categories which shows that the higher the number of years of schooling, the higher the prevalence of contraceptive use. Respondent's education level showed the greatest positive impact on use of contraception.

**Table 6.18 Percentage Distribution of Ever and Current Use of Contraception by Education and Respondent's Age**

Years of schooling	Respondent's current age								N
	15-24		25-34		35+		Total		
	Ever	Curr.	Ever	Curr.	Ever	Curr.	Ever	curr.	
No schooling both husband and wife	1.1	1.1	12.0	10.9	38.0	31.5	51.1	43.5	92
Wife no schooling husband 1-10 yrs.	13.6	10.2	25.4	23.7	23.7	20.3	62.7	54.2	59
Wife no schooling husband 10+ yrs.	3.4	2.6	15.5	13.8	37.1	30.2	56.0	46.6	116
Wife 1-10 yrs. husband 1-10 yrs.	4.4	2.2	31.1	28.9	11.1	11.1	46.6	42.2	45
Wife 1-10 yrs. husband 10+ yrs.	11.9	9.5	33.8	29.0	21.4	20.9	67.1	59.4	210
Wife 10+ yrs. husband 1-10 yrs.	25.0	0.0	25.0	0.0	50.0	50.0	100.0	50.0	4
Husband no schooling wife 1-10 yrs.	8.3	0.0	8.3	8.3	33.3	33.3	49.9	41.6	12
10+ years schooling both husband and wife	13.1	7.7	36.9	29.7	24.3	23.4	74.3	60.8	444

Note: Currently using one case of husband no schooling and wife 10+ schooling not shown in the Table

Source: Kathmandu Survey, 1992

Even after controlling for current age of respondent and creating a compound years of schooling, the impact of education was evident (Table 6.18). Table 6.18 shows that 61 per cent of couples where both the husband and wife had 10+ years of

schooling are currently using contraception, whereas less than 44 per cent were doing so if neither of them had any schooling. It shows that even among no schooling category couples, 44 per cent are using contraception. It is also seen that both husbands' and wives' educational attainment has an important impact on contraceptive use.

#### 6.11.4 Couples' discussion about family size and contraception

In societies where the status of women is very low, there is usually no discussion between couples about family size, resulting in low use of contraception (Kane and Sivasubramaniam, 1989:1). Discussion of family size and family planning between spouses also largely depends on the wives' education. Higher education, which raises the status of women, demonstrates the important role played by both sexes in the adoption and effective use of family planning (Kane and Sivasubramaniam, 1989:1).

**Table 6.19** Percentage Distribution of Ever and Current Users of Contraception by Couple's Discussion About Family Size, Controlling for Age

Discussed	Per cent ever used				Per cent current users				N
	15-24	25-34	35+	Total	15-24	25-34	35+	Total	
Yes	13.2	37.1	24.9	75.2	8.9	31.2	23.7	63.8	674
No	3.6	14.6	28.7	46.9	1.6	12.0	24.6	38.2	309
Total	10.2	30.0	26.1	66.3	6.6	25.1	24.0	55.7	983

Source: Kathmandu Survey, 1992.

In the present sample, almost 69 per cent of couples discussed family size and of these 64 per cent were currently using contraception, compared with a current use rate of 38 per cent among those who did not discuss family size (Table 6.19). It has been found in other studies that inter-spouse communication tends to be greater among younger and educated couples than among older and less educated (Tuladhar, 1984; Shahid Ullah and Chakraborty, 1993). In this study also, mostly

educated and young women discussed family size (Chapter 5). Education has increased the proportion of inter-spouse communication about family size resulting in higher use of contraception. This suggests the indirect impact of education on the use of contraception through increased discussion about family size. Shahid Ullah and Chakraborty (1993) also found in Bangladesh that couples who discuss family size had a higher contraceptive use rate than those who did not discuss it.

#### **6.11.5 Caste/ethnicity and contraception**

Table 6.20 reveals that the use rate of contraception by Newars is lower than other ethnic groups. It was not an expected pattern because in the previous chapter the Newar age at marriage was found to be higher, and social values related to children found to be lower. In such a situation, contraceptive use should also be higher. However, when use rate is cross classified by methods among three major ethnic groups, Brahmans, Chhetries and Newars, it is seen that 28 per cent of Newars among the users were sterilised. The corresponding figures for Brahmans and Chhetries are 48 and 51 per cent respectively. Again, the use rate of IUD, Pill, Injection and Norplant, and "others" (including condom and withdrawal) for Newar are 13, 4, 11 and 44 per cent respectively, whereas the corresponding figures for Brahmans are 6, 2, 10 and 33 per cent and for Chhetries are 11, 3, 9, and 26 per cent respectively. This indicates that temporary methods used by Brahmans and Chhetries are lower compared with Newars and therefore it can be concluded that the main reasons for using contraception by Newars was for spacing birth. However, higher use rate of sterilisation and lower use rate of temporary methods used by Brahmans and Chhetries suggest that they use contraception mainly for limiting family size rather than spacing.

As mentioned earlier, if contraception is not primarily employed to limit birth there is little age difference between contraceptors and non-contraceptors and not a very

great parity differential (Caldwell and Caldwell, 1976:351). Mean age difference between contraceptors and non-contraceptors for the Newars is 32.9 and 31.3 respectively, however, the corresponding figures for Brahmans are 33.2 and 28.4 and for Chhetries are 33.1 and 29.9 respectively. Similarly, an average parity difference between contraceptors and non-contraceptors is 2.5 and 2.2 respectively for Newars, 2.7 and 1.9 respectively for Brahmans, and 2.8 and 2.1 for Chhetries, indicating the small parity difference of Newars compared to Brahmans and Chhetries. This suggests that Newars used contraception especially for spacing births, however Brahmans and Chhetries used it especially for limiting births. Spacing behaviour improves the health of both mother and children (Gubhaju, 1986) and allows couples to achieve low infant and child mortality. This in turn, may change their attitudes and desires towards having fewer children.

**Table 6.20 Percentage Distribution of Ever and Current Users of Contraception by Caste/ethnicity, Controlling for Age**

Caste/ ethnicity	Per cent ever used				Per cent current users				N
	15-24	25-34	35+	Total	15-24	25-34	35+	Total	
Brahman	9.0	30.6	28.9	68.0	6.5	29.2	27.5	63.2	291
Chhetri	11.1	32.9	25.7	69.7	7.3	25.7	23.7	56.7	261
Newar	11.3	28.7	24.5	64.5	6.2	21.9	20.6	48.7	310
M. Tibetan	8.7	26.2	28.8	63.8	5.1	21.1	28.8	55.0	80
Others	9.7	24.4	17.1	51.2	9.7	24.4	17.1	51.2	41
Total	10.2	30.0	26.1	66.3	6.6	25.1	24.0	55.7	983

Note: M. Tibetan= Mongoloid Tibetan

Source: Kathmandu Survey, 1992.

At the national level Tuladhar (1984:216) found that the highest contraceptive prevalence rates in Nepal were among the Newars, followed by the Brahmans and Chhetries. Similar findings emerged from the earlier study in Nepal by Anthony (1979:160) showing that higher caste groups exhibited a higher use of contraception.

Available literature indicates that there are at least four possible explanations for differential contraceptive use among ethnic groups. These explanations include: a socio-economic hypothesis, cultural hypothesis, minority status hypothesis (Berelson 1978:109; Goldscheider and Uhlenberg, 1969:361-372; Bean and Marcum, 1978:189-207) and a family planning services hypothesis (Murty and Vos, 1984:222). According to the socio-economic hypothesis, ethnic differentials in contraceptive use can be explained by the different social position of each group. The cultural hypothesis says that attitudes, values and customs cause different trends in contraceptive use. According to the minority status hypothesis, minority status itself causes differential contraceptive use. If the minority group wants to preserve itself or increase its power, or if its chances of social mobility are poor, contraceptive use will be lower than that of the majority. In contrast, if the minority group is upwardly mobile, has no pronatalist ideology, and suffers no "insecurity and marginality" in its status, its contraceptive use will be higher than the majority's. In Kathmandu, Mongoloid Tibetan groups are in the minority but they are not pronatalist. Therefore their fertility rate was found to be lower in Nepal (MacFarlane, 1976; Tuladhar, 1984; FP/MCH, 1987). They feel no insecurity although they are a minority in Kathmandu. Therefore, according to this hypothesis, their use rate is higher than the majority Newar group.

According to the family planning services hypothesis, discomfort in communicating about a sensitive topic with someone outside one's ethnic group, the language barrier, or ethnic discrimination in the family planning services could produce differentials in contraceptive use (Murty and Vos, 1984:222). The family planning services hypothesis focuses on the supply side of contraceptive use rather than on the demand side. According to Murty and Vos (1984), the other hypotheses assume that family planning services are equally available to members of different ethnic groups and what determines differences in the use are people's orientations towards

contraception. According to Wong and Meng (1985:368-369) the differences in contraceptive use among ethnic groups in the ASEAN countries were caused by differences in access to family planning and socio-economic background.

### 6.11.6 Mass media and contraception

Well planned mass media approaches by a family planning program can influence attitudes and change behaviour in family planning promotion (Bertrand *et al*, 1982; Bandura, 1986; Piotrow *et al*, 1990). Foreit *et al* (1989:107) mentioned that in Brazil "the cost of the advertising campaign was offset by additional revenue generated by the increase in vasectomies performed".

**Table 6.21 Percentage Distribution of Ever and Current Users of Contraception by Exposed to Mass Media, Controlling for Age**

Mass media	Per cent ever used				Per cent current users				N
	15-24	25-34	35+	Total	15-24	25-34	35+	Total	
<b>Read newspaper at least once a week</b>									
Yes	13.6	36.9	24.6	72.2	8.3	30.7	23.7	62.7	544
No	5.9	21.4	28.0	55.3	4.6	18.2	24.4	47.2	439
<b>Watch T.V. at least once a week</b>									
Yes	10.7	31.2	27.5	69.4	6.9	25.9	25.6	58.4	814
No	7.9	24.3	19.5	51.5	5.3	21.3	16.6	43.2	169
<b>Total</b>	<b>10.2</b>	<b>30.0</b>	<b>26.1</b>	<b>66.3</b>	<b>6.6</b>	<b>25.1</b>	<b>24.0</b>	<b>55.7</b>	<b>983</b>

Source: Kathmandu Survey, 1992.

Today, the mass media, especially television, reach an ever larger audience. This is also the case in Kathmandu where exposure to the mass media has changed people's values regarding childbearing and resulted in an enhanced use of contraception.

It is hypothesised that women who are exposed to the mass media will have greater use of contraception than women who are not exposed to the mass media. Table 6.21 shows that women who were exposed to mass media had higher ever and



current use rates than those who did not. Effective advertisement from both television and radio related to family planning has led to a strong motivation to use contraception in Kathmandu, a high rate of contraceptive use, and a low level of fertility.

### **6.11.7 Economic status and contraception**

As discussed in Chapter 2, as income rises, couples want to improve the quality of their children. This results in greater use of contraception to reduce the number of children. Shapiro and Tambashe (1994) found in Zaire that a woman's economic status was positively related to contraceptive use, presumably reflecting greater motivation to use contraception and better access to it. It was found in Northern Thailand that there was a strong association between the economic status and the likelihood of contraceptive use (Soottipong, 1991:12). Similarly Oni and McCarthy (1991:51) reported from urban Nigeria that women of higher economic status had higher contraceptive use than those of low economic status. It is hypothesised that the higher the economic status, the higher will be the contraceptive use in Kathmandu. As mentioned earlier, economic status as indicated by household possession has been taken as a measure of income of the household. Table 6.22 shows the positive relationship between economic status and contraceptive use. It shows that 50 per cent of women of lower economic status were currently practising contraception compared with 65 per cent of the higher economic status group. Looking at the 35 and over age group, as the economic status increases, the use rate increases. However there is no consistent pattern in other age groups. This is because women used contraception only after having a certain number of children. Therefore, there is a consistent pattern after age 35, this also indicates less spacing behaviour among Kathmandu couples. Nevertheless, the positive relationship between economic status and use of contraception is seen.

**Table 6.22 Percentage Distribution of Ever and Current Users of Contraception by Economic Status, Controlling for Age**

Economic status	Per cent ever used				Per cent current users				N
	15-24	25-34	35+	Total	15-24	25-34	35+	Total	
Lower	10.9	26.1	23.3	60.3	7.1	21.8	20.7	49.6	532
Low	8.9	35.0	26.8	70.7	6.4	30.0	24.6	61.1	280
High	9.0	34.3	32.4	75.7	7.2	27.9	31.5	66.7	111
Higher	11.7	33.3	36.7	81.7	1.7	26.7	36.6	65.0	60
Total	10.2	30.0	26.1	66.3	6.6	25.1	24.0	55.7	983

Source: Kathmandu Survey, 1992.

### 6.11.8 Respondent's occupation and contraception

A large number of studies have looked at women's occupation and their contraceptive and fertility behaviour in developing countries (Sathar and Chidambaram, 1984; Lloyd, 1991). "The work status of the woman is often considered to be a major determinant of her fertility aspiration and behaviour, and hence some strong association with contraceptive use is anticipated" (Sathar and Chidambaram, 1984:4). Table 6.23 shows a clear pattern that women who were working outside the home have a higher current use rate than those who did not work. However, the younger working age group (15-24) has a lower use rate than women who were not working outside the home. Almost 70 per cent of working women are currently using contraception compared with 49 per cent of those who were not working. The analysis of World Fertility Survey data for 38 developing countries reveals that the level of contraceptive use appears to be higher among women who worked outside the home than those who did not work (United Nations, 1987:75-80). Shapiro and Tambashe (1994:99) also found in Zaire that the likelihood of contraception was greater for working than non-working women. Soottipong (1991:12) and Chamrathirong *et al* (1986:279) have also found that in Thailand, women who worked outside the home were higher contraceptive users than those who were not working outside the home. It is also to be noted that women who worked outside the home had higher levels of education than those

who did not work. Therefore the growth of formal education is one of the most pervasive influences on fertility control (Cochrane, 1979) in Kathmandu.

**Table 6.23 Percentage Distribution of Ever and Current Users of Contraception by Employment Status, Controlling for Age**

Status	Per cent ever used				Per cent current users				N
	15-24	25-34	35+	Total	15-24	25-34	35+	Total	
Working	10.0	42.7	29.5	82.2	5.6	34.8	29.2	69.6	319
Not working	10.3	23.8	24.5	58.6	7.0	20.6	21.5	49.1	664
Total	10.2	30.0	26.1	66.3	6.6	25.1	24.0	55.7	983

Source: Kathmandu Survey, 1992.

### 6.11.9 Husband's occupation and contraception

Table 6.24 presents contraceptive use according to husband's occupation, while controlling for wife's age. It is seen that among women whose husbands had no work, the use rate was lower than among those whose husbands had work. Among occupational groups, the wives of business and agricultural workers had a lower level of contraceptive use than the wives of government and non-government workers. Viewed from the education aspect, it is seen that husbands with low levels of education are in the agriculture and business categories. The general relationship between contraceptive use and occupation is that those who work in agricultural jobs are less likely than others to use contraception (United Nations, 1981; Shapiro and Tambashe, 1994). Occupation of the husband was found to be a significant variable affecting contraceptive use in Bangladesh (Shahid Ullah and Chakraborty, 1993). Shahid Ullah and Chakraborty (1993) found that men who worked in service and productive sectors had a higher use rate than those who worked in the agricultural sector, indicating the positive relationship between contraceptive use and modern sector jobs. In Nepal, those who work in government and non-government services not only have contact with other educated groups and are exposed to western ways of life, but also are more educated. Therefore, these

sectors are considered as more advanced sectors resulting in higher level of contraceptive use. It was also found in Ilorin, Nigeria that men who worked in modern sector occupations had a higher contraceptive use rate than those who worked in other sectors (Oni and McCarthy, 1991:51). The modern sector occupations are related to higher levels of education. As Cochrane (1979) point out, the growth of formal education is one of the most pervasive influences on fertility control. This was also the case in Kathmandu.

**Table 6.24 Percentage Distribution of Ever and Current Users of Contraception by Husband's Occupation Controlling for Respondent's Age**

Occupation	Per cent ever used				Per cent current users				N
	15-24	25-34	35+	Total	15-24	25-34	35+	Total	
No work	15.7	26.3	15.8	57.8	5.3	21.0	15.8	42.1	19
Govt.work	10.7	35.0	30.3	76.0	6.5	29.4	28.2	64.1	337
Non-govt	10.2	36.0	20.4	66.7	7.5	30.4	19.2	57.1	333
Agriculture	2.2	14.0	34.9	51.1	2.2	14.0	30.3	46.5	43
Business	10.4	18.3	27.4	56.1	6.4	14.7	24.3	45.4	251
<b>Total</b>	<b>10.2</b>	<b>30.0</b>	<b>26.1</b>	<b>66.3</b>	<b>6.6</b>	<b>25.1</b>	<b>24.0</b>	<b>55.7</b>	<b>983</b>

Note: Govt.=government

Source: Kathmandu Survey, 1992.

## 6.12 Breastfeeding

In Nepal it was found in 1976 NFS, 1986 NFFS and 1991 NFHS survey data that breastfeeding was almost universal with over 95 per cent of married women breastfeeding their children (Tuladhar, 1989a:8; Risal *et al*, 1993:70). In countries where breastfeeding is universal but where there is little use of contraception, breastfeeding provides added protection against pregnancy (United Nations, 1987:105).

It is found that urban women are likely to breastfeed for shorter durations than rural women (United Nations, 1987; Freedman, 1987b). Breastfeeding is one of the important proximate determinants of fertility (Bongaarts, 1982:186), therefore a

reduction in breastfeeding could lead to an increase in fertility (Bongaarts, 1982; Nag, 1980). Breastfeeding not only reduces infant mortality but also enhances the health status of both the mother and children because it saves the mother from frequent births (Peterson and DaVanzo, 1992; Trussell *et al*, 1992). Jain and Bongaarts (1981) estimated from World Fertility Survey cross sectional data that a one month reduction in breastfeeding reduced the length of the birth interval by 0.4 months. It is also argued that a decline in both duration and proportion of breastfeeding may not only reduce birth intervals but also increase fertility if it is not compensated for by contraception (Smith, 1985; Thapa, 1987).

**Table 6.25 Average Mean Months of Breastfeeding and Educational Attainment of Respondents.**

Years of schooling	Mean months of breastfeeding	Number
No schooling	22.1	258
1-5	18.5	107
6-10	16.9	137
10+	15.4	380
Total	18.0	882

Source: Kathmandu Survey, 1992.

In the present study, the period of breastfeeding was estimated for the last two live births. An examination of Table 6.25 shows that women who had 10+ years of schooling had shorter breastfeeding periods compared with those with no education. The effect of breastfeeding on fertility is reduced by urbanisation and modernisation. It was found from World Fertility Survey data that urbanisation and education of the wife are consistently negatively related to the extent and duration of breastfeeding (Freedman, 1987:778). It is also found that urban residence is negatively associated with breastfeeding because bottle feeding is considered to be more modern and more convenient (Trussell *et al*, 1992:286). Low prevalence and duration of breastfeeding in low fertility countries was compensated for by higher use of contraception (Freedman, 1987:778).

Declining breastfeeding duration among educated groups is offset by increased contraception in the study population. It is also found however, that if educated women knew of the importance of breastfeeding, which has important implications for the health of both child and mother, they would breastfeed their child. As a result, there would be a positive relationship between breastfeeding and education (United Nations, 1987; Peterson and DaVanzo, 1992; Trussell *et al*, 1992). In the present sample, some of the respondents were asked the reasons for short breastfeeding. They said that breastfeeding not only makes the breast ugly but also it wrinkled the face quickly. When these issues were raised in the female focus group discussions, participants gave similar reasons that longer breastfeeding wrinkled the face quickly and facial beauty could not be maintained for long. It was noticed therefore that the importance of breastfeeding was not known in the survey population. Therefore, its importance should be highlighted through mass media and education in school in order to increase the duration and proportion of breastfeeding over bottle feeding.

### **6.13 Conclusion**

Overall analyses show that appreciable proportions of women in Kathmandu were attempting to control their fertility, and there has been a remarkable consistency in the levels of current contraceptive use among different caste or ethnic groups. It was found that withdrawal is widely accepted, and the majority of current users had adopted sterilisation. Increased use of sterilisation in Kathmandu suggests that couples are interested in controlling their fertility after a certain number of children. Although educated young groups are using contraception for spacing purposes, it is not yet common in Kathmandu. Therefore, attention should be given to increase spacing use because it has a significant impact on fertility.

It was found that education levels were highly associated with contraceptive use, however the innovation and diffusion process has also influenced uneducated women in Kathmandu. Among ethnic groups, although Newars were the low current users, it was found that they used contraception for spacing purposes, indicating more advanced steps regarding contraceptive use than other ethnic groups in Kathmandu. In Nepalese social hierarchy, the caste system is especially important because if the educated higher social classes adopt something new, then it will be diffused to other lower caste groups (Niraula, 1991). It was also found that breastfeeding duration has been declining with increasing education of women in the study population. It is hoped that this trend to increased contraceptive use will continue in the future because greater parental contraceptive use will encourage the next generation to use contraception more effectively. In this context, Caldwell and Caldwell (1978:11) are of the view that

when respondents or their husband's knew that their own parents had practiced contraception, they were much more likely to have done so themselves, and women with mother who had abstained from sex for unusually long periods were more likely than other respondents to use this means.

This indicates that in a society where small family systems are established, contraceptive methods are likely to be handed down from one generation to another (Caldwell and Caldwell, 1978:11). Similarly, the fertility decline theory suggests that once the transition has begun and couples have adopted birth control, they are more likely than before to perceive the advantages of small families (Retherford, 1985; Van de Walle and Knodel, 1980). However, when looking at the national aggregate contraceptive prevalence rates, this degree of controlled fertility is the exception and not the rule in the country. Increased use of contraception is a result of socio-cultural and economic change which discourages big family size and availability through the family planning program. It is also found that explicit attention has been given to the problem of population growth since the third development plan of Nepal. The government is therefore committed to population

growth containment and has a strong multi-sectoral population policy as well as the institutional framework to provide the family planning services to the needed couples.

**Table 6.26 A Summary of Results of Contraceptive Differentials in Kathmandu**

Variable	Hypotheses	Results
Age	The use rate rises with age reaching a peak at ages 25-39 and decreases again	As expected
Parity	The higher the parity the higher will be the use rate	But after parity three use rate decreases
Education	Strong positive relationship	As expected
Couples discussion about family size	Those who discuss family size will have higher use rate than those who do not	As expected
Caste/ethnicity	Higher caste groups will have higher use rate	As expected but Newars use rate was lower however spacing behaviour was found
Mass media	Those who are exposed to mass media will have higher use rate than those who are not	As expected
Economic status	Positive relationship	As expected
Occupation	Working women will have higher use rate than not working women	As expected
Husband's occupation	Women whose husband are in modern sector occupation will have higher use rate than other occupational groups	As expected

It can be concluded that although the impact of family planning programs at the national level is minimal, family planning programs are lowering the cost of obtaining contraceptive services in Kathmandu, resulting in high use of



contraception. Overall analyses suggest that education is one of the most important factors in determining contraceptive use. Apart from education, contraceptive use differentials were clearly seen. The relationship found in differentials is summarised in Table 6.26. Differentials in contraceptive use will lead to different levels of fertility among different subgroups of the study population. The next chapter therefore examines the fertility differentials of the study population.



## **CHAPTER SEVEN**

### **FERTILITY DIFFERENTIALS**

#### **7.1 Introduction**

'A strong indicator of the beginning of the onset of fertility transition is the emergence of fertility differentials among various subgroups of the population' (Rely and Alam, 1993:29). This study has shown that changes in age at marriage, in the perceived value of children and the use of contraception have occurred at somewhat different rates among different socio-economic status groups in the population and this will of course have some implications for fertility differentials. The nature and extent of fertility differentials provide indications regarding future trends in fertility with the onward process of modernisation and development (Rely, 1992:143). Hence, identification of the differentials in fertility by subgroups provides a basis for formulating plans and policies regarding population control. Moreover, fertility differentials are a valuable source of evidence in determining the way social changes move through society and occur over time (Caldwell and Ruzicka, 1982:201-202). Caldwell and Ruzicka (1982) suggest that once fertility decline is established, socio-economic differentials tend to disappear and there is a convergence in fertility levels. In addition, investigation of whether or not there is any relationship between socio-economic variables and fertility can be facilitated by studying fertility differentials. Accordingly, the focus of this chapter is to examine fertility differentials, especially those relating to socio-economic variables.

The mean number of children ever born and completed family size are used as measures to examine socio-economic differentials in fertility. Respondents' age has been taken as a control variable in examining the effect of socio-economic variables

on the mean number of children ever born. Current age has been grouped as 15-24, 25-34 and 35 and over to reduce the number of small cells in the age classification. The total, net and indirect effects of the independent variable considered in the study are presented in the analyses.

Firstly, all age groups 15-49 have been taken to examine the effect of the socio-economic variables on fertility. The age group 45-49 has then been taken separately because these older women are likely to have completed their fertility. Based on this assumption, the average completed fertility in the sample is 4.9 children per woman.

## **7.2 Caste/ethnicity and fertility**

The examination of caste and ethnic differentials in fertility is important in pluralistic societies like Nepal. In Nepal different caste and ethnic subgroups have their own specific set of socio-cultural customs regarding fertility behaviour. Therefore at the national level some differentials in fertility among caste and ethnic groups have been identified (Tuladhar, 1984; FP/MCH, 1987). It was found in Nepal that higher caste groups had lower fertility than lower caste groups (Anthony, 1979; Gubhaju, 1983). Similar findings obtained in Indian studies showed that lower caste groups had higher fertility than high caste groups (Driver, 1965; Mahadevan, 1979; Rely and Kanitkar, 1980; Dhindsa, 1986; Kesarwani, 1989).

Table 7.1 shows that caste/ethnic differentials in mean parity in Kathmandu are not striking among caste/ethnic groups. Although the difference is small, the mean parity is lowest for Newar followed by Brahman and Chhetri. It is higher for Mongoloid Tibetan and the 'Other' category even after controlling for the effects of current age. It is found that higher caste groups had lower fertility than lower caste groups in Kathmandu. However, it is very difficult to arrive at a conclusion about

the fertility differentials because of the small differences in standardised parity among caste/ethnic groups in Kathmandu.

**Table 7.1 Mean Number of Children Ever Born by Caste/Ethnicity and Current age**

Age	Brahman	Chhetri	Newar	M.Tibetan	Other	Total
15-24	0.79	0.94	0.69	1.13	1.91	0.87
25-34	2.24	2.50	2.09	2.94	2.56	2.33
35-49	3.75	3.75	3.69	3.70	4.57	3.76
Total	2.42	2.57	2.38	2.91	3.07	2.51
(N)	(291)	(261)	(310)	(80)	(41)	(983)
Age standardised mean	2.45	2.59	2.35	2.79	3.14	2.51
Total effect	-0.09	0.06	-0.13	0.40	0.56	
Net effect	-0.06	0.08	-0.16	0.28	0.63	
Indirect effect	-0.03	-0.02	0.03	0.12	-0.07	
Completed fertility						
45-49	4.90	4.75	4.71	4.38	6.67	4.87
(N)	(29)	(28)	(28)	(8)	(6)	(99)

Note: M.Tibetan= Mongoloid Tibetan

Source: Kathmandu Survey, 1992.

The completed fertility is higher for women belonging to the Brahman and the 'Other' groups. The age at marriage of these groups was found to be lower (Chapter 4) and accordingly, the higher fertility for these groups is more likely to be associated with lower age at marriage. Moreover, older Brahmans believe in traditional Hindu customs which favour high fertility. This also may be one of the reasons for the higher fertility of older Brahmans.

### 7.3 Education and fertility

An inverse relationship between female education and fertility has been one of the consistent findings in the literature (Cochrane, 1979; Concepcion, 1981; Hugo and Wood, 1983; United Nations, 1983a; Casterline, 1984). However, a number of studies support the existence of a non-linear relationship between education and fertility which suggests that, increasing educational levels is positively correlated

with increasing fertility to a certain point (Hull and Hull, 1977; Alam and Casterline, 1984). Fertility declines sharply with the level of education attained and education influences the thinking process and brings about a willingness to adopt modern ideas and values (Jain, 1981; United Nations, 1987). However, the relationship between education and fertility was found to be complex in countries like Bangladesh, Nepal, Pakistan, the Philippines, South Korea and Thailand, where fertility tends to remain high or even increase progressively up to 4-6 years of schooling, and decline only after 7 and more years of schooling (Rely and Alam, 1993:30), indicating the inverted U shaped relationship between education and fertility.

Caldwell (1982:301-330) argues that exposure through schools to western ideas and social values powerfully undermines the traditional norms and familial relationship that favour high fertility. Education can be a major promoter of social change and it could be considered as both an indicator of socio-economic status and of cultural exposure (Axinn, 1993; Srikantan, 1989). It is the general pattern that the higher the level of education, the higher will be the use of contraception and the lower will be the fertility. Accordingly, it is hypothesised here that the higher the educational attainment of women, the lower will be their fertility.

The mean number of children ever born classified by education and current age is presented in Table 7.2. For every years of schooling group fertility increases with increased age. Similarly, every age group shows a clear trend of decreasing fertility with increasing education. The difference in the mean parity between those with no schooling and those with 10+ years of schooling is nearly two children.

**Table 7.2 Mean Number of Children Ever Born by Years of Schooling and Current Age.**

Current age	Years of schooling				Total
	None	1-5	6-10	10+	
15-24	1.52	1.10	0.93	0.67	0.87
25-34	3.03	3.08	2.48	1.84	2.33
35-49	4.40	4.13	3.43	2.85	3.76
Total (N)	3.72 (267)	3.10 (111)	2.12 (156)	1.79 (449)	2.51 (983)
Age standardised mean	3.18	3.00	2.47	1.94	2.48
Total effect	1.21	0.59	-0.39	-0.72	
Net effect	0.70	0.52	-0.01	-0.54	
Indirect effect	0.51	0.07	-0.38	-0.18	
Completed fertility Age 45-49 (N)	5.03 (74)	5.13 (8)	4.33 (3)	4.00 (14)	4.87 (99)

Note: (N) indicates number of cases

Source: Kathmandu Survey, 1992.

The completed fertility of those with 10+ years of schooling is more than one child lower than those with no schooling. However, the completed fertility of those who had 1 to 5 years of schooling is slightly higher than those with no schooling, thus indicating that a small amount of schooling may not be a sufficient precondition for a decline in fertility in Nepal. Moreover, those with no schooling may suffer from greater memory lapse, and/or may have omitted to report some births. It is also to be noted however, that the figure of completed fertility for the 1 to 5 and 6 to 10 years of schooling groups are based on a small number of respondents.

Even after controlling for the effect of age, the mean parity consistently decreases with increasing education. The net effect of education has rendered the parities for those who had 6 years and more of schooling to be below the overall average parity. However, the net effect of education is more pronounced at the higher education levels indicating the impact of education on fertility. Women with more

education tend to participate more in fertility decisions, therefore contraceptive use and fertility decline may be more likely when the education of women has been emphasised (Oppong, 1984:328).

Education affects fertility through its impact on desired family size and on contraceptive utilisation which will be affected by increasing exposure to information and ideas disseminated through printed materials (Jain, 1981:582; Njogu, 1991:87). The education of females is the key to improving the status of women in the society, and status of women is an integral part of the fertility decline (Sathar *et al*, 1988:415-430).

#### **7.4 Husband's education and fertility**

It is hypothesised that educated wives' of more educated husbands have lower fertility than uneducated wives of educated husbands. To test this hypothesis, the wife's education is controlled for. Without controlling for the wife's education it is seen that as the husband's education increases, parity decreases. This trend is similar even after standardising for the wife's age (not shown).

The average number of children ever born is classified according to the education of both husband and wife by the wife's current age (Table 7.3). The first panel of Table 7.3 includes women with no schooling and presents the fertility by husband's education. It is seen that in every age group, the mean parity decreases with increasing education of the husband. However, the mean parity for those whose husbands had 10+ years of education is higher than for those whose husbands had 1 to 10 years of schooling among women with no schooling. Even after controlling for the effect of age, a similar pattern persisted. As the wife's education increases, the mean parity decreases with husband's education.



**Table 7.3 Mean Number of Children Ever Born by Current Age, Wives' Years of Schooling and Husband's Years of Schooling**

Wives' years of schooling = None				
Current age	Husbands' years of schooling			Total
	None	1-10	10+	
15-24	(2.00)	1.46	1.36	1.52
25-34	3.24	3.00	2.91	3.03
35-49	4.74	4.39	4.08	4.40
<b>Total</b>	<b>4.25</b>	<b>3.32</b>	<b>3.50</b>	<b>3.72</b>
(N)	(92)	(59)	(116)	(267)
Age standardised mean	4.04	3.70	3.47	3.72
Total effect	0.53	-0.40	-0.22	
Net effect	0.32	-0.02	-0.25	
Indirect effect	0.21	-0.38	0.03	
<b>Completed fertility</b>				
Age 45-49	5.28	4.82	4.71	5.03
(N)	(39)	(11)	(24)	(74)
Wives' years of schooling = 1-10 years				
Current age	Husbands' year of schooling			Total
	None	1-10	10+	
15-24	(1.50)	1.31	0.88	0.97
25-34	(2.33)	2.68	2.75	2.73
35-49	(4.86)	3.50	3.75	3.83
<b>Total</b>	<b>3.67</b>	<b>2.47</b>	<b>2.47</b>	<b>2.52</b>
(N)	(12)	(45)	(210)	(267)
Age standardised mean	2.76	2.51	2.49	2.51
Total effect	1.15	-0.05	-0.05	
Net effect	0.25	0.00	-0.02	
Indirect effect	0.90	-0.05	-0.03	
<b>Completed fertility</b>				
age 45-49	5.67	5.00	4.50	4.91
(N)	(3)	(2)	(6)	(11)

Wives' years of schooling = 10+				
Husbands' years of schooling				
Current age	None	1-10	10+	Total
15-24	*	(2.00)	0.66	0.67
25-34	*	(2.00)	1.84	1.84
35-49	*	(3.60)	2.83	2.85
Total		3.16	1.77	1.79
(N)		(5)	(444)	(449)
Age standardised mean		2.44	1.78	1.79
Total effect		1.37	-0.02	
Net effect		0.65	-0.01	
Indirect effect		0.72	-0.01	
Completed fertility age 45-49		5.00	3.92	4.00
(N)		(1)	(13)	(14)

Note: (N) indicates number of cases  
Mean CEB in parentheses is calculated from less than ten cases.

Source: Kathmandu Survey, 1992.

The last panel of Table 7.3 shows that if both husband and wife had 10+ years of schooling, the mean parity is more than one child less than if the wife had no schooling and husband had 10+ years of schooling, thus indicating the effect of the wife's education on parity. This pattern is consistent even after standardising for the current age of the wife. Studies in Taiwan and Thailand provide evidence that the educational level of the wife is more strongly correlated with measures of the couples' fertility than the educational level of the husband (Schultz, 1973). It is also found in Jordan that the fertility differential is much less marked in the case of the husband's education than in the case of the wife's education (Rizk, 1977:90).

Completed fertility also decreases with increasing education of the husband. However, it is very difficult to arrive at a definite conclusion because of the small number of cases for those women (45-49 years) who have had some schooling, since the majority of older women in the sample have had no schooling at all.

## 7.5 Mass media exposure and fertility

As more and more women become exposed to the mass media, the diffusion and spread of modern concepts and modern ways of life, as well as birth control methods becomes more rapid, both within and outside the family. It is hypothesised that women who are exposed regularly to the mass media (read a newspaper and watch television) will have lower fertility than those who are not. Table 7.4 shows that women who read a newspaper at least once a week had more than one child less than those who did not read a newspaper. It is also to be noted that women who can read a newspaper are generally educated. Therefore, education plays an important role in affecting fertility for those who can read a newspaper. Age standardised means show a similar pattern. The net effect of mass media (regular newspaper reading) is stronger than the indirect effect of age. Women who watched television had lower fertility than those who did not, but the age standardised mean is identical to the observed mean.

**Table 7.4 Mean Number of Children Ever Born by Current Age and Exposure to the Mass Media.**

Age	Read newspaper at least once a week			Watch television at least once a week		
	Yes	No	Total	Yes	No	Total
15-24	0.72	1.18	0.87	0.79	1.31	0.87
25-34	2.00	2.86	2.33	2.24	2.76	2.33
35-49	2.98	4.31	3.76	3.61	4.47	3.76
Total (N)	1.92 (544)	3.25 (439)	2.51 (983)	2.40 (814)	3.05 (169)	2.51 (983)
Age standardised mean	2.06	3.00	2.48	2.40	3.05	2.51
Total effect	-0.59	0.74				
Net effect	-0.42	0.52				
Indirect effect	-0.17	0.22				
Completed fertility Age 45-49 (N)	4.11 (18)	5.04 (81)	4.87 (99)	4.75 (75)	5.25 (24)	4.87 (99)

Source: Kathmandu Survey, 1992.

These findings suggest that the mass media has an important role in influencing fertility in Kathmandu. The completed fertility is also lower for those who read a newspaper and watched television at least once a week than those women who did not, indicating the influence of the mass media in determining fertility in the older age group.

### **7.6 Childhood residence and fertility**

This variable refers to the rural or urban character of the place where the respondents and their husbands grew up. Table 7.5 presents fertility by childhood residence of both wife and husband. It is seen that respondents who had grown up in villages had more children than those who had grown up in Kathmandu or in another city in Nepal. The patterns are similar even after controlling for the effects of age, indicating that the net effect of childhood residence is more pronounced. The analysis here is based on the childhood residence, however, the examination of the current residence also provides similar findings in the World Fertility Survey data, which shows that fertility was lowest in the major urban areas, somewhat higher in other urban areas, and highest of all in the rural areas (Rely, 1992:144; Rely and Alam, 1993:29).

The adjusted mean of the husband's childhood residence also shows a similar trend, but slightly lower fertility was found for those who grew up in cities other than Kathmandu. Generally, women whose husbands had grown up in villages had more children than those whose husband had grown up in Kathmandu or another city, indicating the effect of childhood residence of both the husband and wife on fertility.

**Table 7.5 Mean Number of Children Ever Born by Respondents' Current Age by Childhood Residence of Wife and Husband.**

Current age	Wives' childhood residence			Total
	Kathmandu	Other city	Village	
15-24	0.78	0.94	1.01	0.87
25-34	2.04	2.51	2.76	2.33
35-49	3.32	3.86	4.25	3.76
Total	2.15	2.66	3.00	2.51
(N)	(511)	(135)	(337)	(983)
Age standardised mean	2.21	2.64	2.90	2.51
Total effect	-0.36	0.15	0.49	
Net effect	-0.30	0.13	0.39	
Indirect effect	-0.06	0.02	0.10	
Completed fertility age 45-49	4.52	4.47	5.22	4.87
(N)	(33)	(15)	(51)	(99)
Current age	Husbands' childhood residence			Total
	Kathmandu	Other city	Village	
15-24	0.78	0.91	1.17	0.87
25-34	2.19	2.19	2.71	2.33
35-49	3.62	3.22	4.21	3.76
Total	2.34	2.36	2.98	2.51
(N)	(666)	(55)	(262)	(983)
Age standardised mean	2.38	2.27	2.90	2.51
Total effect	-0.17	-0.15	0.47	
Net effect	-0.13	-0.24	0.39	
Indirect effect	-0.04	0.09	0.08	
Completed fertility age 45-49	4.84	3.67	5.11	4.87
(N)	(56)	(6)	(37)	(99)

Note: (N) indicates the number of cases

Source: Kathmandu Survey, 1992.

Jones (1982b:10) found that respondents who had grown up in rural areas had more children than those with an urban background. The completed fertility of women who grew up in Kathmandu was slightly higher than that of women who grew up in

other cities. But in the case of the husband's childhood residence, completed fertility is almost one child more for those who grew up in Kathmandu than those who grew up in other cities. It should also be noted however that the number of cases for those who grew up in other cities is small. These findings suggest that childhood urban and rural characteristics will have an effect on determining fertility.

### **7.7 Respondents' employment status and fertility**

Increased labour force participation of women has been found to be one of the reasons for fertility reduction in developing countries (United Nations, 1987:255; Rely and Alam, 1993:30). This is also the case in developed countries as Hugo and Wood (1983:52) for example found in Australia, where women who work outside the home have substantially lower fertility than women not in the workforce. The occupation of both husband and wife is considered to be an important indicator of social status as well as of the economic circumstances of the family (Rely and Alam, 1993:30).

It is hypothesised that the education of respondents is important in determining employment status in Kathmandu and therefore respondents' occupation is cross-classified by years of schooling and current age in order to examine fertility differentials. Women who work outside the home have lower fertility than those who do not (United Nations, 1987:256). Becker (1981) argued that the major component of the cost of children is the "indirect" cost of the mother's time. Therefore as women's wages rise, the cost of children increases, leading to a long-term decline in fertility.

**Table 7.6 Mean Number of Children Ever Born by Current Age by Years of Schooling and Occupation**

Respondents not working				
Current age	Years of schooling			Total
	None	1-10	10+	
15-24	1.56	0.96	0.68	0.92
25-34	3.13	2.80	1.88	2.60
35-49	4.47	3.86	3.19	4.16
<b>Total</b>	<b>3.84</b>	<b>2.53</b>	<b>1.60</b>	<b>2.77</b>
(N)	(247)	(236)	(181)	(664)
Age standardised mean	3.24	2.73	2.07	2.74
Total effect	1.07	-0.24	-1.17	
Net effect	0.50	-0.01	-0.67	
Indirect effect	0.57	-0.23	-0.50	
<b>Completed fertility</b>				
Aged 45-49	5.08	4.91	(3.88)	4.96
(N)	(73)	(11)	(8)	(92)
Respondents working				
Current age	Years of schooling			Total
	None	1-10	10+	
15-24	(1.25)	(1.20)	0.65	0.74
25-34	(2.33)	2.37	1.82	1.92
35-49	(2.57)	(3.57)	2.74	2.78
<b>Total</b>	<b>2.20</b>	<b>2.45</b>	<b>1.92</b>	<b>1.99</b>
(N)	(20)	(31)	(268)	(319)
Age standardised mean	2.21	2.55	1.91	1.99
Total effect	0.21	0.46	-0.07	
Net effect	0.22	0.56	-0.08	
Indirect effect	-0.01	-0.10	0.01	
<b>Completed fertility</b>				
Aged 45-49	(1.00)	*	(4.17)	(3.71)
(N)	(1)		(6)	(7)

Note: (N) indicates the number of cases

Mean CEB in parentheses is calculated from less than ten cases

Source: Kathmandu Survey, 1992.

Table 7.6 presents parity by respondents' employment status, education and current age. It is seen that women who were not working outside the home had higher fertility than women who worked outside the home. Looking at different educational categories, it is seen that the mean parity decreases with increasing education. Almost in every age group the mean parity is lower for the working women than for the non-working women. The pattern is consistent even though the number of working women is very small in many age groups.

At the same education level by age group, working women had lower fertility than non-working women. It is also seen however, that even for non-working women, the higher the education the lower is the mean parity, suggesting that education operates as a key variable in affecting fertility. Table 7.6 shows that 93 per cent of women aged 45-49 were not working outside the home, but their fertility decreases with increased education. The completed fertility is more than one child less for those who had 10+ years of education. Women who had 10+ years of education and who were working outside the home still had almost 4 children as their completed family size, indicating high fertility even for educated working older women, although the number of cases is small. The data thus suggests that the opportunity for women to work outside the home is likely to reduce fertility.

### **7.8 Occupation of husband and fertility**

Husband's occupation is considered as a useful indicator of a family's socio-economic status (Rely and Alam, 1993:30). Accordingly, it is hypothesised here that women whose husbands are in modern sector occupations have lower fertility than women whose husbands are in other occupational categories. Among the occupational groups, the wives of agricultural workers have the highest level of achieved fertility, even after controlling for the effect of the current age of the wife (Table 7.7).



**Table 7.7 Mean Number of Children Ever Born by Respondents' Husbands' Occupation and Respondent's Current Age**

Age	No work	Govt.	Non-govt.	Agric.	Business	Total
15-24	0.40	0.96	0.81	(1.50)	0.92	0.87
25-34	(2.17)	2.30	2.25	(2.89)	2.49	2.33
35-49	(4.33)	3.45	3.43	4.67	4.12	3.76
Total	1.58	2.46	2.17	4.00	2.84	2.51
(N)	(19)	(337)	(333)	(43)	(251)	(983)
Age standardised mean	2.55	2.41	2.34	3.22	2.72	2.50
Total effect	-0.93	-0.05	-0.34	1.49	0.33	
Net effect	0.05	-0.09	-0.16	0.72	0.22	
Indirect effect	-0.98	0.04	-0.18	0.77	0.11	
Completed fertility age 45-49	(4.50)	4.63	4.93	5.12	4.90	4.87
(N)	(2)	(24)	(14)	(17)	(42)	(99)

Note: Govt.=Government

Non-govt.= Non-government

Agric.= Agriculture

Mean CEB in parentheses is calculated from less than ten cases

Source: Kathmandu Survey, 1992.

Although the difference is very small, the adjusted mean shows that women whose husbands worked in non-government services had lower fertility than those who worked in government sectors. Nevertheless, Table 7.7 shows that fertility is lower for those whose husbands worked in government and non-government sectors compared with those whose husbands worked in other sectors. Those who worked in government and non-government services are more educated than those who worked in the business and agriculture sectors. Moreover, those who worked in government and non-government sectors have contact with others who are also educated and are therefore exposed to modern ideas, hence these sector jobs are considered to be advanced compared with agriculture and business sector jobs. Accordingly, the mean parity was found to be lower for government and non-government sectors' worker's wives. A higher level of contraceptive use is also found for those who worked in these sectors (Chapter 6). It is plausible that the impact of the husband's occupation on fertility could be to some extent a function of

his education. Women whose husbands were engaged in business had higher fertility than those who were engaged in government and non-government services. For women whose husbands had no occupation, the observed mean is lower than for other categories. It is also to be noted that women whose husbands had no work were young. Although the difference is small, the government workers' wives' completed family size is the lowest and agricultural workers' wives' completed family size is the highest, indicating the impact of types of jobs on fertility in Kathmandu.

### **7.9 Economic status and fertility**

The relationship between income and fertility has long played an important role in population studies. Micro-economic theory suggests that as income rises, people want to have high quality children (Becker, 1965). As a result, a negative effect of income on fertility is found. The negative relationship between income and fertility has been found in an Indian study also (Kesarwani, 1989). Mueller and Short (1983) studied the income and fertility relationship and found a negative relationship between high income levels and fertility. They argue that income has an indirect affect via education, capital accumulation, the value of time, educational aspirations, female labour force participation and so on. Accordingly, it is hypothesised that higher economic status groups in Kathmandu have lower fertility than lower economic status groups.

According to Simon (1974), if the agricultural sector is not greatly affected by modernisation, the direct effect of income on fertility will be positive. However, in the long run, as the agricultural sector modernises and the way of life is affected by educational aspirations and changes in outlook, the income effect of fertility becomes negative. Nelson (1985) found in the Philippines that lower fertility was associated with higher income groups. A negative relationship between income and

fertility has also been found in developed countries. For example, Hugo (1993:4) found higher fertility in lower income groups compared with higher income groups in Australia. However, Hull and Hull (1977) found in Indonesia that high fertility was associated with high income groups, indicating an inconsistent relationship between income and fertility.

**Table 7.8 Mean Number of Children Ever Born by Economic Status and Current Age.**

Age	Economic status				Total
	Lower	Low	High	Higher	
15-24	0.91	0.92	0.71	0.50	0.87
25-34	2.61	2.14	1.94	1.82	2.33
35-49	4.05	3.33	3.11	2.67	3.76
Total	2.73	2.30	2.27	1.85	2.51
(N)	(532)	(280)	(111)	(60)	(983)
Age standardised mean	2.74	2.29	2.08	1.82	2.48
Total effect	0.22	-0.21	-0.24	-0.66	
Net effect	0.26	-0.19	-0.40	-0.66	
Indirect effect	-0.04	-0.02	0.16	0.00	
Completed fertility age 45-49	5.13	4.14	4.13	4.00	4.87
(N)	(74)	(14)	(8)	(3)	(99)

Note: (N) indicates number of cases.

Source: Kathmandu Survey, 1992.

Table 7.8 depicts the economic status and fertility relationship in Kathmandu. Women with higher economic status have almost one child less than women with lower economic status. The pattern is consistent even after adjusting for age. It is seen that the net effect of economic status has reduced the parity to a level below the average except in the lower economic status category. The indirect effect of age has increased the parity above the level of the average parity for high economic status groups, reduced the parity for lower and low economic status groups and no indirect effect of age is seen in higher economic status groups. This indicates a

negative relationship between economic status and fertility. The completed fertility is also more than one child less in higher economic status groups than lower economic status groups. However, the relationship between low and high economic status groups is not clear. This study shows the negative relationship between income and fertility, supporting the notion that if the way of life is affected by educational aspirations and changes in outlook, the income effect on fertility is negative.

### **7.10 Marriage mediation and fertility**

It was found that the method of marriage mediation reflects the socio-economic status of women. This is because women who had non-arranged marriages had higher education on average than those whose marriages were arranged by parents (Chapter 4). Therefore it is hypothesised here that women whose marriage is arranged will have higher fertility than those whose marriage is not arranged. The relationship between the source of marriage mediation and fertility is presented in Table 7.9 and shows that women whose marriage was arranged by parents had higher fertility than those whose marriage was not so arranged. The pattern is similar even after controlling for the effect of current age. It is also seen however, that women who were married by "children decide everything" had higher fertility than women who married by "parents choose prospective spouse, then children make final decision" and "children choose themselves, then parents make final decision" types. It is possible in this case that the parents might not have given consent for marriage because it was either an inter-caste marriage or the parents did not like the chosen partner. In any case they had to marry without the consent of parents and might have married early and had children soon after marriage. It was also the case in Nepal that even if it is an inter-caste marriage, if they have children the parents generally accept their marriage. It was seen in Chapter 4 that age at marriage of these groups was lower than that of other marriage mediation groups.

One of the reasons for high fertility for women whose marriage was arranged was relatively lower age at marriage (Chapter 4). As mentioned earlier, another reason may be that in Nepal the position of women in the society is only recognised when they have children (NCP, 1988; Niraula, 1991; Levine, 1987). Hence these women gave birth immediately after marriage so as to be recognised in the society.

**Table 7.9 Mean Number of Children Ever Born by Current Age by Main Methods of Marriage Mediation**

Current age	Methods of marriage mediation**				Total
	1	2	3	4	
15-24	1.25	0.73	0.63	0.92	0.87
25-34	2.63	2.10	1.79	2.24	2.33
35-49	4.22	2.94	2.53	2.86	3.76
Total	3.25	1.88	1.48	1.87	2.51
(N)	(472)	(376)	(66)	(69)	(983)
Age standardised mean	2.89	2.09	1.79	2.16	2.46
Total effect	0.74	-0.63	-1.03	-0.64	
Net effect	0.43	-0.37	-0.67	-0.30	
Indirect effect	0.31	-0.26	-0.36	-0.34	
Completed fertility age 45-49	5.01	4.13	3.00	2.50	4.87
(N)	(88)	(8)	(1)	(2)	(99)

Note\*\*  
 1= Parents decide everything.  
 2= Parents choose prospective spouse, then children make final decision.  
 3= Children choose themselves, then parents make final decision.  
 4= Children decide everything.

Source: Kathmandu Survey, 1992.

The net effect of marriage mediation has increased parity in an arranged marriage mediation method and decreased parity more than the average in all other methods, thus indicating the strong relationship between marriage mediation and fertility in Kathmandu. Completed family size is higher for those whose marriage was arranged than those whose marriage was not arranged, however the number of cases for those whose marriage was not arranged is very small, indicating the domination

of arranged marriage in the past, whereby the majority of old women (45-49) are in this source of marriage mediation.

### **7.11 Couples' discussion about family size and fertility**

It is argued that in societies where the status of women is very low, there is usually no discussion between couples regarding family size (Kane and Sivasubramaniam, 1989:1). It has been found in other studies that inter-spouse communication tends to be greater among younger and educated couples than among older and less educated women (Tuladhar, 1984; Shahid Ullah and Chakraborty, 1993), indicating that couples' discussion about family size depends upon the education of females and the employment opportunities for them. Moreover it was also found in the studies that the more equal opportunity of employment, education and decision making in the marriage, the more likely that the couple will communicate with one another about desired family size and family planning which leads to the practice of effective contraception, resulting in fertility decline (Back and Hass, 1973; Germain, 1975; Jordan, 1976; Tuladhar, 1984; Ramu, 1988). Coale (1975:349) suggested one of the reasons for a major fall in marital fertility was that 'fertility must be within the calculus of conscious choice'. He said that "potential parents must consider it an acceptable mode of thought and form of behaviour to balance advantages and disadvantages before deciding to have another child". In a population where couples discuss family size, they balance the advantages and disadvantages of having another child. This suggests that fertility limitation is part of rational conscious choice behaviour.

Table 7.10 shows that couples who discussed family size had more than one child less than those who did not. Differences narrow after controlling for the effect of current age but the net effect of discussing family size is pronounced which indicates the importance of discussion regarding family size in determining fertility

in Kathmandu. It was also found that women who discuss family size had a higher use of contraception than those who did not discuss it. Shahid Ullah and Chakraborty (1993) found in Bangladesh that couples who discuss family size had higher contraceptive use rates and lower fertility than those who did not discuss family size. The completed fertility for those who discussed family size with their husband was lower than those who did not (Table 7.10).

**Table 7.10 Mean Number of Children Ever Born by Current Age and Couples Discussion About Family Size**

Current age	Discussion about family size		Total
	Yes	No	
15-24	0.86	0.91	0.87
25-34	2.20	2.78	2.33
35-49	3.16	4.41	3.76
Total (N)	2.10 (674)	3.41 (309)	2.51 (983)
Age standardised mean	2.24	2.94	2.46
Total effect	-0.41	0.90	
Net effect	-0.22	0.48	
Indirect effect	-0.19	0.42	
Completed fertility age 45-49 (N)	4.41 (22)	5.00 (77)	4.87 (99)

Source: Kathmandu Survey, 1992.

## 7.12 Conclusion

Here the differentials of fertility have been examined with respect to socio-economic variables which are closely connected with development. These differentials of fertility suggest that different subgroups of the study population have different levels of fertility. While it is also true that women in all the major socio-economic groups in Kathmandu have been giving birth to fewer children, the fertility decline was greatest among those women whose years of schooling and economic status were highest. It is also found that working women had a lower

fertility than those who did not work. The overall examination of the fertility differentials suggests that fertility transition seems to be moving progressively in Kathmandu and the extent of these differentials will determine the future prospects and trends in the decline of fertility in the process of socio-economic development. Table 7.11 summarises the results of the fertility differentials.

**Table 7.11 A Summary of Results of Differentials in Fertility in Kathmandu**

Variables	Hypotheses	Results
Education	Higher the level of education lower will be the fertility	As expected
Husband's education	Educated wives' of more educated husbands have lower fertility than uneducated wives of educated husbands	As expected
Occupation	Negative relationship	Tested but dependent on education
Husband's occupation	Women whose husbands are in modern sector occupations will have lower fertility than other categories	As expected
Ethnicity	Different ethnic groups will have different levels of fertility	No clear relationship
Economic status	Higher the economic status lower will be the fertility	As expected
Mass media	Those exposed to mass media will have lower fertility	As expected
Marriage mediation	Women whose marriage was arranged by parents will have higher fertility than those whose marriages were not arranged by parents	As expected
Couples discussion about family size	Couples who discuss family size will have lower fertility than those who do not	As expected
Childhood residence of couples	Those who grew up in Kathmandu will have lower fertility than those who grew up in other city and rural area	As expected



It was found that different mechanisms of change have motivated Kathmandu couples to have fewer numbers of children resulting in the higher use of contraception, hence fertility decline in Kathmandu. The next chapter examines the different measures of fertility control and efforts are made to document the fertility transition in Kathmandu.



## CHAPTER EIGHT

### FERTILITY TRANSITION IN KATHMANDU

#### 8.1 Introduction

It has been established in this study that significant changes have occurred in both marriage and the perceived value of children in Kathmandu. Although the traditional beliefs regarding marriage are changing in Kathmandu, the shift to a later age at marriage is slow. However, a relatively high level of use of contraception has been established in Kathmandu. Accordingly, this study has demonstrated that fertility decline in Kathmandu was not a result of vast change in nuptiality but because of change in marital fertility.

Coale (1975:349) reports that western Europe has experienced two demographic transitions: the first occurred due to a transition from early and universal marriage to a reduction in the proportion married and was considered as the Malthusian transition and the second occurred due to a reduction in marital fertility which was caused by an increased use of contraception and considered as the Neomalthusian transition (Coale, 1975:349). This study suggests that fertility decline in Kathmandu was a result of a change in marital fertility which Coale (1975) considered as the Neomalthusian transition. High use of contraception in Kathmandu was a result of transformations in family relationships due to social change rather than vast change in economic conditions. New aspirations, changes in the functions of the family and new perceptions of costs and benefits of children were the consequences of developmental transformations that led to the demand for fewer children hence fertility decline (Notestein, 1945; Caldwell, 1982; Freedman, 1982). The main mechanisms of change in fertility behaviour in Kathmandu are

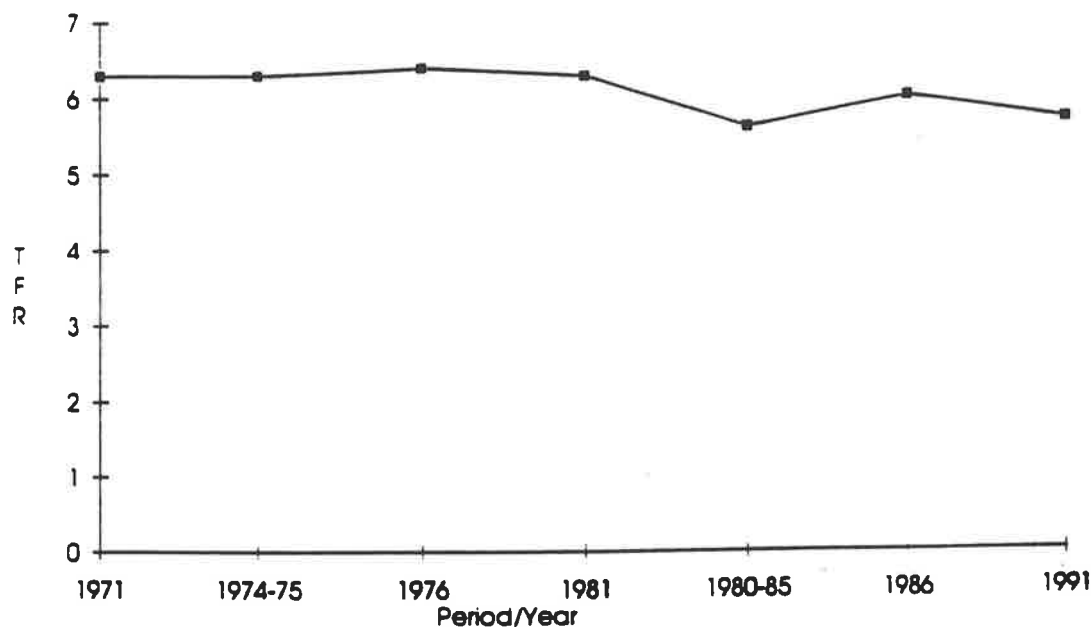
associated with relatively higher educational levels of people. Notestein (1953:16) argued that when education and a rational point of view become increasingly important in the society, the cost of child-rearing increases and the possibilities for economic contributions by children decline. This study has shown that increased educational aspirations for children has increased the cost of child-rearing, resulting in higher use of contraception. It has demonstrated that Kathmandu couples used contraception after having a certain number of children and stop their childbearing well before their physiological capacity to reproduce. It is argued that the fertility transition is brought about by the cessation of childbearing well before the woman loses the physiological capacity to reproduce (McDonald, 1993:5). Accordingly, the present chapter attempts to bring together the findings of the study to assess the extent to which fertility control is occurring in Kathmandu.

## **8.2 Changing fertility levels in Nepal**

Demographic studies were limited in Nepal until the 1970s, the only sources of demographic information being population censuses. It is only since the late 1970s that large scale national surveys have been carried out. The first internationally comparable national level survey, the Nepal Fertility Survey of 1976 (NFS) was carried out by the Nepal Family Planning, Maternal and Child Health Project of the Ministry of Health (FP/MCH, 1977). The Central Bureau of Statistics (CBS) carried out the multiround Demographic Sample Survey in 1976 and 1977/78 and estimated a TFR of 6.4 children per woman. Similarly, the total fertility rate estimated from the 1971 census and Nepal Fertility Survey (NFS, 1976) was 6.3 children per woman (CBS, 1982: 18; FP/MCH, 1987:76). It is also to be noted that due to the low quality of data on age and birth reporting, indirect techniques of estimation were applied to arrive at these rates (CBS, 1987:284; FP/MCH, 1987:74). Nevertheless, the estimated total fertility rate based on these surveys and

the 1971 census suggests a stable high fertility in Nepal in the mid 1970s (Figure 8.1).

**Figure 8.1 Total Fertility Rate, Nepal, 1971 to 1991.**



Sources: CBS, 1982, 1985, 1987; Tuladhar, 1989; FP/MCH, 1987; Joshi, 1993

The next decennial census was carried out in the country in 1981. In the same year the Nepal Contraceptive Prevalence Survey (NCPS) was carried out by the Family Planning and Maternal and Child Health Project. The 1981 NCPS and the 1981 census showed a TFR of 5.9 and 6 children per woman respectively (FP/MCH, 1987:75; CBS, 1987:294). Five years later, the 1986 Nepal Fertility and Family Planning Survey (NFFS) was conducted with the objective of assessing levels and trends in fertility, mortality and contraceptive use in Nepal. According to this survey, a total fertility rate (TFR) of 5 children per woman was estimated directly without any adjustment to the raw data, which was 1.3 children lower than the TFR estimated in 1976 NFS (FP/MCH, 1987:75). Given the poor socio-economic

condition of the country and low use of contraception (15.1 per cent) (FP/MCH, 1987), this decline of 1.3 children within a decade was found to be too difficult to justify, and it was argued that omission of births in the 1986 data was one of the reasons for this observed decline (Niraula, 1991:98). Realising the fact that quality of data generally plays a major role in the accuracy of estimated fertility levels, the P/F ratio method (Brass, 1975) was used to derive a correction factor for omission of births in the same data source (1986 NFFS) and then a TFR of 6 children per women was estimated (FP/MCH, 1987:62-78), which indicates almost constant fertility prevailing over a decade in Nepal (Figure 8.1).

However, as mentioned earlier, using birth history data from the 1986 NFFS primary data source, Tuladhar (1989) obtained a TFR of 5.6 for the period 1980-85. This rate was obtained without any adjustment to the raw data, on the assumption that there has been no serious problem of omission of births (Niraula, 1991:98). The estimated TFR of 5.6 was 9 per cent lower than that measured for 1971-76. Tuladhar accordingly pointed out that the 1986 survey findings herald the onset of fertility decline in Nepal. However Tuladhar (1989:29) argued that in a country where people are largely illiterate, it is difficult to obtain accurate survey data and it is not possible to say with a high degree of certainty that fertility had indeed started to decline in rural Nepal. Contradictory estimates have been made based on the same primary data source: the NFFS survey report (FP/MCH, 1987) indicates the persistence of high fertility; however, Tuladhar (1989) suggests the onset of fertility decline. Therefore it is argued that any apparent decline in fertility may be an artifact of the under reporting of births (Niraula, 1991).

In 1991, the Fertility, Family Planning and Health Survey (FP/MCH, 1993) and the decennial census of 1991 were conducted. Direct estimates based on data from the Fertility, Family Planning and Health Survey showed a total fertility rate (TFR) of 5.1 children per woman (Shrestha *et al*, 1993: 57) while the indirect estimates

derived from the 1991 census (Joshi, 1993:59) yielded a total fertility rate (TFR) of 5.7 children per woman. All these estimated fertility levels have confirmed that Nepal remains a high fertility country but that there may have been a small overall decline in fertility in the last decade. However, this decline in no way can be compared with the decline experienced by other Asian countries. For example, in Indonesia, Thailand, India and Sri Lanka, a TFR of 5.5, 6.4, 5.8 and 5.1 respectively estimated in 1960-65 declined to 3.4, 2.6, 4.3 and 2.7 respectively in 1985-90 (Rele and Alam, 1993:15-37). This shows a significant fall in fertility.

Rele (1992:142) found a TFR between 6.3 and 6.4 during 1971-78 and argued that available sources from Nepal indicated almost unchanging fertility until about 1981, but some decline has been indicated by the NFFS in 1986. Hayes (1993) using four major surveys, the 1976 NFS, the 1981 NCPS, the 1986 NFFS, and the 1991 NFHS stated that a real change regarding family size may be underway in Nepal and these changes are in the direction of preferring fewer children even in many rural areas of Nepal. Shah and Cleland (1993) reviewed fertility studies of Nepal from 1976 onwards including the 1986 NFFS, and concluded that fertility in Nepal has changed only little since 1976, and is persistently high with a TFR of about 6 children per woman in the mid 1980s. Figure 8.1 shows almost constant fertility rates over the period of twenty years in Nepal.

Some other micro-level studies reported little change in fertility behaviour in Nepal. Ross *et al* (1986) from the study of rural and urban areas indicated that fertility change might have occurred at least within some sub-groups in Nepal. Recent studies of Axinn (1992b; 1993) in a village community located on the northern part of the Kathmandu Valley have shown that some sub-groups of the population appear to limit their fertility as a result of increasing educational opportunities, wage based occupations and mass media. Fricke *et al's* (1990) study also indicates

that social transformations consistent with fertility decline are underway in villages close to Kathmandu.

Although there have been some indications that the fertility transition may have begun among selected groups in Nepal, no study has established conclusively that the fertility transition has started in Nepal. This study seeks to definitely establish if this is the case by focusing upon the area where if it had begun it would be in evidence i.e. Kathmandu, where many of the prerequisites for fertility transition (such as higher education and contraceptive use rates than in other parts of the country) have been already fulfilled. A comprehensive attempt is made to establish if fertility decline is indeed underway. In this process, the marital fertility control model proposed by Coale and Trussell (1974) and parity progression ratio methods are used to examine whether or not fertility decline has begun in Kathmandu.

### **8.3 Current fertility and degree of fertility control in Kathmandu**

This study collected detailed birth histories to obtain information on fertility. Age specific marital fertility rates are calculated from the reported number of births occurring during twelve months prior to the survey. This section focuses on age patterns of marital fertility and examines how they deviate from the age patterns of natural fertility. The distinction between natural and controlled fertility has important implications for the age pattern of fertility.

Henry (1961:81) first introduced the concept of natural fertility which exists in the absence of deliberate birth control. He argued that factors such as breastfeeding and abstinence associated with lactation may result in a reduction in fertility but this cannot be considered as a form of birth control. Coale and Trussell (1974:185-201) proposed a model that was able to represent the fertility experience of populations where voluntary fertility control was exercised. They developed two parameters 'M' and 'm'. 'M' indicates the underlying level of fertility and 'm' indicates the degree of



fertility control. As mentioned earlier, the focus here is to examine fertility control behaviour within marriage. Therefore for the purpose of the present study only 'm' is considered. Wilson *et al* (1988:6) argue that

scholars interested in studying the decline of fertility during demographic transition have particularly focussed on 'm'. The logic for doing so is clear. If the transition is basically a move from natural to controlled fertility, and if changes in the level of fertility are taken care of by varying 'M', the changes in 'm' should indicate changes in the age profile of fertility alone.

Coale and Trussell (1974) developed the index of marital fertility control 'm' based on the age structure of marital fertility schedules relative to the age structure of natural fertility schedules. They developed a standard age pattern of natural fertility and a standard age pattern of deviation from natural fertility consistent with Henry's observation. This provides a convenient tool for comparing age patterns of fertility in populations where fertility is deliberately controlled.

Coale and Trussell (1974:187) assumed that "marital fertility either follows natural fertility (if deliberate birth control is not practiced), or departs from natural fertility in a way that increases with age according to a typical pattern". This index 'm' is calculated in such a way that the controlled marital fertility schedule will deviate from natural fertility and the deviation will increase at successive ages. The faster fertility falls with age, the greater the amount of fertility control implied and higher the value of the 'm' index (Knodel, 1987:145). The greater the value of 'm', the greater the deviation from the natural fertility schedule indicating greater control of fertility. If 'm' equals 0, the shape of the fertility schedule is identical to that of standard natural fertility. The index 'm' is determined entirely by the age pattern of fertility, it is independent of the level of fertility (Coale and Trussell, 1974:188).

Anderson and Silver (1992:343) report that "this indicator works well when almost all births occur within marriage and when marriage is common by the time women are in their early twenties. It works less well in historical situations of late

marriage". Guinnane *et al* (1994:1) reported using a simulated population that an 'm' value of 0.2 corresponds to a situation in which more than 30 per cent of the population practice effective stopping behaviour. However, it was the rule that a value of 'm' less than 0.2 is an indication of an absence of parity dependent control (Guinnane *et al*, 1994:1). Guinnane *et al* (1994) further mentioned that fertility control initiated at lower parities (younger ages) has less impact on estimated 'm' values so that 'm' may fail to detect the initial stage of the fertility transition.

As Anderson and Silver (1992) argued, because of a substantial increase in nonmarital fertility in many European countries, the standard measure of fertility control, which assumes that almost all fertility occurs within marriage, may be inappropriate. This may be the reason that Guinnane *et al* (1994) found an 'm' value inappropriate to detect the initial stage of fertility transition in Europe. However, in Nepal almost all births occur within marriage (NCP, 1988), marriage is common by the early twenties (Ban and Shrestha, 1993) and fertility control at younger age groups was found to be minimal (Pradhan *et al*, 1993). Hence it is maintained here that this might be a suitable measure to examine fertility control behaviour within marriage in Nepal so the age pattern of fertility is compared with the age pattern of natural fertility.

Table 8.1 presents age specific marital fertility rates for Kathmandu (1992) and urban Nepal from the NFFS, 1986 and the NFHS, 1991 survey. The index of marital fertility control is calculated by the least squares method for these surveys and presented for comparative purposes. Although they are not strictly comparable with Kathmandu data because urban Nepal in general may still have a rural character (Tuladhar, 1989a:7), these comparisons provide an opportunity to examine the fertility control behaviour of total urban populations in Nepal.

**Table 8.1 Age Specific Marital Fertility Rates from the Kathmandu Survey, 1992; NFHS, 1991 (Urban Nepal); and the NFFS, 1986 (Urban Nepal) for One Year Preceding the Survey.**

Age	Urban Nepal NFFS(1986)**	Urban Nepal NFHS(1991)***	Kathmandu (1992)*
15-19	0.189	0.398	0.170
20-24	0.303	0.308	0.301
25-29	0.219	0.174	0.295
30-34	0.133	0.114	0.109
35-39	0.078	0.040	0.038
40-44	0.049	0.017	0.020
45-49	0.000	0.013	0.000
Total marital fertility	4.9	5.3	4.7
Index of marital fertility control # (Coale and Trussell) (m)	0.8	1.3	1.4
Index of marital fertility control # (Coale and Trussell) (m)		NFHS, 1991 *** National level 0.5	

Note: # Calculated above age group 20-24 to 40-44 (Coale and Trussell, 1974; 1978)

Source: \* Kathmandu Survey, 1992; \*\* FP/MCH, 1987

\*\*\*Shrestha *et al*, 1993:Table 6.1 and 6.2.

It is seen that the fertility rate of younger women in the 15-19 age group in the NFHS 1991 is higher than that for the 1986 urban data and Kathmandu Survey data, 1992. This should be interpreted cautiously since it is based on a relatively small number of exposed women (Shrestha *et al*, 1993:58). Another explanation of this higher rate may be that it is due to the fact that women who married early also gave birth very soon after their marriage. Furthermore, there are also some births in the age group 45-49 in 1991. These have resulted in a higher total marital fertility rate for 1991 compared with the 1986 urban rate. However, we are concerned here only with the age pattern of fertility and examining how it deviates from an age pattern of natural fertility. Hence when calculating the index of marital fertility, only the age groups from 20-24 through 40-44 are considered. This is because the fertility of

the younger age group 15-19 is not reliable (Coale and Trussell, 1974) on the one hand, and on the other as Coale and Trussell (1978:204) report

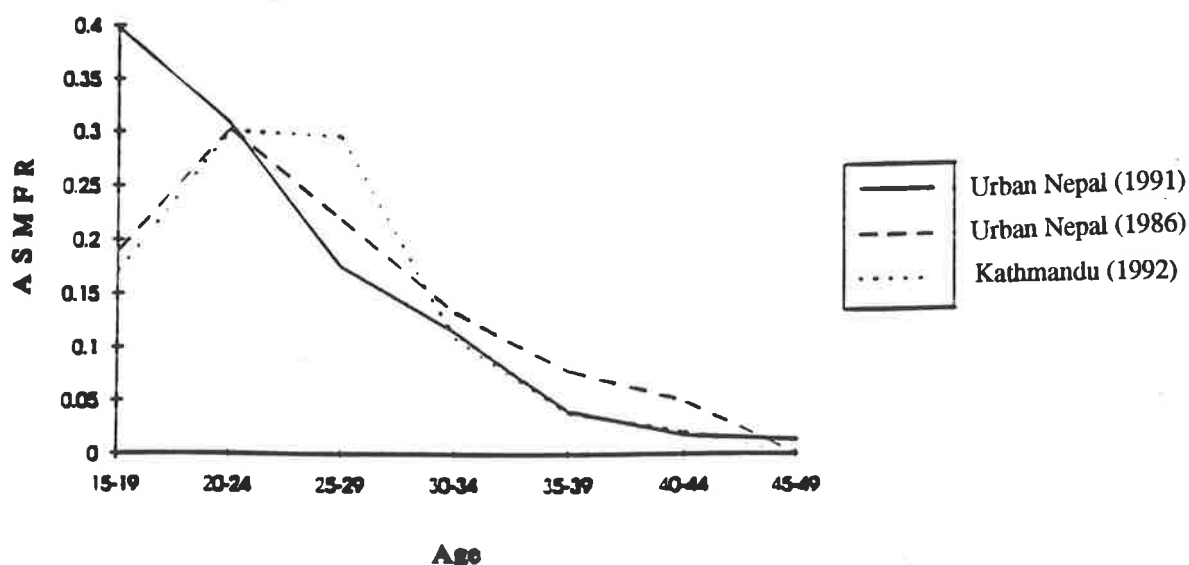
The relative variation in fertility at the higher ages among the schedules Henry offered as examples of natural fertility is conspicuously greater than at earlier ages, especially at ages 45-49. This relatively higher variation in the fertility rates of the oldest women is not, however, confined to women who do not control their fertility. In each of the 43 schedules which were used to compute  $v(a)$  values (Coale and Trussell, 1974), the fertility rate for women age 45-49 was a conspicuous outlier. The model of marital fertility is intended to capture the shape of the schedule primarily over the central ages of childbearing and not to replicate variations at the extreme. We therefore suggest estimating the two parameters by using values of  $r(a)$  from age 22 or 23 to 40 (by single years), or from 20-24 to 40-44 by five year intervals.

In considering only the age pattern of fertility, it is seen that the pattern after age 30 is sharply declining in the 1991 NFHS compared with the 1986 NFFS, suggesting that the control of marital fertility in urban Nepal (1991) and Kathmandu (1992) is significantly higher than the urban (1986). It is evident that fertility control behaviour in urban Nepal has developed rapidly in recent years.

The marital fertility control index was also calculated from the age specific marital fertility rates for one year preceding the survey for the 1991 (NFHS) national level data to examine how much marital fertility was controlled at the national level in 1991 (Table 8.1). The value of 'm' for the 1991 national level data is small indicating an age pattern of marital fertility compatible with weak levels of fertility control within marriage and reveals very moderate deviations from the natural fertility pattern. As hypothesised earlier, fertility control within marriage is weaker in rural than in urban areas. Knodel (1977:227) stated that age patterns of urban marital fertility are associated with higher levels of fertility control than rural patterns, even for periods before the onset of any major national fertility decline. The social transformations taking place in Kathmandu not only reduce the socio-cultural values of children but also the value attached to the sex of children. This has motivated couples to have a smaller number of children and resulted in a higher use of contraception.

In populations where couples aim for target family sizes and control their family size accordingly, age specific marital fertility rates at older ages tend to be low. Coale (1992:340) argues that "when marital fertility is controlled, it declines more steeply with age than does natural fertility: the older women prevent childbearing more rigorously because a higher proportion of these women want no more children". Furthermore, Knodel (1987:146) argues that couples concentrate their childbearing in the early part of the wife's fecund period. Once they reach their desired family size they stop further births and as a result marital fertility rates are particularly low at older ages. These patterns are clear in Kathmandu and urban Nepal. Differences in the degree of marital fertility control are clearly seen in Figure 8.2.

**Figure 8.2 Age Specific Marital Fertility Rates for Kathmandu, 1992 and Urban Nepal, 1986 and 1991.**

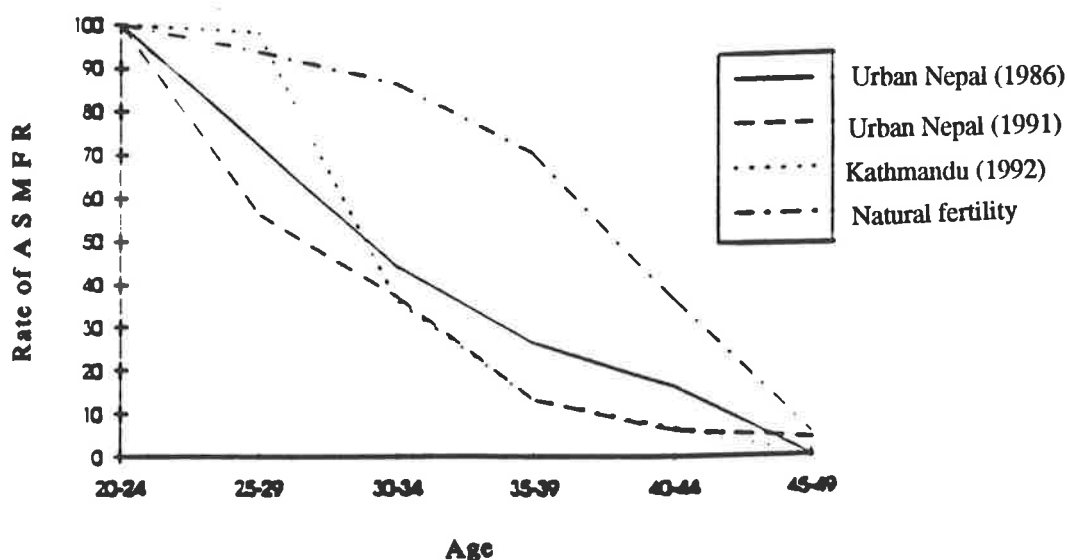


Source: Table 8.1

The marital fertility schedule with the rate for ages 20-24 set at 100 and the rate for each subsequent age group expressed as a ratio to that rate are plotted in Figure 8.3. The values of the standard marital fertility schedule are also included for

comparative purposes. This clearly shows how urban marital fertility schedules are deviating from the natural fertility schedules.

**Figure 8.3 Ratios of Age Specific Marital Fertility with Age 20-24, Rate = 100.**



Source: Table 8.1 and Henry (1961:Table 1.6)

In a population where there is a tendency for increasing control of fertility, the shape of the age specific marital fertility schedule changes from convex to concave (Levine, 1982:10; Anderson and Silver, 1992:344). The curves for all three surveys are concave. However, the Kathmandu (1992) and Urban (1991) curves are more concave at older ages than the 1986 urban Nepal curve indicating a higher marital fertility control within marriage in Kathmandu (1992) and urban Nepal (1991). Although the difference is small, the curve of Kathmandu (1992) is more concave than urban Nepal (1991) at older ages indicating that fertility control behaviour is more common in Kathmandu than in other urban areas of Nepal. Coale (1970:8) said that the most sensitive indicator of the control of marital fertility would be the

decline in the age specific rates above age 30. At the fertility transition stage the fall in marital fertility is largest among older women. Knodel (1977:231) states that

during the early period of fertility decline, reduction in marital fertility among younger women, aged under 30 for example, are much more modest compared to older women, but as the decline progressed this differential is reduced.

He further argues that once parity specific birth control starts to increase it does not turn back to earlier forms of fertility behaviour. These findings suggest that couples in urban Nepal are deliberately practicing methods of fertility control and as a result fertility has already started to decline in urban Nepal, particularly in the major urban centre of Kathmandu.

One of the reasons for the high marital fertility in the age group 25-29 in Kathmandu compared with urban Nepal may be due to a shift in age at marriage from low to high in Kathmandu and the desire to have children soon after marriage. Although the age pattern of fertility after age 30 is similar in these surveys, the decrease in the age pattern in the older age group is sharp in Kathmandu 1992 and the urban area in 1991 compared with the urban area in 1986.

#### **8.4 Parity progression ratios**

Using parity progression ratios, marital fertility control behaviour is further explored. In recent years, increasing use is being made of parity progression ratios (PPR) for assessing the impact of contraceptive use in limiting the number of births (Yadava and Saxena, 1989:357). Parity progression ratios are observed probabilities of having another child, specific to the number of children that a woman has already had. It is a measure of the proportion of women progressing from one to the next birth (Feeney, 1985; Feeney and Yu, 1987; Feeney *et al*, 1989; Feeney, 1991; Luther and Pejaranonda, 1991). Thus, the first parity progression ratio is the probability for women with no children to have at least one child, the second parity progression ratio is the probability of having at least two children having had one

and so on. It also provides an opportunity to examine the nature of the changes in the fertility of study populations (Luther and Pejaranonda, 1991:63). Information on parity progression is most commonly enhanced by classifying both age and marriage duration. In this approach to fertility analysis, the emphasis is on the process rather than on rates of fertility, although the rates can also be derived. Feeney (1983) has made extensive contributions to the development of the parity progression perspective in temporal analysis. Bhrolchain (1987:107) states that parity progression ratios can display the completed fertility of the cohorts passing through the childbearing ages during a given period. The use of an age and marriage cohort has the advantage that the parity progression ratios obtained relate to the experience of groups of real women. It provides a more refined perspective on fertility trends than the use of measures of cumulative births or total fertility (Bhrolchain, 1987:106).

For the present study, parity progression ratios for the age cohorts are presented in Table 8.2 which shows that over the years there has been a decline in the ratios of women who progressed from zero parity to parity one, from parity one to parity two and so on. For example, it is seen that in the age group 45 and over, 98 per cent progressed from parity two to parity three, 99 per cent progressed from parity three to parity four however, the ratios for the younger age groups such as 25-29 are declining appreciably. Similar trends are found in the birth order components estimated from the parity progression ratios. The birth order component is the sum of multiplicative components representing the contribution of birth of each order (Feeney and Yu, 1987:86).

It is clear that over time there has been a dramatic decline in the share of birth components to the completed fertility rate in higher parity. The total fertility based on age specific birth rates may also be expressed as a sum of birth order components. Therefore, the sum of birth order components for the 45 and over age



group represents the total fertility rate for that age cohort, which is 4.8 children per woman (Table 8.2). Table 8.2 shows that 91 per cent of women progressed from zero parity to the first parity. Of those who achieved the first parity, 79 per cent progressed to the second parity and 67 per cent to the third parity. Only 33 per cent of women progressed from sixth parity to the seventh parity, indicating a decline in ratios.

**Table 8.2 Parity Progression Ratio and Birth Order Components for Age Cohorts, Kathmandu, 1992.**

a) Parity progression ratios

Parity	Current age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1	0.404	0.710	0.957	0.989	0.994	1.000	1.000	0.905
2	0.210	0.269	0.726	0.933	0.956	0.961	0.980	0.787
3	0.250	0.228	0.438	0.592	0.715	0.929	0.989	0.669
4		0.109	0.375	0.420	0.537	0.692	0.937	0.564
5				0.095	0.189	0.397	0.733	0.402
6+				0.250	0.182	0.160	0.424	0.330

b) Birth order components

Parity	Current age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1	0.404	0.710	0.957	0.989	0.994	1.000	1.000	0.905
2	0.085	0.191	0.695	0.923	0.950	0.961	0.980	0.712
3	0.021	0.044	0.304	0.546	0.679	0.893	0.969	0.476
4		0.004	0.114	0.229	0.365	0.618	0.908	0.268
5				0.022	0.069	0.246	0.666	0.108
6+				0.005	0.013	0.040	0.283	0.035
Total	0.510	0.949	2.070	2.714	3.070	3.758	4.806	2.504

No. of women with at least one child

Note:  $PPR1 = \frac{\text{No. of women with at least one child}}{\text{No. of women with at least 0 child}}$

No. of women with at least 0 child

Birth order components (2) =  $PPR1 * PPR2$

Source: Kathmandu Survey, 1992.

The total of the second panel of Table 8.2 shows that the contribution of the birth order components to parity is decreasing, indicating a small contribution of the birth order components to the high parity. Birth order components is a contribution of each parity to the total birth. The total of the birth order components gives the mean number of children ever born.

**Table 8.3 Parity Progression Ratio and Birth Order Components for Marriage Cohorts**

a) Parity progress ratios						
Parity	Marriage duration					Total
	0-4	5-9	10-14	15-19	20+	
1	0.665	0.989	0.994	1.000	1.000	0.905
2	0.151	0.884	0.945	0.958	0.986	0.787
3	0.037	0.336	0.613	0.768	0.937	0.669
4		0.059	0.284	0.472	0.836	0.564
5			0.074	0.120	0.601	0.402
6+					0.357	0.330

b) Birth order components						
Parity	Marriage duration					Total
	0-4	5-9	10-14	15-19	20+	
1	0.665	0.989	0.994	1.000	1.000	0.905
2	0.100	0.874	0.939	0.958	0.986	0.712
3	0.004	0.294	0.576	0.736	0.924	0.476
4		0.017	0.164	0.347	0.772	0.268
5			0.012	0.042	0.464	0.108
6+					0.166	0.035
Total	0.769	2.174	2.685	3.083	4.312	2.504

Source: Kathmandu Survey, 1992.

Table 8.3 presents the parity progression ratios for the marriage cohorts and this also provides evidence of a fertility decline in Kathmandu. The patterns of ratios in age cohorts and marriage cohorts are similar. About 94 per cent of the older marriage cohort of 20 years and longer marriage durations progressed from third parity to fourth parity. However, the corresponding figures for the younger

marriage cohorts are small. It is also seen that the contribution of the birth order components to the higher parity is smaller, providing further evidence for a fertility decline in Kathmandu.

**Table 8.4 Parity Progression Ratio and Birth Order Components for Years of Schooling**

a) Parity progression ratio			
Parity	Years of schooling		
	No schooling	1-10	10+
1	0.974	0.914	0.859
2	0.923	0.811	0.678
3	0.883	0.707	0.443
4	0.778	0.500	0.250
5	0.485	0.257	0.275
6+	0.363	0.222	0.250

b) Birth order components			
Parity	Years of schooling		
	No schooling	1-10	10+
1	0.974	0.914	0.859
2	0.899	0.741	0.582
3	0.794	0.524	0.258
4	0.618	0.262	0.065
5	0.300	0.067	0.018
6+	0.109	0.015	0.004
Total	3.694	2.523	1.786

Source: Kathmandu Survey, 1992.

Parity progression ratios for years of schooling are also calculated to provide further evidence of fertility control in Kathmandu (Table 8.4). It is hypothesised that women with higher years of schooling are more likely to have smaller numbers of children. Table 8.4 shows that among women who had 10+ years of schooling, 86 per cent progressed from zero parity to parity one. The corresponding figure for women who had 1-10 years of schooling is 91 per cent and for women who had no

schooling it is 97 per cent. Similarly, the ratios are decreasing with higher levels of schooling. The contribution of the birth order components to the higher parity is very small in higher educated groups indicating the strong effect of education on fertility.

### **8.5 The mean number of months since the last live birth (open birth intervals) for women who had at least one live birth.**

It is seen from the preceding discussions that Kathmandu women are deliberately controlling their childbearing. To further examine this control, the mean number of months since the last live birth (open birth intervals) is calculated for age cohorts (Table 8.5). They do not measure the current level or trends in fertility in absolute terms (Hananberg, 1980:9) but provide the opportunity for insights into patterns of reproductive behaviour (Feeney, 1983:76). Some studies have indicated the potential advantages of this interval as an index of fertility (Srinivasan, 1968:34). It should also be noted that data on the length of open interval are subject to a series of biases. Surveys that collect fertility histories typically include women still in their reproductive years, most of whom have not yet completed childbearing (Hananberg, 1980; Suchindran and Koo, 1992).

**Table 8.5 Mean Number of Months Since the Last Live Birth With at Least One Live Birth, by Age 20 and Above, Kathmandu, 1992.**

Age	Mean months (Kathmandu, 1992)*	N
20-24	12.6	130
25-29	28.1	201
30-34	61.3	181
35-39	90.9	158
40-44	130.3	102
45-49	161.1	99
Total	64.8	871

Source: Kathmandu Survey, 1992

The mean number of children ever born to women aged 45 and over approximates completed fertility. If the time gap between the interview date and the date of the last birth for those women aged 45 and over is large, there is a common practice of birth control. It is seen that the interval of time since the last live birth and the date of the interview is greater with age, indicating older women completed their fertility in their mid 30s and supporting the notion that fertility control was common in Kathmandu. McDonald (1993:5) argues that "the fertility transition is brought about by changes in the timing of the last birth, that is, by the cessation of childbearing well before the woman loses the physiological capacity to reproduce".

In populations where fertility control is common, the age of the mother at the last birth is lower (Knodel, 1987:157). Suchindran and Koo (1992:235-236) found from American data that the mean age at the last birth was 32.0 for the 1917 cohort, which decreased to 28.2 for the 1943 cohort and then climbed slowly to 29.4 for the 1960 cohort. However, the mean ages at final births estimated for developing countries in the 1970s and the 1980s are 39.5 for African countries, 36.9 for Latin American countries, 37.5 for Asian countries, and 39.0 for the Middle East (Horne, *et al*, 1990:183-207). It is seen that in a population where fertility control is common, women avoid having children when they are older. Once couples stop births, it means they have accepted broadly the number of children they have.

### **8.6 Cumulative fertility**

The reported number of children ever born (CEB) to women aged 45 and over provides an estimate of cumulative fertility by the end of the reproductive period for the study population. The mean number of children ever born to Kathmandu women is 2.5. In this section, percentage distribution of CEB according to age and marriage duration is discussed.

**Table 8.6 Percentage Distribution of Women by Number of Children and Current Age.**

No of children	Current age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
0	59.6	29.0	4.3	1.1	0.6	*	*	9.5
1	31.9	51.9	26.2	6.6	4.4	3.9	2.0	19.3
2	6.4	14.8	39.0	37.7	27.0	6.9	1.0	23.6
3	2.1	2.7	27.2	31.7	31.4	27.4	6.1	20.8
4	*	1.6	3.3	20.8	29.6	37.3	24.2	16.1
5	*	*	*	1.6	5.7	20.6	38.4	7.2
6+	*	*	*	0.5	1.3	3.9	28.3	3.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(47)	(183)	(210)	(183)	(159)	(102)	(99)	(983)

Source: Kathmandu Survey, 1992.

Table 8.6 shows that about 60 per cent of women in the 15-19 age group do not have children. However, the corresponding figure for the age group 25-29 is only 4.3 per cent. It is also seen that 28 per cent of women aged 45+ have 6+ children. However, the corresponding figure for the age groups 40-44 is only 4 per cent. When one looks at the total, it is shown that the modal parity accounts for 24 per cent of women having 2 children and 21 per cent having 3 children, indicating the existence of a small family size norms in Kathmandu.

**Table 8.7 Percentage Distribution of Women by Number of Children Ever Born and Marriage Duration**

No of Children	Marriage duration					Total
	0-4	5-9	10-14	15-19	20+	
0	33.5	1.1	0.6	*	*	9.5
1	56.5	11.5	5.5	4.2	1.3	19.3
2	9.6	58.1	36.3	22.2	5.6	23.6
3	0.4	27.6	41.2	38.8	13.9	20.8
4	*	1.7	15.2	30.6	36.8	16.1
5	*	*	1.2	4.2	27.3	7.2
6+	*	*	*	*	15.1	3.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(269)	(174)	(165)	(144)	(231)	(983)

Source: Kathmandu Survey, 1992.

It is seen that as many as 34 per cent of women of 0-4 years marriage duration had no children (Table 8.7). The percentage with no children drops dramatically in the next marriage duration group (5-9 years) where only 1 per cent had no children. On the other hand, 58 per cent of women married for 5-9 years had already had two births, indicating a high level of childbearing in this group (Table 8.7).

### **8.7 Relationship between mean age at marriage and mean age at first birth**

In a society where fertility out of wedlock is negligible, the age at first birth not only indicates the timing of birth but also indicates the average length of the childbearing period. The age at which women begin childbearing influences a variety of demographic and non-demographic phenomena (Trussell and Reinis, 1989:127). If timing of the first birth is early there will be a longer period for the exposure to the risk of an unwanted pregnancy and thus a greater chance of exceeding the desired number of children if fertility control is imperfect (Trussell *et al*, 1979; Casterline and Trussell, 1980; Yang, 1990). Age at marriage and age at first birth are two related measures of the start of a woman's reproductive life (Trussell and Reinis, 1989:127). However, in a society where many births may occur before marriage, and many couples may live in unrecorded consensual unions, the relationship between age at first marriage and age at first birth is not important (Trussell *et al*, 1979).

In a society where children are still socially and economically important and women's position both in the household and society will be recognised only after having children, the age at first birth will be significantly important as will be the age at marriage. In developing countries, brides often face strong cultural incentives to demonstrate their fecundity as quickly as possible (United Nations, 1987:92). As will be discussed later, in Nepal also the first birth has its own social value,

therefore the age gap between age at first marriage and age at first birth is narrow (Table 8.8).

**Table 8.8 Mean Age at Marriage (MAM) and Mean Age at First Birth (MAFB) by Current Age of Women**

Current age	MAM	MAFB	N
20-24	19.3 (2.5)	20.9 (2.5)	130
25-29	20.1 (3.2)	22.1 (2.9)	201
30-34	19.2 (3.8)	21.6 (3.6)	181
35-39	19.8 (3.6)	22.5 (3.8)	158
40-44	18.5 (3.4)	21.5 (3.4)	102
45-49	16.1 (3.0)	19.7 (3.0)	99
Total	19.1 (3.5)	21.7 (3.3)	871

Note: Figures in the parentheses are standard deviation  
Source: Kathmandu Survey, 1992.

**Table 8.9 Mean Age at Marriage (MAM) and Mean Age at First Birth (MAFB) by Respondents' Years of Schooling.**

Years of schooling	MAM	MAFB	N
No schooling	16.6 (2.6)	20.1 (2.4)	254
1-5	17.7 (2.8)	20.8 (2.5)	104
6-10	18.8 (3.2)	20.7 (2.9)	135
10+	21.3 (3.0)	23.4 (3.2)	378
Total	19.1 (3.5)	21.7 (3.3)	871

Note: Figures in the parentheses are standard deviation  
Source: Kathmandu Survey, 1992.

It is also to be noted that the age at first marriage and age at first birth experience of the younger cohorts has not been completed. Therefore, to remove the truncation effect, analyses are based on the age group 20 and above (Casterline and Trussell,



1980). Table 8.8 and 8.9 show the age at marriage and the age at first birth by current age and educational attainment of women in Kathmandu. Kathmandu couples had first births after little more than two years of marriage. When the difference is examined by different age cohorts, it is seen that the gap between age at first marriage and age at first birth is narrow for younger cohorts and wider for older age cohorts. These findings also suggest that contraceptive use by younger women and those with shorter marriage duration is low (Figure 6.1 and 6.2, Chapter 6).

It was seen that older women's (45-49) actual cohabitation with their husbands started one year after marriage (Chapter 4). It was also seen in Chapter 4 that older women were married at a younger age. Women who marry at younger ages (usually at 15 or under but this difference is evident up to age at marriage of 17 years) tend to have late births because of subfecundity during the adolescent years (Gubhaju, 1983; United Nations, 1987; Basu, 1993). In general, first births tend to be more accurately reported than higher-order births. However, older women tend to omit the first birth, particularly if the child subsequently died (Basu, 1993:88). Therefore, age at first birth for older cohorts will be biased upwards (Casterline and Trussell, 1980).

The trends in the educational groups are similar (Table 8.9) because most older women are in the no schooling category and married early. Women who had 10+ years of schooling married late but had children after 2 years of marriage. Similarly Basu (1993:86-88) in an Indian study found shorter intervals between marriage and first birth among young when compared with older women. Yang (1990:151-153) also found in rural China that younger women had shorter intervals between marriage and first birth compared with older women.

Overall findings of both tables indicate that women in Kathmandu want to have children soon after marriage, although they want fewer children. In a society where childbearing contributes significantly to a woman's social identity, the interval between marriage and first birth is especially important (Fricke and Teachman, 1993:176). In Nepal, women's social position will be recognised only after having a child (NCP, 1988). Niraula (1991:165) mentioned that in the Nepal context

the birth of the first child not only establishes a bride's credentials as a provider of a potential heir to the family establishment, but also stabilizes the marital unions, it also provides her with security, especially if it is a son.

Similarly Fricke and Teachman (1993:176) argue in the Nepal context that "a first birth begins a new phase in the cycle of family and household formation process". Bennett (1977) states that there is a belief in Nepal that it is easier for a woman to have children while she is young and her body is "soft and flexible". She also found that there is a constant pressure from mother-in-laws on couples to have a child immediately after marriage in Nepal. Levine (1987) found in Nepal that divorce almost never occurs after the birth of a child especially a son. The lower contraceptive use rate for younger women (Chapter 6) also provides the evidence that women in Kathmandu wanted to have children soon after marriage. Newman (1978 cited in Trussell and Reinis, 1989:128) discusses in an Indian study which indicates that an early first birth is essential to secure a woman's place in her husband's family. Richard *et al* (1982) in their Sudan study argue that the birth of the first child enhances the status of the woman in her husband's family and reduces her feeling of insecurity (fear of husband taking another wife, which frequently befalls the childless woman).

In a society where a women's position is associated with childbearing, one way of reducing fertility is to increase the age at marriage which then increases the age at first birth. Moreover, childbearing during the younger years has negative effects on the health of both the mother and child and infant and child mortality tend to be

higher among children born to women under age twenty (Casterline and Trussell, 1980; United Nations, 1987). Although women wanted to have children soon after marriage, they controlled fertility after a certain desired number (Chapter 5).

## **8.8 Conclusion**

This study has shown that higher educational levels of Kathmandu couples and increased aspirations for their children's education have facilitated their understanding of new ideas and aspirations, resulting in lower demand for children. Increased opportunity for education has not only changed the traditional values regarding fertility behaviour but also changed the life style of the younger generation in Kathmandu. As Notestein (1953:20-21) said, the new mobility of young people and the anonymity of city life reduced the pressures toward traditional behaviour exerted by the family and community. These changing traditional values regarding fertility behaviour and the changing life style have motivated Kathmandu couples to deliberately control their marital fertility and as a result, age specific marital fertility rates at older ages are found to be lower. Parity progression ratios also suggest that over recent years there has been a decline in the proportions of women who progressed from zero parity to parity one, from parity one to parity two and so on. Similarly, analysis of open birth intervals indicate that women complete their childbearing in their mid 30s, supporting the notion that fertility control is common in contemporary Kathmandu. It is argued that the fertility transition starts in a population where childbearing is stopped before a woman loses the physiological capacity to reproduce (McDonald, 1993:5). Overall findings give strong evidence of a transition toward predominantly two or three child families in Kathmandu. It is also seen that women in Kathmandu want to have children soon after marriage (Table 8.8 and 8.9) and after a certain number of children they control their fertility. Increasing opportunity for non-agricultural work and education have motivated Kathmandu couples to have a reduced demand for

children and these mechanisms of change have led couples to control fertility. Accordingly, it can be concluded that the major fertility decline resulted from the control of childbearing within marriage and education is the key cause of this transition in Kathmandu.



## **CHAPTER NINE**

### **CONCLUSION**

#### **9.1 Introduction**

This study has shown, firstly, that fertility has declined in Kathmandu in recent years. Secondly, it has shown that this is a result of socio-cultural changes in family relationships rather than significant economic change. The socio-cultural changes which are predominantly responsible for changing fertility behaviour in Kathmandu are a function of higher levels of educational attainment as well as other western influences introduced through mass media.

The purpose of this concluding chapter is, firstly, to evaluate the extent to which the objectives outlined in Chapter One have been achieved and to summarise the major findings of the thesis with respect to those objectives. Secondly, the future prospects for fertility transition in Nepal are discussed. Lastly, some policy implications based on these findings are discussed and these followed by recommendations for future research.

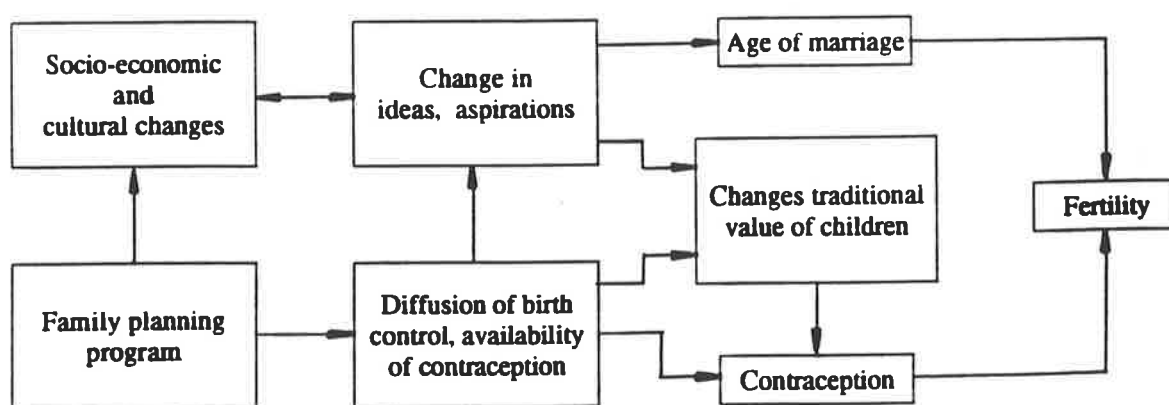
#### **9.2 Summary of findings with respect to the objectives of the study**

To examine the different mechanisms causing change in the fertility behaviour of Kathmandu couples, a conceptual framework modified from Freedman (1987b) was adopted. This framework includes cultural factors which are among the determinants of fertility behaviour in the Kathmandu context. Traditional culture is often viewed as one of the major factors that resists the lowering of fertility in developing countries. However, in some contexts culture can support different fertility behaviours (Tai-Hwan, 1993:49). This is because "culture may define the

types of behaviours that are subject to individual choice in a particular society" (Pollak and Watkins, 1993:490).

Using data gathered from fieldwork in Kathmandu which included quantitative as well as qualitative information, determinants of fertility such as age at marriage, value of children, fertility regulation and behaviour of Kathmandu women were investigated. It was found that the decline in fertility in Kathmandu was mainly a result of socio-cultural changes which have in turn affected people's ideas and aspirations. This has resulted in changes in the traditional value attached to children and the age at marriage. Availability and access to contraception through family planning programs have also contributed to the high rate of use of contraception. The relationships established in the study are shown in Figure 9.1. The findings with respect to each of the variables operating on fertility behaviour are discussed below.

**Figure 9.1 Schema of Factors Affecting Fertility in Kathmandu**



### 9.2.1 Age at marriage

Changes in fertility can be achieved through changes in age at marriage. The age at entry into sexual union is one of the most important proximate determinants of

fertility (Bongaarts, 1978, 1982). This has important social and demographic implications. One of the objectives of the present study was therefore to investigate the socio-cultural changes that have occurred in relation to marriage customs and attitudes and then to explain how these changes have affected age at marriage in Kathmandu. The examination of the marriage pattern has shown that the proportions married in the younger age groups in recent years have been declining. This indicates a trend of increasing age at marriage in Kathmandu, although the increasing trend is slow. Moreover, the marital status index also suggests that there is a pattern of rising age at marriage in Kathmandu (Chapter 4).

Although the dominance of caste endogamy in Kathmandu society has been maintained, marriages which are totally arranged by parents are on the decline. There is a transition from a norm of arranged marriages to one where children are given latitude to agree or disagree with their parents' choice. It was found that marriage is associated not only with the demographic process but also with social position and the cultural aspects of life in Nepal.

This study has demonstrated that higher levels of education as well as changes in ideas and aspirations have contributed to the alteration of the traditional beliefs regarding marriage. However, it was also found that traditional beliefs regarding marriage have changed even for "no schooling" categories in Kathmandu. As a result, the traditional religious belief of marrying a daughter off for the sake of *punya* (merit) has greatly diminished in its influence. These attitudinal changes indicate a substantial change in the second generational marriage arrangement and marriage timing. As a result, there appears to be scope for a significant increase in age at marriage. This would obviously result in a corresponding decline in fertility.

This study has also demonstrated that the culture and tradition of minority ethnic groups are affected by those of the majority group, with regard to marriage. In the



case of Mongoloid Tibetans at the national level, age at marriage was found to be higher than the general population. As a consequence of the small proportion of Mongoloid Tibetans in Kathmandu, their marriage customs however have been affected by majority groups of Brahmans and Chhetries, resulting in lower age at marriage. In Kathmandu, the Mongoloid Tibetans' marriage market is small and they could not follow their own traditions regarding marriage. This leads to the conclusion that for people to follow their ethnic groups' culture and tradition regarding marriage, they should be living in their own community where the marriage market is broad.

### **9.2.2 Value of children**

An attitudinal change regarding the value of children is one of the pre-conditions of fertility transition (Caldwell, 1982). Hence an objective of this study was to analyse changes in the perceived value of children and in parental aspirations for children and to explain how these changes affect demand for lower numbers of children in Kathmandu.

Studies in the value of children in Nepal have indicated that generally the value of children is high. In a patriarchal society like that of Nepal, great importance is attached to children, particularly sons (Arnold, 1985; Levine, 1987). The most important factors encouraging high fertility in Nepal were parents' need to depend on their sons in old age, and the importance of preserving the family name through the son. Therefore, without changing such values of parents a high use of contraception and low fertility will not be achieved.

The investigation of the changes in the value of children shows that emotional reasons for having children are increasing and financial costs of childrearing are rising. The traditional socio-cultural values such as the need to depend on children for old age support are declining in many groups of the study population (Chapter

5). This has resulted in lower demand for children in Kathmandu. Similarly it was observed during the field study, that older generations now have a negligible role in the family. Modern schooling and the influence of mass media have changed traditional relationships within the family, and as a result children are no longer completely under their parents' traditional control. It was argued that if the younger generation is of less prudential value to older generations, there will be less incentive to have children (Caldwell, 1982). The perception of the value of children even among uneducated groups is found to be changing in Kathmandu. It was also mentioned in both male and female focus group discussions that large numbers of married sons do not support their elderly parents economically in Kathmandu, indicating the decline in socio-economic reasons for having children.

This study has demonstrated that one of the reasons for change in the value of children in Kathmandu is the parents rising aspirations for the education of their children. Rising educational aspirations have meant greater expenses on childrearing which in turn motivate couples to have smaller numbers of children. A rapidly growing recognition of daughters' education in Kathmandu was also discovered. Increased educational aspirations for children suggest that children's education is one of the important determinants of parents' decision to control fertility. Accordingly, it can be concluded that increased importance of education is one of the reasons for change in the traditional value of children in Kathmandu. Axinn (1993:481-483) argued from a study in rural Nepal that children's education is an important determinant of parents' decision to control fertility during the fertility transition. He further mentioned that "schooling is seen as the route to government and other salaried jobs, and the associated stable cash incomes". Although most Kathmandu parents did not expect any kind of help from their children in old age, increased educational aspirations for the children suggest that

Kathmandu parents wanted their children to have good qualifications because of the expected outcomes in employment and financial stability.

When the costs of rearing children are considered in relation to the social, emotional and cultural motivations for having children, it appears that an increase in costs would have to be very substantial to bring about a significant decline in fertility. The relatively higher cost of rearing children however is likely to have a negative influence on fertility (Islam, 1991:369). It is concluded here that the balance between the gains from having children and the costs they entail has been reversed in Kathmandu, resulting in a fertility decline, whereas in the traditional society gains may exceed costs and result in a high fertility. These findings are consistent with responses to the Kathmandu survey of desired family size, which indicate a continuing aversion to having one child and an increasing preference for just two children or occasionally a third child if the first two are of the same sex. Various change factors such as cost of children's schooling and competitive nature of city life have encouraged couples to prefer to have only the number of children for whom they can provide good education, suitable food, clothing, and access to health facilities and so on. It was also found that Kathmandu couples not only consider their desired number of children, they also think about the desirable number of children for their children to have. This is an indication of fertility transition since it is argued that in a situation of fertility transition, couples conceptualise an ideal family size (Van de Walle, 1992:487).

It was demonstrated that the social transformation taking place in Kathmandu is not only impinging upon the value of children but also the values attached to the gender of children. Although son preference was apparent in the study, it was not found to be a major obstacle to the recent fertility transition. Couples do not go on having more and more children in order to meet the desired number of sons if they had already had two or three children. This was not only because of both social change

and the expenses of life in Kathmandu city but also because of decreasing parental expectation of getting help from their sons in old age.

### **9.2.3 Contraception**

One of the most important proximate determinants of fertility is contraception (Bongaarts, 1978, 1982). Accordingly, one of the objectives of the study was to undertake a systematic analysis of contraceptive use of Kathmandu couples and also explain the changes in fertility regulation and behaviour. It was established that contraceptive use in Kathmandu is relatively higher than in other urban centres and rural areas of Nepal. The causes of a higher use of contraception in Kathmandu are not only a result of a decrease in the socio-cultural value attached to children but also a decrease in the socio-cultural value attached to their sex. Moreover, availability and accessibility of contraception has also contributed to a higher use of contraception in Kathmandu.

It was found that most Kathmandu couples have some knowledge of contraception, two thirds have tried it and 56 per cent are currently using it. Higher levels of education have contributed to progress from one stage to another of the knowledge and practice of contraception in Kathmandu. It is also to be noted that uneducated women, who are considered to be a disadvantaged group, are also participating in contraceptive use. This suggests that the rate of contraceptive use is widespread in Kathmandu.

It was demonstrated that although sons are considered important, couples do not wait for sons if they had already had more than two or three children, they use contraception to prevent further births. One of the reasons for the change in fertility in Kathmandu is the result of changing traditional attitudes towards sons. This in turn motivates couples to use contraception after having a certain number of children. This indicates the predominance of small family size norms in

Kathmandu. It is expected that this trend for increased contraceptive use will continue in the future because greater contraceptive use by parents will encourage the next generation to use contraception more effectively (Caldwell and Caldwell, 1978:11).

A short duration of breastfeeding found in Kathmandu compared with the national level (Tuladhar, 1989a:8) was compensated for by high use of contraception. Therefore, observed fertility in Kathmandu is not explicable in terms of prolonged breastfeeding and is attributable to contraception.

The analyses of fertility regulation behaviour have demonstrated that the majority of Kathmandu couples were using contraception only after a certain number of children, this suggested that couples were more interested in limiting their fertility, rather than spacing the births. This leads to the conclusion that the fertility decline in Kathmandu was unlike the situation in developed countries where fertility transition was associated with postponement of marriage and the first birth (Trussell and Menken, 1978; International Statistical Institute, 1984).

It is well documented that family planning and government supported population policies are among the important factors affecting fertility in developing countries (Caldwell *et al*, 1992; Caldwell, 1993). The availability and accessibility of contraception through the family planning program has also contributed to the high use of contraception in Kathmandu. The promotion of the norms of the small family in Kathmandu seemed also to have played a major role in facilitating changed behaviour to match the changed attitudes. Using the mass media, family planning programs have aimed at generating public awareness and creating an atmosphere conducive to the acceptance of family planning practices. Moreover, since their inception, family planning programs aimed at promoting the general concept of family planning in the minds of the people. This has contributed to the changing of

traditional socio-cultural values regarding fertility behaviour in Kathmandu. As Caldwell (1993) pointed out, availability of contraception and the pressure exerted by governments has helped to bring about social change in a variety of ways. Strong government population policy has been one of the main reasons for fertility decline in China and Indonesia. This was also the case in Thailand (Robinson and Rachapaetayakom, 1993:54). In Nepal also, population policies have been explicitly taken into account in an ongoing series of development plans since the third five year plan (1965-1970). The involvement of the Nepalese government in population policy and family planning has also contributed to social change in Kathmandu which has resulted in a higher use of contraception.

#### **9.2.4 The onset of fertility decline in Kathmandu**

One of the objectives of the study was to establish whether or not fertility decline has begun in Kathmandu. No study so far has conclusively established the onset of fertility decline in Nepal. Most Asian countries have already entered fertility transition and even some African countries have done so (Caldwell *et al*, 1992; Caldwell, 1993). A study such as this which assesses whether fertility transition is under way in Nepal is important if there is to be an impetus for future studies which further explore the reasons for fertility change in Nepal. This is important from both a theoretical and a policy point of view. Accordingly in this study, a comprehensive attempt has been made to establish if fertility decline is indeed underway.

It was found that many different factors such as increased education and decreased value of children have motivated Kathmandu couples to deliberately control their fertility, resulting in fertility transition. To establish whether the deliberate marital fertility control behaviour is under way in Kathmandu, the index of marital fertility control 'm' proposed by Coale and Trussell (1974) was used. This was able to represent the fertility experience of population where voluntary fertility control was

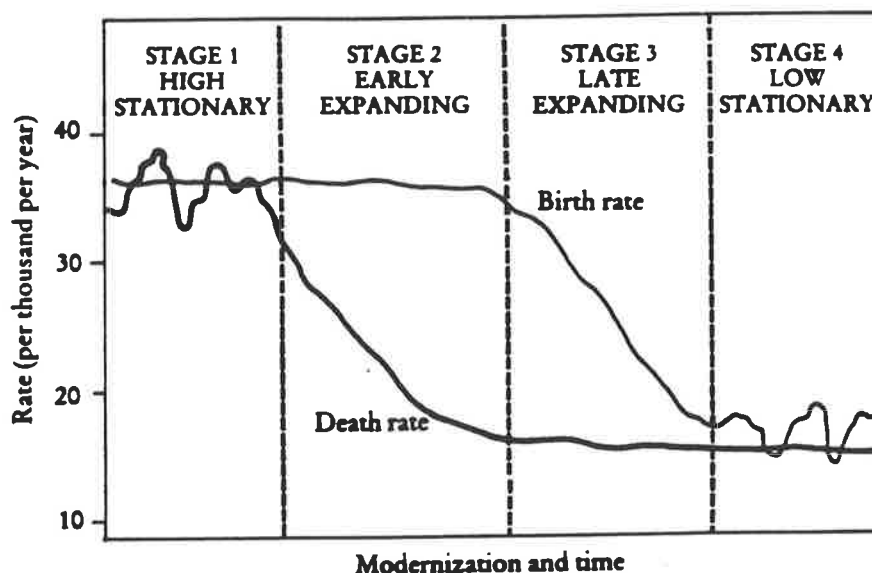
experienced. The marital fertility index 'm' suggests that couples in Kathmandu were deliberately practicing methods of fertility control. Moreover, a concave shape of age specific marital fertility curves after age 30 suggests that fertility transition is present in Kathmandu. It is argued that the most sensitive indicator of the control of marital fertility is the decline in the age specific fertility rates above age 30 (Coale, 1970:8). Moreover, in a tendency of increasing control of fertility, which is needed for fertility decline to occur, the fertility curves change from a convex to concave shape (Levine, 1982; Anderson and Silver, 1992).

Marital fertility control behaviour was further explored using parity progression ratios which show that over the years there has been a decline in the ratios of women who progressed from low parity to higher parity suggesting that marital fertility control was present in Kathmandu. To further examine the deliberate control of marital fertility, the mean number of months since the last live birth (open birth intervals) was calculated. It indicated that respondents who completed their family size stopped their childbearing well before losing their physiological capacity to reproduce. One of the indicators of fertility transition is that women complete their childbearing before losing their physiological capacity to reproduce (McDonald, 1993:5). The index of marital fertility control 'm'; concave shape of age specific marital fertility curve; parity progression ratios and changes in socio-cultural values regarding fertility behaviour have indicated that fertility transition is under way in Kathmandu.

Since historical demographic data (birth and death rates) of Kathmandu city are not available, it is not possible to locate exactly where Kathmandu lies in the fertility decline stages of the demographic transition model (Figure 9.2). Figure 9.2 shows the overall stages of demographic transition. However, here only the third stage of demographic transition, the point at which fertility begins to decline (the late expanding phase), is considered. Different mechanisms of change regarding

marriage, value of children and fertility regulation behaviour suggest that fertility transition is at the late expanding phase of the demographic transition model (Figure 9.2).

**Figure 9.2 The Stages of Classical Demographic Transition Model**



Source: Hugo, 1981.

Although the average age at marriage (19.2 years) of Kathmandu is higher than that in the other urban centres (17.3 years) and rural Nepal (16.3 years) in 1991 (Ban and Shrestha, 1993:55), it is still relatively low. But it was found that the age at marriage in Kathmandu is increasing and transition in marriage is under way. This study has demonstrated that even in a situation of low age at marriage, fertility decline has begun in Kathmandu. In this respect it is worth mentioning an important difference between the western European demographic experience and that of our study population. Western European populations are characterised by a relatively late age at marriage and a high proportion remaining single (Knodel and Van de Walle, 1986:393), whereas our study population is characterised by relatively low age at marriage and low proportion remaining single. However, Coale (1970:9)



mentioned that the control of marital fertility can develop both in populations characterised by late marriage and in populations in which marriage is virtually universal and at an early average age. In Kathmandu, the control of marital fertility has been achieved in a situation of virtually universal as well as an early average age at marriage. This leads to the conclusion that fertility transition occurred in Kathmandu not because of vast change in nuptiality but because of change in marital fertility. But it can also be said that a trend in increasing age at marriage will have an effect on fertility in the long run.

The relatively higher costs of education, food and health in Kathmandu have increased the cost, and reduced the economic value, of children. In Kathmandu, emotional reasons for having children are increasing and socio-cultural reasons such as old age support and the religious reasons for having children are decreasing, indicating the overall decreasing traditional importance of children in Kathmandu. This has resulted in higher use of contraception and hence fertility decline. The rising cost and diminished economic advantages of children in urbanised industrial societies were also one of the explanations of the decline in fertility in Europe (Coale, 1970:17).

At the very early stage of transition contraceptive use would be lower (Nag, 1980) and in an advanced stage of transition not only would contraceptive use rate will be higher but spacing behaviour would also be very common (Trussell and Menken, 1978). Although spacing behaviour is not common in Kathmandu, the relatively higher use of contraception suggests that the fertility transition is at the late expanding stage of the demographic transition model (Figure 9.2).

According to the United Nations (1993:4), at a very early stage of the transition, the relationship between education and fertility will be ambiguous. However, in the present study a negative relationship between education and fertility was found,

supporting the argument that the fertility transition is under way in Kathmandu. It is argued that in a society where fertility limitation is being practised, and a substantial proportion of women are exposed to education, there will be a positive association between women's education and fertility limitation (Axinn, 1993:482). Moreover when transition is under way, fertility would be offset by greater practice of contraception due to the effect of education. In this case, a negative relationship between female education and fertility emerges (United Nations, 1993:4).

Further evidence that the fertility transition is under way in Kathmandu is the increase in the non-agricultural occupations (Table 9.1). The transformation of the economy away from agriculture is expected to reduce the labour value of children and increase childrearing costs, resulting in fertility decline (Casterline, 1987). Table 9.1 suggests that non-agricultural occupations are becoming more important in urban Nepal in general and in Kathmandu in particular.

**Table 9.1 Percentage Distribution of Economically Active Population by Sex and Occupation Categories, Nepal, Urban Areas and Kathmandu City, 1981 and 1991 Censuses.**

Occupation	1981			1991		
	Total	Male	Female	Total	Male	Female
<b>Nepal</b>						
Agriculture	91.4	88.9	96.1	81.1	74.7	90.5
Non-agriculture	6.3	8.1	2.9	18.6	24.9	9.3
Not stated	2.3	3.0	1.0	0.3	0.3	0.2
<b>Urban areas</b>						
Agriculture	63.7	56.7	83.3	23.8	19.4	38.0
Non-agriculture	26.4	31.5	12.4	75.6	80.0	61.4
Not stated	9.9	11.8	4.3	0.6	0.6	0.6
<b>Kathmandu city</b>						
Agriculture	61.0	56.1	80.5	6.0	4.8	9.5
Non-agriculture	30.2	33.5	14.5	93.3	94.4	89.7
Not stated	9.8	11.6	5.3	0.7	0.7	0.8

Source: CBS, 1993b:Table 7; CBS, 1993a: Table 55.

According to the 1991 census, 93 per cent of total economically active persons are engaged in the non-agriculture sector in Kathmandu. This is much greater than that in other urban areas or in the country as a whole (Table 9.1). It is well documented that the transition from the familial mode of production to the non-familial mode is associated with a transition from high fertility to lower fertility (Notestein, 1945; Davis, 1957; Freedman, 1961-62, Caldwell, 1982). According to the demographic transition theory, when modernisation advances, the proportion engaged in the agricultural sector declines. Caldwell (1993:314) argued that employment outside agriculture and the aspiration of the parents that children should have jobs in the non-agriculture sector are also responsible for fertility transition. He claimed that modern schooling is the key to these processes. Non-agricultural work provides an opportunity for exposure to new ideas and values which may lead to the idea of fertility limitation (Axinn, 1992b; 1993). Fricke *et al* (1990) and Axinn (1992a, 1992b, 1993) reported that in the case of Nepal, the transformation of non-agricultural labour opportunities is one of the reasons for a dramatic social change which motivates couples to limit their family size.

Social changes, which are essential for fertility transition to occur, are under way in Kathmandu. Because of social change, which is also a result of change from family enterprises to wage based occupations, younger generations are not totally under the control of older generations in Kathmandu. At the very early stage of social change, the domination of elders can not be discounted altogether. But because of significant social changes, the life styles of the younger generations are changing. Children are less socially valuable to parents resulting in fertility decline in Kathmandu. It can be concluded that social change has not only changed the demographic behaviour of Kathmandu but also changed the traditional beliefs of the older generations regarding fertility behaviour, resulting in higher use of contraception and hence fertility decline in Kathmandu.

It was found that the survey population had their first birth after little more than two years of marriage, indicating that spacing behaviour after marriage is not common among Kathmandu couples. What has been understood in this respect is, that in a society like that of Nepal, where women's position, both in the household and the society is only recognised after the bearing of children, the gap between age at first marriage and age at first birth would be small. The participants of the female focus group discussion mentioned this fact about the recognition of women's position both in the household and in society. This was the reason that the gap between marriage and the first birth is small in Kathmandu. However this phenomena did not become a hindrance for fertility transition to occur. This was because although women gave birth soon after marriage, they controlled their marital fertility after a certain number of children. Therefore, the distinctive feature of Kathmandu's fertility transition is that it started with a low marriage age and universal marriage and with a short interval between marriage and the first birth. This study has also shown that fertility decline can be initiated in a situation of low economic development and modernisation. The important mechanisms of fertility change in Kathmandu are change in family relationships due to social change rather than to significant economic change. This suggests that if family relationships change due to social change, socio-cultural reasons for having more children weaken, as a result the rate of contraceptive use increases and hence fertility declines.

This study has demonstrated that fertility transition is definitely under way in Kathmandu. It is claimed here that change in traditional family relationships due to socio-cultural change rather than significant economic change are responsible for the fertility transition. It has also been demonstrated that fertility decline can occur in situations where small changes in nuptiality, economic conditions and modernisation exist. This suggests that the individual must not only be described in terms of certain personal characteristics, but their situation must also be seen in a

social context. Fertility decision making processes seem to be heavily affected by the socio-economic conditions of a particular society. Therefore it is concluded that both socio-economic and cultural factors which change the traditional family relationships, together with availability and accessibility of contraception should be taken into account when investigating dynamics of change in fertility behaviour in developing countries.

### **9.3 The future prospects for fertility transition in Nepal**

This study has shown that changes in marriage, the value of children and fertility regulation behaviour are under way in Kathmandu, resulting in fertility decline. Although the proportion who never married is increasing in the age group 15-19 (Ban and Shrestha, 1993:53), the average age at marriage is still low in Nepal. However, this will not be a major obstacle for fertility decline to occur at the national level. This is because fertility has declined within a context of early marriage even in rural areas without rapid economic development (Java, for example) (McDonald, 1993:4). Moreover, a European study also suggests that the control of marital fertility developed in populations in which marriage occurred at an early average age (Coale, 1970:9). This study also demonstrated that fertility decline in Kathmandu was a result of change in marital fertility rather than change in nuptiality. But it can be said that the increasing trend in age at marriage, although slow, will have an impact on fertility in the long run.

Available evidence indicates that diffusion of small family norms can bring about changes in ideas and aspirations resulting in a significant rise in the contraceptive use rate (Freedman, 1987a; Tsui, 1985). People cannot change their behaviour without the appropriate knowledge (McDonald, 1993:8). In most developing countries, appropriate knowledge of contraception as well as the advantages of small family size can be obtained from family planning programs. Accordingly, in

less developed countries, organised family planning programs are regarded as the centre for these diffusion processes. It is also to be noted that the impact of family planning on birth control is only possible if family relationships, through social transformations, are changing. Therefore, prospects for future fertility decline in Nepal depend on creating a favourable environment for social change which will facilitate and expedite the processes which will change motivations for smaller family size. Accordingly, the Nepalese government should introduce such programs and policies which can create social change in a variety of ways. In this respect, the involvement of women in many development projects and in the health sectors will help in enhancing the status of women which in turn create social change in the society which is important for fertility decline to occur.

It is the case in Kathmandu that people are socially integrated and they are sensitive to the behaviours of others. Therefore in a society like that of Nepal, where the population is socially integrated and individuals are extremely sensitive to the behaviour of others', particularly fertility change, fertility behaviour can be affected by the observed fertility practices of other individuals or primary groups. This is because fertility is an outcome of an individual's decision making process; it will be affected by the behaviour of other individuals or some sub-groups in a society where people are sensitive to the behaviour of one another (Freedman, 1987a; Rosero-Bixby and Casterline, 1993). In this respect, government's involvement in the development and implementation in fertility reduction policies and promoting an increasing awareness of contraception together with ongoing social changes, even in rural areas, can be expected to make an impact in breaking traditional family relationships in rural Nepal. The continuing strong interest of government in population policies for fertility reduction has been an additional element conducive to fertility decline at the national level.

The environment of rising aspirations and investment in children for quality have been found to be among the reasons for strong motivation for fertility control in rural Nepal (Fricke *et al*, 1990; Axinn, 1992b; 1993). Axinn (1993:493) found in a Nepali rural context that children's schooling had a large positive effect on parent's contraceptive use and a strong negative effect on their desire for more children. He found that parents perceived that they obtain benefits from educating and investing in their children and reduce their total childrearing expenses by limiting their fertility. Today, even in rural areas, most Nepalese are firmly enmeshed in the cash economy, they are involved in the labour market, listen to the radio, watch television and send their children to western style schools (Axinn, 1992b, 1993). All of these factors will contribute to bring about social change and weaken familial relationships resulting in fertility decline in the future.

Fertility decline is also an outcome of institutional changes in a particular society (McNicoll, 1980). Institutional change is associated with increased levels of education, changes in traditional beliefs and social values regarding fertility behaviour as well as government commitment to reduce fertility through population policy and family planning programs. Although the institutional change which has occurred in Kathmandu has not happened so rapidly in rural Nepal, some basis for these changes have already been established. For example, education is spreading in Nepal (Shrestha, 1993:95-115) and education is the key to changing traditional values which favour high fertility. This leads to the conclusion that if the Nepalese government continues to give importance to education and makes education free up to the high school level (education is now free up to the primary level in Nepal), continues to strengthen the population policy, gives serious priority to the family planning program and implements programs and policies which can enhance social change, then there is every reason to believe that there is a future prospect for fertility transition in Nepal.

It was found that social change is under way in Kathmandu and it is diffusing to the rural areas, adjacent to big cities (Axinn, 1992b, 1993). It can be expected that this ongoing social change, which is essential for fertility decline to occur, will be further diffused in Nepal. Van de Walle and Knodel (1980:29) noted that as soon as some couples in a community adopt birth control, it is increasingly easy for others to follow. Moreover, once low fertility is in operation in particular groups, it gains deep roots in society and spreads to the other parts of the country. Therefore an increase in the practice of family limitation and fertility decline seems to be an irreversible process once under way (Knodel and Van de Walle, 1986; Watkins, 1986). The present study has demonstrated that systematic fertility decline has been taking place in Kathmandu. Therefore, it is more likely that diffusion of small family norms in Nepal will be widely spread and the likelihood of any reversal would be difficult. This augurs well for Nepal's future course of fertility decline even in the context of relatively low levels of socio-economic development.

#### **9.4 Policy implications**

Age at entry into sexual union is one of the proximate determinants of fertility (Bongaarts, 1978). Accordingly, it was found that late marriage was one of the mechanisms causing low fertility in western Europe during fertility transition (Lesthaeghe, 1971; Coale, 1975). Similarly, rising age at marriage has caused a decline in fertility in many Asian countries (Jones, 1980,1981; Retherford and Cho, 1973; Caldwell *et al*, 1983; Fernando, 1975; Kabir and Uddin, 1987; Retherford and Rele, 1989). In a society where fertility out of wedlock is strongly disapproved of, there is strong social pressure for a female to marry at a young age to avoid the situation of premarital sexual relations (Meekers, 1992:65). This is also the case in Nepal where fertility out of wedlock is strongly disapproved of and its incidence is negligible. Moreover, in Nepal, marriage signifies the achievement of the proper



social status of women on the one hand, and on the other, the marrying off of their children in due time is regarded as a religious duty of parents.

In the case under consideration here an increase in the minimum legal age at marriage can produce a decline in fertility. This is because women who marry early are more likely to have large families due to their longer exposure to the risk of pregnancy and childbearing (McCarthy, 1982; United Nations, 1988; Coale, 1992). In rural Nepal where marriage is nearly universal and age at marriage is fairly low (Ban and Shrestha, 1993), and contraception is not widely practised (Pradhan *et al*, 1993), raising the age at marriage by government laws can help lower fertility. This was the case in China, when the minimum legal age at marriage was introduced in the 1970s, age at marriage increased substantially (Coale and Freedman, 1993). The introduction of a law regarding age at marriage and supporting a campaign for a further increase in the age at marriage of women, especially in rural Nepal, therefore is necessary. It is recommended, based upon present findings (for women who married after age 19, average parity was lower than for those who married before age 19) that the existing minimum female legal age at marriage of eighteen years without parents' consent (Ban and Shrestha, 1993) should be increased to at least 20 years. The legislation should not only be introduced but also promulgated widely and enforced. Legal as well as social pressure is necessary to implement legislation in a society where social organisation is still an important factor where marriage is concerned.

When the question was put forward in the focus group discussion as well as informal discussion with Kathmandu people about the availability and accessibility of contraception in Kathmandu, they mentioned that family planning methods are readily available. Although insufficient service outlets are not a hindrance to contraceptive use in Kathmandu, it is one of the main reasons for the lower use of contraception in rural Nepal (Tuladhar, 1984). It has been documented that

availability increases the likelihood of contraception (Entwisle *et al*, 1984:563; Tuladhar, 1987:49). Therefore, a top priority in Nepal's family planning programs should be to make birth control methods available in remote villages on a regular basis so that supply of family planning methods can meet the demand. Every village has a village development committee which should be used as the distributor of family planning methods. They can distribute condoms and pills which do not need clinical support services. This is important in a society where socio-cultural beliefs regarding fertility behaviour is strong. Community based distribution systems are effective not only because contraceptives are easily available but also because the supply source is legitimated by members of local primary groups (Freedman, 1987a:72).

Among the contraceptive methods, most couples in Kathmandu used sterilisation and that has been the case in Nepal (Pradhan *et al*, 1993). However, depending on sterilisation as sole means may not contribute to the further decline in fertility because the demand for sterilisation seems to be approaching saturation (The World Bank, 1989:55). To have any demographic impact, a family planning program aimed at meeting the varied needs of couples, needs to have a broad choice of contraceptive methods to be available (Demeny, 1992:324). The existing age structure of Nepal (Figure 1.4) indicates that a large proportion of young women are entering the reproductive age group. Therefore, a family planning program aimed at providing services to young couples can have a great effect on fertility. It was found in Kathmandu that most younger women were not using contraception, therefore efforts should be made to provide reversible methods of contraception to younger couples. This would not only mean a longer birth interval but also reduce the infant mortality rate (Gubhaju, 1986). Both of these will have a direct effect on fertility. It is also argued that a range of methods will attract more acceptance and

provide for the switching between methods that is the foundation of satisfied and sustained use (Bruce, 1990:68).

Since its inception, the family planning program through its information, education and communication (IEC) section has been using mass media to diffuse the idea of birth control in Nepal (Pradhan *et al*, 1993:122). But it is not effective enough to touch the grass roots level. This is because the majority of women do not understand the advantages of regulating their own fertility and are not aware of the side effects of different family planning methods (Shrestha *et al*, 1988; Pradhan *et al*, 1993). Therefore, for family planning to have an effective impact at the village level, information should be provided not only through mass media but also through local clinics, health posts, hospitals, local health workers and village development committees.

It was found in Kathmandu that family planning workers were not aware of the side effects of the various methods of contraception. As a result there is a wide gap in the delivery of family planning advice to the target population. It was mentioned in the focus group discussion that the interaction between clients and providers was not satisfactory in Kathmandu. A similar finding was reported in an urban setting by Schuler *et al* (1985:268). They found that "a significant proportion of the family planning information provided by the clinics was either incorrect or inadequate". Therefore, attention should be given to improve the relationship between service providers and clients by providing training in client communication and interaction skills for health workers and other family planning related personnel. Instructions should also be provided to all family planning providers (family planning related clinics, health posts and hospitals) on how to attract clients so that they maintain contact for services and information. Clients' confidence in their own choices and their satisfaction with services can only be developed if there is a good relationship between clients and providers (Bruce, 1990). Moreover it is also argued that client-

worker exchanges not only facilitate contraceptive decision making, but they can also initiate reproductive change (Phillips *et al*, 1993:337)

It was reported by Kathmandu respondents that follow-up mechanisms of family planning were poor. Therefore, the proper follow-up and evaluation of activities also need to be greatly strengthened to ensure an effective population program in Nepal. Moreover, follow-up is essential to monitor and understand side effects of various contraceptive methods (Bruce, 1990). Poor follow-up mechanisms and poor information about side effects of various methods of family planning were some of the main reasons for non-use and discontinuation of contraception in Nepal (Shrestha *et al*, 1988).

Although abortion is illegal in Nepal, it was found in Kathmandu that couples were aborting their unwanted pregnancy illegally. Unsafe illegal abortion is a health risk to both mother and child. Therefore, abortion should be legalised in Nepal if both husband and wife consent. Traditional methods of contraception (withdrawal and rhythm) were widely known in Kathmandu. The knowledge of traditional methods should also be diffused through the mass media and local clinics in Nepal. Although traditional methods are not effective means of birth control, they can, at least, check unwanted births to some extent.

When the question was asked about the advantage of breastfeeding in the female focus group discussion, it was found that participants were not aware of the advantages of it. In a low literacy country like that of Nepal, this awareness could be much lower in rural areas. The importance of breastfeeding should therefore be highlighted through the mass media and school education in order to encourage full and intensive breastfeeding. Although the length of time of breastfeeding was found to be high in rural areas (Tuladhar, 1989a), this is not because rural women were aware of the advantage of it. This is simply because most rural women have no jobs

outside home and the cheapest way of child feeding in rural areas is breastfeeding. In a society like that of Nepal where early marriage is practised (Ban and Shrestha, 1993:54-55), Family Planning and Population Programs should explicitly emphasise later marriages and age at first birth along with the benefits of a range of contraceptive means to space pregnancies.

It was found during the field work that only the Family Planning, Maternal and Child Health Division of the Ministry of Health was involved in implementing the family planning programs in Nepal. However, there should be a greater number of people and institutions working to implement the family planning program. Warwick (1986:453-490) reported that the successful family planning program was a function of the involvement of people and institutions of different fields and levels. Besides family planning related institutions, Village and District Development Committees and the head and members of these committees should also be utilised at the grass roots level, and contraceptives distribution responsibility should be given to the village community in Nepal. In a country where socio-cultural values regarding fertility still play an important role, the government should support these local institutions by providing financial, social, logistic and legislative supports.

One of the committees of the Parliament of Nepal is a Population Committee but it needs to be activated. If it is activated, social support for family planning would come from both the government as well as the people at the grass roots level. This is because members of parliament have contact with government at the national level and also with people at their constituency (grass roots level). The role of the parliament's population committee and the high level population committee chaired by the Prime Minister should be clearly stated by the government so that functions are not duplicated.

When the Population Division of the National Planning Commission and Family Planning Division of the Ministry of Health were visited during field work it was found that the responsible persons of these offices were not qualified in population studies and analysis. Therefore, especially in government, population planning institutions such as the Population Division of National Planning Commission and the Family Planning Division of the Ministry of Health should identify and recruit qualified staff in population studies so that they can tackle population related problems. They will also need to convince donor agencies to obtain the maximum amount of financial and technical assistance for the family planning program.

Although the government seems to be committed to reducing population growth through population policy, it is also the case that the government has not strengthened population related coordinating and implementing agencies. Therefore government should create an independent institution like the previous Population Commission to effectively and actively coordinate and implement population-related programs together with other ministries.

It is important to note that although quite realistic policies and programs have been formulated in the planning documents in Nepal, the greatest hurdle to success is in the method of their implementation. The government should not overlook the fact that ineffective implementation has made policies and programs unsuccessful in Nepal. Accordingly, implementational aspects should be designed and constantly monitored by the concerned office, and guidance and evaluation should be provided by the high level Population Committee.

### **9.5 Recommendation for future research**

This study has demonstrated that as a result of socio-cultural changes in family relationships, diffusion of small family norms has motivated Kathmandu couples to use contraception, resulting in fertility transition. How can the diffusion of small

family norms be facilitated to rural areas? Whether the small family norms are present or there are any obstacles to the diffusion process in rural communities are some of the critical issues which need to be studied. Accordingly, future research should be focussed on how the diffusion of small family norms in the rural community affects the individual's attitudes about contraceptive use. In Nepal there is a lack of research as to the effect of community-level variables on individual decisions about fertility. In an ethnically complex society like that of Nepal the effects of community norms and values on the household is a rich area of research. In this respect future research should be based on different rural communities. To understand whether urban facilities are effective in determining the diffusion of small family norms in different rural communities in Nepal and also for comparison purpose, some rural communities which are close to major cities and other rural communities, which are far and poorly linked from major cities should be selected for future study. Moreover, future research should also investigate whether community leaders and key informants are aware of small family norms and are involved in diffusing it to the rural community. This is important because in a society where socio-cultural beliefs regarding fertility behaviour is strong, the fertility behaviour of one group affects the fertility behaviour of others.

The combination of quantitative and qualitative types of community study is important in rural Nepal where socio-cultural values regarding fertility behaviour are complex. The technique of direct observation and the use of indepth interview are the best strategies to be adopted which will not only provide an opportunity to understand the dynamics of fertility change in rural Nepal but also can provide better understanding of the processes at work in the community and permits a deepening of our knowledge of the social facts. This type of community research is not only helpful in identifying the characteristics of rural subgroups of population regarding fertility behaviour but also in formulating suitable population programs

and policies in Nepal. Moreover, the outcome of this type of study can help to contribute to fertility change theories.

In Kathmandu, although the age at marriage is still low, the high use of contraception has contributed to the fertility transition. In rural Nepal not only is the age at marriage still very low but also the contraceptive use rate. Therefore, from a policy point of view, the research on determinants of age at marriage is lacking in Nepal. Moreover in rural Nepal, even after three decades of the family planning program's performance, the rate of contraceptive use is very low. Therefore future research is needed to investigate the detailed reasons for low use of contraception in rural Nepal.

Although this study has demonstrated that the influence of socio-cultural reasons for having children is declining in Kathmandu, the separate reasons for having sons and daughters could not be established. Future research is needed, especially in rural areas, to investigate different reasons for having sons and daughters and to consider their policy implications. This study has shown that the social transformation taking place in Kathmandu is not only impinging upon the value of children but also the values attached to the gender of children. However available literature has shown that not only is the value of children still high in Nepal but also the value attached to sex of children. Therefore, future studies should be designed not only to examine the determinants of value of children but also the value attached to the sex of children in Nepal.

Although attention has been given to the importance of incorporating family planning and government efforts to reduce fertility in theory (Caldwell, 1993), future research should focus on the role of family planning programs in diffusing small family norms and providing contraception, especially in rural areas of developing countries. This type of research can help in generating a set of testable



hypotheses about the effectiveness of family planning services. Moreover, research on family planning can provide a framework within which interesting research questions of both program and policy interest can be formulated. In Nepal there is a lack of study of the community perception and the role of family planning and what people expect from family planning programs. This is important from both the point of view of the user and program. The systematic study of determinants of fertility at the national level itself is lacking in Nepal.

## **9.6 Conclusion**

In this study, the determinants of fertility such as marriage, value of children and contraception have been analysed in a comprehensive manner to provide different dimensions of understanding of the fertility behaviour of Kathmandu couples. This study concludes that although socio-economic development is desirable, it does not seem to be a necessary pre-condition for fertility decline. This is because fertility decline can indeed take place in a low income population where family relationships are changing and the positive attitudes about contraceptive use and availability of contraception are present within a community. Therefore, this study also supports the notion that no obvious threshold of social and economic development was required for the fertility transition to begin (Knodel and Van de Walle, 1986:399).

Although development and social change create conditions that encourage small family size, higher use of contraception is one of the main reasons for fertility decline in Kathmandu. Accordingly this study concludes that proximate determinants of fertility such as nuptiality and breastfeeding have not had strong fertility inhibiting effects. The only proximate determinant to have any fertility inhibiting impact in Kathmandu is contraception. Therefore the spectacular increase

in knowledge and relatively high use of contraception in urban Nepal is one of the strongest pieces of evidence that the fertility decline reported here is genuine.

This study has demonstrated that changes have been taking place in the family, kinship, marriage, value attached to children and other fertility related cultural institutions, which have contributed to fertility transition in Kathmandu. The importance of issues of context in the study suggests that individuals must not only be described by certain personal characteristics, but that their situation must be seen in a social context. It was found that not only have educational and communicational improvement expanded the horizons of the Kathmandu people, but also that western influences break down the traditional family relationship in Kathmandu. These factors motivated Kathmandu couples to have a small number of children, resulting in fertility transition.

To have many children has not only become an economic burden for the parents in Kathmandu but it has also been unfortunate for the children themselves. This is because if there are many children in the family, qualitative education, proper health care, and adequate food cannot be obtained easily. The necessary precondition for fertility change according to our study, is a change in family relationships and social values. Changes in family relationships also change the attitude of having a strong preference for sons over daughters. To bring about these changes it is not necessary to have rapid modernisation and industrialisation; exposure to modernisation through the media and increased schooling can result in change in a context like Kathmandu. The increasing use of contraception was made possible only because of changing attitudes towards social and familial values.

The changing socio-economic situation in Kathmandu has altered the family relationships and brought about pressure on families to have a smaller number of children. Accordingly, the study concludes that fertility decline in Kathmandu is a result of change in family relationships due to socio-cultural change rather than

significant economic change. As a result of changing family relationships, the people of Kathmandu are trying to control their fertility according to the family planning slogan *dui bhaye thikka dherai bhaye dikka* (two is enough, more brings sadness). For the future prospect for fertility decline in Nepal this slogan should be diffused and implemented, by all possible means. Both legal and social pressure is necessary in a culturally diverse country like Nepal so that the slogan can become a reality.

## APPENDICES

## Appendix I

### The method of calculating economic status

In the study, economic status has been taken as a proxy for income or economic well-being of the study population. It is the case in Kathmandu that the more goods households have, the better off economically they are. Information on the possession of household items was collected in the survey. It was decided to define the economic status by taking into account a number of household possessions which are highly correlated with the economic condition of the household. The following weights were given to the following household items while calculating the economic status of the household. The higher the value of the goods, the higher the weight assigned.

Items	Weight
Car	7
Motor cycle	6
Video	5
Gas	4
Television	3
Cycle	2
Radio	1
Nothing	0

The number of items possessed was multiplied by the weighting given to each in direct proportion to its price and accordingly the scores were assigned. The total score was taken to represent the economic status of the household. A household which has nothing in the household lies in 0 range. Similarly lower the range lower is the economic status of the household and vice versa. The total score varies from 0 to 28 and they are grouped as below:

Economic status	Score	Number
Lower	0-4	532
Low	5-10	280
High	11-18	111
Higher	19-28	60

## Appendix II

### Listing of Households, Kathmandu Survey, 1992.

Ward Number:

Cluster Number:

Household Number:

Name of the Household Head:

Line no.	Usual Residents of this H.H.	Relation ship	Residence		Sex	Age
1	2	3	4	5	6	7
	Pls.give me the names of persons who usually live in this H.H. and guests of the household who stayed here last night, starting with the head of the household	What is the relation-ship of (name) to the head of H.H. ?	Does (name) usually live here ?	Did (name) sleep here last night?	Male	How old is (name) ?
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						

contd...



### Appendix III

#### The Onset of Fertility Decline in Urban Nepal: A Study of Kathmandu City

#### QUESTIONNAIRES

#### HOUSEHOLD SCHEDULE

-----  
**Identification**  
 -----

Ward No.----- Kathmandu.

Cluster No.----- Household No.-----

Name of Household Head -----

-----  
 Interview Calls      1      2      3      4

Date

Interviewer Name

Result\*

-----  
 \* Result Code

1. Completed
2. No competent respondents at home
3. Refused to be interviewed
4. Other (specify)



### Socio-economic Status of the Household

(Interviewer: Information for this section of the questionnaire should be collected from the head of the household or any knowledgeable and responsible adult member of the household)

1. What is the religion of the head of the household ?

Hinduism                      Buddhism                      Islam                      Other

2. What is the caste/ethnicity of the members of this household ?

Brahman                      Chhetri                      Newar  
Mongolaid Tibetan      Other(specify)

3. What is the highest level of education successfully completed by the head of the household?

Grade

4. If the head of the household has not received any schooling, can he/she read and write?

Yes              No

5. What is the main occupation of the head of the household ?

6. How much land is owned by this household in Kathmandu ?

7. How much land is owned by this household outside Kathmandu ?

8. Does this household own the following possessions ?

Television	VCR	Motorcycle
Bicycle	Refrigerator	Car
Telephone	Radio	Other (specify)

9. What is the main source of cooking fuel of this household?

Gas                      Electricity                      Kerosine  
Wood                      Other (specify)

10. Do all children of this household go to school ?

Yes              No

11. How many sons and how many daughters do not go to school ?

Sons      Daughters

12 What are the reasons for not going to school?

Reasons

13. If the school was a long distance from your home would you still send your children to school ?

Yes      No

14. Is this a joint or nuclear family household ?

Joint      Nuclear

## INDIVIDUAL QUESTIONNAIRE

(For currently married women between the ages of 15-49)

-----  
**Identification**  
 -----

Ward No.----- Kathmandu

Cluster No. -----

HH No.-----

Name of woman-----  
 -----

**Interview Calls**

-----  
**Date**  
 -----

**Interviewer's name**  
 -----

**Duration of Interview**  
 -----

**Language used**  
 -----

**Result \***  
 -----

**Next visit: Date**  
**Time**  
 -----

**\* Result Codes:**

1. Completed

2. Not at Home

3. Deferred

4. Refused

5. Partly completed

6. Other (specify)

-----  
 These code nos. are confidential and kept in possession of the researcher.

### Section 1. Respondent's Background

101. Have you always lived in Kathmandu ?

Yes      No (ask q. 102)

102. Where did you live for the majority of the time you were growing up, say to age 12?

Other city (specify)      Village (specify)

103. Where were you living five years ago ?

Kathmandu      Other city (specify)      Village (specify)

104. What is your date of birth ?

Day      Month      Year      D.K. (ask q.105)

105. How old are you now?

(Completed Years)

106. What is the highest (level/year) of education successfully completed by you ?

Grade      None (ask q 107)

107. Can you read and write a simple letter ?

Yes      No

108. Have you ever worked other than housework since the day you were married ?

Yes      No

109. Where do you work ?

-----  
Name of the employer

110. What kinds of work do you usually do ?

Specify

111. How much money do you earn per month ?

Less than 1000  
1001 to 2000  
2001 to 3000  
3000 plus

112. Have you worked other than housework before marriage ?

Yes No

113. What kinds of work did you do ?

Teacher Government Non-government  
Other (specify)

114. Where did you work ?

-----  
Name of the employer

115. Do you usually read a newspaper or magazine at least once a week ?

Yes No

116. Do you usually listen to the radio at least once a week?

Yes No

117. Do you usually watch television at least once a week?

Yes No

## Section 2. Husband's Background

201. How old is your husband ?

Completed Years

202. What is the highest (level/year) of education successfully completed by your husband ?

Grade None (go to q 203)

203. Can your husband read and write a simple letter ?

Yes No

Now please tell about your husband's work experience

204. What is the main job your husband does ?  
(What is his occupation ?)

205. What type of work did he do in the last five years ?

Same position Different (ask q. 206)

206. Was it better or worse than the present job ?

Better                  Worse

207. Does your husband do any other job which brings income despite the main job ?

Yes                      No

208. How much money does he earn per month ?

209. Where did you husband live for the majority of the time he was growing up, say to age 12 ?

Kathmandu                  Other city(specify)                  Village(specify)

### Section 3. Marriage History

301. In what month and year were you married ?

Month                  Year                  D.K.(ask q. 302)

302. What was your age when you got married?

Age

303. How old was your husband when you got married ?

Age

304. Did you and your husband start living together immediately after the marriage ?

Yes                      No (ask q. 305)

305. If no, how long after the marriage did you and your husband start living together ?

Month                  Years

306. In your opinion, what is the best age for marriage ?

For boys                  For girls

307. Was your marriage arranged ?

Yes                      No                      Others (specify)

308. In your opinion, which of the following is the best way to arrange a first marriage ?

- (a) Parents decide everything.
- (b) Parents choose prospective spouse, then children make the final decision.
- (c) Children choose themselves then parents make final decision.
- (d) Children decide everything

309. Which one of the following applies to your own marriage ?

- (a) Parents decide everything.
- (b) Parents choose prospective spouse, then children make the final decision.
- (c) Children choose themselves then parents make final decision.
- (d) Children decide everything

310. Which one of the following do you prefer for your children regarding selection of a marriage partner ?

- (a) Parents decide everything.
- (b) Parents choose prospective spouse, then children make the final decision.
- (c) Children choose themselves then parents make final decision.
- (d) Children decide everything

311. At what age do you want your sons and daughters to be married ?

Sons                  Daughters

312. In your opinion, do you think your marriage was

Late                  Early                  Right time                  D.K.

313. Do you agree with the idea of marrying off before menarche ?

Yes                  No

### Section 3. Maternity History

401. How old were you when you had your first menstrual period ?

Years                  D.K.

402. When did your last menstruation occur ?

Year                  Month

403. Does menstruation occur regularly ?

Yes                  No                  Others (specify)

Now I would like to get a complete record of all the babies you have actually given birth to during your life.

404. Have you ever given birth?

Yes                  No

405. If yes, how many children were ever born to you?

No. of boys                  No. of girls                  Total

406. How many of your children ever born are surviving ?

No. of boys	No. of girls	Total
-------------	--------------	-------

Now ask:

Just to make sure I have this right, you have had ----- (sum) live births during your life.  
Is that correct ?

Yes	No
-----	----

(Probe and correct responses as necessary).

407. In what month and year was your most recent child born ?

Month	Year
-------	------

408. What was the sex of your most recent child ?

Male	Female
------	--------

409. Is your most recent child alive ?

Yes	No
-----	----

410. If not, what is the month and year of death ?

Month	Year
-------	------

Now I would like to ask some questions about each of your....(sum) births, starting with the first birth you had.

Birth history sheets



### Birth History Sheets

Record names of all the births in 411. Record twins and triplets on separate line if any.

411 What name was given to your (first, next) baby ?	412 record single or multiple birth status	413 Is (name) a boy or a girl ?	414 In what month and year was (name) born ? If D.K. in what season nearest (dasain, tihar) etc was born	415 Is (name) still alive?				
01 _____ (name)	Sin..1 Mul..2	Boy..1 Girl 2	Mon. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Yr.					Yes 1 No 2
02 _____ (name)	Sin..1 Mul..2	Boy..1 Girl.2	Mon. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Yr.					Yes 1 No 2
03 _____ (name)	Sin..1 Mul..2	Boy..1 Girl.2	Mon. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Yr.					Yes 1 No 2
04 _____ (name)	Sin..1 Mul..2	Boy..1 Girl.2	Mon. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Yr.					Yes 1 No 2
05 _____ (name)	Sin..1 Mul..2	Boy..1 Girl 2	Mon. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Yr.					Yes 1 No 2
06 _____ (name)	Sin..1 Mul..2	Boy..1 Girl.2	Mon. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Yr.					Yes 1 No 2
07 _____ (name)	Sin..1 Mul..2	Boy..1 Girl.2	Mon. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Yr.					Yes 1 No 2
08 _____ (name)	Sin..1 Mul..2	Boy..1 Girl.2	Mon. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> Yr.					Yes 1 No 2

contd..

416 If alive how old was (name) at his/her last birthday ?  Record age in completed years	417 If alive is (name) living with you ?	418 If dead how old was he/she when he/she died ?  If "1 Yr.", probe: how many months old was (name) ? Record days if less than 1 month
Age in years <input type="text"/> <input type="text"/>	Yes 1 No 2	Days 1 <input type="text"/> <input type="text"/> Months 2 <input type="text"/> <input type="text"/> Years 3 <input type="text"/> <input type="text"/>
Age in years <input type="text"/> <input type="text"/>	Yes 1 No 2	Days 1 <input type="text"/> <input type="text"/> Months 2 <input type="text"/> <input type="text"/> Years 3 <input type="text"/> <input type="text"/>
Age in years <input type="text"/> <input type="text"/>	Yes 1 No 2	Days 1 <input type="text"/> <input type="text"/> Months 2 <input type="text"/> <input type="text"/> Years 3 <input type="text"/> <input type="text"/>
Age in years <input type="text"/> <input type="text"/>	Yes 1 No 2	Days 1 <input type="text"/> <input type="text"/> Months 2 <input type="text"/> <input type="text"/> Years 3 <input type="text"/> <input type="text"/>
Age in years <input type="text"/> <input type="text"/>	Yes 1 No 2	Days 1 <input type="text"/> <input type="text"/> Months 2 <input type="text"/> <input type="text"/> Years 3 <input type="text"/> <input type="text"/>
Age in years <input type="text"/> <input type="text"/>	Yes 1 No 2	Days 1 <input type="text"/> <input type="text"/> Months 2 <input type="text"/> <input type="text"/> Years 3 <input type="text"/> <input type="text"/>
Age in years <input type="text"/> <input type="text"/>	Yes 1 No 2	Days 1 <input type="text"/> <input type="text"/> Months 2 <input type="text"/> <input type="text"/> Years 3 <input type="text"/> <input type="text"/>
Age in years <input type="text"/> <input type="text"/>	Yes 1 No 2	Days 1 <input type="text"/> <input type="text"/> Months 2 <input type="text"/> <input type="text"/> Years 3 <input type="text"/> <input type="text"/>

Compare 405 with number of births in history above and mark:

Numbers are same

Numbers are different   
(Probe and Reconcile)

### Section 5. Family Planning

501. Now I would like to talk about family planning the various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways or methods have you heard about?

Table 1

Method	502 Have you heard of F.P methods. If yes what are they. If no ask Q. 503	503 Have you heard of ----- (method) name of each	504 Have you or your spouse ever used ----- method circled in column 1 & 2	
	1	2	3	
Pill	1 Yes	2Yes 3No	1Yes	2No
Condom	1 Yes	2Yes 3No	1Yes	2No
IUD	1 Yes	2Yes 3No	1Yes	2No
Female steril.	1 Yes	2Yes 3No	1Yes	2No
Male steril.	1 Yes	2Yes 3No	1Yes	2No
Inject.	1 Yes	2Yes 3No	1Yes	2No
Implant	1 Yes	2Yes 3No	1Yes	2No
Rhythm method*	1 Yes	2Yes 3No	1Yes	2No
Withdr-awal**	1 Yes	2yes 3No	1Yes	2No
other specify	1 Yes	2Yes 3NO	1Yes	2No

contd...

505. What methods are you currently using to prevent pregnancy ?

4

1 Yes

1 Yes

1 Yes

1 Yes

1 Yes

1 Yes

1 Yes

1 Yes

1 yes

\*Rhythm, Periodic Abstinence

Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.

\*\*Withdrawal: Men can be careful and withdraw before climax.

Interviewer: If the respondent is currently using no method write 98

506. You told me that you used (method)----- have you had any side effects ?

Yes

No

507 What are they ?

Headache/Nausea  
Irregularity and pain during menstruation  
Loss of weight  
Other (specify)

Causes weakness  
Reduced breast milk

508. How long have you been using the current methods after the last birth ?

Months

509. Have you used any other method before?

Method

510. Why did you stop using that method?

Reasons

511. Where did you or your husband obtain the family planning method ?

Hospital  
Pharmacy  
Others

Health Centre  
Shop

F.P. clinic  
Friends/Relatives

512. Have you ever become pregnant while using a family planning method ?

Yes

No

513. Which method was that ?

-----  
(Method)

514. Have you used any kind of method to prevent pregnancy after the birth of your most recent child ?

Yes  
(ask q.515)

No

515. Which method was that ?

-----  
(Method)

516. Had you used any kind of method to prevent pregnancy between the period when your second most recent child was born and conception of your last child ?

Yes  
(ask q.517)

No

517. Which method was that ?

-----  
(Method)

518. Are you still continuing that method?

Yes                      No  
(ask q.519)

519. Did you change methods or are you not using any method at all ?

Change method                      Not using now  
(Name)

520. Why did you change to (name of the method)?

Reasons

521. How long does it take to travel from your home to obtain family planning methods ?

Minutes                      Hours

522. If it was very far would you still go there to obtain family planning methods ?

Yes                      No

**For those who have not either heard of or used family planning methods**

523. Until now what is the reason for not using a family planning method ?

To have another child	Health reasons
Desire for son	Desire for daughter
Husband objection	Method not known
FP not needed	Other (specify)

524. Have you or your spouse thought of using any family planning method in the future ?

Yes                      No                      D.K.  
(go to section six)

525. Which method would you prefer to use ?

Pill	Condom	IUD	Female ster.
Male ster.	Injectables	Implant	
Withdrawal	Others (specify)	Rythm	

### Section 6. Fertility Preference

If one of the spouses is sterilized skip to question 609, if neither of the spouses are sterilized ask question 601

601. As far as you know is it physically possible for you and your husband to have children. Would you like to have any more ?

Yes                      No(ask q. 609)

602. Are you pregnant now ?

Yes                      No

603. How many months have you been pregnant ?

Months

604. At the time you last became pregnant, did you want to become pregnant then, or did you want to wait until later, or did you not want to become pregnant at all?

Then                      Later                      Not at all

605. If you did not want to become pregnant, why did you become pregnant at that time?

Husband wanted                      Mother-in-law wanted  
Contraceptive failure                      Other (specify)

606. Would you prefer to have a boy or a girl from your current pregnancy ?

Boy                      Girl                      Either  
Other answer (specify)-----

607. (If currently pregnant apart from current pregnancy) Do you want to have (1.any)/(2.another) child some time ?

Yes                      No                      Undecided

608. Would you say that your desire to have (1. children)/(2. more) is not very strong, strong, or very strong ?

Not very strong                      Strong                      Very strong

609. Would you prefer your (1.first)/(2.next) child to be a boy or a girl ?

Boy                      Girl                      Either

Other answer -----

610. If it were entirely up to you when would you like to have your (1.first)/(2.next child) ?

As soon as possible	In the next year
In two years	In three years
In more than three years	Whenever it happens
Do not know	

611. How many (more) children do you want to have ?

(Number or any other answer)

612. Of that number of children how many sons and how many daughters do you desire ?

Sons	Daughters
------	-----------

613. Would you say that your desire not to have any more children is very strong, strong or not very strong ?

Very strong	Strong	Not very strong
-------------	--------	-----------------

614. Ask for those who have living child(ren)

If you could go back to the time when you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be ?

Ask for those who have no living child(ren)

If you could choose exactly the number of children to have in your whole life, how many would that be ?

Number	Other answer----- (specify)
--------	--------------------------------

615. Of that number how many boys and how many girls would you like to have ?

Boys	Girls
------	-------

616. Why is that ?

-----  
Reasons

617. If the number you desire is met but not the sex preference would you continue or stop having more children ?

Stop	Continue	Undecided/D.K.
------	----------	----------------

618. Have you and your husband ever discussed the size of the family you want to have ?

Yes	No
-----	----





629. Comparing the costs involved in bringing up children now, to when you were a child, do you think that now the costs are:

Same as then                      More expensive                      D.K.

630. What are the largest expenses involved in bringing up children these days ?

Education                      Food                      Health                      Clothing  
Child minding                      Other (specify)

631. What is the level of education you desire for your children ?

Level desired for sons  
Level desired for daughters

### Section 7. Breast-Feeding

701. Did you breast feed -----(name of the youngest child) ?

Yes                                      No  
(ask q. 702)                                      (ask q. 703)

702. How long did you breastfeed him/her ?

Months                                      Still breastfeeding

703. Why did you not breast feed him/her ?

Mother ill/weak                                      Child ill/weak                                      Child died  
Nipple/breast problem                                      Insufficient milk  
Mother working                                      Child refused  
Other(specify)

If only one live birth ask q. 707

If more than one live birth ask q. 704

704. Did you breast feed your (name of the second to the last child) ?

Yes                                      No  
(ask q. 705)                                      (ask q. 706)

705. How long did you breast feed ?

Months

706. Why did not you breast feed him/her ?

Reasons as of Q. 703

707. Did you breast feed (name of the third to the last child) ?

Yes  
(ask q. 708)

No  
(ask q. 709)

708. How long did you breast feed ?

Months

709. Why did you not breast feed ?

Reasons as of q. 703

710. Do you know that when a woman is actively breastfeeding she is less likely to conceive ?

Yes

No

711. How do you know ?

712. How long after the birth of your last child did your menstruation start ?

(Months)

Thank you for these answering questions.

**Appendix IV****Daily notes book used in the survey****(Confidential)**

1. Date:
2. Ward number:
3. Cluster number:
4. House Number:
5. Name of persons with whom discussion is held:
6. Interviewer/Researcher:
7. Detailed information regarding fertility behaviour obtained during interview or informal talk :

Thank you very much for providing interesting information.

## **Appendix V**

### **Questionnaire guide adopted to conduct the focus group discussions, Kathmandu.**

#### **Major areas and leading questions**

##### **Marriage**

1. At what age do you think women should marry?
2. Do you believe in the tradition beliefs that girls should get married before menarche?
3. What should be the ideal age at marriage for both men and women in our society?
4. Do you know that early marriage causes longer exposure to the risk of pregnancy resulting in high fertility?
5. What should be the minimum educational level of girls before they get married?
6. What do you think are the advantages and disadvantages of arranged marriages?
7. Do you think boys/girls should be free to choose their own marriage partner, or should parents be involved?
8. What do you think of inter-caste marriage?
9. Would you like to be involved in finding your child's marriage partner?

##### **Value of children**

1. What do you think about the role of children in Kathmandu?
2. Do you expect any kind of financial or social help from your children?
3. Who can contribute more to the family economy, a son or daughter?
4. What are the main reasons for having children in Kathmandu?
5. Do you believe in social and religious reasons for having children, especially sons?
6. Do you think sons are necessary for required rituals?
7. Do you think there must be a son in the family? Why?
8. What do think about the traditional proverb "one eye is no eye one son is no son"?
9. It is also said nowadays that "wealth is son". What do you think about this saying?

10. It is perceived that sons do not care about their parents after their marriage but instead care their wives, what is your opinion?
11. What do you think about the role of the daughter in the family?
12. Do you think daughters are treated differently today compared with the time when you were very young? (used only in older females' discussion)
13. In what way are daughters treated differently?  
(used only in older females' discussion)
14. Do you expect any help from daughters before and after marriage?
15. What should be the ideal family size in Nepal in general and in Kathmandu in particular?
16. Since Nepal has no social security system, what do you think of your old age security?

### **Contraception**

Let us discuss family planning

1. Do you think family planning is the best way to control births?
2. Do you think there should be a child soon after marriage or after some years of marriage ?
3. How long should the gap be between first and second birth and other subsequent births?
4. What are the advantages and disadvantages of family planning?
5. What suggestions do you have for those who do not use family planning?
6. What do you think of the role of family planning clinics and staff in Kathmandu?
7. Is there a good interaction between providers and users in Kathmandu?
8. Can you easily obtain family planning methods in Kathmandu?
9. What is your opinion of family planning advertisements on television and radio?
10. Do you think this is a good way of increasing the adoption of family planning methods in Nepal?
11. What do you think about the family planning slogan "two is enough, more brings sadness".

**General topics**

1. Do you see any changes in the role and activities of women in Kathmandu?
2. Do you think the attitudes and activities of youth are changing in Kathmandu and why?
3. What do you think about the interaction between young and old generations and youth respect for older persons?
4. What factors do you think are responsible for affecting the changes in attitudes and behaviour in Kathmandu?
5. Do you see any factors obstructing the changes in Nepal?
6. What do you think about the role of television and radio in affecting traditional beliefs in Kathmandu?
7. Do you see any problems with a large population increase in Nepal?

Thank you for participating in the discussions





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