

Nepal

Family Health Survey 1996



Family Health Division
Department of Health Services
Ministry of Health
His Majesty's Government



New ERA



Demographic and Health Surveys
Macro International Inc.

World Summit for Children Indicators: Nepal 1996

		Value
BASIC INDICATORS		
Childhood mortality ¹	Infant mortality rate (direct estimation)	79 per 1,000
	Under-five mortality rate	118 per 1,000
Childhood malnutrition	Percent stunted	48.4
	Percent wasted	11.2
	Percent underweight	46.9
Clean water supply	Percent of households within 15 minutes of a safe water supply ²	61.1
Sanitary excreta disposal	Percent of households with flush toilets	2.7
Basic education	Percent of women 15-49 with completed primary education	17.9
	Percent of men 15-49 with completed primary education	46.6
	Percent of girls 6-12 attending school	56.4
	Percent of boys 6-12 attending school	75.7
	Percent of women 15-49 who are literate	21.2
Children in especially difficult situations	Percent of children who live in single adult households	5.4
SUPPORTING INDICATORS		
Women's Health		
Birth spacing	Percent of non-first births within 24 months of a previous birth	24.1
Safe motherhood	Percent of births with medical prenatal care ³	39.3
	Percent of births with prenatal care in first trimester	12.7
	Percent of births with medical assistance at delivery ⁴	10.1
	Percent of births in a medical facility	7.6
	Percent of births at high risk	56.1
Family planning	Contraceptive prevalence rate (any method, currently married women)	28.5
	Percent of currently married women with an unmet need for family planning	31.4
	Percent of currently married women with an unmet need for family planning to avoid a high-risk birth	23.8
Nutrition		
Maternal nutrition	Percent of mothers with low BMI	28.3
Breastfeeding	Percent of children under 4 months who are exclusively breastfed	81.8
Iodine	Percent of households with iodized salt	93.2
Child Health		
Vaccinations	Percent of children whose mothers received tetanus toxoid vaccination during pregnancy	46.0
	Percent of children 12-23 months with measles vaccination	56.6
	Percent of children 12-23 months fully vaccinated	43.3
Diarrhoea control	Percent of children with diarrhoea in preceding 2 weeks who received oral rehydration therapy	28.6
Acute respiratory infection	Percent of children with acute respiratory infection in preceding 2 weeks who were seen by medical personnel	18.2

¹ 0-4 years before the survey; see Chapter 7 for details.

² Piped and well water.

³ Includes doctor, nurse/midwife, maternal and child health (MCH) worker, village health worker, health assistants and health post staff.

⁴ Includes doctor, nurse/midwife, MCH worker, village health worker, health assistant and health post staff.

Nepal Family Health Survey 1996

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This report represents the findings of the 1996 Nepal Family Health Survey (NFHS) conducted under the aegis of the Family Health Division, Department of Health Services, Ministry of Health, Nepal. The NFHS was funded by the U.S. Agency for International Development (USAID) through its mission in Nepal and was implemented by New ERA, a local research firm in Nepal. Technical support for the survey was provided by Macro International Inc., under its Demographic and Health Surveys Project.

The 1996 Nepal Family Health Survey (NFHS) is part of the worldwide Demographic and Health Surveys (DHS) project. Information about the NFHS may be obtained from the Family Health Division, Department of Health Services, Ministry of Health, P.O. Box 2936, Teku, Kathmandu, Nepal (Telephone: 213541 or 212051; Fax: 223142) and New ERA, P.O. Box 722, Maharajgunj, Kathmandu, Nepal (Telephone: 410803 or 413603; Fax: 419562). Additional information about the DHS project may be obtained from Macro International Inc., 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, USA (Telephone: 301-572-0200; Fax: 301-572-0999; E-mail: reports@macroint.com; Internet: <http://www.macroint.com/dhs/>).

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PREFACE

In Nepal, censuses are conducted at an interval of ten years and demographic surveys have supplemented census data in providing more detailed information on health and family planning. Furthermore, demographic surveys not only allow comparisons with estimates obtained by censuses but also provide detailed information on health and population during the inter-censal period as well. Like many developing countries, Nepal suffers from a low level of reporting of vital events and the vital registration system is not sufficiently able to provide reliable information and estimates for use in the formulation of health and population related policies and programmes. Demographic surveys fill this void by providing much needed data on specific areas of interest to planners.

It gives me tremendous pleasure in saying that the successful completion of the 1996 Nepal Family Health Survey has provided up-to-date information on the knowledge and use of contraception, fertility preferences, the level and pattern of fertility, maternal and child health, infant, child and adult mortality, and knowledge of AIDS. Moreover, the NFHS provides, for the first time in Nepal, an estimate of the nutritional status of children and their mothers from a nationwide survey of the height and weight of children under three years of age and their mothers.

I am happy to note that the entire survey, including this report, has been on schedule and the findings of this survey will be an important source of information in formulating the 9th five-year development plan for the population, health and family planning, women and development, and education sectors of the economy.

I highly appreciate and commend the dedicated efforts of all the persons and institutions involved in the successful completion of this survey. I would especially like to thank the members of the Technical Committee for the 1996 NFHS for their advice and recommendations throughout this survey.

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FOREWORD

The 1996 Nepal Family Health Survey (NFHS), is the fifth in a series of demographic surveys. The NFHS was conducted under the aegis of the Family Health Division of the Ministry of Health.

In addition to demographic information, the NFHS provides information on maternal and child health, infant, child and adult mortality, and knowledge of AIDS. This information is not only important in understanding the problems in the areas of population and health but also in monitoring and evaluating related development programmes. His Majesty's Government is in the process of formulating the 9th five-year plan, as well as the long-term health plan, both of which are scheduled to begin in the fiscal year 1997/1998, and I am happy to note that the information and findings of this survey can be utilised in the formulation of these and other plans and activities in the near future.

I deeply appreciate the United States Agency for International Development in providing the funds for the survey and Macro International Inc. for their technical assistance. I would like to thank Dr. Kalyan Raj Pandey, Director General, Department of Health Services, Ministry of Health, for chairing the Technical Committee for the 1996 NFHS. My sincere appreciation also goes to New ERA and its staff for supervising the fieldwork and data entry process. Last but not least my sincere thanks goes to Mr. Ajit Pradhan, Demographer and Member Secretary for the Technical Committee for the 1996 NFHS, Dr. Gokarna Regmi, Demographer, Family Health Division (up to December 1995), and Mr. Bharat Ban, Project Director, New ERA for their intense and active involvement in the successful completion of the survey.

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This study is an outcome of the dedicated efforts of many institutions and individuals. The 1996 Nepal Family Health Survey (NFHS) was conducted under the aegis of the Family Health Division, Department of Health Services, Ministry of Health of His Majesty's Government of Nepal. The NFHS was funded by the United States Agency for International Development (USAID) through its mission in Nepal and was implemented by New ERA, a local research firm. Technical support for the survey was provided by Macro International Inc.

We would like to thank Mr. Ashoke Shrestha, Dr. Gokarna Regmi, Ms. Anjushree Karmacharya, Mr. Munishwor Shrestha, Mr. Matrika Chapagain, Mr. Rajendra Lal Singh, Ms. Sarita Vaidya, Mr. Kabi Raj Khanal and other field and data entry staff of New ERA who made significant contributions to the successful completion of this study.

We appreciate the active involvement of Dr. Ram Hari Aryal, Under Secretary, who represented the Ministry of Population and Environment, both as a member of the Technical Committee for the 1996 NFHS and as an author of this report.

Our sincere gratitude goes to all the members of the Technical Committee for the 1996 NFHS, for their time and valuable advice and feedback.

Our deep appreciation also goes to the USAID mission in Nepal. We would like to express our sincere gratitude to Ms. Molly Gingerich, Chief, Office of Health and Family Planning, Ms. Pancha Kumari Manandhar, Population/Family Planning Specialist and Mr. Purna Chhetri, for their keen interest and active support throughout this survey.

Special thanks goes to Dr. Shyam Thapa, Senior Scientist, Family Health International, and advisor to the Ministry of Health and Ministry of Population and Environment, for his valuable advice and support.

The technical support provided by Macro International Inc. is highly acknowledged. Our special appreciation goes to Dr. Pavalavalli Govindasamy, the country monitor for Nepal, for her effort and contribution throughout the survey. We also wish to thank Ms. Anne Cross, the regional co-ordinator, Dr. Alfredo Aliaga, who served as the sampling expert and Mr. David Cantor, the data processing specialist.

We are grateful to Mr. Muniswor Mool, Senior Public Health Officer, Planning and Foreign Aid Division, and other officials from the District Health Offices, District Police Offices, District Administrative Offices, Health Posts, Sub-Health Posts, and Village Development Committee Leaders who helped in various ways in the successful implementation of the fieldwork.

Last but not least, we extend our deepest gratitude to all the supervisors, field editors and interviewers whose dedicated efforts ensured the timely completion of the survey, and to all the respondents who not only spared their valuable time but also maintained their patience during the interview and provided their personal and family information. We believe that this study has truly captured the facts related to the fertility, mortality and health situation in Nepal, as well as the knowledge, perception and behaviour pertaining to family planning and AIDS. It is hoped that this information will help in improving the quality of life of the Nepalese people.

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SUMMARY OF FINDINGS

The 1996 Nepal Family Health Survey (NFHS) is a nationally representative survey of 8,429 ever-married women age 15-49. The survey is the fifth in a series of demographic and health surveys conducted in Nepal since 1976. The main purpose of the NFHS was to provide detailed information on fertility, family planning, infant and child mortality, and maternal and child health and nutrition. In addition, the NFHS included a series of questions on knowledge of AIDS.

Fertility

Survey results indicate that fertility in Nepal has declined steadily from over 6 births per woman in the mid-1970s to 4.6 births per woman during the period of 1994-1996. Differentials in fertility by place of residence are marked, with the total fertility rate (TFR) for urban Nepal (2.9 births per woman) about two children less than for rural Nepal (4.8 births per woman). The TFR in the Mountains (5.6 births per woman) is about one child higher than the TFR in the Hills and *Terai* (4.5 and 4.6 births per woman, respectively). By development region, the highest TFR is observed in the Mid-western region (5.5 births per woman) and the lowest TFR in the Eastern region (4.1 births per woman).

Fertility decline in Nepal has been influenced in part by a steady increase in age at marriage over the past 25 years. The median age at first marriage has risen from 15.5 years among women age 45-49 to 17.1 years among women age 20-24. This trend towards later marriage is supported by the fact that the proportion of women married by age 15 has declined from 41 percent among women age 45-49 to 14 percent among women age 15-19. There is a strong relationship between female education and age at marriage. The median age at first marriage for women with no formal education is 16 years, compared with 19.8 years for women with some secondary education.

Despite the trend towards later age at marriage, childbearing begins early for many Nepalese women. One in four women age 15-19 is already a mother or pregnant with her first child, with teenage childbearing more common among rural women (24 percent) than urban women (20 percent). Nearly one in three adolescent women residing in the *Terai* has begun childbearing, compared with one in five living in the Mountains and 17 percent living in the Hills. Regionally, the highest level of adolescent childbearing is observed in the Central development region while the lowest is found in the Western region.

Short birth intervals are also common in Nepal, with one in four births occurring within 24 months of a previous birth. This is partly due to the relatively short period of insusceptibility, which averages 14 months, during which women are not exposed to the risk of pregnancy either because they are amenorrhoeic or abstaining. By 12-13 months after a birth, mothers of the majority of births (57 percent) are susceptible to the risk of pregnancy. Early childbearing and short birth intervals remain a challenge to policy-makers. NFHS data show that children born to young mothers and those born after short birth intervals suffer higher rates of morbidity and mortality.

Despite the decline in fertility, Nepalese women continue to have more children than they consider ideal. At current fertility levels, the average woman in Nepal is having almost 60 percent more births than she wants—the total *wanted* fertility rate is 2.9 births per woman, compared with the actual total fertility rate of 4.6 births per woman. Unplanned and unwanted births are often associated with increased mortality risks. More than half (56 percent) of all births in the five-year period before the survey had an increased risk of dying because

the mother was too young (under 18 years) or too old (more than 34 years), or the birth was of order 3 or higher, or the birth occurred within 24 months of a previous birth.

Nevertheless, the percentage of women who want to stop childbearing in Nepal has increased substantially, from 40 percent in 1981 to 52 percent in 1991 and to 59 percent in 1996. According to the NFHS, 41 percent of currently married women age 15-49 say they do not want any more children, and an additional 18 percent have been sterilized. Furthermore, 21 percent of married women want to wait at least two years for their next child and only 13 percent want to have a child soon, that is, within two years.

Family Planning

Knowledge of family planning is virtually universal in Nepal, with 98 percent of currently married women having heard of at least one method of family planning. This is a five-fold increase over the last two decades (1976-1996). Much of this knowledge comes from media exposure. Fifty-three percent of ever-married women had been exposed to family planning messages on the radio and/or the television and 23 percent have been exposed to messages through the print media. In addition, about one in four women has heard at least one of three specific family planning programmes on the radio.

There has been a steady increase in the level of ever use of modern contraceptive method over the past 20 years, from 4 percent of currently married women in 1976, to 27 percent in 1991 and 35 percent in 1996. Among ever-users, female sterilization and male sterilization are the most popular methods (37 percent), indicating that contraceptive methods have been used more for limiting than for spacing births.

The contraceptive prevalence rate among currently married women is 29 percent, with the majority of women using modern methods (26 percent). Again, the most widely used method is sterilization (18 percent, male and female combined), followed by injectables (5 percent). Although current use of modern contraceptive methods has risen steadily over the last two decades, the pace of change has been slowest in the most recent years (1991-1996). Current use among currently married non-pregnant women increased from 3 percent in 1976 to 15 percent in 1986 to 24 percent in 1991 and to 29 percent in 1996. While female sterilization increased by only 3 percent from 45 percent of modern methods in 1986 to 46 percent in 1996, male sterilization declined by almost 50 percent from 41 percent to 21 percent over the same period.

The level of current use is nearly twice as high in the urban areas (50 percent) as in rural areas (27 percent). Only 18 percent of currently married women residing in the Mountains are currently using contraception, compared with 30 percent and 29 percent living in the Hills and *Terai* regions, respectively. There is a notable difference in current contraceptive use between the Far-western region (21 percent) and all the other regions, especially the Central and Eastern regions (31 percent each). Educational differences in current use are large, with 26 percent of women with no education currently using contraception, compared with 52 percent of women who have completed their School Leaving Certificate (SLC). In general, as women's level of education rises, they are more likely to use modern spacing methods.

The public sector figures prominently as a source of modern contraceptives. Seventy-nine percent of modern method users obtained their methods from a public source, especially hospitals and district clinics (32 percent) and mobile camps (28 percent). The public sector is the predominant source of sterilizations, IUDs, injectables, and Norplant, and both the public and private sectors are equally important sources of the pill and condoms. Nevertheless, the public sector's share of the market has fallen over the last five years from 93 percent of current users in 1991 to 79 percent in 1996.

There is considerable potential for increased family planning use in Nepal. Overall, one in three women has an unmet need for family planning—14 percent for spacing and 17 percent for limiting. The total demand for family planning, including those women who are currently using contraception, is 60 percent. Currently, the family planning needs of only one in two women is being met. While the increase in unmet need between 1991 (28 percent) and 1996 (31 percent) was small, there was a 14 percent increase in the percentage of women using any method of family planning and, over the same period, a corresponding increase of 18 percent in the demand for family planning.

Maternal and Child Health

At current mortality levels, one of every 8 children born in Nepal will die before the fifth birthday, with two of three deaths occurring during the first year of life. Nevertheless, NFHS data show that mortality levels have been declining rapidly in Nepal since the eighties. Under-five mortality in the period 0-4 years before the survey is 40 percent lower than it was 10-14 years before the survey, with child mortality declining faster (45 percent) than infant mortality (38 percent).

Mortality is consistently lower in urban than in rural areas, with children in the Mountains faring much worse than children living in the Hills and *Terai*. Mortality is also far worse in the Far-western and Mid-western development regions than in the other regions. Maternal education is strongly related to mortality, and children of highly educated mothers are least likely to die young. For example, infant mortality is nearly twice as high among children of mothers with no education as among children of mothers with some secondary education.

Neonatal mortality is expectedly higher among males than females. However, child mortality is 24 percent higher among females than males. First births, higher order births and births spaced less than 24 months apart also experience higher mortality.

Perinatal mortality in Nepal has declined by 17 percent over the last 15 years from 63 deaths per 1,000 stillbirths and live births in the period 10-14 years before the survey to 52 deaths in the period 0-4 years before the survey. First pregnancies, high order pregnancies, pregnancies to women residing in rural areas, in the *Terai*, and in the Eastern region, are all at an increased risk of loss.

One possible reason for the declining mortality is improvements in childhood vaccination coverage. The NFHS results show that about 76 percent of children age 12-23 months have been vaccinated against tuberculosis, DPT and polio. However, coverage declines after the first dose for DPT and polio, with one-third of children who start the series not completing it. Fifty-seven percent of children age 12-23 months were vaccinated against measles. Overall, two of five children had all the recommended vaccinations, and 36 percent were fully vaccinated before their first birthday.

Diarrhoeal and respiratory illnesses are common causes of child deaths in Nepal. In the two weeks before the survey, 28 percent of children suffered from diarrhoea and 34 percent were ill with acute respiratory infections (ARI). However, use of health facilities is low in Nepal: only 14 percent of children with diarrhoea and 18 percent of children with ARI were taken to a health facility. Solution prepared from oral rehydration salts (ORS) was given to 26 percent of children with diarrhoea, and 4 percent received recommended home fluids (RHF). In addition, 35 percent of children with diarrhoea were given more to drink than before the diarrhoea. Over one-third of children with diarrhoea received no treatment at all.

The care that a woman receives during pregnancy and childbirth reduces the risk of illness and death for both mother and child. The NFHS data show that mothers received antenatal care from a doctor for only 13

percent of births in the three years preceding the survey, and from a nurse/midwife for 11 percent of births. One of two women who received some antenatal care had fewer than 3 visits. For the majority of births (56 percent), mothers did not receive any antenatal care.

An important component of antenatal care is protection against tetanus. Two or more doses of tetanus toxoid vaccines were received by mothers for about one-third of births, while 13 percent received one dose. For well over half of births, mothers did not receive a single dose.

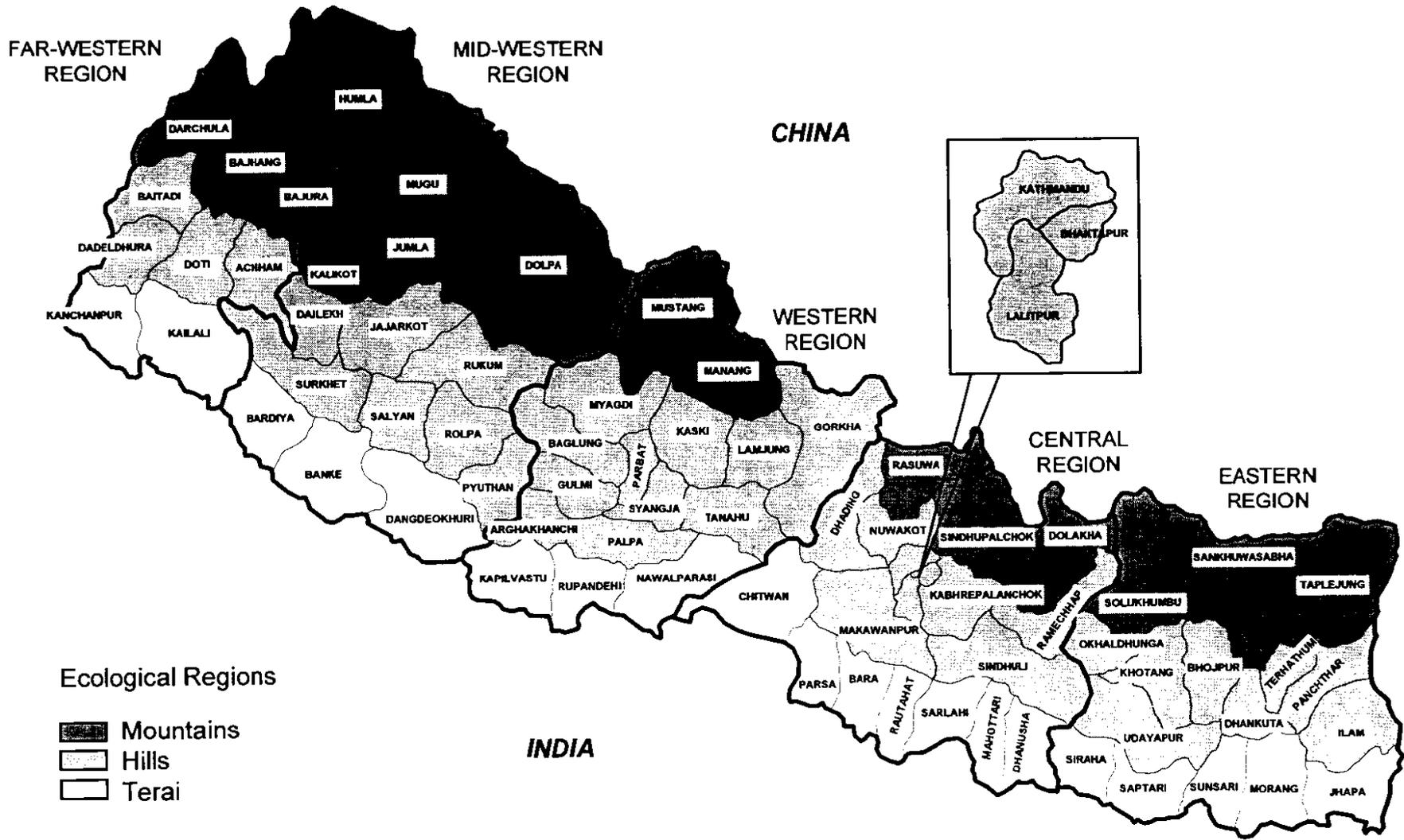
The majority of Nepalese children are born at home without assistance from trained medical personnel. Overall, only 8 percent of births are delivered in a health facility and 9 percent are delivered under the supervision of a doctor or nurse/midwife.

Breastfeeding is nearly universal in Nepal and the average length of time that children are breastfed is relatively long (28 months). However, a significant minority of children (40 percent) are not breastfed within one day of birth. Bottle feeding is relatively rare in Nepal and less than 3 percent of children under three years of age were fed with a bottle using a nipple. Even though exclusive breastfeeding is recommended until 4-6 months of age, one-third of children age 4-5 months receive complementary foods.

There is considerable malnutrition among children in Nepal. Forty-eight percent of children under age three are stunted, 11 percent are wasted, and 47 percent are underweight. Variation by place of residence is marked, with rural children, children living in the Mountains and in the Far-western regions of Nepal more likely to be malnourished than other children.

Maternal nutritional status was also assessed from the NFHS data. Fifteen percent of Nepalese mothers of children born during the three years before the survey were less than 145 centimetres tall, the height below which a woman is considered to be at nutritional risk. Furthermore, more than one of four women fell below the cutoff of 18.5 for body mass index, which measures thinness, indicating that the level of chronic energy deficiency in Nepal is relatively high. Maternal deaths are high relative to developed countries. According to the NFHS data, maternal deaths accounted for 27 percent of all deaths to women age 15-49, with a maternal mortality ratio of 5 deaths per 1,000 live births.

NEPAL



CHAPTER 1

INTRODUCTION

1.1 Geography and Economy

Geography

Nepal is a land-locked country nestled in the foothills of the Himalayas. It occupies an area from 26° 20' to 30° 10' north latitude and 80° 15' to 88° 19' east longitude. It shares its northern border with the Tibetan region of the People's Republic of China, and its eastern, southern and western borders with India.

Nepal is rectangular in shape and is approximately 80 miles (128 kilometres) wide and 550 miles (880 kilometres) long. The total land area of the country is 147,181 square kilometres and its population, according to the 1991 Census, is 18.5 million. Nepal is predominantly rural with only 9 percent of the population living in urban areas.

Topographically, Nepal is divided into three distinct ecological regions. These are the Mountains, Hills, and *Terai* (or plains). The Mountain region ranges in altitude from about 4,800 metres to 8,839 metres above sea level and covers a land area of 51,817 square kilometres. Because of the harsh terrain, transportation and communication facilities in this region are very limited and only about 8 percent of the total population lives here. In contrast, the Hill region which ranges in altitude from 610 metres to 4,800 metres above sea level is densely populated. About 45 percent of the total population of Nepal lives in the Hills, which cover an area of 61,345 square kilometres. This region also includes a number of very fertile valleys such as the Kathmandu and Pokhara valleys. Although the terrain is also rugged in this region, because of the higher concentration of people, transportation and communication facilities are much more developed here than in the Mountains. Unlike the Mountains and Hills, the *Terai* region in the southern part of the country can be regarded as an extension of the relatively flat Gangetic plains. This area which covers 34,019 square kilometres is the most fertile part of the country. While it constitutes only about 23 percent of the total land area in Nepal, 47 percent of the population live here. Because of its relatively flat terrain, transportation and communication facilities are more developed in this region than in the other two regions of the country and this has attracted newly emerging industries.

In Nepal, climatic conditions vary substantially by altitude. In the *Terai* temperatures can go up to 44° Celsius in the summer and fall to 5° Celsius in the winter. The corresponding temperatures for the Hill and Mountain areas are 41° Celsius and 30° Celsius, respectively, in the summer, and 3° centigrade and way below 0° centigrade, respectively, in the winter. The annual mean rainfall in the kingdom is around 1,500 millimetres (Central Bureau of Statistics, 1996).

For administrative purposes Nepal has been divided into five development regions, 14 zones, and 75 districts. Districts are further divided into Village Development Committees (VDCs) and sometimes into urban municipalities. A VDC consists of nine wards while the number of wards in an urban municipality depends on the size of the population as well as on political decisions made by the municipality itself.

Nepal is a multi-ethnic and multi-lingual society. The 1991 Census identified 60 caste or ethnic groups and subgroups of population. The percentage breakdown by size of some of these major groups are as follows: Chhetri and Thakuri (18 percent), Brahmins (14 percent), Magar (7 percent), Tharu and Rajbanshi (7 percent),

Newar (6 percent), Tamang (6 percent), Kami—a major occupational group that originated in the Hills (5 percent), Yadav and Ahirs (4 percent), Muslims (4 percent), Rai and Kiranti (3 percent), and Gurung (2 percent) (Central Bureau of Statistics, 1995).

The 1991 Census of Nepal lists 20 different languages or dialects prevalent in Nepal (Central Bureau of Statistics, 1995). These languages originated from two major groups: the Indo-Aryans, who constitute about 80 percent of the population, and the Tibetan-Burmese, who constitute about 17 percent of the population. Nepali is the official language of the country and is the mother tongue of over 50 percent of the population. However, it is used and understood by most of the population and is the national language of Nepal. The other two major languages are Maithili and Bhojpuri, spoken by about 8 percent and 5 percent of the population, respectively.

Nepal is a Hindu kingdom with over 86 percent of its population following the Hindu religion. The second largest religious group are the Buddhists (8 percent), and Muslims constitute about 4 percent of the total population (Central Bureau of Statistics, 1995).

Economy

Forty-eight percent of the GDP comes from the service sector and the agricultural sector accounts for 42 percent of the GDP. The manufacturing sector accounts for 10 percent of the economy (Ministry of Finance, 1996). Because of variations in the climatic and rainfall conditions, agricultural production varies by ecological regions. In the *Terai*, rice is the main crop, followed by wheat and corn. In the Hills, the major crops are corn and rice, followed by wheat, and in the Mountains, corn, rice and wheat are grown (Central Bureau of Statistics, 1995).

1.2 Population

Table 1.1 provides a summary of the basic demographic indicators for Nepal from census data for 1971, 1981, and 1991 (Central Bureau of Statistics, 1995). There was a 59 percent increase in the population over the 20-year period. The population growth rate increased from 2.1 in 1971 to 2.6 in 1981 and then declined again to 2.1 in 1991. Nepal's population is young, with two of five persons below the age of 15. This young age distribution is due to the relatively high fertility in Nepal. In fact, between 1971 and 1981 there was no change in the total fertility rate (TFR) obtained from census estimates. The TFR continues to be high, 5.6 percent in 1991, although it has declined slightly from its 1971/1981 level. The mean age at marriage has risen little over the past two decades, increasing by 0.6 years for males and 1.4 years for females. Nevertheless, data obtained from different demographic surveys indicate that the desired family size in Nepal has decreased over the years from 4 children in 1976 to 3 in 1991 (Ministry of Health, 1993). There has been a corresponding increase in the contraceptive prevalence rate for modern methods from a low of 3 percent in 1976 to 24 percent in 1991.

That both fertility and mortality have been declining can be seen from Table 1.1. While the decline in fertility is a more recent phenomenon, mortality has been decreasing slowly over the years. The crude death rate declined from 20 per 1,000 in 1974/75 to 13 per 1,000 in 1991, while the infant mortality rate experienced a 44 percent decline between 1971 and 1991. These trends suggest that the demographic transition is taking place in Nepal with ample scope for both fertility and mortality to decline further. Male and female life expectancy has gone up by about 13 years over the 20-year period.

Table 1.1 Demographic indicators

Selected demographic indicators for Nepal, 1971-1991

Indicator	1971	1981	1991
Population (millions)	11.6	15.0	18.5
Age			
0-14	40.5	41.4	42.4
15-64	56.4	55.4	54.1
65+	3.1	3.2	3.5
Population density (per square km)	79	102	126
Percent urban	4.0	6.4	9.2
Crude birth rate	42	44	42
Crude death rate	19.5 ^a	16.1 ^b	13.3
Population growth rate (percent)	2.1	2.6	2.1
Total fertility rate	6.3	6.3	5.6
Infant mortality rate	172	117	97
Life expectancy			
Males	42.0	50.9	55.0
Females	40.0	48.1	53.5
Mean age at marriage			
Males	20.8	20.7	21.4
Females	16.8	17.2	18.2

^a 1974-75^b 1986-87

Source: Central Bureau of Statistics, 1995

1.3 Population and Reproductive Health Policies and Programmes

Evolution of Population Policy

Family planning emerged as one of the major components of Nepal's planned development activities only in 1968 with the implementation of the Third Five-Year Development Plan (1965-70). This is when the Nepal Family Planning and Maternal and Child Health Project (FP/MCH) under the Ministry of Health was launched in the government sector. Until then, family planning activities were undertaken by the Family Planning Association of Nepal (FPAN), which was established in 1959 to create awareness among the people about the need and importance of family planning but not to offer any family planning services. Very little was done to directly regulate population growth until 1965 when a family planning project was established under the maternal and child health section of the Ministry of Health. Limited family planning services were offered through the existing maternal and child health clinics.

The Fourth Development Plan (1970-1975) targeted the provision of family planning services to 15 percent of married couples by the end of the plan period. From the Fifth Five-year Development Plan (1975-80) onwards, family planning services were greatly expanded through outreach workers and serious attempts were made to reduce the birth rate

by direct and indirect means. To coordinate the government's multi-sectorial activities in population and reproductive health, a population policy coordinating board was established in 1975 under the National Planning Commission. In 1978, this board was upgraded to become the National Commission on Population (NCP). It was further reorganized under the chairmanship of the prime minister and maintained its own secretariat to plan, monitor, and coordinate population activities both at the government and private sectorial levels.

Subsequent development plans dealt with the population issue from both a policy and programmatic point of view. From the Fifth Plan until the end of the Seventh Plan (1985-1990) population policies and programmes not only emphasized family planning issues in the short run, but also focussed on long-term concerns to encourage the small family norm through education and employment programmes that raised women's status and decreased infant mortality. This included launching population related programmes in reproductive health, agriculture, forestry, urbanization, manpower and employment, education and women's development, as well as community development programmes. In 1990, the NCP was dissolved and its role was given to the population division of the National Planning Commission. In 1996 the government established a National Population Committee comprised of ministers from various ministries and chaired by the Prime Minister, to

provide strong political leadership and guidance in formulating population policies and coordinating, implementing, monitoring, and evaluating population activities.

The Eighth Development Plan (1992-97) continued with the integrated development approach taken in earlier development plans and set the following demographic targets:

- to reduce the total fertility rate from 5.8 to 4.5 by the end of the plan period;
- to increase the expectation of life at birth from 54.4 to 61 years;
- to reduce the infant mortality rate from 102 per thousand to 80 per thousand;
- to decrease under-five mortality to 130 per thousand;
- to reduce the maternal mortality ratio from 5.15 to 4.00 per thousand live births;
- to manage internal migration.

In 1995, the Ministry of Population and Environment (MOPE) was established as a separate ministry for population-related activities and is viewed as the reflection of a strong governmental commitment to population programmes. The ministry is primarily responsible for formulating and implementing population policies, plans, and programmes, and for monitoring and evaluating these programmes. This ministry, along with the Ministry of Health, is also responsible for implementing programmes of action recommended by the 1994 International Conference on Population and Development. The implementation of health-related population programmes in reproductive health such as family planning, safe motherhood, adolescent reproductive health, sexually transmitted diseases, and infertility, nevertheless, falls under the purview of the Ministry of Health.

Family Planning Programmes

Family planning services in Nepal were started by the FPAN in 1959. Initially, its services were limited to the Kathmandu valley. The pioneering work of the FPAN led to the establishment of a semi-autonomous Nepal Family Planning and Maternal Child Health Project (NFP&MCH Project) in November 1968 at the government level. This project was gradually expanded to cover all 75 districts in Nepal.

Currently, government run family planning services have become an integral part of health services. Health services in Nepal are delivered through national, regional, zonal and district hospitals, primary health care centres/health centres, health posts, sub-health posts and peripheral health workers, and volunteers, all of which/whom provide temporary family planning services (condoms, orals and injectables) on a regular basis. Services such as Norplant implants and IUD insertions are only available at a limited number of hospitals, health centres, and selected health posts where trained manpower is available. Depending on the district, sterilization services are provided at static sites (21 districts) through scheduled “seasonal” or mobile outreach services.

At the central level, the Family Health Division in the Department of Health Services is responsible for planning, supervision, and implementation of family planning activities. The National Health Training and Regional Training Centres are responsible for training field workers for reproductive health services. Information, education, and communication (IEC) activities regarding reproductive health are carried out by the National Health Education, Information and Communication Centre in the Department of Health Services.

Besides governmental programmes, a number of non-governmental organizations are also currently involved in the delivery of family planning services at the grass root level. These organizations include the FPAN, Contraceptive Retail Sales (CRS) Company, Nepal Red Cross Society, Save the Children Fund (UK and

USA), Adventist Development Relief Agency (ADRA), United Mission to Nepal (UMN), Centre for Development and Population Activities (CEDPA), the Asia Foundation (TAF) and CARE.

Among these non-governmental organizations (NGOs), FPAN and CRS are the larger ones. FPAN is currently active in providing family planning services in 32 districts in Nepal. FPAN also provides sterilization services at selected clinics and organizes a number of mobile sterilization camps in different districts. Besides the provision of family planning services, FPAN is very much involved in training and IEC activities in reproductive health.

The CRS company provides oral contraceptives and vaginal foaming tablets through pharmacies, and condoms through a full range of retail shops (e.g. general stores, *paan* shops, hotels, etc.) throughout the country. At present, the CRS company supplies contraceptives to more than 12,000 retailers. It is also marketing injectables (DMPA) in the Kathmandu Valley and in eight other districts where these services are available through trained paramedical personnel, and IUDs and Norplants to certified private practitioners.

Services of other smaller NGOs are limited to delivery and supply of temporary methods of contraception, mostly pills, condoms and injectables. These organizations have also been involved in educational activities. While the areas served by these NGOs are modest, they do help to complement the Ministry of Health's on-going efforts to expand the availability of family planning methods.

1.4 Objectives and Organization of the 1996 Nepal Family Health Survey

The primary objective of the Nepal Family Health Survey (NFHS) is to provide national level estimates of fertility and child mortality. The survey also provides information on nuptiality, contraceptive knowledge and behaviour, the potential demand for contraception, other proximate determinants of fertility, family size preferences, utilization of antenatal services, breastfeeding and food supplementation practices, child nutrition and health, immunizations, and knowledge about Acquired Immune Deficiency Syndrome (AIDS). This information will assist policy-makers, administrators and researchers to assess and evaluate population and health programmes and strategies. The NFHS is comparable to Demographic and Health Surveys (DHS) conducted in other developing countries.

Survey Organization

The NFHS was conducted under the aegis of the Family Health Division of the Department of Health Services in the Ministry of Health of His Majesty's Government of Nepal. The survey was implemented by New ERA, a local research firm. Macro International provided technical support for the survey through the Demographic and Health Surveys (DHS) project. Funding for the survey came from the United States Agency for International Development (USAID) through its mission in Nepal.

Sample Design

The NFHS sample was designed to provide estimates of population and health indicators including fertility and mortality rates for the country as a whole and for urban and rural areas separately. In addition, the sample was designed to provide estimates of most key variables, with the exception of fertility and mortality estimates, for the 13 domains (sub-regions) obtained by cross classifying the three ecological zones (Mountains,

Hills and *Teraī*) with the five developmental regions (Eastern, Central, Western, Mid-western and Far-western).¹ In total, 253 primary sampling units (PSUs) were selected—34 in the urban areas and 219 in the rural areas. The number of households actually visited was 8,500, and interviews were successfully completed for 8,429 respondents. The sample design is discussed in greater detail in Appendix A.

Questionnaires

Two types of questionnaires were used in the NFHS: the Household Questionnaire and the Individual Questionnaire. The contents and design of the questionnaires were based on the DHS Model B Questionnaire, which is designed for use in countries with low contraceptive prevalence. The questionnaires were adapted to local conditions and a number of questions pertaining to on-going health and family planning programmes were added in consultation with various ministries and organizations. These questionnaires, which were developed in English, were translated into Nepali, the national language, and two other local languages, Maithali and Bhojpuri.

The Household Questionnaire listed all usual residents of each sampled household and all visitors who had slept in the household the night before the interview. For every person listed, some basic information such as their relationship to the head of the household, sex, age, education, and marital status was collected. The main purpose of this section of the Household Questionnaire was to identify women who were eligible for the individual interviews, that is, ever-married women age 15 to 49 years. In addition, the Household Questionnaire also obtained information on the source of water, type of toilet facilities, rooms used for sleeping, main materials of the floor, ownership of various consumer durable goods, and characteristics of household heads such as religion and ethnicity. In addition, the salt used in each household was tested for its iodine content.

The Individual Questionnaire was administered to all ever-married women age 15-49 who were usual residents or who were present in the household the night before the survey. It obtained information on the following topics:

- Background characteristics including age, education, religion;
- Reproductive history;
- Knowledge and use of family planning methods;
- Fertility preferences and attitudes about family planning;
- Marriage;
- Antenatal and delivery care;
- Breastfeeding and weaning practices;
- Vaccinations and health of children;
- Husband's background characteristics and women's work;
- Knowledge of AIDS;
- Maternal mortality;
- Height and weight of children and their mothers.

Information on vaccinations and health of children, and height and weight measurements were obtained for all children born since Baisakh 2049 of the Nepalese calendar, which roughly corresponds to April 14, 1992 in the Western calendar.

¹Due to their small size, the Mountain areas of the Western, Mid-western and Far-western regions were combined. In this report the combined sub-region is referred to as Western Mountain.

Both the Household and Individual Questionnaires were pretested in October, 1995 for about two weeks in three areas: the Nepali version in the Kathmandu valley, the Bhojpuri version in Parsa district, and the Maithali version in Dhanusha district. Pretesting was conducted in both rural and urban areas. About 600 interviews were conducted during the pretest. The questionnaires were finalized with input from interviewers involved in the pretest. The English versions of the questionnaires are included in Appendix E.

1.5 Recruitment, Training and Fieldwork

Prior to the main survey, 26 household listing teams, each consisting of a lister and a mapper, were recruited and trained for about a week in August 1995 at the New ERA office in Kathmandu. Household listing began soon after and was completed by the end of September 1995. Spot checks were conducted while the listers were in the field to ensure that the work was being done correctly and completely. In some cases, listers were sent back to relist areas where households had been missed or mis-listed.

Recruitment for the main survey was also carried out at the New ERA office in Kathmandu. However, keeping in mind the local language requirements, interviewers who spoke Maithili and Bhojpuri were recruited from the Central and Eastern *Terai* regions in order to administer these local language questionnaires. In general interviewers were recruited for their language skills, academic qualifications and previous work experience.

Training for the main survey was conducted in Kathmandu from December 17, 1995 to January 15, 1996. A total of 81 interviewers participated in the training. Because of the large number, interviewers were split up into two groups and were trained simultaneously in two separate classrooms in the same location. The training was conducted by senior project staff of New ERA, the Ministry of Health, and two representatives from Macro International.

The four-week training course consisted of instruction in general interviewing techniques and field procedures for the survey, a detailed review of the questionnaires, practice in weighing and measuring children, mock interviews between participants in the classroom, and practice interviews in the field. In addition, five special lectures were arranged—one each on the health delivery system in Nepal, family planning, maternal health, child health and AIDS. The female trainees whose participation was satisfactory were selected as female interviewers and field editors; male trainees whose participation was satisfactory were selected as male interviewers. Based on the performance of the trainees, field supervisors were also selected.

In order to maintain uniform survey procedures, four manuals relating to different aspects of the survey were prepared. The Interviewer's Manual discussed the objectives of the NFHS, interviewing techniques, field procedures, general procedures for completing the questionnaires, and included a detailed discussion of the Household and Individual Questionnaires. The Supervisor's and Editor's Manual contained instructions on organizing and supervising fieldwork, maintaining and monitoring control sheets, and general rules for editing the completed questionnaires. The manual also contained information on height and weight charts, assignment sheets, and the interviewer's progress sheet. Trainers were given the Training Guidelines for DHS Surveys Manual, which described the administrative and logistical aspects of training and data quality checks. The Household Listing Manual described the mapping and household listing procedures used in DHS surveys.

The NFHS fieldwork was carried out by 12 teams, each comprised of three female interviewers, one male interviewer, a female field editor, and a field supervisor who was either male or female (see Appendix D for a complete list of the persons involved in the NFHS). The male interviewer administered the Household Questionnaire and the female interviewers administered the Individual Questionnaire. Unlike most DHS surveys in which the Household Questionnaire and the Individual Questionnaire are administered by the same

interviewer, in the NFHS, the Household Questionnaire and the Individual Questionnaire were administered by two different interviewers. This procedure was adopted to prevent possible age shifting by interviewers (to lighten their workload) when collecting information in the Individual Questionnaire on children born since the cutoff date, which is Baisakh 2049 in the Nepalese calendar. The fieldwork started in mid-January and ended in mid-June 1996. Assignment of sample points to the teams and various logistical decisions were made by the NFHS staff of New ERA in Kathmandu. Each team was allowed a fixed period of time to complete fieldwork in a primary sampling unit (PSU) before moving to the next PSU. In order to maintain close supervision of all the teams during the initial two weeks of field work, all teams started their fieldwork in the *Terai* region (10 teams in the Eastern and Central *Terai* regions and two teams in the Western *Terai* region) and were accessible within a few hours of driving. After two weeks of fieldwork in these regions, the teams went to their assigned district. All teams began their fieldwork from the *Terai* region and gradually moved to the north. During the initial stage, each interviewer was instructed not to conduct more than two individual interviews of women per day. As interviewers became more familiar with the questionnaire they were conducting up to a maximum of four interviews per day. A minimum of three call-backs were made by the interviewers to ensure that eligible women identified in the sampled households were successfully interviewed.

The main duty of the field editor was to examine the completed questionnaires in the field and ensure that they were correctly filled out. An additional duty was to periodically observe ongoing interviews and verify the accuracy of the method of asking questions, recording answers, following skip instructions, and identifying eligible respondents. Throughout the survey, the senior staff of New ERA maintained close contact with all the teams through direct communication and spot checking. Data collection work was also supervised by staff of the Family Health Division and Macro International. The objective was to provide support and advice to maintain good data quality. Data quality was also ensured by providing feedback to individual teams on the results of the field check tables. These tables were produced by computers at regular intervals from data obtained in the completed questionnaires. These results were discussed with the teams to improve their performance.

1.6 Data Entry and Processing

All the completed questionnaires were brought to the New ERA office for data entry and processing. The data entry operation consisted of office editing, coding, data entry, and machine editing. Although all completed questionnaires were thoroughly edited in the field, codes for ethnicity and occupation were entered in the office. In addition, the line numbers of eligible women and the birth order of all pregnancies were rechecked. Appropriate codes for "other" responses were also assigned. One supervisor and five data entry operators were responsible for the data entry and computer editing operations. The data were entered and edited using five microcomputers and the ISSA (Integrated System for Survey Analysis) software, which was developed for DHS surveys. Data entry was also 100 percent verified in order to minimize errors. The data entry was done directly from the questionnaires and was initiated within two weeks of the first receipt of the completed questionnaires. All data entry and editing operations were completed within two weeks of completion of the fieldwork, that is, by June 1996. Computer based checks were done to rectify inconsistencies.

A preliminary report highlighting the key findings of the NFHS was released in September 1996. The purpose of this report was to disseminate the basic findings of the NFHS to policy-makers, programme planners, and administrators. The report contained 19 tables and findings on fertility, awareness and practice of family planning, fertility preferences, utilization of antenatal services, unmet need, immunizations, health of children, infant and child mortality, and knowledge about AIDS.

The NFHS followed the DHS tabulation plan in order to maintain data comparability with other countries where DHS has been implemented. Final tables were generated at Macro International.

1.7 Coverage of the Sample

Table 1.2 shows the results of the household and individual interviews. A total of 8,500 households were selected for the NFHS, of which 8,111 were located by the field teams. Of the total 8,111 households that were occupied, 8,082 were successfully interviewed, yielding a response rate of 99.6 percent. The household response rate was almost the same in urban and rural areas.

A total of 8,580 women were identified as eligible for the individual interview, indicating a ratio of 1.06 eligible women per household. Interviews were completed for 8,429 women, yielding a 98 percent overall individual response rate. The individual response rate was slightly higher in rural areas (98 percent) than in urban areas (97 percent).

Table 1.2 Results of household and individual interviews			
Number of households, number of interviews and response rates, Nepal 1996			
Result	Residence		Total
	Urban	Rural	
Households interviewed			
Households sampled	1,025	7,475	8,500
Households found	961	7,150	8,111
Households interviewed	955	7,127	8,082
Household response rate	99.4	99.7	99.6
Individual interviews			
Eligible women	983	7,597	8,580
Eligible women interviewed	954	7,475	8,429
Eligible women response rate	97.0	98.4	98.2

CHAPTER 2

CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

The purpose of this chapter is to provide a descriptive summary of the demographic and socio-economic characteristics of the household population and the individual respondents in the Nepal Family Health Survey (NFHS). This information is useful for interpreting the survey findings and serves as an approximate indicator of the representativeness of the survey. It also provides valuable input for social and economic development planning. In this chapter the NFHS data have, in some instances, been compared with data from the 1991 Census and the 1991 Nepal Fertility, Family Planning and Health Survey (also known as the 1991 NFHS).

The NFHS collected information from all usual residents of a selected household (the *de jure* population) and persons who had slept in the selected household the night before the interview (the *de facto* population). The difference between these two populations is very small and since past surveys have looked at the *de facto* population, for comparison purposes, all tables in this report refer to the *de facto* population, unless otherwise specified. A household was defined as a person or group of persons who live and eat together.

2.1 Age and Sex Composition of the Household Population

Information on the age and sex of each household member was obtained from the household head or some other responsible adult member of the household. Table 2.1 shows the age distribution of the population by five-year age groups, according to urban-rural residence and sex. The NFHS enumerated a total of 42,863 persons of whom 52 percent were females. Because of relatively high fertility in the past, a large proportion of Nepal's population (44 percent) is under 15 years of age. The median age of the population is 17.9 years (Table 2.2). There is a slightly larger proportion of children under age five than age 5 to 9 (Figure 2.1). This is not surprising because of population momentum combined with the fact that fertility has been declining very slowly in Nepal. An examination of the quality of the data in relation to age reporting indicates that there are no serious biases in reporting. For a more detailed examination of data quality refer to Appendix C. Another plausible explanation for the higher proportion of children in the youngest age group could be a marked decline in under-five mortality in the most recent five-year period (see Chapter 7). Further evidence of this is seen in Appendix Table C.4 where the number dead among live births in the 0-4 years before the survey is 40 percent less than in the 5-9 years before the survey. While some of these deaths can be attributed to the longer period of exposure among the older cohort, nevertheless, the marked decline in mortality in the most recent period may contribute to the higher proportion living in the 0-4 age cohort.

As seen in Table 2.1, there is a smaller proportion of children under age five in urban areas, suggesting that recent declines in fertility are more evident in urban than rural areas and that the transition to lower fertility began with the urban population.

The overall sex ratio, the number of males per 100 females, is 93, which is lower than that obtained in the 1991 Census (100) and the 1991 NFHS (98). The sex ratio differs by residence (Table 2.1). Urban areas have a higher sex ratio (104) than rural areas (92). The sex ratio is markedly lower among the working age population, particularly among those age 15-54 years, where it ranges from 74 to 97. On the other hand, in the younger and older age groups the sex ratio is more balanced. A similar pattern was also documented in the 1991 NFHS. A low sex ratio among the working age population, particularly in rural areas, may be attributed to the high rate of

Table 2.1. Household population by age, residence and sex

Percent distribution of the de facto household population by five-year age group, according to urban-rural residence and sex, Nepal 1996

Age group	Urban				Rural				Total			
	Male	Female	Total	Sex Ratio	Male	Female	Total	Sex Ratio	Male	Female	Total	Sex Ratio
0-4	11.8	12.6	12.2	97.7	17.0	15.6	16.3	100.6	16.6	15.3	15.9	100.4
5-9	13.8	11.2	12.5	128.1	16.0	14.7	15.4	100.4	15.8	14.4	15.1	102.2
10-14	14.4	11.7	13.1	127.9	13.9	12.1	13.0	105.6	14.0	12.1	13.0	107.3
15-19	10.4	10.0	10.2	107.8	9.2	10.2	9.7	83.3	9.3	10.2	9.8	85.2
20-24	8.6	10.7	9.6	84.1	7.0	8.9	8.0	72.8	7.1	9.0	8.1	73.9
25-29	8.2	10.2	9.2	83.2	6.4	7.6	7.0	77.1	6.5	7.8	7.2	77.7
30-34	7.8	7.7	7.8	104.8	5.3	6.0	5.7	80.8	5.5	6.1	5.8	83.3
35-39	5.6	6.1	5.9	96.3	4.7	5.2	5.0	82.6	4.8	5.3	5.1	83.9
40-44	4.2	3.9	4.0	111.4	4.0	4.3	4.1	85.1	4.0	4.3	4.1	87.1
45-49	3.8	3.8	3.8	105.1	3.8	3.8	3.8	92.0	3.8	3.8	3.8	93.0
50-54	3.0	3.1	3.1	98.8	3.4	3.2	3.3	96.3	3.4	3.2	3.3	96.5
55-59	2.8	2.7	2.7	106.9	2.9	2.6	2.7	101.7	2.9	2.6	2.7	102.2
60-64	2.1	2.2	2.1	97.3	2.4	2.2	2.3	100.5	2.4	2.2	2.3	100.3
65-69	1.5	1.8	1.7	85.9	1.7	1.5	1.6	102.4	1.7	1.6	1.6	100.8
70-74	0.8	1.1	1.0	71.9	1.3	1.0	1.2	113.9	1.3	1.1	1.1	110.2
75-79	0.7	0.4	0.6	171.1	0.7	0.5	0.6	111.0	0.7	0.5	0.6	114.9
80+	0.6	0.5	0.6	124.4	0.4	0.4	0.4	79.8	0.4	0.4	0.4	84.3
Total	100.0	100.0	100.0	104.2	100.0	100.0	100.0	92.0	100.0	100.0	100.0	93.0
Number	1,889	1,813	3,702	3,702	18,769	20,392	39,161	39,161	20,658	22,205	42,863	42,863

out-migration of males to the urban areas of Nepal, as well as to other countries, including India, in search of short-term and long-term employment.

Figure 2.2 presents the distribution of the male and female household population by single year of age (see also Appendix Table C.1). Information on the age of household members is obtained from the head of the household or any responsible adult member of the household. It is clear that there is some heaping in ages ending in zero, two and five and, as expected, age heaping is more severe at older ages. Age heaping is less pronounced among women than men, presumably because women reported their own age and this information was obtained after extensive probing whereas, many of the men's ages were provided by proxy.

Table 2.2 compares the broad age structure of the 1996 NFHS population with the population distribution in the 1991 Census and the 1991 NFHS. The age distribution in the 1996 NFHS is almost identical to the age distribution in the 1991 NFHS and similar to the age distribution in the 1991 Census.

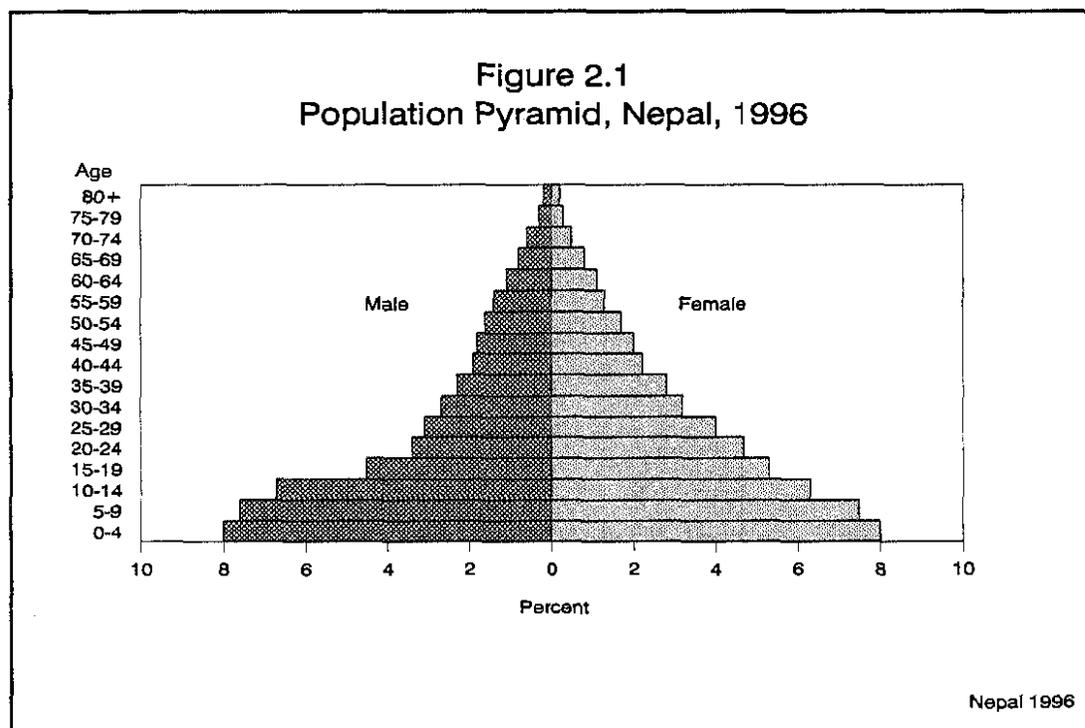
Table 2.2 Population by age from selected sources

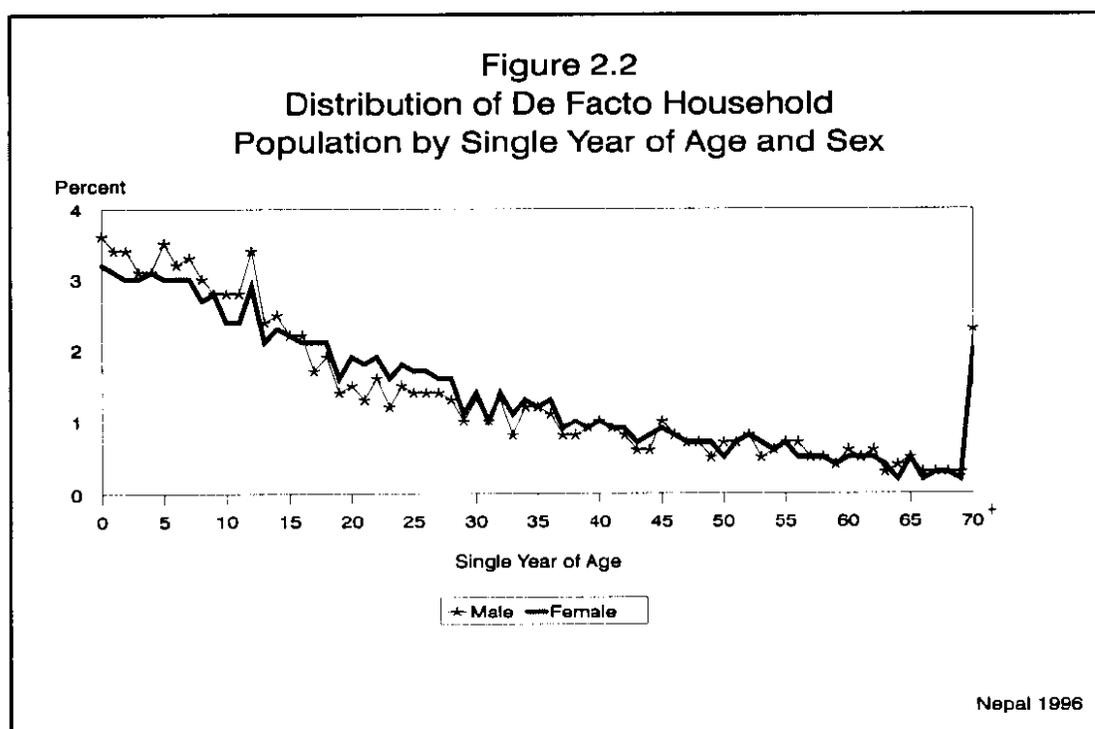
Percent distribution of the de facto household population by broad age groups, selected sources, Nepal 1991-1996

Age group	1991 NFHS	1991 Census	1996 NFHS
<15	43.7	42.4	44.0
15-64	52.8	54.1	52.2
65+	3.5	3.5	3.7
Total	100.0	100.0	100.0
Median age	U	U	17.9

U = Unknown (not available).

Source: Ministry of Health, 1993: Table 3.2; Central Bureau of Statistics, 1991: Vol. 1, Table 5.





2.2 Household Composition

Table 2.3 presents the distribution of households by selected background characteristics, which are usually indicative of the socio-economic differences between households. For example, female-headed households are often found to be poorer than male-headed households and the size and composition of a household influences the allocation of limited resources and affects the living conditions of individuals in the household.

Households in Nepal are predominantly headed by males regardless of the type of residence (88 percent). Household heads tend to be concentrated in the middle age groups. Thirty-seven percent are in the age group 30-44 and 30 percent in the age group 45-59. The median age of household heads is 43 years; the median age is slightly lower in urban areas (40 years) than in rural areas (43).

The average household size is 5.5 persons, which is consistent with the 1991 Census (5.5) but slightly smaller than the 1991 NFHS (5.7). The average household size is slightly larger in rural areas (5.5) than in urban areas (5.2).

The majority of household heads are Hindu (87 percent), 7 percent are Buddhist and 5 percent are Muslims. Brahmins and Chhetris are among the most prevalent caste groups in Nepal. Eighteen percent of household heads belong to the Chhetri caste and 15 percent belong to the Brahmin caste. The Occupational caste group, which comprises 14 percent of all household heads, is predominantly found in rural areas. On the other hand, the Newars, who comprise some 7 percent of all household heads, are predominantly found in urban areas.

2.3 Educational Attainment of the Household Population

The level of education attained by the population is an important indicator of social development. In

Table 2.3 Household composition

Percent distribution of households by sex, age, religion, and caste of household head and household size, according to urban-rural residence, Nepal 1996

Background characteristic	Residence		Total
	Urban	Rural	
Household headship			
Male	87.5	87.6	87.6
Female	12.5	12.4	12.4
Total	100.0	100.0	100.0
Age of household head			
< 30	17.4	17.5	17.5
30-44	43.2	36.4	37.0
45-59	26.3	29.9	29.6
60+	13.1	16.1	15.9
Total	100.0	100.0	100.0
Median age	40.4	43.0	42.7
Number of usual members			
1	3.3	3.2	3.2
2	7.6	7.8	7.8
3	12.1	10.6	10.7
4	20.4	15.8	16.2
5	19.3	17.9	18.0
6	14.5	15.4	15.3
7	8.6	11.6	11.3
8	5.5	6.7	6.6
9+	8.9	11.1	10.9
Total	100.0	100.0	100.0
Mean size	5.2	5.5	5.5
Religion of household head			
Hindu	82.4	87.2	86.8
Buddhist	12.3	6.1	6.7
Muslim	3.7	4.6	4.5
Christian	0.1	0.5	0.4
Other	1.1	1.3	1.3
Don't know/missing	0.4	0.2	0.2
Total	100.0	100.0	100.0
Caste of household head			
Brahmin	23.8	13.8	14.7
Chhetri	12.9	18.9	18.4
Newar	23.5	5.0	6.6
Gurung	2.7	1.4	1.5
Magar	3.2	7.7	7.3
Tamang/Sherpa	6.0	6.0	6.0
Rai/Limbu	2.5	5.3	5.0
Muslim/Churaute	3.6	4.5	4.4
Tharu/Rajbanshi	2.5	6.1	5.8
Yadav/Ahir	0.2	3.6	3.3
Occupational	8.3	14.7	14.1
Other Hill origin	0.5	3.5	3.2
Other Terai origin	10.1	9.4	9.5
Total	100.0	100.0	100.0
Number of households	716	7,366	8,082

Note: Table is based on de jure members; i.e., usual residents.

addition, education has been found to affect reproductive behaviour, the use of contraceptives, and the health of mothers and their children. Tables 2.4.1 and 2.4.2 show the distribution of the male and female household population age 6 years and above by the level of education attained, according to age, residence, ecological region, development region, and sub-region. In this report those who have never been to school are categorized as having no education. Those who have attended primary school or completed it are categorized as "primary."

Over one-third of males (36 percent) and two-thirds of females (67 percent) have never been to school. Overall, 39 percent of males and 22 percent of females have attained some primary education, while 18 percent of males and 8 percent of females have attained some secondary education. The median number of years of schooling is 2 for males and less than 1 for females (the median for females is not shown because more than 50 percent of the female household population in most of the categories have no education). An examination of the level of education by age group reveals that there has been an improvement over time in the educational attainment for both sexes. The proportion of males who have never been to school declines from 88 percent among the oldest age group (65 years or more) to 14 percent among those age 10-14. The comparable proportion among females is 99 percent and 38 percent, respectively. Nevertheless, the gender gap remains large. For example, 24 percent of males in the age group 6-9 have not been to school compared with 41 percent among females in the same age group.

Data also indicate that there is a wide gap between urban and rural areas in educational attainment. Thirty-eight percent of males and 70 percent of females in rural areas have never attended school compared with 19 percent of males and 40 percent of females in urban areas. For both sexes, this difference is more pronounced at higher levels of education, presumably because of insufficient numbers of higher educational facilities and inaccessibility in rural areas.

Table 2.4.1 Educational level of the male household population

Percent distribution of the de facto male household population age six and over by highest level of education attended, and median number of years of schooling, according to selected background characteristics, Nepal 1996

Background characteristic	Level of education					Total	Number of persons	Median years of schooling
	No education	Primary	Some secondary	SLC and higher	Don't know/missing			
Age								
6-9	24.3	74.9	0.1	0.0	0.7	100.0	2,559	0.8
10-14	14.2	67.3	18.5	0.0	0.0	100.0	2,883	3.7
15-19	17.3	26.9	49.6	6.0	0.1	100.0	1,925	6.8
20-24	24.2	25.8	28.5	21.3	0.3	100.0	1,477	6.0
25-29	31.0	24.7	24.2	19.4	0.7	100.0	1,348	4.8
30-34	39.4	25.8	18.0	15.7	1.1	100.0	1,137	3.0
35-39	41.7	30.4	16.1	10.7	1.2	100.0	989	2.3
40-44	47.8	26.5	14.9	9.4	1.4	100.0	824	1.0
45-49	55.8	24.3	11.5	6.8	1.6	100.0	787	0.0
50-54	73.2	14.9	5.2	4.0	2.6	100.0	693	0.0
55-59	79.0	11.6	4.2	3.6	1.6	100.0	590	0.0
60-64	84.1	10.0	2.6	1.9	1.4	100.0	490	0.0
65+	87.9	6.7	2.1	1.5	1.7	100.0	824	0.0
Residence								
Urban	18.6	33.4	23.3	23.6	1.0	100.0	1,605	5.7
Rural	37.8	39.1	17.0	5.3	0.8	100.0	14,919	1.6
Ecological region								
Mountain	43.7	41.2	12.0	2.6	0.5	100.0	1,155	0.9
Hill	31.8	40.5	18.8	7.9	1.1	100.0	7,129	2.6
Terai	38.4	36.5	17.3	7.1	0.6	100.0	8,240	1.5
Development region								
Eastern	32.9	37.3	21.0	8.0	0.7	100.0	4,166	2.8
Central	39.5	34.7	16.2	9.0	0.5	100.0	5,630	1.3
Western	33.8	41.6	17.5	6.1	1.0	100.0	3,056	2.3
Mid-western	39.1	40.3	14.9	4.5	1.3	100.0	2,261	1.2
Far-western	30.6	48.1	17.0	3.3	1.0	100.0	1,411	2.3
Sub-region								
Eastern Mountain	36.7	43.8	14.6	4.2	0.7	100.0	314	1.7
Central Mountain	48.0	40.3	10.2	1.3	0.3	100.0	398	0.9
Western Mountain	44.9	40.2	11.7	2.6	0.6	100.0	443	0.9
Eastern Hill	34.6	38.0	20.8	6.0	0.6	100.0	1,313	2.6
Central Hill	30.3	35.7	19.6	13.7	0.7	100.0	2,357	3.2
Western Hill	30.8	43.5	18.5	5.7	1.5	100.0	1,874	2.6
Mid-western Hill	34.1	46.6	14.6	3.3	1.5	100.0	1,081	1.7
Far-western Hill	30.9	45.2	19.6	3.1	1.2	100.0	504	2.4
Eastern Terai	31.6	36.2	22.0	9.6	0.7	100.0	2,540	3.1
Central Terai	45.9	33.2	14.3	6.2	0.4	100.0	2,875	0.9
Western Terai	38.6	38.5	16.0	6.7	0.2	100.0	1,182	1.8
Mid-western Terai	41.5	35.4	15.9	6.1	1.1	100.0	983	1.1
Far-western Terai	27.8	50.4	17.0	3.7	1.1	100.0	660	2.5
Total	36.0	38.6	17.6	7.1	0.8	100.0	16,524	2.0

SLC = School Leaving Certificate

Table 2.4.2 Educational level of the female household population

Percent distribution of the de facto female household population age six and over by highest level of education attended, according to selected background characteristics, Nepal 1996

Background characteristic	Level of education					Total	Number of persons
	No education	Primary	Some secondary	SLC and higher	Don't know/missing		
Age¹							
6-9	41.1	58.2	0.0	0.0	0.6	100.0	2,542
10-14	38.4	49.7	11.8	0.0	0.2	100.0	2,686
15-19	51.5	19.5	25.7	3.1	0.2	100.0	2,259
20-24	64.4	13.7	13.6	8.2	0.2	100.0	1,999
25-29	75.2	11.8	7.4	5.4	0.2	100.0	1,734
30-34	84.7	8.3	4.3	2.8	0.1	100.0	1,365
35-39	88.7	6.9	2.8	1.5	0.0	100.0	1,179
40-44	91.1	5.0	2.7	1.2	0.1	100.0	946
45-49	94.0	3.5	1.9	0.6	0.0	100.0	846
50-54	96.3	1.5	1.2	0.5	0.6	100.0	718
55-59	97.6	1.5	0.4	0.5	0.1	100.0	577
60-64	97.5	1.5	0.5	0.2	0.2	100.0	489
65+	99.2	0.3	0.2	0.0	0.3	100.0	794
Residence							
Urban	40.1	26.9	19.5	13.2	0.3	100.0	1,547
Rural	69.9	21.8	6.9	1.2	0.2	100.0	16,590
Ecological region							
Mountain	77.2	17.5	4.2	0.7	0.3	100.0	1,282
Hill	62.0	26.0	9.1	2.7	0.2	100.0	8,285
Terai	71.0	19.3	7.4	2.0	0.2	100.0	8,570
Development region							
Eastern	62.3	24.6	10.4	2.5	0.2	100.0	4,444
Central	70.5	18.7	7.2	3.2	0.3	100.0	5,839
Western	60.2	27.6	10.1	1.9	0.1	100.0	3,665
Mid-western	75.2	18.6	4.7	1.2	0.3	100.0	2,497
Far-western	73.2	21.9	4.4	0.4	0.2	100.0	1,691
Sub-region							
Eastern Mountain	60.7	25.9	10.6	2.3	0.5	100.0	326
Central Mountain	78.6	19.1	2.0	0.0	0.3	100.0	446
Western Mountain	86.7	10.8	2.1	0.2	0.2	100.0	509
Eastern Hill	63.8	25.7	8.7	1.5	0.2	100.0	1,511
Central Hill	57.9	24.4	11.5	6.0	0.2	100.0	2,475
Western Hill	54.4	31.9	11.7	1.8	0.2	100.0	2,375
Mid-western Hill	73.8	22.2	3.1	0.7	0.2	100.0	1,235
Far-western Hill	77.4	18.4	3.8	0.1	0.2	100.0	688
Eastern Terai	61.6	23.7	11.3	3.1	0.2	100.0	2,607
Central Terai	80.0	13.9	4.4	1.3	0.3	100.0	2,918
Western Terai	71.0	19.7	7.3	2.0	0.0	100.0	1,291
Mid-western Terai	72.8	17.2	7.4	2.1	0.5	100.0	1,044
Far-western Terai	65.9	28.0	5.3	0.7	0.1	100.0	711
Total	67.3	22.2	8.0	2.2	0.2	100.0	18,136

Note: Median years of schooling is not shown because more than 50 percent of the female household population in most of the categories have no education. The median years of schooling for females age 6-9 and 10-14 is 0.7 and 2.1, respectively. The median for urban residence is 2.5.

SLC = School Leaving Certificate

¹ Excludes 2 women for whom age was not reported.

The percentage of males and females who have no education is highest in the Mountain region and lowest in the Hill region. Nearly 40 percent of males residing in the Central and Mid-western regions reported having no education. Among females, the highest percentage reporting no education was in the Mid-western region (75 percent), followed closely by the Far-western region (73 percent). The difference in the percentage of males with no education is more pronounced by sub-regions ranging from 28 percent in the Far-western sub-region of the *Terai* to 48 percent in the Central sub-region of the Mountains. A similar difference is seen among females with no education, ranging from 54 percent in the Western Hill sub-region to 87 percent in the Western Mountain sub-region. Tables 2.4.1 and 2.4.2 show the persistence of the gender gap in the level of education even among the sub-regions. While for males the percentage who have never been to school is less than 50 percent in all sub-regions, for females, the percentage who have never been to school exceeds 50 percent in all sub-regions and exceeds 75 percent in four of the thirteen sub-regions.

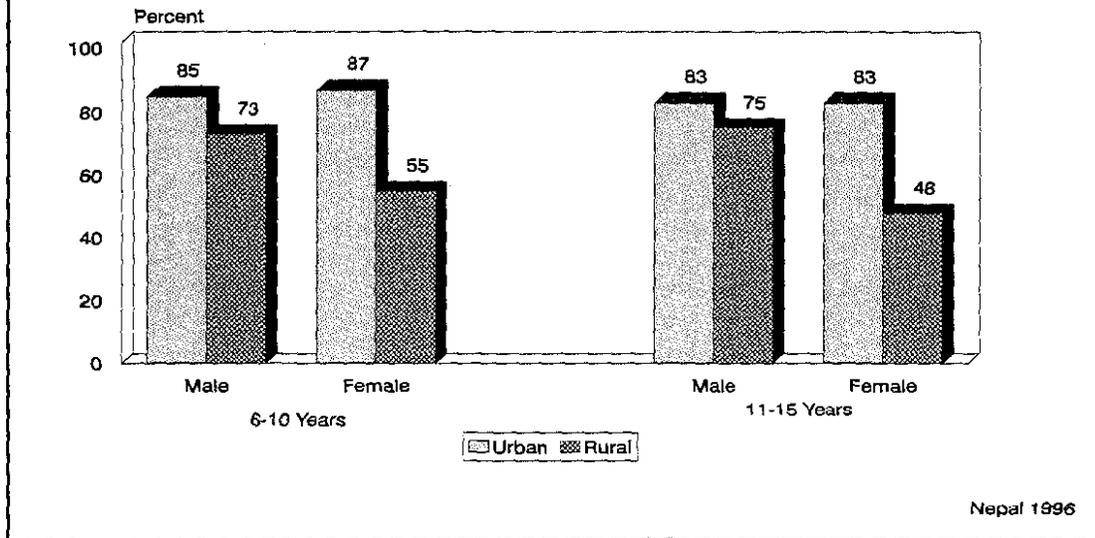
Table 2.5 presents the school enrolment rates of the male and female population age 6-24 years according to age and residence. Slightly more than three of five (65 percent) children age 6-15 are currently enrolled in school. But the enrolment drops substantially after age 15 to less than three of ten (28 percent) among those age 16-20 and to one of eleven (11 percent) among those age 21-24. This sudden drop may be partly due to lack of financial resources to continue schooling and partly due to the need to work to support the family.

Age	Male			Female			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6-10	84.9	72.7	73.7	86.9	54.5	56.7	85.8	63.6	65.3
11-15	82.9	75.2	76.0	82.6	48.1	50.8	82.8	61.8	63.6
6-15	83.9	73.9	74.7	84.7	51.6	54.0	84.3	62.8	64.5
16-20	51.0	38.2	39.5	42.2	17.0	19.2	46.6	26.4	28.3
21-24	33.3	13.7	15.8	14.7	3.1	4.2	23.2	7.5	9.1

There continue to be differentials in enrolment by urban-rural residence (see Figure 2.3). The enrolment rate among children age 6-15 is much higher in urban areas (84 percent) than in rural areas (63 percent). This difference persists in all age groups and is much greater among older age groups than among younger age groups. For example, among those age 21-24, urban enrolment is three times that of rural enrolment, whereas among those age 6-10, urban enrolment is only 1.3 times as high as rural enrolment.

The overall school enrolment rate is also much higher among males than females. However, the gender gap is almost non-existent in urban areas among children age less than 16. This is not the case in rural areas where males continue to be enrolled in larger proportions than females in all age groups.

Figure 2.3
School Enrolment among Children Age 6-15
by Age, Sex, and Urban-Rural Residence



2.4 Housing Characteristics

Table 2.6 provides information on selected housing characteristics by residence. This information is helpful in assessing the general socio-economic conditions of the population. Overall, only 18 percent of households have electricity. Nevertheless, this is an increase of 5 percentage points over the level obtained in the 1991 NFHS. There is a considerable difference between urban and rural households regarding the availability of electricity. While more than three-fourths (78 percent) of households in urban areas have electricity, only 12 percent in rural areas have electricity.

Information on the source of drinking water and accessibility to the source was also gathered in the NFHS. Safe drinking water is important for health and sanitation. Table 2.6 shows that only 9 percent of households have water piped into their residence and 23 percent collect water from a public tap. In total, 57 percent of urban households and 29 percent of rural households have access to piped water. Access to piped water has increased when compared with data from the 1991 NFHS. Nearly one-third (32 percent) of households have access to hand pumps, which are more common in rural areas than in urban areas (32 percent versus 27 percent). One-fifth of households interviewed in rural areas reported spring water as their main source of drinking water. The other sources of drinking water include well, river or stream, and stone taps. Those households which did not have access to drinking water within their own premises were also asked about the time required to fetch water. Overall, three of five households have access to water within 15 minutes. As expected there is quicker access to water in urban than in rural areas.

The majority of households (77 percent) do not have sanitation facilities. Lack of sanitation facilities is more common in rural areas (82 percent) than in urban areas (26 percent). Thirteen percent of households have a pit toilet or latrine (9 percent in urban areas and 13 percent in rural areas) and 7 percent have pan latrines (45 percent in urban areas and 3 percent in rural areas). Less than 2 percent of the population has access to flush toilets, which are predominantly located in urban households (17 percent).

Table 2.6 Housing characteristics

Percent distribution of households by housing characteristics, according to urban-rural residence, Nepal 1996

Characteristic	Residence		
	Urban	Rural	Total
Electricity			
Yes	78.4	12.1	17.9
No	21.6	87.9	82.0
Total	100.0	100.0	100.0
Source of drinking water			
Piped water			
Piped into residence	46.4	5.2	8.8
Public tap	11.0	23.9	22.7
Well water			
Well in residence	5.7	1.8	2.1
Public well	3.0	5.2	5.0
Hand Pump			
Hand pump in residence	20.9	11.0	11.9
Public hand pump	6.4	21.3	20.0
Spring water (Kuwa)	0.0	20.8	18.9
River/stream	3.3	7.6	7.2
Stone tap (Dhara)	1.8	1.6	1.6
Other	0.6	1.4	1.4
Missing	0.9	0.3	0.4
Total	100.0	100.0	100.0
Time to water source			
Water within 15 minutes	88.8	58.5	61.1
Sanitation facility			
Flush toilet	17.1	0.2	1.7
Traditional pit toilet	9.2	13.2	12.9
Ventilated improved toilet	1.8	0.9	1.0
Pan	45.3	3.2	6.9
No facility	26.3	82.3	77.3
Other	0.1	0.0	0.0
Missing	0.2	0.2	0.2
Total	100.0	100.0	100.0
Flooring			
Mud/dung	44.3	95.7	91.2
Wood planks	3.5	2.5	2.6
Cement	41.3	1.6	5.1
Linoleum	3.0	0.0	0.3
Marble chips	1.6	0.0	0.1
Carpet	6.1	0.1	0.6
Other	0.1	0.1	0.1
Total	100.0	100.0	100.0
Persons per sleeping room			
1-2	52.0	37.8	39.0
3-4	31.9	37.5	37.0
5-6	12.7	17.4	17.0
7+	2.8	7.1	6.7
Don't know/missing	0.6	0.2	0.3
Total	100.0	100.0	100.0
Mean persons per room	3.0	3.5	3.5
Number of households	716	7,366	8,082

A large percentage (91 percent) of houses have mud or dung floors. Mud or dung floors are almost universal in rural households, while only two of five urban households have this type of flooring. Five percent of all households have a cement floor, which is more common in urban households (41 percent) than in rural households (2 percent).

The extent of crowding is estimated by the number of rooms in a household used for sleeping. Crowding is quite apparent in Nepalese households. Thirty-nine percent of households have 1-2 persons per sleeping room and 37 percent have 3-4 persons. Seventeen percent of households have as many as 5-6 persons per room and 7 percent have 7 or more persons. Overall, there are fewer persons per sleeping room in urban than in rural households, although this difference is not large among smaller-sized families. The overall mean number of persons per sleeping room is 3.5.

Information on the possession of various durable goods was also collected at the household level. Table 2.7 shows that overall, 37 percent of households have radios, one-fifth have bicycles, 7 percent have televisions and 1 percent have telephones. There is a vast difference between urban and rural households, with urban households much more likely to own these consumer durable items than rural households. The urban-rural difference is especially pronounced for ownership of television and telephones. The percentage owning radios, televisions and bicycles has increased over the last five years, when compared with data from the 1991 NFHS.

Lack of a sufficient amount of iodine in the diet can lead to serious nutritional deficiencies such as goiter, nutritional stunting, mental retardation, and cretinism. The Government of Nepal has emphasized the addition of iodine to salt to prevent and control the occurrence of these health problems. The iodine content of salt used in households was tested by the NFHS interviewers. These results are presented in Table 2.8. The test involved

Table 2.7 Household durable goods

Percentage of households possessing various durable consumer goods, by urban-rural residence, Nepal 1996

Consumer good	Residence		Total
	Urban	Rural	
Radio	59.7	34.2	36.5
Television	42.6	3.1	6.6
Telephone	14.1	0.1	1.3
Bicycle	38.9	17.6	19.5
None of the above	25.2	56.0	53.3
Number of households	716	7,366	8,082

placing a drop of a special solution onto a small amount of salt supplied by the household respondent, which indicates the presence of iodine in the salt, but not its quality which is subject to degradation. Test kits were supplied by the Nepal Salt Trading Corporation. Results showed that 93 percent of the households use iodized salt. This finding is consistent with an earlier survey which tested salt in local shops at the community level. The findings of that survey indicated that 88 percent of the 288 community shops surveyed sold iodized salt (National Planning Commission Secretariat and UNICEF-Nepal, 1996). NFHS data showed that almost all urban households (99 percent) use iodized salt while the figure for rural households is 93 percent. The proportion of households using iodized salt was highest in the *Terai*, in the Eastern development region and in the

Eastern *Terai* sub-region. Households in which the head of the household is educated are slightly more likely than other households to use iodized salt.

2.5 Background Characteristics of Respondents

Table 2.9 shows the distribution of respondents to the Individual Questionnaire by selected background characteristics including age, marital status, residence, education, religion, and caste. Respondents are ever-married women age 15-49 who had slept in a selected household the night before the interview. As discussed in Chapter 1, interviews were completed for a total of 8,429 eligible women. The distributions for both ever-married and currently married women are shown but, since the distributions are very similar, only ever-married women will be discussed here.

The age distribution of women reveals that one of two women is below 30 years and one of five is 40 years or above. Women are mostly concentrated in the age groups 20-34. This could be because of a trend towards later marriage, and since the survey interviewed ever-married women only there are fewer ever-married women in the youngest age group. This is confirmed by comparison with the 1991 NFHS data. The age distribution of ever-married women in the 1996 NFHS is consistent with the age distribution in the 1991 NFHS except in the 15-19 age group, which is 3 percent higher in 1991.

The majority of women are currently married with a very small minority widowed, divorced or separated (5 percent).

Ninety-two percent of women are currently residing in rural areas. One of two women live in the *Terai*, 43 percent live in the Hills and 7 percent live in the Mountains. The distribution of women by development regions shows that one-third are from the Central region, nearly one-quarter (23 percent) from the Eastern region and one-fifth from the Western region. The distribution of women in the Mid-western and Far-western regions is 14 percent and 10 percent, respectively. The sub-regional distribution shows the highest concentration of women in the Central *Terai* sub-region (19 percent), followed by the Eastern *Terai* (15 percent) and the Central and Western Hill sub-regions (around 12 percent each). In each of the remaining sub-regions, the distribution of women is less than 10 percent.

Table 2.8 Iodized salt

Percentage of households using iodized salt, by age of household head and selected background characteristics, Nepal 1996

Background characteristic	Percentage	Number of households
Age of household head		
< 30	94.0	1,415
30-44	93.8	2,994
45-59	92.5	2,393
60+	92.0	1,281
Residence		
Urban	98.6	716
Rural	92.6	7,366
Ecological region		
Mountain	89.2	608
Hill	92.2	3,695
Terai	94.7	3,779
Development region		
Eastern	96.2	1,974
Central	93.2	2,703
Western	90.2	1,634
Mid-western	93.5	1,080
Far-western	91.0	690
Sub-region		
Eastern Mountain	92.3	151
Central Mountain	90.8	228
Western Mountain	85.7	229
Eastern Hill	93.5	640
Central Hill	92.9	1,091
Western Hill	89.8	1,088
Mid-western Hill	94.1	581
Far-western Hill	92.7	294
Eastern Terai	98.2	1,183
Central Terai	93.8	1,383
Western Terai	90.9	546
Mid-western Terai	95.7	394
Far-western Terai	90.1	272
Educational level of household head		
No education	91.9	4,806
Primary	94.4	1,654
Some secondary	95.7	951
SLC and above	96.0	560
Don't know/missing	94.6	111
Total	93.2	8,082

Note: Total includes 14 households in which the salt test was not performed.

SLC = School Leaving Certificate

The vast majority of ever-married women (80 percent) have never been to school; one in nine has attended primary school; 6 percent have some secondary education; and less than 3 percent have passed the School Leaving Certificate (SLC). Four of five women are illiterate.

The vast majority of women (87 percent) are Hindu. Six percent are Buddhist and 5 percent are Muslim. The ethnic composition of women shows that Chhetris are the dominant ethnic group (17 percent), followed by the Occupational caste group (15 percent) and Brahmins (14 percent). The Tibetan-Burmese groups such as the Gurung, Magar, Tamang, Sherpa, Rai, and Limbu represent between 1 and 7 percent of the female ever-married population and the Newars 6 percent. The Tharu and Rajbanshi represent 8 percent and the Yadav and Ahir 4 percent.

Table 2.10 shows the relationship between women's level of education and other background characteristics. As expected, the level of education decreases with increasing age of the respondents, reflecting an improvement in women's level of education over time.

The urban-rural differences in women's level of education is marked. While nearly one half (48 percent) of women in urban areas have no education, the proportion of rural women with no education is 83 percent. The urban advantage is especially pronounced at the higher levels of education. For example, while the urban-rural difference among women who have some primary education is 5 percentage points, the difference among those who have passed the SLC is almost 16 percentage points.

Women residing in the Mountain region are least likely to have any education compared with women in the *Terai* and Hill regions. However, there is very little difference in education between women residing in the Hills and the *Terai*. Women residing in the Western and Eastern regions are slightly more educated than women residing in the Central region. However, this difference is not marked. Women residing in the Far-western and Mid-western regions are less educated than women in the other regions. Nearly 4 percent of women in the Central region have passed their SLC. The proportion of women who have never attended school ranges from 70 percent in the Central Hill sub-region to a high of 95 percent in the

Table 2.9 Background characteristics of respondents

Percent distribution of ever-married and currently married women by selected background characteristics, Nepal 1996

Background characteristic	Ever-married women			Currently married women		
	Weighted percent	Number of women		Weighted percent	Number of women	
		Weighted	Un-weighted		Weighted	Un-weighted
Age						
15-19	11.6	982	955	12.1	965	940
20-24	19.3	1,626	1,629	20.1	1,602	1,602
25-29	18.9	1,594	1,591	19.5	1,560	1,556
30-34	16.1	1,361	1,363	16.2	1,292	1,295
35-39	13.3	1,119	1,128	13.0	1,042	1,045
40-44	11.0	923	937	10.4	828	840
45-49	9.8	824	826	8.7	695	700
Marital status						
Married	94.7	7,982	7,978	100.0	7,982	7,978
Widowed	3.2	272	281	NA	NA	NA
Divorced	0.2	14	15	NA	NA	NA
Not living together	1.9	160	155	NA	NA	NA
Residence						
Urban	8.4	712	954	8.4	668	900
Rural	91.6	7,717	7,475	91.6	7,314	7,078
Ecological region						
Mountain	6.8	569	1,061	6.7	538	1,002
Hill	42.7	3,600	3,597	42.1	3,363	3,358
Terai	50.5	4,259	3,771	51.1	4,082	3,618
Development region						
Eastern	23.0	1,941	1,683	22.9	1,829	1,583
Central	33.5	2,827	2,515	33.5	2,677	2,373
Western	19.5	1,647	1,594	19.6	1,561	1,513
Mid-western	14.2	1,196	1,390	14.4	1,146	1,334
Far-western	9.7	819	1,247	9.6	769	1,175
Sub-region						
Eastern Mountain	1.5	127	308	1.5	120	290
Central Mountain	2.3	195	349	2.3	183	326
Western Mountain	2.9	247	404	3.0	236	386
Eastern Hill	6.9	578	523	6.7	538	487
Central Hill	12.6	1,065	1,087	12.4	993	1,012
Western Hill	12.1	1,022	923	11.9	952	859
Mid-western Hill	7.1	595	616	7.1	567	587
Far-western Hill	4.0	340	448	3.9	313	413
Eastern Terai	14.7	1,236	852	14.7	1,171	806
Central Terai	18.6	1,566	1,079	18.8	1,502	1,035
Western Terai	7.4	625	671	7.6	609	654
Mid-western Terai	5.8	492	596	6.0	476	577
Far-western Terai	4.0	341	573	4.1	324	546
Education						
No education	80.0	6,742	6,736	79.5	6,347	6,337
Primary	11.0	925	893	11.2	896	864
Some secondary	6.3	531	540	6.4	513	522
SLC and above	2.7	231	260	2.8	227	255

Continued

Table 2.9 — Continued

Background characteristic	Ever-married women			Currently married women		
	Weighted percent	Number of women		Weighted percent	Number of women	
		Weighted	Un-weighted		Weighted	Un-weighted
Literacy						
Illiterate	79.1	6,665	6,615	78.8	6,288	6,231
Literate	20.9	1,764	1,814	21.2	1,694	1,747
Religion						
Hindu	87.3	7,357	7,373	87.2	6,964	6,978
Buddhist	6.0	509	569	6.0	480	535
Muslim	5.0	420	348	5.1	406	337
Christian	0.4	35	31	0.4	30	27
Other	1.1	92	92	1.1	85	85
Missing	0.2	16	16	0.2	16	16
Ethnic group						
Brahmin	13.6	1,146	1,169	13.5	1,078	1,102
Chhetri	17.4	1,466	1,688	17.3	1,382	1,590
Newar	6.0	509	533	6.0	483	506
Gurung	1.3	107	103	1.3	101	97
Magar	7.1	596	581	7.1	566	551
Tamang/Sherpa	5.6	472	526	5.6	445	496
Rai/Limbu	4.4	370	387	4.3	341	358
Muslim/Churaute	5.0	421	349	5.1	407	337
Tharu/Rajbanshi	8.0	670	716	8.1	650	694
Yadav/Ahir	3.8	319	234	3.9	309	227
Occupational	14.6	1,234	1,256	14.4	1,151	1,171
Other Hill origin	3.0	252	218	3.0	238	205
Other Terai origin	10.3	866	669	10.4	832	644
Total	100.0	8,429	8,429	100.0	7,982	7,978

NA = Not applicable
SLC = School Leaving Certificate

Western Mountain sub-region. In the Central Hill sub-region, 8 percent of women reported having attained at least a SLC level of education. As expected, most (96 percent) illiterate women have no education.¹ On the other hand, 20 percent of women with no formal education are literate. This is relatively high when compared with other developing countries, where the percent literate among women with no formal education ranges from less than one percent in Burkina Faso to 22 percent in Colombia (Kishor and Neitzel, 1996).² Within Asia, this percentage ranges from less than one percent in Bangladesh to 17 percent in the Philippines. Such a high percentage in Nepal can be attributed to the emphasis on non-formal literacy classes and its success. Nearly one-third (30 percent) of literate women have achieved some secondary education and 13 percent have attained at least a SLC level of education.

¹ Women who had never attended school and women who had attended Grade 5 or less were asked if they could read and understand a letter or newspaper. If they said "No", they were given a sentence to read. If they are not able to read, they are categorized as "illiterate." All other women are categorized as "Literate."

² Any women who stated that she can read, whether easily or with difficulty, is considered literate. Unlike in Nepal, women's literacy was not tested by asking them to actually read a sentence.

Table 2.10 Level of education

Percent distribution of ever-married women by the highest level of education attended, according to selected background characteristics, Nepal 1996

Background characteristic	Highest level of education				Total	Number of women
	No education	Primary	Some secondary	SLC and above		
Age						
15-19	69.0	19.1	11.2	0.8	100.0	982
20-24	68.1	15.7	10.8	5.4	100.0	1,626
25-29	76.5	12.0	7.1	4.4	100.0	1,594
30-34	85.1	8.1	4.6	2.3	100.0	1,361
35-39	88.0	8.1	2.3	1.6	100.0	1,119
40-44	90.0	5.5	3.4	1.2	100.0	923
45-49	93.0	4.9	1.7	0.5	100.0	824
Residence						
Urban	48.1	15.4	19.3	17.2	100.0	712
Rural	82.9	10.6	5.1	1.4	100.0	7,717
Ecological region						
Mountain	89.5	6.9	2.8	0.9	100.0	569
Hill	77.5	12.2	6.8	3.5	100.0	3,600
Terai	80.9	10.5	6.3	2.3	100.0	4,259
Development region						
Eastern	76.3	12.2	8.6	2.9	100.0	1,941
Central	79.4	10.9	5.8	3.9	100.0	2,827
Western	76.1	13.9	7.5	2.5	100.0	1,647
Mid-western	85.6	8.5	4.1	1.7	100.0	1,196
Far-western	90.2	6.2	3.2	0.4	100.0	819
Sub-region						
Eastern Mountain	76.6	11.4	9.1	2.9	100.0	127
Central Mountain	91.4	7.7	0.9	0.0	100.0	195
Western Mountain	94.6	4.0	1.0	0.5	100.0	247
Eastern Hill	81.6	9.8	6.9	1.7	100.0	578
Central Hill	70.3	12.7	8.8	8.2	100.0	1,065
Western Hill	72.8	16.5	8.4	2.3	100.0	1,022
Mid-western Hill	86.2	10.4	2.6	0.8	100.0	595
Far-western Hill	91.3	4.9	3.6	0.2	100.0	340
Eastern Terai	73.8	13.4	9.4	3.4	100.0	1,236
Central Terai	84.2	10.0	4.4	1.4	100.0	1,566
Western Terai	81.5	9.5	6.1	2.9	100.0	625
Mid-western Terai	82.6	7.4	6.8	3.2	100.0	492
Far-western Terai	87.8	8.1	3.5	0.6	100.0	341
Literacy						
Literate	19.8	37.0	30.1	13.1	100.0	1,764
Illiterate	95.9	4.1	0.0	0.0	100.0	6,665
Total	80.0	11.0	6.3	2.7	100.0	8,429

SLC = School Leaving Certificate

Table 2.11 School Attendance and reasons for leaving school

Percent distribution of ever-married women 15-24 by whether or not currently attending school and reason for leaving school, according to highest level of education attended, Nepal 1996

Attendance/ Reason for leaving school	Educational Attainment				Total
	Primary incomplete	Primary complete	Secondary incomplete	Secondary complete & higher	
Currently attending	0.0	1.2	9.6	23.1	6.1
Reason for leaving					
Got pregnant	0.7	0.0	2.6	6.7	2.0
Got married	10.8	27.7	54.1	45.3	31.6
Care for younger children	8.7	8.6	1.8	6.5	6.0
Family needed help	48.6	36.5	14.4	2.3	30.1
Could not pay school fees	2.7	3.4	1.1	0.0	1.9
Needed to earn money	1.4	0.0	0.3	1.0	0.8
Graduated/Had enough schooling	0.0	0.0	0.0	1.4	0.2
Did not pass exams	0.0	0.0	5.5	2.1	2.1
Did not like school	9.4	3.5	1.4	0.8	5.0
School not accessible	3.4	12.9	4.1	2.0	4.5
Other	12.5	6.3	4.2	7.8	8.4
Don't know/missing	1.9	0.0	0.9	1.0	1.2
Total	100.0	100.0	100.0	100.0	100.0
Number of women	354	89	285	96	824

SLC = School Leaving Certificate

Reasons for Leaving School

Ever-married women who were not currently attending school were asked their reason for leaving school. This information can provide guidance to programs seeking to improve women's educational opportunities. Table 2.11 shows the percent distribution of women age 15-24 according to whether or not they are currently attending school and, if not, their reasons for leaving school, according to the highest level of education attended.

Only a small percentage of respondents (6 percent) were attending school at the time of the interview. The two principal reasons women gave for leaving school was to get married or to help in the family (32 percent and 30 percent, respectively). The reasons given for leaving school varied by the level of education. Nearly one out of two women who had not completed primary school said she left because her family needed help (49 percent). This was also the most common reason given by women who had completed primary school, although a smaller proportion stated this reason (37 percent). A sizeable proportion of these women stated that they left school to get married (28 percent) or because the school was not accessible (13 percent). Marriage was the principal reason for leaving school among women who had some secondary education or who had completed secondary education (54 percent and 45 percent, respectively). Twenty-three percent of women who had completed secondary education were attending school at the time of the interview.

2.6 Access to Mass Media

The NFHS collected information on women's exposure to both the print and broadcast media. Women were asked if they usually read a newspaper or magazine at least once a week, listen to a radio daily, and watch television at least once a week. This information is important because it provides some indication of the extent to which Nepalese women are exposed to family planning and health messages in the mass media.

Table 2.12 Access to mass media

Percentage of ever-married women who usually read a newspaper once a week, watch television once a week, or listen to the radio daily by selected background characteristics, Nepal 1996

Background characteristic	No media exposure	Reads magazine/newspaper weekly	Watches television weekly	Listens to radio daily	All three media	Number of women
Age						
15-19	61.9	3.6	9.4	33.9	1.1	982
20-24	56.0	8.7	11.7	39.7	3.5	1,626
25-29	57.3	6.9	14.3	37.1	3.8	1,594
30-34	58.2	5.3	13.4	36.4	2.6	1,361
35-39	58.0	4.0	13.3	37.3	2.4	1,119
40-44	60.4	3.3	12.3	35.0	2.4	923
45-49	65.0	1.8	10.2	31.2	1.2	824
Residence						
Urban	21.1	27.1	63.0	54.3	18.7	712
Rural	62.4	3.3	7.6	34.7	1.1	7,717
Ecological region						
Mountain	70.4	1.7	2.1	28.8	0.5	569
Hill	52.6	5.9	12.2	43.2	2.8	3,600
Terai	62.7	5.3	13.7	31.6	2.7	4,259
Development region						
Eastern	46.5	7.1	14.8	50.0	3.3	1,941
Central	61.4	6.3	20.4	29.2	3.8	2,827
Western	60.8	4.7	7.0	36.7	1.9	1,647
Mid-western	64.3	3.5	3.9	34.0	1.3	1,196
Far-western	68.2	1.4	1.4	31.4	0.3	819
Sub-region						
Eastern Mountain	49.0	5.2	6.8	49.0	1.9	127
Central Mountain	73.9	0.6	1.7	25.5	0.3	195
Western Mountain	78.7	0.7	0.0	21.0	0.0	247
Eastern Hill	43.8	5.4	5.7	55.3	1.0	578
Central Hill	43.0	12.5	34.5	44.5	8.4	1,065
Western Hill	54.1	3.3	3.3	44.8	0.7	1,022
Mid-western Hill	67.6	2.0	0.5	32.2	0.0	595
Far-western Hill	67.2	0.7	0.9	32.8	0.0	340
Eastern Terai	47.6	8.1	19.8	47.6	4.6	1,236
Central Terai	72.3	2.9	13.2	19.3	1.1	1,566
Western Terai	71.8	7.1	12.9	23.4	3.9	625
Mid-western Terai	57.0	6.2	8.9	39.2	3.2	492
Far-western Terai	65.2	2.3	2.6	34.0	0.6	341
Education						
No education	66.3	0.4	7.2	30.7	0.1	6,742
Primary	41.1	9.7	20.0	49.3	2.8	925
Some secondary	18.9	32.9	40.1	67.5	16.6	531
SLC and above	6.3	69.9	67.2	76.8	43.5	231
Literacy						
Literate	28.4	25.4	31.7	60.1	12.6	1,764
Illiterate	67.0	0.0	7.2	30.1	0.0	6,665
Total	58.9	5.3	12.3	36.4	2.6	8,429

SLC = School Leaving Certificate

As shown in Table 2.12, overall, only 5 percent of women read a newspaper or magazine at least once a week, 12 percent watch television at least once a week, and 36 percent listen to the radio daily. Only 3 percent of women are exposed to all three media and nearly three of five women (59 percent) have no access to any of the three media.

Generally, exposure to television and radio does not vary much by women's age. Exposure to mass media is highest among the age group 20-24 with 9 percent being exposed to the print media, 12 percent to television and 40 percent to radio. Access to television was highest in the age group 25-29.

Urban women have greater exposure to all types of media than rural women. In urban areas, 54 percent of women listen to the radio daily, 63 percent of women watch television at least once a week, and 27 percent read a newspaper or magazine at least once a week, while the corresponding data for rural women are 35 percent, 8 percent, and 3 percent, respectively. Rural women have less access to the print media and television than urban women. Women in the Mountain region have less access to all three types of media than women in the Hill or *Terai* regions. Women residing in the Hill and *Terai* regions have almost equal access to print media and television, however, Hill women have greater access to the radio. Similarly, women living in the Eastern and Central development regions have greater access to these media than women living in the other development regions. Among all the sub-regions, women from the Central Hill sub-region have greater access to print media (13 percent) and television (35 percent) while, women in the Eastern Hill region have the highest exposure to radio (55 percent).

As expected, there is a close relationship between the level of education and exposure to various mass media. Two-thirds of women with no education have had no exposure to mass media in contrast to 6 percent of women who have completed their SLC. Educated women also have greater access to all three media sources. While 44 percent of women who have completed the SLC are exposed to all three media sources, women with no education have almost no exposure to all three media sources. Less educated women are more likely to be exposed to the radio but even then only one in three women with no education listens to the radio daily. The lower level of exposure to the radio among uneducated women, who are also more likely to be poor, may be due to the fact that they cannot afford a radio.

2.7 Employment Status

Current Employment

In the NFHS, respondents were asked a number of questions about their employment, including whether they were currently working, and, if not, whether they had worked during the year before the survey. Women who were currently working were then asked a number of questions about the kind of work they were doing and whether they were paid in cash or not. Those who earned cash for their work were asked about who made the decision about how their earnings were used. If they had small children they were asked about the arrangements they had for child care when they were working.

Information on the employment status of women was also collected in the NFHS. Table 2.13 shows current employment status and continuity of employment by background characteristics of women. Of the 8,429 women, nearly one-fourth (23 percent) were currently unemployed and four in ten women were seasonally employed. Less than one-third (32 percent) of women were employed full-time, that is, were working at least five days a week throughout the year, reflecting the seriousness of the unemployment and underemployment problem among women in Nepal.

Table 2.13 Employment

Percent distribution of ever-married women by employment status and continuity of employment, according to selected background characteristics, Nepal 1996

Background characteristic	Employment								Number of women
	Currently unemployed		Currently employed						
	Did not work in last 12 months	Worked in last 12 months	All year		Seasonally	Occasionally	Missing	Total	
			5+ days per week	<5 days per week					
Age									
15-19	26.3	9.3	24.1	3.5	33.9	2.7	0.2	100.0	982
20-24	20.3	6.6	28.2	2.3	40.6	1.8	0.2	100.0	1,626
25-29	15.9	6.8	33.5	3.0	38.8	1.8	0.2	100.0	1,594
30-34	12.5	5.2	35.3	2.5	42.5	1.9	0.1	100.0	1,361
35-39	11.3	5.7	35.6	2.1	43.6	1.8	0.0	100.0	1,119
40-44	10.4	6.9	34.6	3.7	42.8	1.5	0.2	100.0	923
45-49	15.1	5.2	32.4	2.8	42.9	1.6	0.0	100.0	824
Residence									
Urban	46.0	4.8	25.5	2.4	18.1	2.9	0.3	100.0	712
Rural	13.3	6.7	32.6	2.8	42.7	1.8	0.1	100.0	7,717
Ecological region									
Mountain	1.0	1.2	47.0	1.7	48.3	0.8	0.0	100.0	569
Hill	8.1	4.5	34.9	2.5	48.0	2.0	0.0	100.0	3,600
Terai	24.9	8.9	27.5	3.1	33.4	1.9	0.2	100.0	4,259
Development region									
Eastern	17.9	4.6	28.9	2.7	43.2	2.3	0.3	100.0	1,941
Central	24.6	7.9	40.1	1.7	23.4	2.2	0.1	100.0	2,827
Western	7.4	5.3	24.5	2.0	58.8	2.0	0.0	100.0	1,647
Mid-western	12.5	11.6	27.9	3.1	43.6	1.3	0.1	100.0	1,196
Far-western	5.3	1.2	32.1	7.8	53.2	0.5	0.0	100.0	819
Sub-region									
Eastern Mountain	3.2	0.6	43.2	2.3	49.0	1.6	0.0	100.0	127
Central Mountain	0.9	0.6	63.6	1.1	33.2	0.6	0.0	100.0	195
Western Mountain	0.0	2.0	35.9	1.7	59.9	0.5	0.0	100.0	247
Eastern Hill	5.2	1.1	30.4	0.8	61.4	1.1	0.0	100.0	578
Central Hill	17.5	5.0	45.6	1.8	27.7	2.3	0.0	100.0	1,065
Western Hill	3.1	2.5	32.2	2.7	56.7	2.9	0.0	100.0	1,022
Mid-western Hill	6.6	12.1	27.4	4.1	48.0	1.7	0.0	100.0	595
Far-western Hill	1.6	1.3	29.9	4.0	62.9	0.2	0.0	100.0	340
Eastern Terai	25.4	6.6	26.8	3.7	34.1	2.9	0.5	100.0	1,236
Central Terai	32.4	10.8	33.4	1.6	19.3	2.2	0.2	100.0	1,566
Western Terai	14.4	10.0	12.0	0.8	62.3	0.6	0.0	100.0	625
Mid-western Terai	22.5	12.4	27.3	2.5	34.3	0.9	0.2	100.0	492
Far-western Terai	11.2	1.5	31.8	13.6	41.3	0.6	0.0	100.0	341
Education									
No education	12.5	6.9	33.4	2.8	42.7	1.6	0.1	100.0	6,742
Primary	23.6	4.9	27.8	3.4	37.5	2.9	0.0	100.0	925
Some secondary	35.7	4.0	19.6	2.5	34.4	3.7	0.2	100.0	531
SLC and above	45.7	5.8	36.6	0.0	9.4	2.4	0.0	100.0	231
Literacy									
Literate	26.7	4.8	27.7	2.6	35.4	2.7	0.1	100.0	1,764
Illiterate	13.3	7.0	33.1	2.8	42.0	1.7	0.1	100.0	6,665
Total	16.1	6.5	32.0	2.8	40.7	1.9	0.1	100.0	8,429

One of two women in the urban areas was not employed at the time of the survey, compared with one of five rural women. Nevertheless, rural women are more likely to be seasonally employed (43 percent) than urban women (18 percent). The proportion of women who are currently not working is much higher (34 percent) in the *Terai* region than in the Hill (13 percent) or Mountain regions (2 percent). Full-time employment was more frequently reported by women from the Mountain region than women in the Hill or *Terai* regions. Full-time employment was highest among women in the Central development region (40 percent) and lowest in the Western development region (25 percent). Similarly, nearly two-thirds (64 percent) of women in the Central Mountain sub-region reported working all year while only 12 percent of women in the Western *Terai* sub-region reported working year round. Unemployment was highest in the Central *Terai* sub-region (43 percent) and lowest in the Central and Western Mountain sub-regions (2 percent each).

Surprisingly, the percentage of women currently not employed increases with the level of education. For example, among those with no education, 19 percent are currently not employed, whereas among those who have completed their SLC, 52 percent are currently unemployed. This is perhaps because employment opportunities are limited in the service sector, where most educated persons seek employment, or because more educated women are wealthier and do not have to work.

Employer and Type of Earnings

Table 2.14 shows that among working women, 7 percent are self-employed, 9 percent work for someone else and an overwhelming majority (84 percent) work for family members. Only 13 percent of employed women receive cash earnings. The proportion of women receiving cash earnings from being self-employed, from non-relatives, and from family members is 2 percent, 3 percent, and 7 percent, respectively.

While a slightly higher percentage of older women earn cash for their work, there is no marked difference by age.

Regardless of the type of employer, cash employment is higher among women living in urban areas than among women in rural areas. More than one of two women (53 percent) receive cash earnings in urban areas in contrast to one in ten women in rural areas. Cash earnings are highest among women in the *Terai*. The proportion of women receiving cash earnings is low in the Western sub-region compared with the other regions.

There is a significant difference in the proportion of women earning cash by education. The proportion of women earning cash generally increases with increasing level of education and the proportion of employed women receiving cash earnings is highest among those who have passed their SLC, presumably because most of them work in the formal sector. The pattern is generally the same regardless of employer (although it is not as distinct among less educated women employed by non-relatives).

Occupation

Table 2.15 shows the distribution of employed women by current occupation according to background characteristics. Nine of ten women are engaged in the agricultural sector, with a majority working on their own land. The proportion of women in agricultural occupations reported in the NFHS is exactly the same as that found in the 1991 Census (Central Bureau of Statistics, 1991). Nearly 4 percent of employed women are in sales or service occupations. The proportion of women working on their own land increases with age while the opposite occurs among women working on family land.

Table 2.14 Employer and form of earnings

Percent distribution of ever-married currently employed women by employer and form of earnings, according to selected background characteristics, Nepal 1996

Background characteristic	Self-employed		Employed by non-family member		Employed by family member		Total	Number of women
	Earns cash	Does not earn cash	Earns cash	Does not earn cash	Earns cash	Does not earn cash		
Age								
15-19	1.1	1.3	3.2	7.6	3.6	83.3	100.0	631
20-24	1.3	3.4	2.3	6.1	5.2	81.8	100.0	1,186
25-29	2.7	4.5	3.2	7.4	9.1	73.1	100.0	1,229
30-34	3.0	5.0	3.5	6.6	8.8	73.0	100.0	1,119
35-39	1.7	5.5	3.6	5.5	8.8	74.7	100.0	929
40-44	2.0	5.1	1.7	7.2	7.8	75.9	100.0	762
45-49	3.1	4.7	3.7	4.2	7.3	77.0	100.0	656
Residence								
Urban	9.4	0.8	7.5	0.6	36.4	45.3	100.0	348
Rural	1.8	4.5	2.8	6.8	5.8	78.3	100.0	6,165
Ecological region								
Mountain	0.6	6.2	2.1	1.9	3.5	85.6	100.0	557
Hill	1.5	6.1	2.4	1.3	7.0	81.6	100.0	3,146
Terai	3.2	1.9	3.9	13.1	8.6	69.1	100.0	2,810
Development region								
Eastern	4.1	3.4	2.7	7.9	9.1	72.5	100.0	1,497
Central	3.1	0.5	2.2	10.8	11.0	72.4	100.0	1,904
Western	0.4	0.1	5.4	3.1	5.5	85.5	100.0	1,438
Mid-western	1.6	20.2	3.4	4.9	3.5	66.3	100.0	907
Far-western	0.0	4.6	0.9	0.8	3.5	90.3	100.0	766
Sub-region								
Eastern Mountain	1.7	1.7	1.7	2.4	7.8	84.5	100.0	122
Central Mountain	0.6	0.0	3.2	0.3	1.5	94.5	100.0	193
Western Mountain	0.0	13.4	1.5	3.0	3.0	79.0	100.0	242
Eastern Hill	1.2	4.1	0.0	2.0	3.3	89.0	100.0	541
Central Hill	3.6	0.8	1.3	1.4	15.0	77.9	100.0	825
Western Hill	0.4	0.0	5.1	0.6	7.0	86.9	100.0	966
Mid-western Hill	1.4	33.4	2.6	1.8	1.5	59.2	100.0	484
Far-western Hill	0.0	0.7	0.7	0.9	1.4	96.3	100.0	330
Eastern Terai	6.4	3.1	4.6	12.6	13.0	60.1	100.0	833
Central Terai	3.1	0.3	2.9	21.8	9.3	62.5	100.0	887
Western Terai	0.6	0.4	6.0	8.2	2.3	82.5	100.0	473
Mid-western Terai	2.3	6.9	5.4	9.2	6.9	69.2	100.0	320
Far-western Terai	0.0	0.2	0.4	0.8	5.8	92.8	100.0	298
Education								
No education	1.5	4.5	2.9	7.6	6.5	77.0	100.0	5,420
Primary	3.5	3.3	2.5	0.9	9.0	80.8	100.0	661
Some secondary	5.4	3.7	2.1	0.5	12.6	75.7	100.0	319
SLC and above	15.3	1.7	17.2	0.7	29.6	35.5	100.0	112
Literacy								
Literate	4.5	2.7	3.4	0.7	11.7	76.8	100.0	1,206
Illiterate	1.6	4.7	2.9	7.7	6.4	76.5	100.0	5,306
Total	2.2	4.3	3.0	6.4	7.4	76.6	100.0	6,513

Note: Percentages may not add to 100 because table excludes 7 women with missing information on current work status.

Table 2.15 Occupation

Percent distribution of ever-married currently employed women by type of agricultural land worked or type of non-agricultural employment, according to selected background characteristics, Nepal 1996

Background characteristic	Agricultural				Non-agricultural					Total	Number of employed women
	Own land	Family land	Rented land	Others land	Prof./tech./manag./clerical ¹	Sales, service	Skilled manual	Unskilled manual	Other		
Age											
15-19	35.1	42.1	5.7	11.2	0.2	1.0	3.3	1.3	0.0	100.0	631
20-24	47.2	29.3	6.7	8.9	1.6	2.6	2.3	1.3	0.1	100.0	1,186
25-29	50.5	18.8	7.1	11.3	3.1	4.2	3.0	2.1	0.0	100.0	1,229
30-34	58.1	12.3	6.2	10.7	1.4	5.7	4.0	1.3	0.3	100.0	1,119
35-39	63.0	8.5	5.9	12.1	1.1	4.2	3.7	1.6	0.0	100.0	929
40-44	65.4	6.3	8.6	11.3	1.4	3.8	1.8	1.5	0.0	100.0	762
45-49	71.8	3.2	4.7	10.3	1.2	3.9	2.6	2.3	0.0	100.0	656
Residence											
Urban	26.7	7.3	7.8	5.6	12.3	18.9	16.7	4.7	0.0	100.0	348
Rural	57.0	17.9	6.4	11.0	1.0	2.9	2.2	1.4	0.1	100.0	6,165
Ecological region											
Mountain	68.3	19.1	3.9	4.3	0.8	2.5	0.9	0.0	0.1	100.0	557
Hill	63.7	18.8	3.3	3.8	1.8	3.6	4.0	1.0	0.0	100.0	3,146
Terai	43.5	15.4	10.6	19.9	1.5	4.2	2.3	2.5	0.2	100.0	2,810
Development region											
Eastern	52.3	12.7	10.3	13.8	0.8	4.4	2.9	2.7	0.1	100.0	1,497
Central	49.0	15.1	4.7	16.3	2.5	6.1	4.9	1.2	0.2	100.0	1,904
Western	60.2	20.9	3.0	6.6	1.8	2.9	3.0	1.7	0.0	100.0	1,438
Mid-western	57.2	20.3	9.2	7.8	1.1	2.0	1.1	1.3	0.0	100.0	907
Far-western	66.1	21.8	7.0	2.2	0.9	0.7	0.7	0.6	0.0	100.0	766
Sub-region											
Eastern Mountain	53.0	20.9	10.5	4.1	1.7	9.1	0.7	0.0	0.0	100.0	122
Central Mountain	74.4	19.5	0.6	3.8	0.0	0.9	0.6	0.0	0.3	100.0	193
Western Mountain	71.2	17.9	3.3	4.8	1.0	0.5	1.3	0.0	0.0	100.0	242
Eastern Hill	71.6	13.1	8.2	3.1	1.2	0.6	2.0	0.2	0.0	100.0	541
Central Hill	57.8	15.5	1.9	3.5	3.9	8.3	8.1	1.0	0.0	100.0	825
Western Hill	61.3	20.2	1.7	5.3	1.3	3.6	4.3	2.2	0.0	100.0	966
Mid-western Hill	67.2	24.5	1.3	3.4	0.9	1.6	0.7	0.3	0.0	100.0	484
Far-western Hill	67.4	23.9	6.4	1.6	0.2	0.0	0.5	0.0	0.0	100.0	330
Eastern Terai	39.6	11.3	11.7	22.3	0.4	6.1	3.8	4.7	0.2	100.0	833
Central Terai	35.4	13.8	8.1	30.9	1.7	5.1	2.9	1.7	0.3	100.0	887
Western Terai	57.8	22.2	5.8	9.2	2.8	1.5	0.1	0.6	0.0	100.0	473
Mid-western Terai	35.0	18.1	23.0	14.6	1.6	3.2	1.4	3.2	0.0	100.0	320
Far-western Terai	65.2	17.4	9.5	2.7	1.4	1.5	0.8	1.4	0.0	100.0	298
Education											
No education	57.5	15.8	7.2	12.4	0.4	2.7	2.2	1.6	0.1	100.0	5,420
Primary	49.9	26.2	4.4	4.0	1.0	6.0	6.3	2.0	0.3	100.0	661
Some secondary	44.7	25.7	1.3	1.1	5.7	12.2	8.6	0.8	0.0	100.0	319
SLC and above	15.2	14.8	0.0	0.0	47.5	18.0	4.5	0.0	0.0	100.0	112
Literacy											
Literate	48.1	24.2	3.1	2.1	6.6	8.5	6.5	0.7	0.1	100.0	1,206
Illiterate	57.0	15.8	7.3	12.7	0.4	2.7	2.2	1.8	0.1	100.0	5,306
Total	55.4	17.3	6.5	10.8	1.6	3.8	3.0	1.6	0.1	100.0	6,513

SLC = School Leaving Certificate

¹ Professional, technical, managerial and clerical occupations.

As expected, rural women are more likely than urban women to be employed in the agricultural sector: 92 percent of rural women compared with 47 percent of urban women. Nearly one-fifth of urban working women are in sales or services and 17 percent are in skilled manual occupations. Women living in the Mountain region are slightly more likely to be working in the agricultural sector than women in the Hill and *Terai* regions. One of five women living in the Central Hill sub-region is engaged in non-agricultural occupations. This is not surprising since Kathmandu, the capital and largest urban centre, is located there.

Table 2.15 also shows that as women become more educated they seek employment in non-agricultural sectors. Among employed women who have passed their SLC, nearly half (48 percent) are in professional, technical, managerial, or clerical occupations and 18 percent are engaged in sales or services.

Control Over Earnings

Women earning cash for their work were asked who mainly decides how their earnings will be used. Table 2.16 shows that 42 percent of women report that they and their husband jointly decide how the money is to be spent and 39 percent state that it is their sole decision. Generally, younger women are less likely to make sole decisions on spending their earnings.

Urban women, women who reside in the Hill region and women from the Central development region are also more likely than other women to make independent decisions on spending their earnings.

While there is very little difference by education among women who make joint or independent decisions on how to spend their earnings, decisions by husbands alone decrease markedly as women's education increases. For example, 12 percent of women with no education stated that their husband decides how to spend their earnings, compared with only 3 percent of women who have completed their SLC.

Child Care

Information on who takes care of working women's young children under age six is presented in Table 2.17. Six of ten employed women had at least one child under six years of age. It can be seen from the table that besides respondents themselves, other relatives and older female children of the respondents are important care givers. Thirty-nine percent of working women who had at least one child under six reported that their child is cared for by other relatives, while 22 percent reported that they themselves care for their young child while working; another 22 percent stated that care is provided by other female children and 8 percent stated that other male children provide child care. Other child minders constitute less than 7 percent.

Rural children are more likely than urban children to be looked after by other relatives and by older siblings. A sizeable percentage of urban women (10 percent) place their children in schools or institutions. Women living in the *Terai* region are also more likely than women living in the Mountain or Hill regions, to have other relatives look after their young children.

Women with no education are more likely to use their own older children to look after their younger siblings in contrast to educated women who more often resort to institutional child care or care from other relatives.

Surprisingly, women engaged in non-agricultural occupations are more likely to look after their young children themselves than women engaged in agricultural occupations. This could presumably be due to the fact that women working in non-agricultural occupations often work in home-based settings, which are more conducive to looking after their own children. Women engaged in agricultural work are more likely to use other relatives or their older children as care givers.

As expected, women who are only employed occasionally are more likely to look after their own children than women who work throughout the year on a part-time or full-time basis.

Table 2.16 Decisions on use of earnings

Percent distribution of ever-married employed women who receive cash earnings by person who decides how earnings will be used, according to selected background characteristics, Nepal 1996

Background characteristic	Person who decides how earnings will be used					Missing	Total	Number of women
	Self only	Husband	Jointly with husband	Someone else	Jointly with someone else			
Age								
15-19	23.9	7.6	33.7	24.5	8.5	1.7	100.0	50
20-24	33.8	10.1	37.9	8.2	6.8	3.3	100.0	104
25-29	33.2	9.6	50.4	1.4	4.1	1.2	100.0	185
30-34	45.7	11.1	40.1	3.1	0.0	0.0	100.0	172
35-39	39.7	10.3	44.8	2.1	3.1	0.0	100.0	131
40-44	48.9	7.5	42.0	0.0	1.6	0.0	100.0	89
45-49	44.3	14.6	33.9	0.0	7.3	0.0	100.0	93
Marital status								
Currently married	33.1	11.6	47.3	4.0	3.1	0.9	100.0	731
Not married	88.0	0.0	0.0	2.4	9.5	0.0	100.0	93
Residence								
Urban	49.7	7.7	37.3	2.8	2.0	0.6	100.0	185
Rural	36.3	11.1	43.4	4.1	4.3	0.8	100.0	639
Ecological region								
Mountain	32.7	4.8	57.2	0.0	5.3	0.0	100.0	35
Hill	44.0	9.0	38.1	4.5	3.1	1.3	100.0	344
Terai	36.2	11.7	43.9	3.6	4.2	0.4	100.0	445
Development region								
Eastern	37.1	11.3	43.1	3.8	4.3	0.4	100.0	241
Central	45.3	9.3	39.8	1.8	3.4	0.4	100.0	310
Western	41.1	7.1	40.3	7.5	1.9	2.1	100.0	163
Mid-western	22.0	19.4	47.5	5.8	4.3	1.1	100.0	77
Far-western	30.8	6.8	50.7	0.0	11.7	0.0	100.0	33
Education								
No education	37.2	11.9	43.2	3.4	3.7	0.5	100.0	591
Primary	44.7	9.6	36.5	5.8	1.2	2.3	100.0	99
Some secondary	47.7	4.7	35.1	3.5	7.3	1.6	100.0	64
SLC and above	42.2	2.5	45.8	4.4	5.1	0.0	100.0	69
Literacy								
Literate	45.8	5.9	39.2	4.8	3.5	0.9	100.0	239
Illiterate	36.7	12.1	43.2	3.4	3.9	0.7	100.0	585
Total	39.3	10.3	42.0	3.8	3.8	0.8	100.0	824

SLC = School Leaving Certificate

Note: A breakdown by sub-region is not shown because the number of women in several sub-regions is less than 25.

Table 2.17 Child care while working

Percent distribution of currently employed women by whether or not they have a child under six years of age and the percent distribution of employed mothers with a child under six by person who cares for child while mother is at work, according to background characteristics, Nepal 1996

Background characteristic	Employed women		Child's caretaker, among employed mothers who have children <6 years											Number of employed women	
	No child < 6	One or more children <6	Respon- dent	Husband	Other female child	Other male child	Other relative	Neighbor/ friend	Serv- vant/ help	Child is in school/ institu- tional care	Not worked since birth	Other	Missing		Total
Residence															
Urban	47.8	52.2	31.9	2.1	9.7	4.4	34.3	1.4	0.9	10.3	0.0	0.6	4.4	100.0	348
Rural	40.6	59.4	21.9	1.4	22.1	7.7	39.3	1.5	0.1	1.9	1.9	1.3	0.9	100.0	6,165
Ecological region															
Mountain	36.2	63.8	27.7	2.0	20.9	9.2	32.1	2.8	0.0	1.2	1.1	2.5	0.5	100.0	557
Hill	40.1	59.9	26.4	1.5	20.1	6.4	37.3	1.7	0.1	3.4	1.6	1.2	0.4	100.0	3,146
Terai	42.9	57.1	16.4	1.4	23.4	8.6	42.6	0.9	0.2	1.4	2.1	1.1	1.9	100.0	2,810
Development Region															
Eastern	44.3	55.7	24.9	1.7	23.5	7.4	34.0	1.1	0.3	0.8	1.9	2.5	1.9	100.0	1,497
Central	42.4	57.6	22.1	1.4	21.6	9.0	39.4	1.4	0.0	2.1	1.7	0.6	0.8	100.0	1,904
Western	41.7	58.3	19.6	0.6	20.0	6.0	44.6	0.9	0.0	3.3	3.2	1.1	0.7	100.0	1,438
Mid-western	32.4	67.6	25.0	1.5	22.6	8.1	35.2	1.8	0.4	3.4	0.5	1.2	0.5	100.0	907
Far-western	40.0	60.0	19.8	2.9	19.4	6.7	42.2	2.8	0.0	2.5	1.2	1.4	1.3	100.0	766
Sub-region															
Eastern Mountain	40.5	59.5	36.9	0.0	19.9	9.1	31.2	1.1	0.0	1.1	0.0	0.6	0.0	100.0	122
Central Mountain	36.3	63.7	37.9	1.4	16.4	7.3	28.3	1.4	0.0	2.3	2.3	2.3	0.5	100.0	193
Western Mountain	33.8	66.2	15.6	3.4	24.8	10.7	35.5	4.6	0.0	0.4	0.8	3.4	0.8	100.0	242
Eastern Hill	38.6	61.4	33.6	1.0	23.9	7.0	29.2	1.7	0.0	0.7	1.0	1.7	0.3	100.0	541
Central Hill	41.8	58.2	23.6	1.6	17.6	7.6	40.6	2.5	0.0	4.0	1.4	0.5	0.5	100.0	825
Western Hill	42.2	57.8	21.7	0.6	17.5	3.7	45.4	1.2	0.0	4.7	3.1	1.6	0.4	100.0	966
Mid-western Hill	32.7	67.3	31.4	1.7	25.6	8.7	24.3	1.5	0.3	3.9	0.6	1.8	0.3	100.0	484
Far-western Hill	43.4	56.6	26.0	4.1	18.3	5.7	41.5	1.2	0.0	1.6	0.8	0.4	0.4	100.0	330
Eastern Terai	48.5	51.5	16.2	2.5	23.8	7.4	38.2	0.7	0.6	0.8	2.9	3.5	3.3	100.0	833
Central Terai	44.3	55.7	16.7	1.1	26.8	10.6	41.0	0.3	0.0	0.2	1.8	0.3	1.2	100.0	887
Western Terai	40.6	59.4	15.4	0.7	24.9	10.4	43.0	0.3	0.0	0.6	3.4	0.0	1.3	100.0	473
Mid-western Terai	31.4	68.6	17.7	0.8	17.3	7.5	49.2	1.6	0.7	3.7	0.4	0.8	0.4	100.0	320
Far-western Terai	39.2	60.8	16.3	1.1	18.0	4.3	48.8	3.1	0.0	4.3	1.4	0.0	2.9	100.0	298

Continued

Table 2.17 — Continued

Background characteristic	Employed women		Child's caretaker, among employed mothers who have children <6 years											Number of employed women	
	No child < 6	One or more children <6	Respondent	Husband	Other female child	Other male child	Other relative	Neighbor/friend	Servant/help	Child is in school/institutional care	Not worked since birth	Other	Missing		Total
Education															
No education	41.2	58.8	22.2	1.6	24.5	8.6	35.8	1.5	0.1	2.0	1.4	1.4	1.0	100.0	5,420
Primary	39.0	61.0	22.3	0.6	8.4	3.6	54.5	2.2	0.4	2.2	3.5	0.9	1.2	100.0	661
Some secondary	41.3	58.7	23.5	0.6	5.3	1.3	57.5	0.0	0.0	6.4	3.8	1.2	0.4	100.0	319
SLC and above	40.3	59.7	25.0	1.1	5.6	0.0	48.9	0.0	2.4	6.3	5.4	0.0	5.3	100.0	112
Literacy															
Illiterate	40.9	59.1	22.5	1.6	24.5	8.8	35.7	1.3	0.1	1.8	1.4	1.4	0.9	100.0	5,306
Literate	41.4	58.6	21.7	0.9	8.7	2.0	54.0	2.0	0.2	4.6	3.3	1.1	1.4	100.0	1,206
Employer															
Self-employed	38.6	61.4	33.8	2.9	29.6	10.0	12.4	1.7	1.6	4.1	0.0	2.2	1.7	100.0	421
Family member	41.0	59.0	22.7	1.3	19.8	6.6	41.6	1.5	0.0	2.4	1.9	1.2	1.0	100.0	5,470
Someone else	42.6	57.4	10.9	1.6	31.4	14.7	35.0	1.0	0.0	0.5	2.4	2.0	0.6	100.0	617
Occupation															
Agricultural	39.9	60.1	20.6	1.4	22.3	7.7	40.5	1.5	0.1	1.8	1.9	1.4	0.9	100.0	5,861
Non-agricultural	50.7	49.3	42.0	2.8	13.2	6.0	22.7	0.9	0.5	8.0	0.8	0.4	2.7	100.0	646
Employment status															
All year, full-time	41.6	58.4	23.1	1.4	20.7	7.5	39.3	1.6	0.2	2.2	1.3	1.8	0.9	100.0	2,695
All year, part-time	41.2	58.8	20.6	0.7	27.7	3.7	37.5	2.1	0.0	4.8	0.5	1.2	1.1	100.0	233
Seasonal	40.3	59.7	21.4	1.5	22.0	7.8	39.2	1.4	0.0	2.2	2.2	1.0	1.2	100.0	3,427
Occasional	45.5	54.5	33.8	1.8	16.1	9.1	31.9	0.0	1.8	2.2	2.9	0.0	0.5	100.0	158
Total	41.0	59.0	22.3	1.5	21.6	7.6	39.0	1.5	0.1	2.3	1.8	1.3	1.0	100.0	6,513

Note: Total includes 4 women with employer missing and 5 women with occupation missing.
SLC = School Leaving Certificate

CHAPTER 3

FERTILITY

A major objective of the 1996 NFHS is to examine fertility levels, trends, and differentials in Nepal. This is important in view of the Government's policy to reduce the total fertility rate to 4.0 by the year 2000 and bring a balance between population growth and economic development. In order to meet this objective, ever-married women age 15-49 were asked about their pregnancy histories. Each woman was asked to provide information on the number of sons and daughters living with her, the number of sons and daughters living elsewhere, the number of sons and daughters who died, and the number of pregnancies she had had that did not result in a live birth. The woman was then asked to provide a complete pregnancy history including information such as the month and year of all live and non-live births, sex of live births, and survival status. The structure of these questions is designed to improve the completeness and accuracy of the information.

This chapter examines current fertility, differentials and trends in fertility, and cumulative fertility in Nepal. The chapter also examines the length of birth intervals, age at first birth, and childbearing among adolescents. As is standard practice, the analyses of fertility presented here are based only on live births. The 1996 NFHS obtained reproductive histories only from ever-married women. It is assumed that births outside marriage are negligible in Nepal and, therefore, that the pregnancies experienced by ever-married women are representative of all pregnancies.

3.1 Current Fertility

The level of current fertility is one of the most important indicators for health and family planning policy-makers and professionals in Nepal. Table 3.1 presents age-specific fertility rates (ASFR)¹, the total fertility rate (TFR) for women age 15-49 and 15-44, the general fertility rate (GFR), and the crude birth rate (CBR) by residence. All these rates pertain to the three-year period preceding the survey. The TFR is the sum of the ASFRs and can be interpreted as the number of children a woman would have by the end of her

Table 3.1 Current fertility

Age-specific and cumulative fertility rates and the crude birth rate for the three years preceding the survey, by urban-rural residence, Nepal 1996

Age group	Residence		
	Urban	Rural	Total
15-19	101	129	127
20-24	211	271	266
25-29	141	239	229
30-34	59	171	160
35-39	34	100	94
40-44	25	38	37
45-49	0	16	15
TFR women 15-49	2.85	4.83	4.64
TFR women 15-44	2.85	4.75	4.57
General fertility rate	114	172	167
Crude birth rate	27	38	37

Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation. Total fertility rate (TFR) expressed per woman. General fertility rate (births divided by number of women 15-44), expressed per 1,000 women. Crude birth rate expressed per 1,000 population.

¹Numerators of the ASFRs are calculated as the total number of live births that occurred in the period 1-36 months preceding the survey (determined by the date of interview and the date of birth of the child), and classified by the age (in five-year age groups) of the mother at the time of the birth (determined by the mother's date of birth). The denominators of the rates are the number of woman-years lived in each of the five-year age groups during the 1-36 months preceding the survey. Since only ever-married women were interviewed in the NFHS the number of women in the denominators of the rates was inflated by factors calculated from information in the Household Questionnaire on proportions ever-married in order to produce a count of all women. An implicit assumption in this calculation is that never-married women have not given birth.

childbearing career if she experienced the prevailing ASFRs. The GFR is defined as the total annual number of births per 1,000 women age 15-44 and the CBR is defined as the total number of live births in a year per 1,000 persons.

The TFR for Nepalese women age 15-49 years is 4.6 births per woman. However, the TFR for urban areas (2.9) is about 2 children less than for rural areas (4.8). The age pattern of fertility indicates that Nepalese women have high fertility in the early part of the childbearing period. At the current ASFRs, a woman in Nepal will have given birth to 2 children by age 25 and to 3 children—i.e., two-thirds of her lifetime births—by age 30. The ASFRs in both urban and rural areas peak at ages 20-24. In urban areas, fertility rates decline very rapidly after age 30, whereas in rural areas the fertility decline by age is more gradual. The ASFRs are consistently lower in urban areas compared with rural areas.

Table 3.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage currently pregnant and mean number of children ever born to women age 40-49, by selected background characteristics, Nepal 1996

Background characteristic	Total fertility rate ¹	Currently pregnant	Mean number of children ever born to women age 40-49
Residence			
Urban	2.85	5.7	4.64
Rural	4.83	7.8	5.78
Ecological region			
Mountain	5.60	8.2	6.17
Hill	4.50	7.0	5.58
Terai	4.64	8.1	5.74
Development region			
Eastern	4.11	6.7	5.40
Central	4.56	7.8	5.52
Western	4.66	7.3	5.48
Mid-western	5.47	9.2	6.58
Far-western	5.19	8.0	6.15
Education			
No education	5.08	8.3	5.80
Primary	3.78	7.0	5.30
Secondary+	2.51	4.6	3.70
Total	4.64	7.6	5.70

¹ Women age 15-49 years

The GFRs for urban areas, rural areas and for all of Nepal were 114, 172 and 167 per 1,000 women age 15-44, respectively. The CBR for the three-year period before the survey was 37 per 1,000 persons. Both these summary rates also indicate higher fertility in rural than in urban areas.

Fertility Differentials and Trends

Table 3.2 summarizes the current level of fertility by area of residence, ecological region, development region, and education. The TFR in the *Terai* region (4.6) is similar to that observed in the Hill region (4.5) while the TFR in the Mountain region (5.6) is around one child higher. Within the development regions the Eastern region has the lowest TFR (4.1), while the highest TFR is observed in the Mid-western region (5.5). There is a strong association between fertility and education. Women with at least some secondary education have a TFR of 2.5, which is half the rate among women with no education (5.1).

The percentage of women who reported themselves as currently pregnant is also given in Table 3.2. This percentage is known for being underreported, since women in the early stages of pregnancy may not be aware that they are pregnant and because some women may not want to reveal that they are pregnant. However, as can be seen in the table, the percentage of women who are pregnant

is generally consistent with current fertility for each major population subgroup in that the group with the highest fertility also tends to have the highest percentage of women currently pregnant.

Table 3.3 Trends in fertility

Age-specific fertility rates (per 1,000 women) and total fertility rates, Nepal 1976-96

Age group	NFS 1976 ¹	NCPS 1981 ²	NFFS 1986 ³	NFHS 1991 ⁴	NFHS 1996
15-19	145	94	50	98	132
20-24	290	248	216	280	266
25-29	295	253	203	245	237
30-34	269	197	152	187	154
35-39	169	160	124	129	87
40-44	75	67	66	60	31
45-49	23	34	19	19	12
TFR	6.33	5.27	4.14	5.09	4.60

Note: Rates are for the 12 months preceding the survey. These rates are subject to larger sampling errors than rates for the three years preceding the survey. For example, the sampling error for the 1996 NFHS one-year rate is 0.133 yielding a confidence interval of 4.33-4.89, whereas, the sampling error for the three-year rate of 4.64 is 0.095 yielding a confidence interval of 4.45-4.83. A reanalysis of the data for the three years preceding the survey yields a TFR of 5.11 for 1986 and 4.79 for 1991 (Pradhan, 1995:32).

¹ Goldman et al., 1979:21

² Ministry of Health and Westinghouse Health Systems, 1983 :221

³ Ministry of Health, 1987:186

⁴ Ministry of Health, 1993:58

Table 3.4 Age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age, Nepal 1996

Mother's age	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
15-19	131	156	158	147
20-24	271	294	301	302
25-29	230	262	287	297
30-34	164	193	233	[264]
35-39	102	125	[193]	-
40-44	39	[59]	-	-
45-49	[14]	-	-	-

Note: Age-specific fertility rates per 1,000 women. Estimates enclosed in brackets are truncated.

Table 3.2 also presents the average number of children ever born to women age 40-49, which is a measure of the average lifetime fertility experience of surviving women age 40-49 years (completed fertility). Although this measure is susceptible to omission of children born to older women, comparison of completed fertility among women age 40-49 years with the current TFR indicates fertility decline for all major subgroups of the population. Overall, the results in Table 3.2 suggest that there has been a decline of about 20 percent in fertility levels during the past 20-25 years. Both the current and lifetime fertility indicate that fertility is lower in urban areas and among the more educated. This may suggest that these women are relatively more exposed to media messages about the benefits of smaller families and may also have better knowledge and access to means of fertility regulation.

A comparison of direct estimates of the TFR obtained from four earlier surveys in Nepal with the TFR obtained from the 1996 NFHS also indicates a steady decline in fertility from 6.3 births per woman in 1975-76 to 4.6 births per woman for the period 1995-96 (Table 3.3). The TFR estimated for 1985-86 is very low, but this is indicative of data quality problems in the 1986 survey rather than of a true drop in fertility at that time. The pattern of age-specific fertility rates before 1981 indicates that women in Nepal had high fertility at 20-34 years of age with a peak at ages 25-29. From 1986 onwards an earlier peak in fertility at 20-24 years has emerged (Figure 3.1). The decline in fertility after age 34 is quite marked between 1986 and 1996, which indicates some fertility limiting behaviour among Nepalese women. Fertility trends have to be interpreted within the context of data quality and sample size. A discussion of these issues in relation to earlier surveys is beyond the scope of this report. As such the fertility trend shown in Table 3.3 and Figure 3.1 has to be interpreted with caution.

Information from birth histories in the 1996 NFHS allows the calculation of ASFRs for specified periods before the survey, which in turn provide further evidence of recent fertility decline. However, in situations in which the location of births in time may not be reported correctly, trends in fertility could be distorted. Furthermore, ASFRs are progressively truncated as one moves into the past. Nevertheless, the results presented in Table 3.4 indicate a 14 percent decline in fertility among women age 15-29, from 3.7 births per women during the period 15-19 years

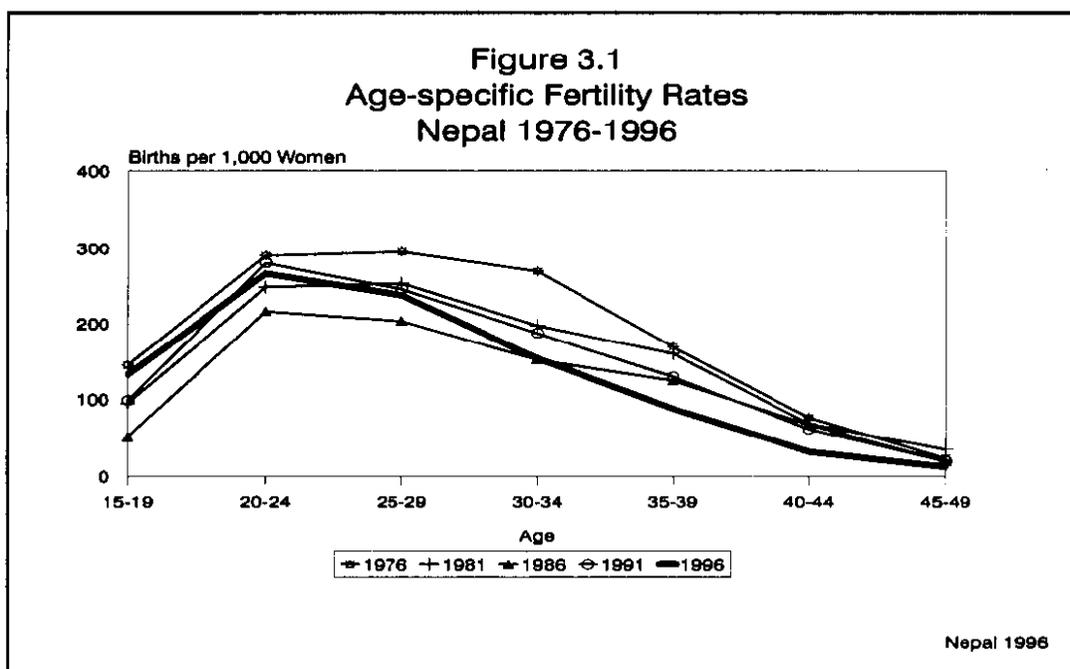


Table 3.5 Fertility rates by marital duration

Fertility rates for ever-married women by number of years since first marriage, for five-year periods preceding the survey, Nepal 1996

Year since first marriage	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
0-4	293	290	268	235
5-9	277	304	320	318
10-14	214	242	282	298
15-19	144	185	229	[282]
20-24	90	117	[199]	-
25-29	39	[79]	-	-

Note: Fertility rates per 1,000 women. Estimates enclosed in brackets are truncated.

before the survey to 3.2 births per women during the period 0-4 years preceding the survey. The ASFRs suggest that most of the fertility decline among younger women (15-29) occurred during the five years preceding the survey. An 11 percent decline in fertility among women age 15-29 took place between 5-9 and 0-4 years before the survey versus only a 5 percent decline between 10-14 and 5-9 years before the survey.

Fertility rates for ever-married women by duration since first marriage for five-year periods before the survey are presented in Table 3.5. These rates suggest that fertility is decreasing among women at all marriage durations except 0-4 years. In the ten-year period before the survey, the fertility rate among women who had been married for 5-9 years declined by 9 percent, whereas among women who had been married for 20-24 years the corresponding decline was 23 percent. The increase in fertility observed

among women who have been married for 0-4 years may be due to an increase in age at marriage, resulting in a smaller proportion of pre-pubertal women being married.

3.2 Pregnancy Outcomes

The NFHS collected complete pregnancy histories from women and therefore provides information on pregnancy outcome. It is important to note that collecting pregnancy histories is comparatively more difficult

than collecting birth histories retrospectively, particularly regarding information on pregnancies which were wasted spontaneously within the first few months after conception. Therefore, the total number of pregnancies and abortions are likely to be underestimated and caution should be exercised while interpreting these data. Stillbirths are probably more completely reported than abortions.

Table 3.6 presents the pregnancy outcomes of ever-married women 0-9 years before the survey by age of the mother and urban-rural residence. Overall, 7 percent of all pregnancies 0-9 years before the survey did

not end in a live birth: 4.9 percent were spontaneous abortions, 0.4 percent were induced abortions, and 1.9 percent were stillbirths. There is little variation in pregnancy outcomes across age groups, although older women (30 and above) are slightly more likely to have a pregnancy resulting in a non-live birth. Similar patterns are observed in urban and rural areas; however, urban women are more likely to report having had an induced abortion than rural women, and rural women are slightly more likely than urban women to report a spontaneous abortion.

3.3 Children Ever Born and Living

Table 3.7 presents the distribution of all women and of currently married women by age and number of children ever born (CEB), and the mean number of living children by age. Experience suggests that, even among high fertility and illiterate populations where omission is evident, it is most likely to occur amongst the oldest women for early births (Arnold, 1990). Lifetime fertility reflects the accumulation of births over the past 30 years and, therefore, its relevance to the current situation is limited; nevertheless, information on the mean number of children ever born is useful in examining the variation among different age groups.

The mean number of children ever born for all women is 2.9, which means that, on average, Nepalese women age 15-49 have had just under 3 births, while currently married women in Nepal have on average 3.4 births. Allowing for child

Table 3.6 Pregnancy outcome

Among ever-married women, percent distribution of all pregnancies 0-9 years preceding the survey by pregnancy outcome, according to age of the woman and residence, Nepal 1996

Age at pregnancy outcome	Pregnancy outcome					Total	Number of pregnancies
	Spontaneous abortion	Induced abortion	Still birth	Live birth			
URBAN ¹							
15-19	4.1	1.3	2.3	92.4	100.0	398	
20-24	3.6	2.3	1.4	92.7	100.0	598	
25-29	2.4	1.9	4.6	91.1	100.0	317	
30-34	5.0	4.3	0.9	89.9	100.0	119	
35-39	7.9	1.1	3.3	87.7	100.0	54	
Total	3.8	2.0	2.3	91.8	100.0	1,498	
RURAL							
15-19	5.1	0.4	2.1	92.4	100.0	5,179	
20-24	4.2	0.2	1.6	94.1	100.0	7,888	
25-29	4.4	0.4	1.7	93.5	100.0	5,164	
30-34	5.8	0.3	2.0	91.9	100.0	2,906	
35-39	8.6	0.3	2.6	88.5	100.0	1,260	
40-44	8.3	0.8	3.7	87.2	100.0	304	
45-49	10.1	0.0	4.7	85.2	100.0	26	
Total	5.0	0.3	1.9	92.9	100.0	22,726	
TOTAL							
15-19	5.0	0.5	2.1	92.4	100.0	5,577	
20-24	4.1	0.3	1.6	94.0	100.0	8,486	
25-29	4.3	0.5	1.9	93.3	100.0	5,481	
30-34	5.8	0.4	2.0	91.8	100.0	3,025	
35-39	8.6	0.4	2.6	88.4	100.0	1,314	
40-44	8.6	0.8	3.5	87.1	100.0	316	
45-49	10.1	0.0	4.7	85.2	100.0	26	
Total	4.9	0.4	1.9	92.8	100.0	24,224	

¹ Pregnancy outcomes for age groups 40-44 and 45-49 are not shown because they are based on less than 25 pregnancies.

mortality, Nepalese women have on average 2.3 living children, while currently married women have an average of 2.8 living children. In contrast, currently married women age 45-49 have given birth to an average of just over 6 children, of whom 4.5 survived. Therefore, currently married women at the end of their reproductive careers lost 26 percent of their children due to mortality.

The distribution of children ever born by age shows that early childbearing is still quite common in Nepal; 43 percent of currently married women and 19 percent of all women age 15-19 have already had at least one birth.

Voluntary childlessness is rare in Nepal and currently married women with no live births are likely to be those who are unable to bear children. The level of childlessness among married women at the end of their reproductive careers (age 45-49) can therefore be used as an indicator of the level of primary sterility. In Nepal, primary sterility among currently married women age 45-49 is 3 percent. Less than 2 percent of married women age 35-44 have never given birth, which may indicate some decline in primary sterility. However, this pattern may be due to poorer reporting among women age 45-49.

Table 3.7 Children ever born and living

Percent distribution of all women and of currently married women by number of children ever born (CEB) and mean number ever born and living, according to five-year age groups, Nepal 1996

Age group	Number of children ever born											Total women	Mean number of CEB	Mean number of living children	
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	81.3	14.9	3.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2,229	0.23	0.21
20-24	26.9	26.7	27.7	14.3	3.8	0.6	0.0	0.0	0.0	0.0	0.0	100.0	1,909	1.43	1.27
25-29	8.8	9.0	23.1	26.3	19.1	9.9	2.6	0.8	0.3	0.1	0.0	100.0	1,671	2.85	2.48
30-34	5.0	4.3	12.2	19.7	21.9	17.2	11.2	5.2	2.8	0.5	0.1	100.0	1,387	3.92	3.27
35-39	3.2	3.4	8.4	15.8	18.7	15.0	16.1	9.8	4.5	3.0	2.1	100.0	1,136	4.67	3.80
40-44	3.0	2.8	5.9	8.5	13.4	16.1	14.1	13.9	9.5	6.6	6.2	100.0	933	5.57	4.29
45-49	4.3	2.8	4.6	8.7	10.1	13.2	14.9	12.8	12.2	7.6	8.8	100.0	836	5.84	4.30
Total	26.2	11.3	13.4	13.1	11.1	8.4	6.3	4.3	2.8	1.7	1.5	100.0	10,101	2.85	2.32
CURRENTLY MARRIED WOMEN															
15-19	57.3	34.1	8.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	965	0.52	0.47
20-24	13.9	31.2	32.7	17.0	4.5	0.7	0.0	0.0	0.0	0.0	0.0	100.0	1,602	1.69	1.51
25-29	4.3	8.9	24.1	27.7	20.3	10.6	2.7	0.9	0.3	0.2	0.0	100.0	1,560	3.01	2.62
30-34	2.7	3.6	12.4	19.8	22.7	18.3	11.7	5.4	3.0	0.5	0.1	100.0	1,292	4.07	3.40
35-39	1.2	2.9	8.1	15.4	19.0	15.7	16.9	10.5	4.9	3.2	2.3	100.0	1,042	4.86	3.97
40-44	1.6	2.0	5.7	8.2	13.0	16.3	14.9	14.1	10.5	7.1	6.8	100.0	828	5.79	4.47
45-49	2.8	2.5	3.4	7.5	10.3	13.4	16.0	13.3	13.3	8.5	9.1	100.0	695	6.09	4.51
Total	11.5	13.5	16.2	15.6	13.3	10.1	7.6	5.0	3.4	2.0	1.8	100.0	7,982	3.41	2.80

3.4 Birth Intervals

Short birth intervals are associated with an increased risk of death for mother and child. This is particularly true for babies born less than 24 months since the previous birth. Table 3.8 presents the percent distribution of births in the five years preceding the survey by the number of months since the previous birth according to selected background characteristics. Three of four non-first births occurred at least 2 years after the previous birth and the median birth interval is 32 months. The long period of breastfeeding in Nepal, which is an average of 28 months (see chapter 9), and the corresponding long period of postpartum amenorrhoea, which is an average of 13 months (see chapter 5), are likely to contribute to the relatively low percentage of births occurring after an interval of less than 24 months.

The median birth interval increases with the age of the mother from 26 months among births to mothers age 15-19 to 41 months among births to mothers age 40 or more. The relatively high prevalence of short birth intervals among births to younger women may indicate that women generally want to complete their desired family size quickly.

The survival status of the previous birth is strongly associated with the length of the preceding birth interval. The median birth interval is more than 6 months shorter for children whose previous sibling died compared with children whose previous sibling survived. Twenty-four percent of children whose preceding sibling died are born after an interval of less than 18 months, compared with only 7 percent among children whose preceding sibling survived. Over 40 percent of children whose preceding sibling died are born within 2 years of the previous birth, compared with 21 percent of those whose preceding sibling survived.

The median birth interval decreases with increased education. Births to women with no education have a median preceding birth interval of 33 months, which decreases to 30 months among births to women with some primary education. The median birth interval decreases further to 29 months for births to women with some secondary education. There is relatively little variation in the median duration of birth intervals for other characteristics examined in Table 3.8.

3.5 Age at First Birth

Age at onset of childbearing is an important demographic indicator since early childbearing adversely affects the health of mother and child. Furthermore, in many countries, postponement of first births, reflecting an increase in age at marriage, has made a large contribution to overall fertility decline. The proportion of women who become mothers before age 20 is a measure of the magnitude of adolescent fertility, which is a major health and social problem in many countries. However, in Nepal adolescent childbearing takes place mostly within marriage.

Table 3.9 presents the distribution of women by age at first birth. The median age at first birth is not presented for the cohort of women born 15-19 years before the survey because fewer than 50 percent had had a birth by the time of the survey. The median age at first birth is around 20 years across all age cohorts, indicating virtually no change in the age at first birth. In every cohort, except the cohort born 35-39 years before the survey, at least 50 percent of women had their first birth before reaching age 20. The highest percentage of women who began childbearing in their teens is observed in the cohort of women who are currently 25-29 years of age (57 percent).

Table 3.8 Birth intervals

Percent distribution of births in the five years preceding the survey by number of months since previous birth, according to demographic and socio-economic characteristics, Nepal 1996

Characteristic	Number of months since previous birth					Total	Number of births	Median number of months since previous birth
	7-17	18-23	24-35	36-47	48+			
Age of mother								
15-19	21.0	20.3	47.2	9.8	1.7	100.0	88	25.7
20-29	10.5	17.0	40.4	21.0	11.2	100.0	3,062	30.0
30-39	8.0	12.0	32.5	24.9	22.5	100.0	2,019	34.7
40 +	5.8	9.5	23.7	25.3	35.7	100.0	426	40.9
Birth order								
2-3	10.1	16.6	35.9	21.4	16.0	100.0	2,758	31.4
4-6	8.0	12.4	38.4	23.2	18.0	100.0	2,090	32.4
7 +	10.5	13.8	32.6	25.0	18.0	100.0	747	32.9
Sex of prior birth								
Male	9.0	13.5	35.9	24.2	17.5	100.0	2,768	33.0
Female	9.8	15.8	36.9	21.0	16.5	100.0	2,827	31.1
Survival of prior birth								
Living	6.8	14.5	37.6	23.4	17.8	100.0	4,779	32.7
Dead	24.4	15.8	29.5	17.9	12.4	100.0	816	26.4
Residence								
Urban	8.8	15.7	33.3	19.5	22.6	100.0	316	33.3
Rural	9.4	14.6	36.6	22.7	16.7	100.0	5,279	31.9
Ecological region								
Mountain	11.4	14.1	34.1	22.5	17.9	100.0	464	31.8
Hill	8.5	14.5	36.4	21.9	18.7	100.0	2,375	32.6
Terai	9.8	14.9	36.8	23.1	15.4	100.0	2,756	31.4
Development region								
Eastern	11.2	15.3	35.6	22.6	15.2	100.0	1,177	31.3
Central	9.0	13.7	36.7	22.9	17.8	100.0	1,824	32.6
Western	7.6	14.9	35.4	22.7	19.4	100.0	1,075	32.7
Mid-western	10.5	14.2	37.4	21.6	16.3	100.0	925	31.4
Far-western	8.4	16.6	37.3	22.8	14.9	100.0	594	31.3
Education								
No education	9.1	14.3	35.5	23.2	17.8	100.0	4,753	32.5
Primary	10.5	15.4	42.2	19.0	13.0	100.0	537	30.0
Secondary+	11.5	18.6	40.1	18.4	11.4	100.0	305	29.3
Total	9.4	14.7	36.4	22.6	17.0	100.0	5,595	32.0

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth.

Table 3.9 Age at first birth

Percent distribution of women 15-49 by age at first birth, according to current age, Nepal 1996

Current age	Women with no births	Age at first birth						Total	Number of women	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	81.3	0.9	12.4	5.3	NA	NA	NA	100.0	2,229	a
20-24	26.9	1.9	24.3	25.4	16.3	5.3	NA	100.0	1,909	19.9
25-29	8.8	3.0	27.5	26.7	18.2	13.0	2.8	100.0	1,671	19.4
30-34	5.0	2.3	25.8	24.8	20.3	14.0	7.8	100.0	1,387	19.7
35-39	3.2	2.0	22.4	24.0	20.3	17.3	10.8	100.0	1,136	20.1
40-44	3.0	3.4	25.9	23.8	21.2	13.5	9.1	100.0	933	19.8
45-49	4.3	3.0	25.5	21.5	19.0	13.7	12.9	100.0	836	20.0

NA = Not applicable

^a Less than 50 percent of the women in the age group 15-19 have had a birth by age 15.

Table 3.10 summarizes the median age at first birth for different cohorts and compares age at entry into motherhood for selected subgroups of the population. Rural and urban women age 25-49 have an identical median age at first birth (19.8 years). But among the younger cohorts (under 30) urban women have a later median age at first birth than rural women. In all cohorts, women in the Mountain and Hill regions have a higher median age at first birth than their *Terai* counterparts. Overall, there is little difference in the median age at first birth among the development regions. However, younger women (age 25-29) in the Mid-western and Far-western development regions have the lowest median age at first birth. Women with some secondary education generally have a higher median age at first birth than women with some primary education or women with no education.

3.6 Adolescent Fertility

Adolescent fertility is a major social and health concern. Teenage mothers are more likely to suffer from severe complications during pregnancy and childbirth which can be detrimental to the health and survival of both mother and child. Table 3.11 presents the percentage of women aged 15-19 who are mothers or who are pregnant with their first child by selected background characteristics. Overall, 24 percent of adolescent women age 15-19 are already mothers or are pregnant with their first child. The proportion of teenage women who have started childbearing increases with age from 3 percent among women age 15 to 51 percent among women age 19. The practice of early marriage (almost 44 percent of women age 15-19 are already married (see Chapter 5)) is the major factor accounting for the relatively high proportion of teenagers who have begun childbearing, particularly in their late teens. The low level of early teenage childbearing is largely due to the low proportion of young teenagers who are currently married and partly due to adolescent subfecundity.

In Nepal, almost a quarter of rural adolescents have begun childbearing, compared with one-fifth of their urban counterparts. Only 17 percent of adolescents living in the Hills have begun childbearing, compared with 20 percent in the Mountains and 31 percent in the *Terai* areas. Regionally, the highest level of adolescent childbearing is observed in the Central development region while the lowest is found in the Western development region. The proportion of adolescents who have begun childbearing declines with increasing education from 32 percent among those with no education to 10 percent among those with some secondary education.

Table 3.10 Median age at first birth

Median age at first birth among women 20-49, by current age and selected background characteristics, Nepal 1996

Background characteristic	Current age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	21.5	20.1	19.6	19.7	19.9	19.2	20.2	19.8
Rural	19.8	19.3	19.8	20.2	19.7	20.0	19.8	19.8
Ecological Region								
Mountain	a	20.2	20.8	21.3	20.9	22.1	a	20.9
Hill	a	20.0	20.4	20.6	20.4	20.5	a	20.4
Terai	19.2	18.7	19.0	19.5	18.9	19.1	19.1	19.0
Development Region								
Eastern	a	20.3	20.2	20.8	19.9	20.6	a	20.3
Central	19.4	19.2	19.5	20.2	19.6	19.4	19.5	19.6
Western	20.0	19.6	19.7	19.9	19.9	20.3	19.9	19.8
Mid-western	19.5	18.7	19.9	19.9	19.6	20.4	19.5	19.5
Far-western	19.0	18.8	19.2	19.4	19.6	20.1	19.3	19.3
Education								
No education	19.3	19.0	19.6	20.1	19.7	20.1	19.6	19.6
Primary	19.6	19.5	19.9	20.3	19.6	19.4	19.7	19.7
Secondary+	a	21.6	21.8	21.3	21.7	18.5	a	21.5
Total	19.9	19.4	19.7	20.1	19.8	20.0	19.8	19.8

Note: The median for cohorts 15-19 could not be determined because some women may still have a birth before reaching age 20.

^a Medians were not calculated for these cohorts because less than 50 percent of women in the age group x to $x+4$ had a birth by age x .

Table 3.12 presents the distribution of adolescents by number of children ever born. Almost one of five teenage women in Nepal has at least one child: 15 percent have one child and 4 percent have two or more children. As already noted, teenage motherhood increases with age. The proportion of teenage women who have two or more children is negligible until age 18 and then increases substantially to 12 percent among women age 19.

Table 3.11 Adolescent pregnancy and motherhood

Percentage of women 15-19 who are mothers or pregnant with their first child, by selected background characteristics, Nepal 1996

Background characteristic	Percentage who are:		Percentage who have begun child-bearing	Number of women
	Mothers	Pregnant with first child		
Age				
15	1.1	2.1	3.2	485
16	6.4	5.4	11.8	469
17	15.0	7.8	22.8	428
18	31.2	4.8	36.0	449
19	44.1	6.6	50.7	399
Residence				
Urban	15.5	4.2	19.7	173
Rural	18.9	5.3	24.3	2,054
Ecological Region				
Mountain	14.8	5.6	20.4	148
Hill	13.1	3.9	16.9	1,036
Terai	24.6	6.5	31.1	1,052
Development Region				
Eastern	15.3	4.5	19.8	537
Central	22.2	6.2	28.5	725
Western	15.5	3.3	18.8	457
Mid-western	19.5	7.6	27.0	297
Far-western	20.3	4.7	25.1	217
Education				
No education	25.0	6.8	31.8	1,123
Primary	17.2	5.1	22.3	497
Secondary+	7.3	2.3	9.6	672
Total	18.7	5.3	23.9	2,229

Note: Numbers may not add to total due to slight differences in the factors used to inflate the number of ever-married women.

Table 3.12 Children born to adolescents

Percent distribution of women 15-19 by number of children ever born (CEB), Nepal 1996

Age	Number of children ever born			Total	Mean number of CEB	Number of women
	0	1	2+			
15	98.9	1.1	0.0	100.0	0.01	485
16	93.6	5.3	1.1	100.0	0.08	469
17	85.0	13.3	1.8	100.0	0.17	428
18	68.8	26.5	4.7	100.0	0.36	449
19	55.9	31.7	12.4	100.0	0.57	399
Total	81.3	14.9	3.7	100.0	0.23	2,229

CHAPTER 4

KNOWLEDGE, USE AND ATTITUDES TOWARD FAMILY PLANNING

Although information about family planning in Nepal was disseminated as early as 1958 by the Family Planning Association of Nepal (FPAN), family planning services became available only in 1968 with the implementation of the Third Five-Year Plan. Since then, the Nepalese Government has been actively involved in providing family planning services, which have become an integral part of the country's health services. This chapter presents a number of indicators from the 1996 Nepal Family Health Survey (NFHS) pertaining to knowledge and use of family planning, women's attitudes towards family planning, sources of family planning, and exposure to media messages about family planning. This information is of particular interest to policy-makers, programme managers, and researchers in population and family planning.

4.1 Knowledge of Contraception

In the NFHS respondents' knowledge of contraception was assessed in two ways. Respondents were first asked to name all the methods of contraception they knew or had heard of. Each method mentioned was recorded as a spontaneous response. The interviewer then read out the name and a short description of each method not mentioned spontaneously but listed in the questionnaire. If the respondent recognized the method it was recorded

as a probed response. If she had not heard of the method then she was recorded as having no knowledge of the method. Thus knowledge of a family planning method in the NFHS is defined simply as having heard of a method. Additional questions are not asked to elicit the depth of this knowledge.

Information on knowledge of specific methods was collected for eight modern methods—the pill, IUD, injectables, Norplant, vaginal methods (diaphragm, foam or jelly), the condom, female sterilization and male sterilization—and two traditional methods, periodic abstinence and withdrawal. In addition, there was also provision to record any other methods mentioned spontaneously.

Knowledge of contraception is nearly universal in Nepal. Table 4.1 shows that 98 percent of both ever-married and currently married women age 15-49 know at least one method of family planning. A greater proportion of currently married women reported knowing a modern method (98 percent) than a traditional method (44 percent). One of the reasons for the low reporting of traditional methods is that these methods are not included in the government family planning programme; therefore, it is possible that there may be some underreporting of traditional methods. Moreover, women may

feel reluctant to mention a traditional method since they are not widely accepted. Most currently married women know about female sterilization (96 percent) and nine of ten know about male sterilization (90 percent). Eighty-five percent of women know about injectables and 81 percent and 75 percent know about the pill and condom,

Table 4.1 Knowledge of contraceptive methods

Percentage of ever-married women and currently married women who know specific contraceptive methods, Nepal 1996

Contraceptive method	Ever married women	Currently married women
Any method	98.4	98.4
Any modern method	98.3	98.3
Pill	80.0	80.5
IUD	35.6	35.9
Injectables	84.8	85.0
Diaphragm/Foam/Jelly	28.2	28.3
Condom	74.8	75.3
Female sterilization	96.3	96.3
Male sterilization	89.8	89.7
Norplant	57.0	57.3
Any traditional method	43.9	44.4
Periodic abstinence	36.6	37.0
Withdrawal	28.7	29.1
Other methods	2.7	2.8
Number of women	8,429	7,982
Mean number of methods	6.1	6.2

respectively. Knowledge of Norplant, the IUD, and vaginal methods is much lower. Among the traditional methods, periodic abstinence is more widely known than withdrawal (37 percent compared with 29 percent).

Trends in Knowledge of Family Planning Methods

Trends in contraceptive knowledge over the past 20 years are presented in Table 4.2 and Figure 4.1. There has been a five-fold increase in the percentage of currently married women who know about modern methods, over the last two decades, from 21 percent in 1976 to 98 percent in 1996. As shown in Table 4.2, knowledge of specific methods has become more widespread. For example, the proportion of currently married women who have heard of the IUD has increased from 6 percent in 1976 to 36 percent 1996. Knowledge of both female and male sterilization has also increased substantially since 1976 from less than 20 percent to 90 percent or more.

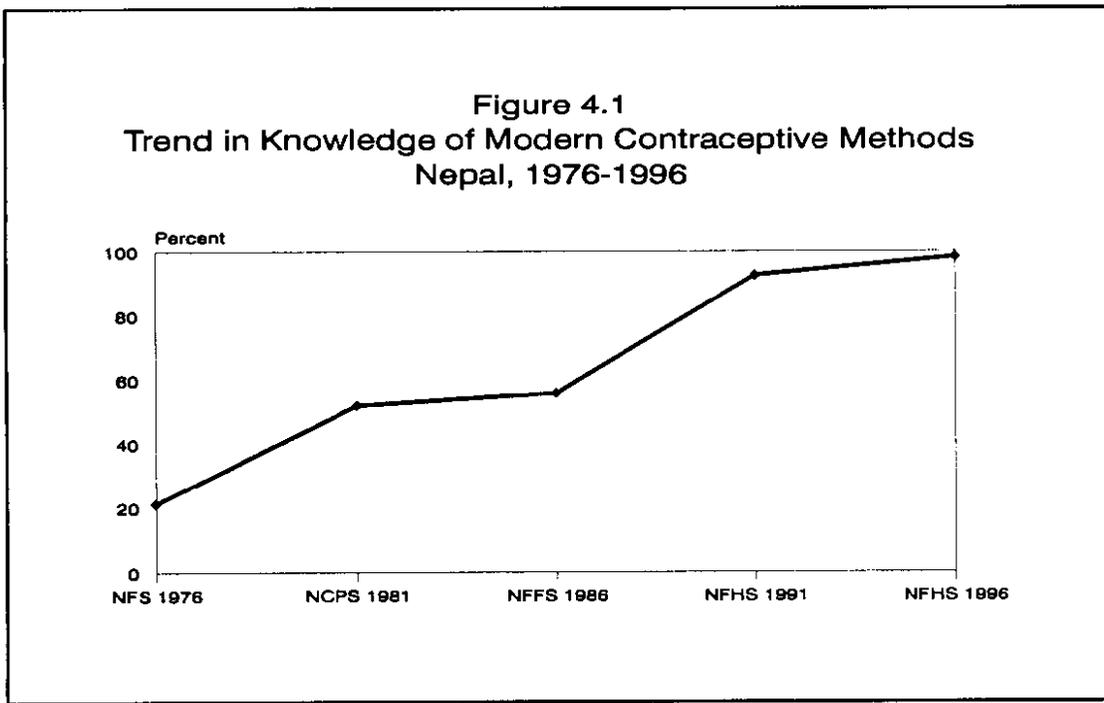
Table 4.2 Trends in knowledge of family planning methods

Percentage of currently married women who know specific modern contraceptive methods, Nepal 1976-1996

Method	1976 NFS	1981 NCPS	1986 NFFS	1991 NFHS	1996 NFHS
Any modern method	21.3	51.9	55.9	92.7	98.3
Pill	12.0	25.1	27.8	65.8	80.5
IUD	6.0	8.4	6.7	24.1	35.9
Injectables	NA	9.0	13.5	64.7	85.0
Diaphragm/Foam/Jelly	NA	NA	NA	19.0	28.3
Condom	4.8	13.6	16.8	51.6	75.3
Female sterilization	13.0	44.4	51.2	88.8	96.3
Male sterilization	15.7	38.1	43.1	85.3	89.7
Norplant	NA	NA	NA	34.6	57.3

NA = not applicable
Source: Ministry of Health, 1993:100

over the last two decades, from 21 percent in 1976 to 98 percent in 1996. As shown in Table 4.2, knowledge of specific methods has become more widespread. For example, the proportion of currently married women who have heard of the IUD has increased from 6 percent in 1976 to 36 percent 1996. Knowledge of both female and male sterilization has also increased substantially since 1976 from less than 20 percent to 90 percent or more.



Differentials in Knowledge by Background Characteristics

The percentages of currently married women who know any method of contraception and any modern method are presented in Table 4.3 by background characteristics. Because the level of knowledge is so high in Nepal, there is little difference by background characteristics. The high level of knowledge is a result of the successful dissemination of family planning messages through the mass media.

4.2 Ever Use of Family Planning

In the NFHS, respondents who said they had heard of a method of family planning were asked if they had ever used it. Ever use of family planning methods thus refers to use of a method at any time, with no distinction made between past and current use. These data indicate the proportion of the population using contraceptives at least once. Data on ever use has special significance since it reveals the cumulative success of programmes promoting the use of family planning among eligible couples. Since the proportion and pattern of ever-use among ever-married and currently married women is very similar, the discussion in this section is limited to currently married women only.

While almost all currently married women reported knowing at least one method (usually a modern method), only 38 percent of currently married women report ever having used any method and 35 percent report having used a modern method (Table 4.4). The gap between knowledge and use may in part be due to the fact that knowledge as measured in the NFHS may not imply the detailed familiarity with a method that actually leads to its use. Moreover, women who are either pregnant or trying to get pregnant may not yet have the need for family planning. Ever use varies little between currently married women and ever-married women. Female sterilization is the most popular method among currently married women (12 percent). In contrast, less than 6 percent of currently married women have used male sterilization. Among the modern temporary methods, injectables are the most widely used,

Table 4.3 Knowledge of contraceptive methods by background characteristics

Percentage of currently married women who know at least one contraceptive method and at least one modern method, by selected background characteristics, Nepal 1996

Background characteristic	Knows any method	Knows modern method	Number of women
Age			
15-19	96.9	96.6	965
20-24	98.7	98.7	1,602
25-29	98.9	98.8	1,560
30-34	98.9	98.9	1,292
35-39	98.6	98.6	1,042
40-45	98.5	98.4	828
45-49	97.7	97.7	695
Residence			
Urban	99.1	99.1	668
Rural	98.4	98.3	7,314
Ecological region			
Mountain	96.9	96.9	538
Hill	98.2	98.1	3,363
Terai	98.9	98.8	4,082
Development region			
Eastern	98.4	98.2	1,829
Central	98.2	98.1	2,677
Western	98.8	98.8	1,561
Mid-western	98.8	98.8	1,146
Far-western	98.0	98.0	769
Sub-region			
Eastern Mountain	97.9	97.9	120
Central Mountain	95.1	95.1	183
Western Mountain	97.7	97.7	236
Eastern Hill	99.2	99.0	538
Central Hill	97.2	97.1	993
Western Hill	98.6	98.6	952
Mid-western Hill	99.0	98.8	567
Far-western Hill	96.6	96.6	313
Eastern Terai	98.1	97.9	1,171
Central Terai	99.2	99.1	1,502
Western Terai	99.1	99.1	609
Mid-western Terai	99.1	99.1	476
Far-western Terai	99.3	99.3	324
Education			
No education	98.1	98.0	6,347
Primary	99.7	99.7	896
Some secondary	100.0	100.0	513
SLC and above	100.0	100.0	227
Literacy			
Literate	99.8	99.8	1,694
Illiterate	98.1	98.0	6,288
Total	98.4	98.3	7,982

SLC = School Leaving Certificate

Table 4.4 Ever use of contraception

Percentage of ever-married women and of currently married women who have ever used any contraceptive method, by specific method and age, Nepal 1996

Age	Modern method										Traditional method				Number of women
	Any method	Any modern method	Pill	IUD	In-ject-ables	Dia-phragm/ Foam/ Jelly	Con-dom	Norplant	Female steri-liza-tion	Male steri-liza-tion	Any trad. method	Periodic absti-nence	With-draw-al	Other methods	
EVER-MARRIED WOMEN															
15-19	12.1	9.3	2.0	0.1	2.2	0.2	5.5	0.0	0.4	0.2	4.4	1.9	2.8	0.0	982
20-24	26.1	22.6	5.3	0.8	9.0	0.7	8.5	0.5	3.6	0.7	6.0	3.7	3.6	0.2	1,626
25-29	43.1	39.1	9.9	0.8	14.6	0.8	8.8	1.0	12.5	4.4	7.9	4.3	4.5	0.4	1,594
30-34	48.9	45.5	11.4	1.7	16.3	0.9	6.5	1.4	16.5	6.9	7.8	4.0	4.4	0.6	1,361
35-39	50.3	47.8	11.2	0.8	11.6	0.6	5.5	0.7	20.2	9.6	6.0	2.6	3.6	1.1	1,119
40-44	45.6	42.8	9.0	0.9	7.7	0.2	3.0	0.3	19.3	10.7	5.3	3.3	2.4	1.1	923
45-49	33.3	31.6	6.7	0.4	4.7	0.2	1.6	0.1	13.3	9.9	2.5	1.4	0.8	0.5	824
Total	37.4	34.3	8.1	0.8	10.2	0.6	6.2	0.6	11.9	5.5	6.0	3.2	3.4	0.5	8,429
CURRENTLY MARRIED WOMEN															
15-19	12.3	9.5	2.0	0.1	2.3	0.2	5.6	0.0	0.4	0.2	4.4	2.0	2.9	0.0	965
20-24	26.4	22.9	5.4	0.7	9.0	0.7	8.6	0.5	3.7	0.8	6.1	3.8	3.7	0.2	1,602
25-29	43.6	39.7	10.1	0.8	14.9	0.8	9.0	1.0	12.6	4.5	8.0	4.4	4.5	0.4	1,560
30-34	50.3	47.0	11.9	1.7	17.0	0.9	6.7	1.3	16.9	7.0	8.0	4.1	4.5	0.7	1,292
35-39	51.9	49.3	11.6	0.7	12.1	0.7	5.8	0.7	20.8	9.9	6.3	2.8	3.7	1.2	1,042
40-44	48.7	45.8	9.6	1.0	8.4	0.3	3.2	0.2	20.5	11.4	5.8	3.5	2.6	1.2	828
45-49	35.5	33.8	7.0	0.5	5.1	0.3	1.8	0.1	14.4	10.6	2.6	1.5	0.8	0.6	695
Total	38.4	35.2	8.3	0.8	10.6	0.6	6.5	0.6	12.1	5.6	6.3	3.4	3.5	0.6	7,982

having been used by 11 percent of currently married women. Eight percent of currently married women have used the pill, 7 percent have used the condom, and less than 1 percent each have used the IUD, Norplant or vaginal methods. Altogether, 6 percent of currently married women have used a traditional method to avoid becoming pregnant.

Ever-use rates vary with women's age. The pattern of ever-use is curvilinear, with use being lowest among women in the youngest age group (15-19), increasing with age, and reaching a maximum for women in their late thirties, before declining. The level of ever-use among currently married women rises to a high of 52 percent among those age 35-39, then declines to 36 percent among those age 45-49. Ever use of any modern method follows a similar pattern by women's age.

Trends in Ever Use of Family Planning

There has been a steady increase in the level of ever use of modern family planning methods over the past 20 years. The level of ever use of modern contraceptives among currently married women increased from 4 percent in 1976 to 27 percent in 1991 (Ministry of Health, 1993), and reached 35 percent in 1996. During the last 20 years the percentage increase in female sterilization is higher than any other method. It increased from almost zero percent in 1976 to 12 percent in 1996. Ever use of injectables increased from 1 percent in 1986 to

5 percent in 1991 and more than doubled to 11 percent in 1996. In recent years, however, the proportion sterilized has risen less rapidly. Female sterilization increased by only one percentage point between 1991 (11 percent) and 1996 (12 percent), while ever use of male sterilization appears to have declined from 7 percent in 1991 to 6 percent in 1996.

First Method Used

The survey also asked women about the first method ever used. Thirty-seven percent of ever-married women who had ever used a method used sterilization (25 percent female sterilization and 12 percent male sterilization) as their first method indicating that they used family planning to limit births altogether (Table 4.5). Among temporary methods, 21 percent of women used injectables as a first method of family planning, followed by the pill (18 percent) and condom (11 percent). Eleven percent of women in Nepal used a traditional method as a first method of family planning.

As expected, modern temporary methods were most commonly used as a first method by younger women, while sterilization was used by older women. The pill, injectables, and condoms were also more commonly used as a first method in urban areas, whereas, sterilization was more common as a first method in the rural areas. Injectables were most commonly used as a first method in the Mountains and Hills and female sterilization was most commonly used in the *Terai*. Male sterilization was lowest as a first method in the Eastern region. Women with no education tended to use female sterilization as a first method, in contrast to women with some education, who tended to use the pill, injectables or condoms as a first method.

Women were also asked who advised them about their first method. Surprisingly, 34 percent of ever users reported that they were advised by their husband (data not shown). Another 20 percent of women were advised by their friends or neighbours, 18 percent by health personnel, and 7 percent by other relatives. Twenty percent of women did not receive advice from anybody.

4.3 Current Use of Family Planning

Current use of contraception is expressed as the proportion of currently married women who reported they were using a family planning method at the time of the interview. In the NFHS, only currently married women were asked questions about current use of family planning. Table 4.6 shows the percent distribution of currently married women by current contraceptive use, according to age.

Overall, 29 percent of currently married women in Nepal are currently using a contraceptive method. Many more women are using modern methods (26 percent) than traditional methods (3 percent). The most widely used method is female sterilization (12 percent), followed by male sterilization and injectables (5 percent each). Two percent of currently married women reported using condoms, while about 1 percent rely on the pill.

The pattern of current use by age shows a peak at age 35-39. The drop in contraceptive use among older women may reflect declining fecundity, while lower levels among women under 25 are to be expected since many may not yet have reached their desired family size. By ages 40-44, the level of current use among married women was more than six times that of women under 20 years, indicating a high level of acceptance of family planning methods even among the older age group. It is also to be noted that the pattern of increasing use of permanent methods with age suggests that contraceptive users are more interested in limiting as they reach their desired family size. The condom and withdrawal are the most commonly used methods among women age 15-19. After age 25 female sterilization is the most widely used method.

Table 4.5 First method used

Percent distribution of ever-married women who have ever used a family planning method by first method used, according to selected background characteristics, Nepal 1996

Background characteristic	Pill	Injec- tables	Condom	Female sterili- zation	Male sterili- zation	Other modern methods ¹	Trad. methods ²	Total	Number of women
Age									
15-19	13.4	15.3	41.4	3.2	0.0	1.7	25.1	100.0	119
20-24	16.0	27.5	25.1	7.9	2.0	4.4	17.1	100.0	425
25-29	17.3	25.4	12.9	22.3	6.9	3.1	12.1	100.0	686
30-34	17.3	25.2	7.9	24.5	11.3	4.5	9.3	100.0	665
35-39	19.0	18.1	6.4	32.4	14.9	2.1	7.1	100.0	563
40-44	18.0	11.8	2.5	37.4	20.8	2.1	7.5	100.0	421
45-49	18.5	10.7	2.5	34.4	26.3	1.7	5.9	100.0	275
Residence									
Urban	19.1	25.7	15.4	16.7	5.0	7.2	11.0	100.0	464
Rural	17.2	20.0	10.4	26.4	13.0	2.4	10.6	100.0	2,690
Ecological region									
Mountain	17.6	31.3	8.3	6.0	21.6	1.5	13.5	100.0	146
Hill	21.5	24.7	9.8	12.8	17.4	3.3	10.5	100.0	1,410
Terai	13.9	16.6	12.5	37.4	6.1	3.1	10.5	100.0	1,597
Development region									
Eastern	18.7	20.3	8.9	27.0	7.7	3.4	14.0	100.0	772
Central	17.7	23.2	10.7	26.2	10.6	3.1	8.5	100.0	1,094
Western	16.4	18.5	10.2	23.1	18.8	2.9	10.1	100.0	620
Mid-western	17.8	18.2	16.9	19.4	12.1	3.1	12.4	100.0	442
Far-western	14.7	23.4	11.6	28.0	12.5	2.5	7.3	100.0	225
Sub-region									
Eastern Mountain	22.6	30.2	6.6	5.7	23.6	0.9	10.4	100.0	44
Central Mountain	21.6	27.9	8.1	7.2	22.5	0.9	11.7	100.0	62
Western Mountain	6.1	37.9	10.6	4.5	18.2	3.0	19.7	100.0	40
Eastern Hill	31.1	28.1	4.2	12.6	12.6	1.8	9.6	100.0	185
Central Hill	22.7	30.3	11.8	8.2	13.4	4.8	8.9	100.0	574
Western Hill	18.3	18.1	8.5	19.3	22.0	2.7	11.1	100.0	415
Mid-western Hill	16.2	21.7	10.7	11.5	21.3	1.8	16.8	100.0	164
Far-western Hill	17.7	15.6	14.6	15.6	26.0	2.1	8.3	100.0	73
Eastern Terai	14.1	16.8	10.7	33.6	4.8	4.1	15.8	100.0	544
Central Terai	10.9	13.7	9.8	51.4	5.5	1.2	7.6	100.0	458
Western Terai	12.4	19.3	13.5	31.0	12.3	3.4	8.1	100.0	205
Mid-western Terai	10.2	14.8	21.6	25.5	5.7	3.9	9.2	100.0	262
Far-western Terai	15.4	25.2	9.3	39.0	4.2	2.7	4.2	100.0	127
Education									
No education	17.3	20.8	7.9	28.5	14.0	2.1	9.4	100.0	2,273
Primary	18.1	24.3	14.1	20.9	8.3	2.9	11.4	100.0	430
Secondary+	17.9	18.0	24.4	10.9	4.6	8.3	16.0	100.0	450
Literacy									
Literate	18.2	20.5	18.8	15.5	7.2	5.8	13.9	100.0	959
Illiterate	17.2	21.0	7.7	29.1	13.9	1.9	9.2	100.0	2,194
Total	17.5	20.9	11.1	25.0	11.9	3.1	10.6	100.0	3,153

¹ Includes IUD, Norplant and vaginal methods (diaphragm/foam/jelly).

² Includes periodic abstinence, withdrawal and folk methods.

Table 4.6. Current method use

Percent distribution of currently married women by contraceptive method currently used, according to age, Nepal 1996

Age	Modern method										Traditional method				Not currently using	Total	Number of women
	Any modern method	Any modern method	Pill	IUD	In-jectables	Dia-phragm/ Foam/ Jelly	Con-dom	Nor-plant	Female steri-liza-tion	Male steri-liza-tion	Any trad. method	Periodic absti-nence	With-drawal	Other method			
15-19	6.5	4.4	0.3	0.0	1.2	0.1	2.2	0.0	0.4	0.2	2.2	0.4	1.8	0.0	93.5	100.0	965
20-24	15.8	13.6	0.8	0.3	4.4	0.0	3.1	0.5	3.7	0.7	2.2	0.7	1.4	0.1	84.2	100.0	1,602
25-29	30.7	27.3	2.1	0.3	5.5	0.1	2.1	0.3	12.6	4.4	3.4	1.4	1.9	0.1	69.3	100.0	1,560
30-34	39.0	35.8	2.0	0.4	7.1	0.1	1.6	0.9	16.9	6.9	3.3	1.2	2.0	0.1	61.0	100.0	1,292
35-39	42.7	40.3	2.0	0.4	5.2	0.1	1.9	0.6	20.8	9.4	2.4	0.6	1.2	0.6	57.3	100.0	1,042
40-44	40.7	38.7	1.4	0.3	4.0	0.1	1.0	0.2	20.5	11.2	2.0	1.1	0.6	0.3	59.3	100.0	828
45-49	27.9	27.2	0.5	0.0	1.6	0.0	0.2	0.0	14.4	10.4	0.8	0.5	0.2	0.0	72.1	100.0	695
Total	28.5	26.0	1.4	0.3	4.5	0.1	1.9	0.4	12.1	5.4	2.5	0.9	1.4	0.2	71.5	100.0	7,982

Trends in Current Use of Family Planning

The level of modern contraceptive use in Nepal has risen steadily over the last two decades (Table 4.7 and Figure 4.2). Current use of modern contraception among currently married, non-pregnant women has increased from 3 percent in 1976 to 15 percent in 1986 and to 29 percent in 1996. The percentage increase in current use of contraception among currently married non-pregnant women was highest during the 1981-1986 and 1986-1991 periods and lowest in the 1991-1996 period.

In terms of specific modern family planning methods, the percentage of current use accounted for by female and male sterilization together, among contracepting women, has declined over the last decade. While female sterilization increased by only 3 percent from 45 percent of modern methods in 1986 to 46 percent in 1996, male sterilization declined by almost 50 percent from 41 percent to 21 percent over the same period. On the other hand, the share of temporary methods has risen from 14 percent to 33 percent over the same period. This is an indication that more women are now using contraception to space rather than limit births. The use of injectables more than doubled between 1991 and 1996 and even though condom use is low, its use more than tripled during this period.

Differentials in Current Use of Family Planning

Studies have shown that the use of contraception is influenced by the socio-economic and demographic characteristics of couples (Kabir et al., 1986). The NFHS data indicate that some women in Nepal are much more likely to use contraception than others (see Table 4.8). The level of current contraceptive use is nearly twice as high in urban areas (50 percent) as in rural areas (27 percent). Female sterilization is the most popular method

Table 4.7 Trends in current use of family planning methods

Percentage of currently married non-pregnant women age 15-49 who are currently using modern contraceptive methods, Nepal 1976-1996

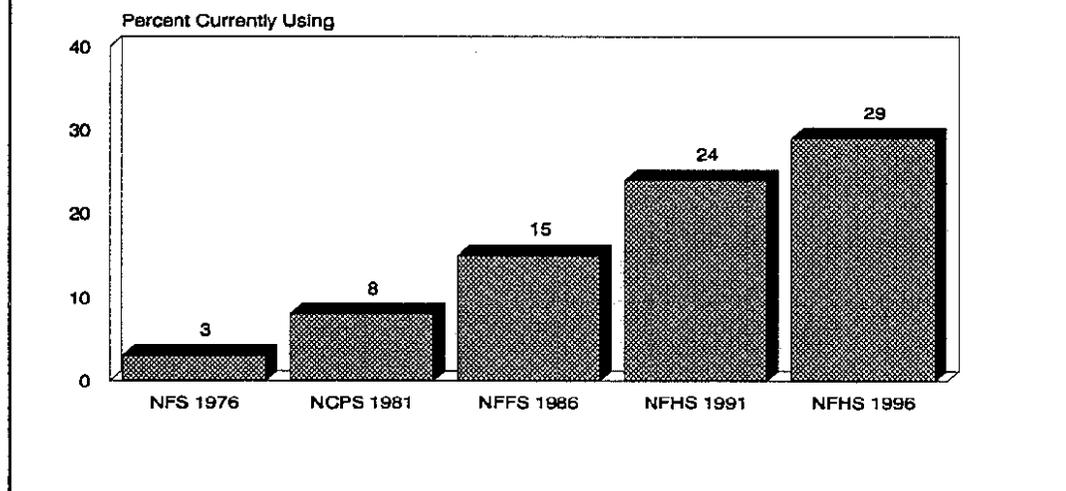
Method	1976 NFS	1981 NCPS	1986 NFFS	1991 NFHS	1996 NFHS
Any modern method	2.9	7.6	15.1	24.1	28.8 ¹
Female sterilization	0.1	2.6	6.8	12.1	13.3
Male sterilization	1.9	3.2	6.2	7.5	6.0
Pill	0.5	1.2	0.9	1.1	1.5
Injectables	0.0	0.1	0.5	2.3	5.0
Condom	0.3	0.4	0.6	0.6	2.1
Norplant	NA	NA	NA	0.3	0.5
IUD	0.1	0.1	0.1	0.2	0.3

NA = Not applicable

Source: Ministry of Health, 1993:112

¹ Includes users of vaginal methods (diaphragm, foam, jelly).

Figure 4.2
Trend in Current Use of Modern Contraceptive Methods among
Currently Married Non-pregnant Women Age 15-49
Nepal, 1976-1996



among both urban and rural women. Injectables are the next most widely used method among urban women, while male sterilization is the second most popular method among rural women. There is a sharp difference in condom use between urban (6 percent) and rural (less than 2 percent) women. Even though the use of other modern spacing methods is relatively small, urban women are twice as likely to use these methods as rural women, with the exception of Norplant, which urban women are six times more likely to use than rural women. This may be due to the fact that Norplant is more readily available in urban areas than in rural areas. The percentage of traditional method users is more than double in urban areas (5 percent) compared with rural areas (2 percent).

Current use of family planning by ecological regions shows that only 18 percent of currently married women residing in the Mountain region are currently using contraception compared with 30 percent and 29 percent in the Hill and *Terai* regions, respectively. Female sterilization is extremely popular in the *Terai* where 17 percent of women are using it, in contrast to male sterilization (3 percent). On the other hand, male sterilization is the most popular method in both the Mountain and Hill regions.

There is a notable difference in current contraceptive use between the Far-western region and all the other regions. Twenty-one percent of currently married women living in the Far-western region are currently using contraception compared with 31 percent of women residing in the Central and Eastern regions. There is little difference between the Central and Eastern regions and the other three regions, however. Female sterilization is the most popular method in all five development regions and ranges from 14 percent in the Central region to 9 percent in the Far-western region. Male sterilization, which is the second most popular method in all the regions, except the Eastern, is relatively higher in the Western region (8 percent) than in the other regions. The use of traditional methods is most popular in the Eastern region.

Current contraceptive use is higher in the Central Hill (43 percent) and Mid-western *Terai* (40 percent) sub-regions and lowest in the Western Mountain sub-region (11 percent). Female sterilization is especially

Table 4.8 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Nepal 1996

Background characteristic	Modern method								Traditional method					Total	Number of women			
	Any modern method	Any modern method	Pill	IUD	In-jectables	Dia-phragm/Foam/Jelly	Con-dom	Nor-plant	Female steri-liza-tion	Male steri-liza-tion	Any trad. method	Periodic absti-nence	With-draw-al			Other Methods	Not Cur-rently using	
Residence																		
Urban	50.1	45.1	3.6	2.2	8.8	0.0	6.2	1.9	16.5	6.0	5.0	1.4	3.5	0.1	49.9	100.0	668	
Rural	26.5	24.3	1.2	0.1	4.1	0.1	1.5	0.3	11.7	5.4	2.2	0.8	1.2	0.2	73.5	100.0	7,314	
Ecological region																		
Mountain	17.8	16.0	0.6	0.1	5.4	0.0	1.0	0.1	2.1	6.8	1.8	0.5	1.1	0.2	82.2	100.0	538	
Hill	29.6	26.9	2.1	0.3	6.1	0.1	2.1	0.4	7.5	8.3	2.6	0.7	1.6	0.3	70.4	100.0	3,363	
Terai	29.0	26.6	0.9	0.2	3.1	0.1	1.9	0.4	17.1	2.9	2.4	1.1	1.3	0.0	71.0	100.0	4,082	
Development region																		
Eastern	30.8	26.8	1.7	0.1	5.0	0.1	2.2	0.6	13.2	4.0	4.0	1.9	2.1	0.0	69.2	100.0	1,829	
Central	31.0	28.6	1.5	0.5	5.1	0.0	1.8	0.6	13.6	5.4	2.4	0.7	1.3	0.4	69.0	100.0	2,677	
Western	26.5	25.2	1.1	0.3	3.4	0.1	1.3	0.3	10.6	8.1	1.3	0.4	0.8	0.1	73.5	100.0	1,561	
Mid-western	26.9	24.2	1.6	0.1	3.9	0.2	3.0	0.1	10.5	4.8	2.7	0.7	1.7	0.3	73.1	100.0	1,146	
Far-western	20.8	19.6	0.7	0.2	4.1	0.0	1.1	0.0	9.3	4.3	1.2	0.2	0.9	0.0	79.2	100.0	769	
Sub-region																		
Eastern Mountain	26.2	22.8	0.7	0.3	7.9	0.0	1.7	0.3	2.4	9.3	3.4	0.7	2.4	0.3	73.8	100.0	120	
Central Mountain	21.2	19.9	1.2	0.0	4.9	0.0	0.9	0.0	3.4	9.5	1.2	0.6	0.3	0.3	78.8	100.0	183	
Western Mountain	10.9	9.6	0.0	0.0	4.4	0.0	0.8	0.0	1.0	3.4	1.3	0.3	1.0	0.0	89.1	100.0	236	
Eastern Hill	25.1	21.8	2.3	0.0	7.0	0.2	1.2	0.0	6.0	5.1	3.3	0.6	2.7	0.0	74.9	100.0	538	
Central Hill	43.2	39.4	3.6	0.9	11.1	0.1	3.5	1.3	9.4	9.5	3.7	1.2	1.8	0.7	56.8	100.0	993	
Western Hill	28.0	26.8	1.5	0.1	3.4	0.1	1.7	0.1	9.1	10.8	1.2	0.4	0.7	0.1	72.0	100.0	952	
Mid-western Hill	19.2	16.1	1.5	0.0	2.4	0.0	1.5	0.0	4.5	6.2	3.1	1.0	1.5	0.5	80.8	100.0	567	
Far-western Hill	17.4	15.7	0.2	0.0	3.1	0.0	1.2	0.0	4.6	6.5	1.7	0.0	1.7	0.0	82.6	100.0	313	
Eastern Terai	33.9	29.5	1.5	0.1	3.7	0.0	2.8	1.0	17.6	2.9	4.4	2.6	1.8	0.0	66.1	100.0	1,171	
Central Terai	24.1	22.5	0.1	0.3	1.2	0.0	0.8	0.2	17.6	2.2	1.7	0.5	1.1	0.1	75.9	100.0	1,502	
Western Terai	24.0	22.6	0.4	0.5	3.5	0.0	0.8	0.6	12.8	4.0	1.4	0.5	0.9	0.0	76.0	100.0	609	
Mid-western Terai	40.3	37.7	2.1	0.1	6.1	0.5	5.3	0.1	20.1	3.4	2.6	0.4	2.2	0.0	59.7	100.0	476	
Far-western Terai	26.9	26.5	1.3	0.4	4.3	0.0	1.0	0.0	16.9	2.5	0.4	0.4	0.0	0.0	73.1	100.0	324	

Continued

Table 4.8—Continued

Background characteristic	Modern method									Traditional method					Not Currently using	Total	Number of women
	Any modern method	Any modern method	Pill	IUD	In-jectables	Dia-phragm/ Foam/ Jelly	Con-dom	Nor-plant	Female steri-liza-tion	Male steri-liza-tion	Any trad. method	Periodic absti-nence	With-draw-al	Other Methods			
Education																	
No education	26.4	24.5	1.1	0.1	4.2	0.0	1.3	0.3	12.1	5.5	1.9	0.7	1.0	0.2	73.6	100.0	6,347
Primary	30.8	27.8	2.0	0.0	5.3	0.2	1.3	0.3	13.3	5.3	3.0	1.4	1.6	0.0	69.2	100.0	896
Some secondary	39.6	34.3	2.2	0.7	5.7	0.6	5.6	1.8	12.1	5.6	5.4	1.0	4.4	0.0	60.4	100.0	513
SLC and above	52.0	42.2	4.6	3.8	8.0	0.5	13.9	0.8	7.2	3.6	9.8	3.1	6.5	0.2	48.0	100.0	227
Literacy																	
Illiterate	25.7	24.0	1.1	0.1	4.2	0.0	1.2	0.3	11.9	5.2	1.8	0.8	0.8	0.2	74.3	100.0	6,288
Literate	38.7	33.6	2.3	0.8	5.7	0.3	4.7	0.8	12.7	6.3	5.1	1.4	3.7	0.0	61.3	100.0	1,694
Number of living children																	
None	3.4	1.9	0.1	0.0	0.0	0.0	1.2	0.0	0.0	0.5	1.5	0.2	1.3	0.0	96.6	100.0	1,030
1	11.7	9.3	0.8	0.1	3.0	0.2	2.8	0.4	1.2	0.8	2.5	1.1	1.3	0.0	88.3	100.0	1,253
2	30.6	27.2	1.8	0.6	5.8	0.1	3.4	0.6	9.4	5.5	3.4	1.1	2.2	0.1	69.4	100.0	1,516
3	39.6	37.0	1.8	0.4	4.5	0.1	1.7	0.2	19.9	8.5	2.6	0.9	1.5	0.1	60.4	100.0	1,525
4+	38.5	36.3	1.7	0.2	6.2	0.0	1.1	0.6	18.9	7.7	2.2	0.9	1.0	0.4	61.5	100.0	2,659
Total	28.5	26.0	1.4	0.3	4.5	0.1	1.9	0.4	12.1	5.4	2.5	0.9	1.4	0.2	71.5	100.0	7,982

SLC = School Leaving Certificate

popular in the Mid-western *Terai* sub-region (20 percent). Male sterilization is most popular in the Western Hill sub-region (11 percent). Injectables are most widely used in the Central Hill sub-region (11 percent). Condoms are used more frequently in the Mid-western *Terai* sub-region than in any of the other regions (5 percent). The pill is most commonly used in the Central Hill sub-region (4 percent). Traditional methods are more common among women living in the Eastern *Terai* and Central Hill sub-regions (4 percent each) than in any of the other regions.

Differentials in current use of family planning by educational groups are large. Current use of contraception increases with increasing level of education. Twenty-six percent of currently married women with no formal education are contraceptive users, compared with 52 percent of women with a SLC. The most popular method among women who have completed their SLC is condoms (14 percent), whereas the most popular method among women who have no education is female sterilization (12 percent). In fact, female sterilization is the most popular method among all women who have less than a SLC. In general, as women's level of education increases they are more likely to use modern spacing methods. For example, the use of injectables increases from 4 percent among women with no education to 8 percent among women who have completed their SLC. This trend suggests that highly educated women are more likely to use contraception for spacing as well as for limiting births whereas women with little or no education generally use contraception only for limiting births. These patterns are no doubt influenced by the fact that uneducated women tend to be older and have more children than educated women, and are more likely to have achieved their desired family size.

It is well documented that in developing countries current use of contraception increases with parity of the women. As shown in Table 4.8, the proportion using any contraceptive method rises from a low of 3 percent among currently married women with no children to 40 percent among those with three children and then declines slightly to 39 percent among women with four or more children. As expected, permanent methods are more popular among high parity women. For example, 9 percent of women with two children use female sterilization, compared with 19 percent of women with four or more children.

4.4 Number of Children at First Use of Family Planning

In order to investigate when family planning was initiated during the family building process, the NFHS included a question for all women who had ever used a method as to how many living children they had when they first used a method. Table 4.9 shows the distribution of ever-married women by the number of living children when they first used a method.

As the number of children increases the use rate increases as well. For example, only 2 percent of women initiated use when they had no children compared with 8 percent when they had 3 children. Looking at first use rate by age, it can be seen that there is a tendency for younger women to have initiated family planning use at lower parities than older women. Table 4.9 shows that 11 percent of women age 20-24 started using contraception after their first child, compared with only 1 percent of women age 45-49. The trend is similar for those who had no children. This may be due to the fact that young women are more likely to use contraception to space births, while older women use it to limit births.

4.5 Effect of Breastfeeding on Contraception

Breastfeeding is one of the important proximate determinants of fertility; therefore, a reduction in breastfeeding can lead to an increase in fertility (Bongaarts, 1982). Breastfeeding is almost universal in Nepal with over 95 percent of married women breastfeeding their children (Ministry of Health, 1993). In countries

Table 4.9 Number of children at first use of contraception

Percent distribution of ever-married women by number of living children at the time of first use of contraception, and median number of children at first use, according to current age, Nepal 1996

Current age	Never used contraception	Number of living children at first use of contraception					Total	Number of women	Median number of children at first use ¹
		0	1	2	3	4+			
15-19	87.9	6.2	4.5	1.4	0.0	0.0	100.0	982	1.0
20-24	73.9	4.1	11.1	8.1	2.4	0.5	100.0	1,626	1.8
25-29	56.9	2.3	9.7	12.4	12.1	6.6	100.0	1,594	2.8
30-34	51.1	1.0	5.4	10.4	14.4	17.7	100.0	1,361	3.5
35-39	49.7	0.6	3.3	8.2	13.5	24.7	100.0	1,119	4.0
40-44	54.4	0.4	2.1	4.8	9.1	29.1	100.0	923	4.5
45-49	66.7	0.1	1.3	2.5	5.7	23.7	100.0	824	5.1
Total	62.6	2.2	6.2	7.6	8.4	13.0	100.0	8,429	3.3

¹ Among those who have ever used contraception

where breastfeeding is universal but where there is little use of contraception, breastfeeding provides added protection against pregnancy (United Nations, 1987). Although breastfeeding is nearly universal in Nepal, the majority of women do not know the contraceptive importance of breastfeeding. This was found to be true even in Kathmandu (Aryal, 1991).

Data from the NFHS show that the vast majority of women (75 percent) believe that breastfeeding does not affect the risk of pregnancy, 15 percent believe that it reduces the risk of pregnancy and 9 percent report that breastfeeding in fact increases the risk of pregnancy (Table 4.10). The table also shows that 3 percent of currently married women had previously relied on breastfeeding to avoid pregnancy and 1 percent were relying on it at the time of the survey. Six percent of women meet the criteria for use of the lactational amenorrhoeic method (LAM)¹ of family planning.

There is very little difference by background characteristics among women who believe that breastfeeding does not affect the risk of pregnancy. However, women in the youngest (15-19) age group are least likely to believe that breastfeeding decreases their chances of becoming pregnant and, consequently, are least likely to have relied on breastfeeding to avoid pregnancy. Interestingly, 7 percent of women age 15-19 meet the LAM criteria.

Women living in the Mountain region, and especially those in the Central Mountain sub-region are least likely to believe that breastfeeding decreases a woman's chance of becoming pregnant. However, 3 percent of the latter have relied on breastfeeding either previously or currently to avoid pregnancy and 8 percent meet the LAM criteria.

¹LAM users are women who are postpartum amenorrhoeic and who are currently fully breastfeeding a child who is less than six months old.

Table 4.10 Perceived contraceptive effect of breastfeeding

Percent distribution of currently married women by perceived risk of pregnancy associated with breastfeeding and percentage of currently married women who previously relied and who currently rely on breastfeeding to avoid pregnancy and percentage who meet lactational amenorrhoeic method (LAM) criteria, according to selected background characteristics, Nepal 1996

Background characteristic	Perceived risk of pregnancy associated with breastfeeding					Total	Reliance on breastfeeding to avoid pregnancy		Meet LAM criteria ¹	Number of women
	Un-changed	In-creased	De-creased	Depends	Don't know		Pre-viously	Cur-rently		
Age										
15-19	81.5	7.1	10.4	0.5	0.5	100.0	1.4	0.8	7.3	965
20-24	76.4	8.8	13.5	0.7	0.6	100.0	2.2	1.3	10.6	1,602
25-29	70.9	11.5	16.6	0.6	0.5	100.0	3.9	2.6	7.8	1,560
30-34	71.5	8.7	18.7	0.6	0.4	100.0	4.3	1.9	5.0	1,292
35-39	74.9	10.3	13.9	0.5	0.3	100.0	2.8	0.8	3.5	1,042
40-44	75.9	9.1	14.4	0.5	0.1	100.0	3.0	0.4	1.0	828
45-49	77.6	6.6	14.7	1.0	0.1	100.0	2.8	0.0	0.6	695
Residence										
Urban	72.0	10.9	15.5	0.6	1.1	100.0	3.5	0.9	3.6	668
Rural	75.3	9.0	14.7	0.6	0.3	100.0	3.0	1.4	6.2	7,314
Ecological region										
Mountain	82.6	7.5	8.6	1.3	0.1	100.0	0.9	0.8	6.5	538
Hill	78.6	7.3	13.5	0.4	0.2	100.0	2.4	1.1	5.4	3,363
Terai	71.1	10.9	16.7	0.7	0.6	100.0	3.8	1.5	6.3	4,082
Development region										
Eastern	70.6	11.6	16.4	0.7	0.8	100.0	4.2	1.8	5.4	1,829
Central	74.9	9.4	14.2	1.2	0.4	100.0	3.2	1.2	5.5	2,677
Western	76.6	7.4	15.5	0.3	0.1	100.0	0.6	0.3	6.4	1,561
Mid-western	77.5	8.9	13.4	0.0	0.2	100.0	2.1	0.9	7.1	1,146
Far-western	79.3	6.4	13.9	0.1	0.4	100.0	5.5	3.1	6.1	769
Sub-region										
Eastern Mountain	85.5	3.1	10.3	1.0	0.0	100.0	0.3	0.3	2.4	120
Central Mountain	78.5	11.0	7.1	3.1	0.3	100.0	1.5	1.5	7.7	183
Western Mountain	84.2	7.0	8.8	0.0	0.0	100.0	0.8	0.5	7.8	236
Eastern Hill	72.3	9.7	17.2	0.2	0.6	100.0	3.7	1.4	3.9	538
Central Hill	79.3	6.4	13.2	1.1	0.0	100.0	1.9	0.9	4.2	993
Western Hill	83.9	5.5	10.2	0.2	0.1	100.0	0.5	0.2	7.4	952
Mid-western Hill	79.8	7.2	12.6	0.0	0.3	100.0	1.8	0.9	6.1	567
Far-western Hill	68.8	11.1	19.9	0.2	0.0	100.0	8.2	4.6	5.1	313
Eastern Terai	68.3	13.3	16.6	0.9	0.9	100.0	4.9	2.1	6.3	1,171
Central Terai	71.5	11.1	15.7	1.1	0.6	100.0	4.3	1.5	6.1	1,502
Western Terai	65.2	10.3	23.8	0.5	0.2	100.0	0.7	0.5	5.0	609
Mid-western Terai	73.6	11.1	15.1	0.0	0.2	100.0	2.7	1.0	8.2	476
Far-western Terai	87.0	1.9	10.3	0.0	0.9	100.0	4.7	2.8	6.4	324
Education										
No education	76.1	8.7	14.5	0.4	0.3	100.0	3.2	1.4	5.7	6,347
Primary	73.1	10.3	14.3	1.6	0.7	100.0	1.3	0.8	7.7	896
Some secondary	70.8	10.7	16.6	1.5	0.4	100.0	3.0	1.1	6.2	513
SLC and above	62.9	12.7	22.4	1.5	0.5	100.0	4.3	2.1	4.2	227
Literacy										
Literate	70.9	11.0	16.3	1.3	0.5	100.0	2.3	1.1	6.3	1,694
Illiterate	76.1	8.6	14.4	0.5	0.4	100.0	3.2	1.4	5.9	6,288
Total	75.0	9.1	14.8	0.6	0.4	100.0	3.0	1.3	5.9	7,982

SLC = School Leaving Certificate

¹ Currently fully breastfeeding, child is less than 6 months old and mother is postpartum amenorrhoeic.

Women who have completed their SLC are most likely to believe that breastfeeding decreases women's risk of pregnancy (22 percent) and most likely to rely on breastfeeding to avoid pregnancy (6 percent). However, only 4 percent meet the LAM criteria for use in contrast to 8 percent of women who have some primary education.

4.6 Timing of Sterilization

As mentioned earlier, 12 percent of currently married Nepalese women age 15-49 reported that they had been sterilized. Table 4.11 shows the distribution of these women by age at the time of sterilization, according to the number of years since the operation. Since data on age at sterilization were derived from a question on the month and year of the operation, it is possible that the data are distorted by some systematic error in reporting the date of operation or the date of birth and/or age of the woman. This is especially so in a country where literacy, especially among women, is very low.

Table 4.11 shows that female sterilization in Nepal occurs relatively early in women's reproductive lives indicating that spacing of childbearing is not common. Sixty percent of sterilized women had the operation before age 30 and about one-fourth had it before age 25. Less than 5 percent of sterilized women had the operation when they were in their 40s. The median age at sterilization is 28. There has been little change in the median age at which women are sterilized in Nepal.

Years since operation	Age at time of sterilization						Total	Number of women	Median age ¹
	<25	25-29	30-34	35-39	40-44	45-49			
<2	24.1	34.6	17.5	13.2	8.7	1.9	100.0	225	27.5
2-3	24.7	37.7	16.1	17.3	1.7	2.5	100.0	180	28.3
4-5	28.0	31.5	20.1	14.8	5.7	0.0	100.0	114	28.2
6-7	21.6	30.9	28.0	16.0	3.6	NA	100.0	127	28.9
8-9	20.9	35.9	28.5	13.7	1.0	NA	100.0	93	28.6
10+	25.4	41.4	20.4	12.8	NA	NA	100.0	223	a
Total	24.3	36.0	20.7	14.5	3.6	0.9	100.0	963	28.0

NA = Not applicable
¹Median age was calculated only for women less than 40 years of age to avoid problems of censoring
^a Not calculated due to censoring

4.7 Sterilization Regret

In the NFHS, women who had been sterilized or whose husbands had been sterilized were asked if they regretted having had the operation and, if so, why. The results are presented in Table 4.12. Overall, 9 percent of women reported that they regretted their own or their husband's sterilization. More than half of these women regretted sterilization because of side effects and 2 percent stated that they or their husbands wanted another child. Just over 1 percent of women regretted sterilization because one or more of their children died. Sterilization regret is slightly higher among rural than urban women. Sterilization regret is also higher among

women from the *Terai* region than among women from the other ecological regions. Sterilization regret ranges from 11 percent among women from the Mid-western development region to 7 percent among women from the Western region. Women with some primary education are least likely to regret sterilization. As expected, the level of sterilization regret decreases as the number of living children increases. (The number of living children refers to the *current* number and not the number at the time of sterilization.)

Table 4.12 Sterilization regret

Percentage of currently married women who are sterilized or whose husbands are sterilized who regret the operation, by reason for regret and selected background characteristics, Nepal 1996

Background characteristic	Reason for regret						Number of women
	Percent who regret sterilization	Respondent wants another child	Husband wants another child	Side effects	Child died	Other reason	
Residence							
Urban	7.8	1.6	0.4	4.0	1.1	0.7	150
Rural	9.2	2.0	0.1	5.2	1.4	0.5	1,245
Ecological region							
Mountain	7.3	4.1	0.0	2.0	1.2	0.0	48
Hill	8.1	2.4	0.3	4.3	0.8	0.2	531
Terai	9.8	1.6	0.0	5.7	1.8	0.7	816
Development region							
Eastern	9.6	2.6	0.0	6.2	0.5	0.3	314
Central	9.2	0.9	0.2	5.2	2.2	0.8	510
Western	7.3	2.0	0.0	4.0	1.0	0.3	292
Mid-western	11.2	5.0	0.4	3.8	1.5	0.5	176
Far-western	7.6	0.7	0.0	6.1	0.8	0.0	104
Sub-regions							
Eastern Mountain	(8.8)	(5.9)	(0.0)	(2.9)	(0.0)	(0.0)	14
Central Mountain	(9.5)	(4.8)	(0.0)	(2.4)	(2.4)	(0.0)	24
Eastern Hill	14.8	1.9	0.0	13.0	0.0	0.0	60
Central Hill	6.7	0.4	0.6	3.6	1.6	0.6	187
Western Hill	7.2	3.0	0.0	3.6	0.6	0.0	189
Mid-western Hill	10.2	7.5	1.1	1.6	0.0	0.0	60
Far-western Hill	(4.3)	(2.2)	(0.0)	(2.2)	(0.0)	(0.0)	35
Eastern Terai	8.3	2.6	0.0	4.7	0.6	0.4	240
Central Terai	10.8	0.8	0.0	6.5	2.5	1.0	299
Western Terai	7.4	0.0	0.0	4.6	1.8	0.9	103
Mid-western Terai	12.1	3.9	0.0	5.2	2.3	0.8	112
Far-western Terai	10.3	0.0	0.0	8.9	1.4	0.0	63
Education							
No education	9.4	1.9	0.2	5.3	1.4	0.5	1,114
Primary	6.9	1.5	0.0	3.3	1.4	0.6	166
Secondary +	9.0	3.1	0.0	5.1	0.8	0.0	115
Number of living children							
<3	14.2	8.4	0.7	1.2	3.4	0.6	256
3	8.6	0.5	0.0	5.9	2.2	0.0	432
4+	7.5	0.6	0.0	6.0	0.1	0.8	707
Total	9.0	2.0	0.1	5.1	1.4	0.5	1,395

Note: Figures in parentheses are based on 25-49 women.

¹ Figures for the Western Mountain sub-region are not shown because they are based on fewer than 25 unweighted women.

4.8 Source of Family Planning Services

All current users of modern methods of family planning were asked to report the source from which they most recently obtained their methods. Since women often do not know exactly into which category to place the source, interviewers were instructed to write the name of the source in the questionnaire. Supervisors and field editors were instructed to verify that the name and type of source was consistent with what was actually available from talking with local residents and village heads.

Table 4.13 and Figure 4.3 show that 79 percent of modern method users obtain their methods from a public source. Among these, 32 percent obtain their method from a hospital or district clinic and 28 percent from a mobile camp. Fourteen percent of modern method users get their method from private medical sources, the most important of which are the Family Planning Association of Nepal (FPAN) (5 percent) and pharmacies (4 percent). Six percent of users obtain their methods from other private sources.

Table 4.13 Source of supply for modern contraceptive methods

Percent distribution of currently married women currently using modern contraceptive methods by most recent source of the method, according to specific methods, Nepal 1996

Source of supply	Pill	IUD	Injectables	Condom	Norplant ²	Female sterilization	Male sterilization	Total
Public	39.7	(60.8)	85.9	34.1	(87.6)	87.3	81.5	79.0
Hospital/District clinic	8.3	(52.3)	16.3	3.7	(53.6)	46.3	29.2	32.4
Primary health centre	0.0	(0.0)	2.5	2.8	(3.1)	1.9	2.5	2.1
Family Planning clinic	1.7	(3.6)	3.8	0.4	(4.5)	0.0	0.0	0.9
Health post	14.0	(0.0)	30.7	19.5	(12.4)	0.0	0.0	7.7
Sub-health post	13.3	(0.0)	26.2	6.2	(0.0)	0.0	0.0	5.8
Mobile clinic ¹	0.0	(0.0)	3.9	0.0	(4.7)	0.0	0.0	0.8
Mobile camp	0.0	(0.0)	0.0	0.0	(0.0)	38.7	49.8	28.3
Other public	2.4	(5.0)	2.5	1.3	(9.3)	0.4	0.1	1.1
Private medical	36.4	(29.2)	13.5	38.3	(12.4)	9.1	10.6	14.1
Private hospital	0.0	(0.0)	3.6	0.0	(3.4)	2.3	3.3	2.4
Clinic/Nursing home	4.1	(12.9)	1.4	1.5	(0.0)	0.7	0.7	1.2
Family Planning Association of Nepal	1.7	(10.8)	4.8	0.6	(9.0)	6.1	6.2	5.3
Pharmacy	26.3	(0.0)	2.1	32.7	(0.0)	0.0	0.0	4.3
Community health volunteer	4.3	(0.0)	0.2	2.9	(0.0)	0.0	0.0	0.5
Other private	0.0	(5.5)	1.4	0.6	(0.0)	0.0	0.5	0.4
Other source	23.9	(10.0)	0.3	27.7	(0.0)	3.1	3.3	5.6
Female community health volunteer ³	18.0	(0.0)	0.0	6.7	(0.0)	0.0	0.0	1.5
Shop	0.7	(0.0)	0.0	12.7	(0.0)	0.0	0.0	1.0
Friends/Relatives	1.4	(0.0)	0.0	1.2	(0.0)	0.0	0.0	0.2
Other	3.8	(10.0)	0.3	7.0	(0.0)	3.1	3.3	3.0
Don't know/Missing	0.0	(0.0)	0.3	0.0	(0.0)	0.6	4.5	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of users	110	21	358	154	33	963	433	2,077

Note: Total includes 6 users of diaphragm/foam/jelly. Figures in parentheses are based on 25 to 49 unweighted cases.

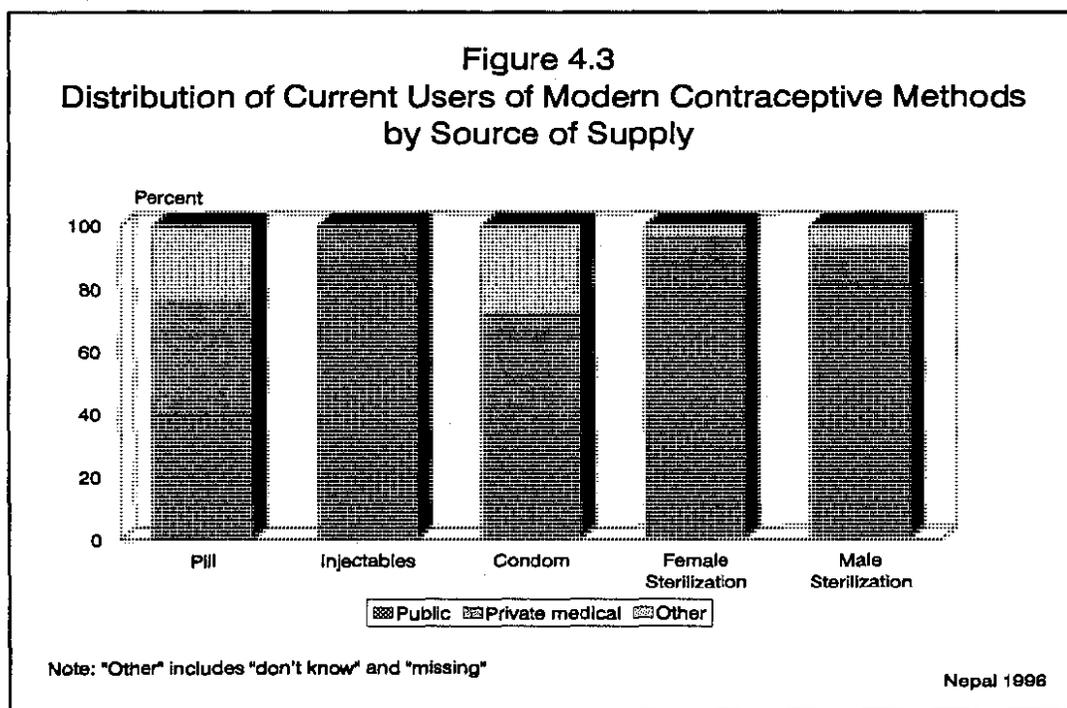
¹ Mobile clinic refers to outreach clinics organized by staff of health and sub-health posts to improve accessibility to family planning and other minor health services.

² Norplant was provided as a mobile service in some districts by the Department of Public Health Office (DPHO) personnel.

³ A large majority of Female Community Health Volunteers are trained and supervised by the Ministry of Health and get contraceptives and other supplies from the Ministry.

Both the public and private sectors are important suppliers of the pill (40 percent and 36 percent, respectively). Within the public sector, health posts and sub-health posts are important suppliers (14 percent and 13 percent, respectively) and within the private sector, pharmacies are prominent suppliers, accounting for 26 percent of all pill users. Three of five IUDs were inserted at public facilities, the most important of which are government hospitals or district clinics, which account for more than half of the insertions. The public sector is a major source for injectables (86 percent) with health posts and sub-health posts supplying 57 percent of users. Condoms are almost equally likely to be supplied by the private and public sectors, with health posts supplying one of five users and pharmacies supplying three of ten users. Private shops are also important sources, supplying 13 percent of users. Eight-eight percent of Norplant users obtained their method from government facilities. As expected, both female and male sterilizations are mainly performed in government facilities. While most female sterilizations are performed in hospitals and district clinics (46 percent), most male sterilizations are performed in mobile camps (50 percent).

Although the public sector continues to be an important source of contraceptives in Nepal, its share of the market has declined over the last five years from 93 percent of current users in 1991 to 79 percent of current users in 1996 (Ministry of Health, 1993). In contrast, the private sector has become increasingly important. In 1991, the proportion of current users obtaining contraceptives from the private medical sector was only 5 percent, but this increased to 14 percent in 1996. Similarly, other private sources supplied less than 1 percent of users in 1991, but this increased to 6 percent in 1996.



4.9 Nonuse of Family Planning

Future Use

In the NFHS, all currently married women who were not using contraception at the time of the survey were asked if they intended to use a method at any time in the future. This provides information about the

potential demand for family planning services. Table 4.14 shows the distribution of women by their intention to use in the future, according to the number of living children.

Sixty-two percent of currently married nonusers say that they intend to use family planning in the future; 30 percent intend to use within the next 12 months, 33 percent intend to use later, and less than 1 percent were not sure when they would start using contraception. Table 4.14 also shows that 34 percent of nonusers said that they did not intend to practice family planning in the future, while 3 percent were unsure. The vast majority of those who intend to use in the future have never used contraception in the past.

Intention to use family planning varies with the number of living children. The proportion intending to use family planning peaks at 74 percent among nonusers with one child. The proportion who intend to use within 12 months is considerably lower among childless nonusers than among those with children, while the proportion who intend to use after 12 months is lower among women with four or more children.

Table 4.14 Future use of contraception						
Percent distribution of currently married women who are not using a contraceptive method by past experience with contraception and intention to use in the future, according to number of living children, Nepal 1996						
Future intentions	Number of living children ¹					Total
	0	1	2	3	4+	
Never used contraception						
Intend to use in next 12 months	5.8	25.2	24.4	25.9	26.1	22.8
Intend to use later	51.3	39.3	32.0	25.4	11.4	28.7
Unsure as to timing	0.4	0.7	0.5	0.2	0.2	0.4
Unsure as to intention	7.3	3.4	2.5	2.2	1.0	2.8
Do not intend to use	32.5	21.1	26.0	27.9	42.7	31.3
Missing	0.0	0.1	0.3	0.3	0.0	0.1
Previously used contraception						
Intend to use in next 12 months	0.4	4.6	6.6	10.0	9.2	6.7
Intend to use later	1.7	4.3	5.9	3.9	3.1	3.8
Unsure as to timing	0.0	0.0	0.0	0.1	0.1	0.0
Unsure as to intention	0.1	0.1	0.0	0.1	0.0	0.1
Do not intend to use	0.4	1.1	1.6	3.8	6.2	3.1
Missing	0.1	0.0	0.1	0.1	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intend to use in next 12 months	6.2	29.8	31.0	35.9	35.2	29.5
Intend to use later	52.9	43.6	37.9	29.3	14.5	32.5
Unsure as to timing	0.4	0.7	0.5	0.3	0.3	0.4
Unsure as to intention	7.4	3.5	2.5	2.3	1.0	2.9
Do not intend to use	32.9	22.3	27.6	31.7	48.9	34.4
Missing	0.1	0.1	0.4	0.4	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	776	1,138	1,093	973	1,729	5,708

¹ Includes current pregnancy

Reasons for Nonuse

Knowledge of the reasons for nonuse of contraception is of value to family planning programmes. In the NFHS currently married women who were not using family planning at the time of the survey and who said that they did not intend to use it in the future were asked why they did not intend to use.

Table 4.15 Reasons for not using contraception

Percent distribution of currently married women who are not using a contraceptive method and who do not intend to use in the future, by main reason for not intending to use, according to age, Nepal 1996

Reason for not using contraception	Age		Total
	<30	30-49	
Infrequent sex	4.3	7.9	6.8
Menopausal/hysterectomy	0.7	25.8	18.5
Subfecund/infecund	2.4	6.4	5.2
Wants more children	35.4	7.2	15.3
Respondent opposed	6.9	3.8	4.7
Husband opposed	6.7	3.3	4.3
Others opposed	0.8	0.1	0.3
Religious prohibition	16.2	5.7	8.7
Knows no method	4.1	1.6	2.3
Knows no source	1.8	1.5	1.6
Health concerns	2.4	7.4	6.0
Fear of side effects	13.0	16.7	15.7
Lack of access	0.4	0.5	0.5
Costs too much	0.3	0.1	0.2
Interferes with body	0.5	0.3	0.4
Other	1.4	11.3	8.4
Don't know	2.8	0.1	0.9
Missing	0.0	0.3	0.2
Total	100.0	100.0	100.0
Number of women	569	1,396	1,966

Table 4.15 shows the main reasons for not using family planning. Nineteen percent of women said they did not intend to use family planning because they were menopausal or had had a hysterectomy. Fear of side effects also appears to be an important reason for nonuse (16 percent), followed by a desire to have more children (15 percent). Other commonly mentioned reasons are: religious prohibitions (9 percent), infrequent sex (7 percent), health concerns (6 percent), subfecundity/infecundity (5 percent), respondent's opposition to use (5 percent), and husband's opposed to use (4 percent). Less than 3 percent cited lack of knowledge about methods as the main reason for nonuse.

There are significant differences in reasons for nonuse by women's age. The major reasons that younger women (under age 30) give for not intending to use contraception in the future are a desire to have children (35 percent), religious prohibitions (16 percent), and fear of side effects (13 percent). The major reasons that older women (age 30 and over) give for not intending to use contraception in the future are because they are menopausal or

had a hysterectomy (26 percent), fear of side effects (17 percent), and other unspecified reasons (11 percent).

Table 4.15 shows that fear of side effects is an important reason for nonuse, suggesting that there is still substantial scope for the family planning programme in Nepal to increase contraceptive use by providing information to dispel misconceptions about the various methods.

Preferred Method

Currently married nonusers who said they intend to use family planning in the future were asked which method they preferred to use. Injectables is the most popular method, with 28 percent of nonusers who intend to use in the future stating that they would choose this method (Table 4.16). Of those who intend to use in the next 12 months, 38 percent intend to use injectables. Female sterilization is a close second with 27 percent of future users intending to use it. As expected, the proportion is even higher among women who intend to use after 12 months. In fact, it is the most popular method for later use. Pill use is preferred by 14 percent of currently married women intending to use in the future.

4.10 Exposure to Family Planning Information

Exposure to Messages through Radio and Television

Respondents in the NFHS were asked if they had heard a message about family planning in the media especially on the radio or on the television in the few months prior to the survey. Table 4.17 presents the percent distribution of ever-married women by whether or not they were exposed to such messages, according to background characteristics. Eleven percent of ever-married women reported that they had heard a family

planning message on both radio and television. However, radio is a more effective media than television in Nepal because television services are mostly limited to urban areas. Half of the women had heard a family planning message on the radio in the month before the interview, compared with only 13 percent who had been exposed to a message on the television.

Table 4.16 Preferred method of contraception for future use

Percent distribution of currently married women who are not using a contraceptive method but who intend to use in the future by preferred method, according to timing of intended use, Nepal 1996

Preferred method of contraception	Intend to use		All women
	In next 12 months	After 12 months	
Pill	17.3	11.5	14.2
IUD	1.1	0.5	0.7
Injectables	38.3	19.2	28.2
Diaphragm/foam/jelly	0.0	0.0	0.0
Condom	2.3	0.5	1.3
Female sterilization	19.1	33.9	27.0
Male sterilization	4.8	8.9	6.9
Norplant	4.9	2.4	3.6
Periodic abstinence	0.5	0.2	0.4
Withdrawal	0.3	0.2	0.2
Other	0.1	0.3	0.2
Missing	11.3	22.5	17.2
Total	100.0	100.0	100.0
Number of women	1,686	1,857	3,566

Note: Total includes 22 women who are unsure about the timing of future use.

There are no substantial differences by age in the percentage of women who were exposed to family planning messages on radio or television. As expected, urban women are more likely to have been exposed to family planning messages on both radio and television than rural women (48 percent compared with 8 percent, respectively). One of two rural women has not been exposed to family planning messages on either the radio or television. Twelve percent of women from the *Terai* and Hills had heard a family planning message on radio and television, compared with only 3 percent of women from the Mountains. However, 65 percent of women from the Hills had heard a family planning message on the radio compared with only 40 percent of women from the *Terai*. The radio, rather than the television, is a more common source of information on family planning in the Hill and Mountain regions.

Fifteen percent of women residing in the Eastern and Central regions have heard a family planning message on both the radio and television compared with only 5 percent of women in the Far-western region. Television is a more effective medium for family planning messages in the Central and Eastern regions than in the other development regions.

Differences in media exposure by sub-regions are large; for example, 28 percent of women residing in the Central Hill sub-region have been exposed to family planning messages on both the radio and television, in contrast to only 1 percent of women in the Western Mountain sub-region.

Exposure to family planning messages through the two media is positively correlated with the educational level of women. Only 7 percent of respondents with no education reported having heard a family planning message on both radio and television, compared with 60 percent of women with an SLC. Similarly,

Table 4.17 Exposure to family planning messages on radio and television

Percent distribution of ever-married women by whether they have heard a radio and/or television message about family planning in the few months prior to the interview, according to selected background characteristics, Nepal 1996

Background characteristic	Heard family planning message on the radio and/or television				Total	Number of women
	Heard on both	Radio only	Television only	Heard on neither		
Age						
15-19	8.4	40.5	1.6	49.4	100.0	982
20-24	12.0	42.0	1.5	44.5	100.0	1,626
25-29	12.7	38.8	1.9	46.4	100.0	1,594
30-34	12.0	41.0	1.7	45.2	100.0	1,361
35-39	12.2	39.5	1.8	46.5	100.0	1,119
40-44	11.7	38.5	1.3	48.2	100.0	923
45-49	7.8	39.1	0.9	52.2	100.0	824
Residence						
Urban	47.5	24.1	8.5	19.8	100.0	712
Rural	8.0	41.5	0.9	49.5	100.0	7,717
Ecological region						
Mountain	3.1	46.7	0.2	50.0	100.0	569
Hill	12.1	53.0	0.9	34.0	100.0	3,600
Terai	11.7	28.2	2.3	57.5	100.0	4,259
Development region						
Eastern	15.3	39.5	1.7	43.2	100.0	1,941
Central	14.8	24.4	2.9	57.9	100.0	2,827
Western	7.8	48.5	0.7	43.0	100.0	1,647
Mid-western	5.9	58.6	0.6	34.8	100.0	1,196
Far-western	4.9	51.4	0.1	43.6	100.0	819
Sub-region						
Eastern Mountain	5.8	58.8	0.3	35.1	100.0	127
Central Mountain	3.7	35.8	0.3	60.2	100.0	195
Western Mountain	1.2	49.0	0.0	49.8	100.0	247
Eastern Hill	8.6	55.1	0.0	36.3	100.0	578
Central Hill	28.0	36.6	3.1	32.3	100.0	1,065
Western Hill	5.5	63.0	0.1	31.4	100.0	1,022
Mid-western Hill	2.8	64.7	0.0	32.3	100.0	595
Far-western Hill	3.8	50.4	0.0	45.8	100.0	340
Eastern Terai	19.3	30.2	2.7	47.3	100.0	1,236
Central Terai	7.1	14.6	3.0	75.1	100.0	1,566
Western Terai	11.5	24.9	1.6	61.9	100.0	625
Mid-western Terai	10.9	55.4	1.5	32.0	100.0	492
Far-western Terai	7.0	50.3	0.2	42.5	100.0	341
Education						
No education	6.5	38.8	0.9	53.7	100.0	6,742
Primary	18.4	50.3	3.2	28.1	100.0	925
Some secondary	38.7	43.5	4.9	13.0	100.0	531
SLC and above	60.1	28.4	6.1	5.4	100.0	231
Literacy						
Literate	30.0	49.1	4.0	16.9	100.0	1,764
Illiterate	6.3	37.7	1.0	54.9	100.0	6,665
Total	11.3	40.1	1.6	47.0	100.0	8,429

Note: Total includes 8 women for whom information on media exposure was missing.
SLC = School Leaving Certificate

only 6 percent of illiterate women reported having heard a family planning message on both media, compared with 30 percent of women who are literate.

As part of a strong effort to inform women about family planning, the National Health Education, Information and Communication Centre had recently launched three radio programmes with technical assistance from the Johns Hopkins University/Population Communication Services (JHU/PCS) in Nepal. The NFHS asked women if they had heard these programmes on which family planning messages are broadcast. Table 4.18 shows that one of four women had heard the programmes *Jana Swastha Karyakram* and/or *Shriman Shrimati Pariwarbare Kurakani Gareko Chhoto Radio Natak* and one of five had heard the programme and/or heard the song *Ghanti heri haad nilaun*. Urban women, women living in the Hills and in the Mid-western region (especially in the Western Hill and Central Hill sub-regions), women who had completed their SLC, and literate women were more likely than other women to be exposed to these three radio programmes.

Acceptability of Radio and Television Broadcasts about Family Planning

In the NFHS, survey respondents were asked whether or not it was acceptable to them for information to be provided on radio or television about family planning methods. Table 4.19 shows that the vast majority of ever-married women (81 percent) indicated that it was acceptable to have information about family planning in the media. Sixteen percent of women reported that they were not sure whether such messages were acceptable and 3 percent reported that such messages were not acceptable. There were no substantial differences by women's age.

Rural women are less likely than urban women to approve of the dissemination of family planning information through the media. Similarly, women in the *Terai* are less likely to accept family planning messages through the media than women in the Mountains or Hills. Women in the Central development region are less likely to accept a family planning message on radio and television than women in the other regions. Only 58 percent of women in the Central *Terai* sub-region find family planning messages on the media acceptable, compared with over 75 percent of women in the other sub-regions.

Women with no education and illiterate women are less likely than other women to approve of the dissemination of family planning information through radio and television.

Exposure to Family Planning Messages through Print Media

Respondents were asked if they had read a message about family planning in the print media in the few months prior to the survey. Table 4.20 presents the percentage of ever-married women who were exposed to family planning messages through the print media, according to background characteristics. Twenty-three percent of women reported that they had seen a message about family planning in any type of print media, while 22 percent saw a message in a poster. This indicates that posters play an important role in transmitting family planning information in Nepal.

Younger women (less than 35 years) are more likely to be exposed to print media than older women (40 years or older), as are urban women and women living in the Hills. Differences in print media exposure by development regions are not large; however, there are relatively large differences by sub-regions. For example, 39 percent of women from the Central Hill sub-region were exposed to family planning messages in the print media, compared with 10 percent of women from the Central *Terai* sub-region.

Table 4.18 Heard specific family planning shows on radio

Percentage of ever-married women who have heard specific radio shows about family planning in the month prior to the interview, according to selected background characteristics, Nepal 1996

Background characteristic	Jana swastha karyakram	Ghanti heri haad nilaun, the drama	Ghanti heri haad nilaun, the song	Shriman shrimatie ¹	Number of women
Age					
15-19	23.5	19.8	18.8	24.7	982
20-24	28.1	23.3	23.8	28.8	1,626
25-29	25.7	20.3	19.9	27.2	1,594
30-34	25.3	22.2	20.5	26.9	1,361
35-39	23.9	21.8	21.3	24.4	1,119
40-44	22.0	20.1	20.6	22.0	923
45-49	21.1	19.6	19.5	21.5	824
Residence					
Urban	42.6	31.1	26.7	43.1	712
Rural	23.1	20.3	20.3	24.1	7,717
Ecological region					
Mountain	19.7	20.6	22.7	23.3	569
Hill	32.6	29.4	28.7	35.2	3,600
Terai	18.8	14.4	13.9	17.9	4,259
Development region					
Eastern	27.3	23.8	23.6	27.5	1,941
Central	18.9	15.3	14.0	20.3	2,827
Western	28.0	26.1	23.2	27.4	1,647
Mid-western	31.2	27.0	29.7	33.2	1,195
Far-western	22.8	17.2	20.3	25.5	819
Sub-region					
Eastern Mountain	24.7	29.2	31.5	27.6	127
Central Mountain	18.9	20.6	15.8	23.5	195
Western Mountain	17.8	16.1	23.8	21.0	247
Eastern Hill	31.2	29.8	30.8	31.2	578
Central Hill	37.0	29.9	26.4	39.2	1,065
Western Hill	34.1	33.8	29.3	34.4	1,022
Mid-western Hill	29.5	27.2	34.0	35.6	595
Far-western Hill	22.5	17.9	21.2	31.5	340
Eastern Terai	25.8	20.5	19.5	25.7	1,236
Central Terai	6.6	4.8	5.3	7.0	1,566
Western Terai	18.1	13.4	13.1	15.9	625
Mid-western Terai	35.8	28.5	26.8	33.2	492
Far-western Terai	25.8	17.9	16.6	21.0	341
Education					
No education	19.7	17.6	17.9	20.5	6,742
Primary	35.6	30.3	27.8	37.6	925
Some secondary	52.9	42.6	38.7	52.7	531
SLC and above	65.2	42.0	38.2	67.0	231
Literacy					
Literate	48.0	39.0	35.2	49.7	1,764
Illiterate	18.6	16.5	17.0	19.3	6,665
Total	24.7	21.2	20.8	25.7	8,429

SLC = School Leaving Certificate

¹ Shriman Shrimatie Pariwarbare Kurakani Gareko Chhoto Radio Natak

Table 4.19 Acceptability of media messages on family planning

Percent distribution of ever-married women by acceptability of messages about family planning on the radio and television, by selected background characteristics, Nepal 1996

Background characteristic	Acceptability of family planning messages on radio or television				Total	Number of women
	Acceptable	Not acceptable	Unsure	Missing		
Age						
15-19	77.4	4.5	17.8	0.3	100.0	982
20-24	82.9	3.5	13.5	0.1	100.0	1,626
25-29	84.0	3.0	12.9	0.2	100.0	1,594
30-34	81.0	3.2	15.7	0.1	100.0	1,361
35-39	80.5	2.6	16.9	0.0	100.0	1,119
40-44	77.1	4.3	18.5	0.2	100.0	923
45-49	76.9	3.8	19.3	0.0	100.0	824
Residence						
Urban	92.1	4.1	3.6	0.1	100.0	712
Rural	79.6	3.4	16.9	0.1	100.0	7,717
Ecological region						
Mountain	78.0	0.7	21.3	0.0	100.0	569
Hill	89.8	1.5	8.7	0.0	100.0	3,600
Terai	73.2	5.5	21.1	0.2	100.0	4,259
Development region						
Eastern	80.6	5.7	13.5	0.3	100.0	1,941
Central	70.5	3.6	25.8	0.1	100.0	2,827
Western	88.8	1.6	9.6	0.0	100.0	1,647
Mid-western	87.4	3.1	9.4	0.1	100.0	1,196
Far-western	89.4	1.7	8.9	0.0	100.0	819
Sub-region						
Eastern	86.4	0.3	13.3	0.0	100.0	127
Central Mountain	75.4	0.3	24.4	0.0	100.0	195
Western Mountain	75.7	1.2	23.0	0.0	100.0	247
Eastern Hill	87.0	2.9	10.1	0.0	100.0	578
Central Hill	87.4	0.9	11.7	0.0	100.0	1,065
Western Hill	92.8	0.2	7.0	0.0	100.0	1,022
Mid-western Hill	89.3	2.9	7.8	0.0	100.0	595
Far-western Hill	94.4	2.0	3.6	0.0	100.0	340
Eastern Terai	77.0	7.5	15.1	0.5	100.0	1,236
Central Terai	58.3	5.9	35.5	0.2	100.0	1,566
Western Terai	82.4	3.7	13.9	0.0	100.0	625
Mid-western Terai	90.2	3.5	6.1	0.2	100.0	492
Far-western Terai	86.4	2.1	11.5	0.0	100.0	341
Education						
No education	77.6	3.8	18.5	0.1	100.0	6,742
Primary	90.9	1.2	7.9	0.0	100.0	925
Some secondary	95.4	2.7	1.8	0.0	100.0	531
SLC and above	95.3	4.4	0.3	0.0	100.0	231
Literacy						
Literate	94.9	1.8	3.3	0.0	100.0	1,764
Illiterate	76.9	3.9	19.1	0.1	100.0	6,665
Total	80.6	3.4	15.8	0.1	100.0	8,429

SLC = School Leaving Certificate

Table 4.20 Family planning messages in print

Percentage of ever-married women who received a message about family planning through the print media in the few months prior to the interview, according to selected background characteristics, Nepal 1996

Background characteristic	Type of print media containing family planning message				Number of women
	Any source	Newspaper/magazine	Poster	Leaflet/brochure	
Age					
15-19	24.4	7.9	21.2	6.0	982
20-24	29.0	12.0	27.1	9.0	1,626
25-29	25.4	9.0	23.5	7.6	1,594
30-34	23.5	8.8	21.3	6.6	1,361
35-39	21.3	6.8	20.1	4.5	1,119
40-44	17.9	6.3	16.8	3.7	923
45-49	15.6	4.4	14.5	2.4	824
Residence					
Urban	52.3	27.9	47.6	17.2	712
Rural	20.7	6.6	19.1	5.2	7,717
Ecological region					
Mountain	14.9	2.8	14.0	2.3	569
Hill	27.0	9.3	24.5	6.2	3,600
Terai	21.4	8.3	20.0	6.7	4,259
Development region					
Eastern	22.4	11.3	19.4	8.6	1,941
Central	21.5	7.0	20.3	5.0	2,827
Western	24.6	8.9	22.8	5.2	1,647
Mid-western	25.9	9.5	23.6	7.0	1,196
Far-western	25.7	3.8	24.9	5.2	819
Sub-region					
Eastern Mountain	11.7	7.1	8.8	5.8	127
Central Mountain	19.5	1.4	19.5	0.6	195
Western Mountain	12.9	1.7	12.4	1.7	247
Eastern Hill	15.7	11.1	11.5	6.9	578
Central Hill	38.6	12.4	36.6	8.4	1,065
Western Hill	27.8	7.9	25.7	4.9	1,022
Mid-western Hill	20.5	7.7	17.7	4.1	595
Far-western Hill	18.8	3.3	17.6	6.0	340
Eastern Terai	26.6	11.7	24.2	9.8	1,236
Central Terai	10.2	3.9	9.4	3.3	1,566
Western Terai	19.4	10.4	18.1	5.7	625
Mid-western Terai	37.1	13.7	34.9	11.7	492
Far-western Terai	35.4	4.7	35.0	5.6	341
Education					
No education	15.4	2.7	14.5	1.8	6,742
Primary	41.3	15.7	37.5	11.8	925
Some secondary	64.9	39.9	57.3	29.7	531
SLC and above	88.7	71.2	80.1	57.4	231
Literacy					
Literate	57.2	31.0	51.4	24.3	1,764
Illiterate	14.4	2.4	13.6	1.4	6,665
Total	23.3	8.4	21.5	6.2	8,429

SLC = School Leaving Certificate

Educated and literate women are more likely to read family planning messages. For example, 89 percent of women with a SLC reported having received a family planning message through the print media compared with only 15 percent of women with no education. Similarly, 57 percent of literate women were exposed to family planning messages in the print media, compared with only 14 percent of illiterate women.

4.11 Family Planning Outreach Services

An important aspect of family planning outreach services is visits by family planning field staff to homes of nonusers to inform them about available methods and services and to provide information about family planning services at health facilities. Table 4.21 shows the percent distribution of currently married nonusers by whether they were visited by a family planning worker or spoke with a health facility staff member about family planning methods during the 12 months prior to the survey, according to selected background characteristics.

Six percent of nonusers were visited by a family planning worker, 3 percent also attended a health facility and 1 percent who attended a health facility spoke to a staff member about family planning. Thirty-three percent of nonusers were not visited by a family planning field worker but did attend a health facility; however, only 4 percent talked about family planning with a staff member. Three of five nonusers were neither visited by a family planning worker nor attended a health facility. Nine of ten nonusers were not visited by a family planning worker and either did not attend a health facility in the preceding 12 months or attended a facility but did not speak with a staff member about family planning methods.

The data indicate that there exists a large pool of nonusers who might be interested in using contraception but who are not being exposed to outreach services and, hence, access to information and services about family planning. Since the majority of nonusers had no contact with outreach family planning services there is little variation by background characteristics. The data suggest a need for greater effort on the part of family planning programmes in Nepal to reach nonusers.

4.12 Discussion of Family Planning with Husband

In the NFHS all currently married women who knew a contraceptive method were asked how often they discussed family planning with their husband in the past year. It is argued that frequency of discussion regarding family planning between husband and wife is a good indicator of acceptance of family planning methods. Table 4.22 shows that, according to the wife, 45 percent of couples in Nepal have discussed family planning at least once in the past year, whereas 55 percent never discussed family planning during this period. This is an increase since 1991, when only 30 percent of couples were found to have discussed family planning (Ministry of Health, 1993). Differentials in the proportion of couples who discussed family planning by current age indicate that very young women (age 15-19) and older women (age 40-49) are less likely to discuss family planning with their husband than women in the 20-39 year age-group.

4.13 Attitudes Toward Family Planning Use

In the NFHS, currently married, non-sterilized women who knew of a contraceptive method, were asked whether they approved or disapproved of family planning use and their perception about whether their husband

Table 4.21 Contact of non-users with family planning providers

Percent distribution of currently married nonusers by whether they were visited by a family planning worker or spoke with a health facility staff member about family planning methods during the 12 months prior to interview, according to selected background characteristics, Nepal 1996

Background characteristic	Visited by family planning worker			Not visited by family planning worker			Missing	No FP services or information provided	Total	Number of women
	Visited health facility		Did not visit health facility	Visited health facility		Did not visit health facility				
	Dis-cussed FP	Did not discuss FP		Dis-cussed FP	Did not discuss FP					
Age										
15-19	0.6	0.9	2.3	1.6	27.2	67.4	0.0	94.6	100.0	902
20-24	1.2	2.7	2.3	3.9	35.8	54.2	0.0	89.9	100.0	1,350
25-29	1.9	2.0	4.3	5.4	30.5	55.6	0.1	86.1	100.0	1,081
30-34	1.2	1.9	3.2	5.4	29.6	58.5	0.2	88.1	100.0	788
35-39	2.3	1.3	2.2	5.1	25.7	63.3	0.0	89.0	100.0	596
40-44	1.5	1.1	2.9	3.2	21.6	69.8	0.0	91.4	100.0	491
45-49	0.4	1.6	1.9	1.3	19.8	75.0	0.0	94.8	100.0	501
Residence										
Urban	0.3	1.1	1.4	7.8	40.7	48.7	0.0	89.4	100.0	333
Rural	1.4	1.8	2.9	3.6	28.2	62.0	0.1	90.2	100.0	5,375
Ecological region										
Mountain	1.2	2.4	1.6	4.6	25.5	64.6	0.1	90.2	100.0	442
Hill	1.1	1.2	1.5	4.8	30.3	61.1	0.0	91.4	100.0	2,369
Terai	1.5	2.2	4.1	3.0	28.2	60.9	0.1	89.1	100.0	2,897
Development region										
Eastern	2.1	1.6	3.9	4.0	28.4	59.9	0.2	88.3	100.0	1,266
Central	0.6	1.4	2.6	3.1	27.8	64.4	0.0	92.2	100.0	1,848
Western	1.5	1.6	1.5	4.8	31.8	58.8	0.1	90.5	100.0	1,148
Mid-western	1.6	2.8	3.3	4.1	27.9	60.3	0.0	88.3	100.0	838
Far-western	1.1	2.3	2.9	4.2	29.0	60.5	0.0	89.5	100.0	609
Sub-region										
Eastern Mountain	0.5	2.3	0.5	5.1	22.9	68.2	0.5	91.1	100.0	88
Central Mountain	0.4	0.8	0.8	5.8	33.5	58.8	0.0	92.2	100.0	144
Western Mountain	2.0	3.5	2.6	3.5	21.2	67.2	0.0	88.4	100.0	210
Eastern Hill	2.2	1.6	3.3	3.8	22.2	66.8	0.0	89.0	100.0	403
Central Hill	0.2	1.1	0.5	4.9	35.7	57.6	0.0	93.3	100.0	564
Western Hill	2.0	1.5	1.2	5.8	33.5	55.8	0.2	89.3	100.0	685
Mid-western Hill	0.2	1.3	1.7	4.8	33.3	58.7	0.0	92.0	100.0	458
Far-western Hill	0.3	0.0	1.5	3.2	17.6	77.4	0.0	95.0	100.0	259
Eastern Terai	2.2	1.5	4.6	3.9	32.2	55.3	0.2	87.5	100.0	774
Central Terai	0.9	1.7	3.9	1.8	23.2	68.5	0.0	91.7	100.0	1,140
Western Terai	0.8	1.6	2.0	3.2	29.2	63.1	0.0	92.3	100.0	463
Mid-western Terai	3.6	6.3	6.9	3.4	23.7	56.0	0.0	79.7	100.0	284
Far-western Terai	1.4	2.9	3.5	5.2	42.8	44.2	0.0	87.0	100.0	237
Education										
No education	1.2	1.7	3.0	3.4	26.0	64.6	0.1	90.6	100.0	4,671
Primary	1.7	2.8	2.1	5.3	37.0	51.1	0.1	88.0	100.0	620
Some secondary	2.4	1.5	1.6	6.3	43.9	44.3	0.0	88.3	100.0	309
SLC and above	2.8	0.4	0.9	9.7	62.2	24.0	0.0	86.2	100.0	109
Literacy										
Literate	2.1	2.1	2.0	5.6	42.3	45.9	0.1	88.2	100.0	1,039
Illiterate	1.1	1.7	3.0	3.5	25.9	64.7	0.0	90.6	100.0	4,669
Total	1.3	1.8	2.8	3.9	28.9	61.3	0.1	90.1	100.0	5,708

SLC = School Leaving Certificate

Table 4.22 Discussion of family planning with husband

Percent distribution of currently married non-sterilized women who know a contraceptive method by the number of times family planning was discussed with husband in the year preceding the survey, according to current age, Nepal 1996

Background characteristic	Number of times family planning discussed with husband				Total	Number of women
	Never	Once or twice	More than twice	Missing		
15-19	64.5	29.4	5.9	0.2	100.0	930
20-24	48.6	40.0	11.4	0.1	100.0	1,512
25-29	44.1	42.1	13.6	0.1	100.0	1,278
30-34	46.5	41.2	12.2	0.1	100.0	970
35-39	54.7	35.2	10.1	0.0	100.0	712
40-44	67.8	26.1	5.8	0.3	100.0	554
45-49	84.1	14.1	1.8	0.0	100.0	506
Total	54.8	35.3	9.8	0.1	100.0	6,462

approved or disapproved of family planning. Looking separately at the information for women and their husbands, nine of ten women say they approve of a couple using family planning and only 7 percent say they disapprove (Table 4.23). Most women feel that their husband also approves of family planning: 70 percent of women report that their husband approves of family planning, while 15 percent say their husband disapproves. Combining the information on women's attitudes and their perceptions of their husband's attitudes, Table 4.23 shows that there is general agreement among Nepalese couples about the use of family planning. According to women, both husband and wife approve of using contraception in seven of ten couples and both disapprove in less than 5 percent of couples.

In general, the proportion of couples approving family planning decreases with age after age 20. Urban couples are slightly more likely to approve of family planning than rural couples, as are couples residing in the Hills. Couples from the Mid-western *Terai* sub-region are most likely to approve of family planning compared with couples living in the Central *Terai* sub-region.

As expected, approval by couples is higher among the more educated women. Similarly, literate women are more likely to say that both they and their husband approve of family planning than illiterate women.

Table 4.23 Wives' and husbands' attitudes toward family planning

Percent distribution of currently married non-sterilized women who know of a contraceptive method by wife's attitude toward family planning and wife's perception of her husband's attitude toward family planning, according to selected background characteristics, Nepal 1996

Background characteristic	Wife approves			Wife disapproves			Other ¹	Total	Wife approves	Husband approves ²	Number of Women
	Both approve	Husband disapproves	Husband's attitude unknown	Husband approves	Husband's attitude unknown	Both disapprove					
Age											
15-19	63.2	6.5	21.7	0.4	1.3	3.8	3.0	100.0	91.5	63.8	930
20-24	76.3	7.1	9.9	0.6	1.6	3.0	1.6	100.0	93.2	77.0	1,512
25-29	76.3	9.1	7.5	1.0	1.0	3.2	1.9	100.0	92.9	77.7	1,278
30-34	69.5	12.8	6.4	0.5	1.4	6.0	3.6	100.0	88.6	70.6	970
35-39	65.2	13.9	10.7	0.9	1.5	5.7	2.1	100.0	89.8	66.6	712
40-44	60.4	13.6	9.6	0.6	3.4	6.9	5.5	100.0	83.7	61.9	554
45-49	50.4	15.2	15.8	1.1	2.6	7.4	7.4	100.0	81.4	52.4	506
Residence											
Urban	77.3	8.8	8.8	0.8	0.2	3.5	0.7	100.0	94.9	78.0	512
Rural	68.0	10.3	11.3	0.7	1.7	4.7	3.2	100.0	89.7	69.2	5,949
Ecological Region											
Mountain	64.5	8.3	15.6	0.6	2.2	1.2	7.6	100.0	88.4	66.1	473
Hill	72.7	8.4	12.6	0.4	1.5	1.8	2.5	100.0	93.7	73.5	2,769
Terai	66.0	12.0	9.2	1.0	1.6	7.5	2.8	100.0	87.2	67.4	3,219
Development region											
Eastern	68.0	8.0	9.9	1.2	2.6	6.0	4.3	100.0	85.9	69.7	1,486
Central	64.4	12.5	11.2	0.9	1.8	5.6	3.5	100.0	88.2	66.1	2,119
Western	71.2	11.9	9.7	0.2	0.4	4.5	2.1	100.0	92.8	71.7	1,250
Mid-western	74.2	6.6	13.4	0.3	1.4	1.8	2.3	100.0	94.2	74.7	958
Far-western	72.0	9.5	13.2	0.6	1.4	1.9	1.4	100.0	94.8	72.6	649

Continued

Table 4.23 — *Continued*

Background characteristic	Wife approves			Wife disapproves			Other ¹	Total	Wife approves	Husband approves ²	Number of women
	Both approve	Husband disapproves	Husband's attitude unknown	Husband approves	Husband's attitude unknown	Both disapprove					
Sub-region											
Eastern Mountain	65.6	7.6	15.6	1.2	2.8	2.4	4.8	100.0	88.8	67.6	103
Central Mountain	60.4	11.6	14.2	0.4	3.0	0.4	10.1	100.0	86.2	62.7	150
Western Mountain	66.7	6.4	16.7	0.6	1.4	1.1	7.2	100.0	89.7	67.8	220
Eastern Hill	64.6	7.5	14.5	1.4	4.0	3.0	5.1	100.0	86.5	66.9	474
Central Hill	76.0	8.3	9.4	0.3	1.4	1.0	3.8	100.0	93.6	77.0	778
Western Hill	74.4	9.3	11.9	0.0	0.6	1.8	1.8	100.0	95.7	74.6	749
Mid-western Hill	72.1	6.6	17.8	0.0	1.4	1.9	0.2	100.0	96.5	72.1	501
Far-western Hill	73.9	11.0	11.3	0.8	0.6	1.4	0.8	100.0	96.3	74.8	268
Eastern Terai	70.0	8.3	6.9	1.1	1.9	8.0	3.8	100.0	85.3	71.4	909
Central Terai	57.4	15.4	12.0	1.3	2.0	9.3	2.5	100.0	84.9	59.4	1,191
Western Terai	66.4	15.8	6.2	0.4	0.2	8.6	2.5	100.0	88.4	67.3	501
Mid-western Terai	80.7	6.1	7.4	0.5	1.2	1.9	2.1	100.0	94.2	81.2	360
Far-western Terai	70.4	10.3	12.1	0.6	2.4	2.7	1.6	100.0	92.8	71.0	259
Education											
No education	64.9	11.5	11.9	0.8	1.9	5.3	3.6	100.0	88.4	66.2	5,110
Primary	81.1	5.9	9.7	0.6	0.4	1.7	0.6	100.0	96.7	81.7	727
Some secondary	84.2	4.0	7.3	0.4	0.6	2.0	1.5	100.0	95.5	85.6	422
SLC and above	89.6	4.0	4.6	0.5	1.1	0.3	0.0	100.0	98.1	90.1	203
Literacy											
Literate	84.9	4.5	7.7	0.3	0.6	1.4	0.6	100.0	97.1	85.6	1,369
Illiterate	64.4	11.7	12.1	0.8	1.9	5.4	3.7	100.0	88.2	65.7	5,092
Total	68.8	10.2	11.1	0.7	1.6	4.6	3.0	100.0	90.1	69.9	6,462

SLC = School Leaving Certificate

¹ Includes 6 women for whom information was missing.² Includes cases in which the wife is unsure about her own attitude, but knows her husband's.

CHAPTER 5

OTHER PROXIMATE DETERMINANTS OF FERTILITY

This chapter focuses on the principal factors, other than contraception, that affect a woman's risk of becoming pregnant and thus help to determine fertility in Nepal. These include: nuptiality and sexual intercourse, postpartum amenorrhoea and abstinence from sexual relations, and termination of exposure to pregnancy. In many societies, marriage signals the onset of a woman's exposure to the risk of childbearing; postpartum amenorrhoea and sexual abstinence affect the intervals between births; and the onset of menopause marks the end of a woman's reproductive life. These factors determine the length and pace of reproductive activity and are, therefore, important for understanding fertility.

The Individual Questionnaire in the Nepal Family Health Survey (NFHS), which was administered to all ever-married women, included questions on the proximate determinants of fertility. In this chapter, a number of tables which examine proximate determinants are based on *all women*, that is, they include both ever-married and never-married women. In constructing these tables, the denominators have been expanded to represent all women by multiplying the number of ever-married women by an inflation factor equal to the ratio of all women to ever-married women reported in the Household Questionnaire. The inflation factors are calculated by single year of age, either for the population as a whole or, in cases where the results are presented by background characteristics, separately for each category of the characteristic in question.

5.1 Current Marital Status

The distribution of all women age 15-49 according to their marital status¹ is shown in Table 5.1. The data indicate that 17 percent of women of reproductive age in Nepal have never married, 79 percent are currently married, 3 percent are widowed, 2 percent are no longer living with their husband, and less than 1 percent are divorced. Marriage is almost universal in Nepal. The proportion never married declines sharply with increasing age from 56 percent of women in the age group 15-19 to less than 5 percent of women age 25-29. Further evidence of the universality of marriage is seen among women age 30 and over, 98 percent or more of whom have been married.

Widowhood is the leading cause of marital disruption, followed by marital separation. The proportion widowed increases steadily with age, from less than 1 percent among women under age 30 to 12 percent among women age 45-49. Marital separation also rises with age from less than 1 percent among those less than 25 years old to more than 3 percent among women age 45-49 (Table 5.1).

Data from the national censuses and the NFHS show that the proportion of never-married women below age 25 has increased gradually over time (Table 5.2 and Figure 5.1). Note that the census data is in reference to formal marriage, whereas the 1996 NFHS refers to effective marriage (living with husband). Except for the year

¹ In the NFHS, a woman not yet cohabiting with her marriage partner is not considered as currently married.

Table 5.1. Current marital status
Percent distribution of women by current marital status, according to age, Nepal 1996

Age	Marital status					Total	Number of women
	Never married	Married	Widowed	Divorced	Separated		
15-19	56.0	43.3	0.2	0.0	0.5	100.0	2,229
20-24	14.8	84.0	0.1	0.2	0.9	100.0	1,909
25-29	4.6	93.3	0.8	0.0	1.3	100.0	1,671
30-34	1.9	93.1	2.4	0.3	2.4	100.0	1,387
35-39	1.5	91.7	4.2	0.1	2.5	100.0	1,136
40-44	1.1	88.7	7.5	0.4	2.3	100.0	933
45-49	1.4	83.1	12.0	0.1	3.3	100.0	836
Total	16.6	79.0	2.7	0.1	1.6	100.0	10,101

1981, a steady increase is observed across all age groups in the proportion of women who never married over the period 1961-1996.²

5.2 Polygyny

Marital unions are predominantly of two types, those that are monogamous and those that are polygynous. The distinction has social significance and possible fertility implications, although the relationship between union type and fertility is complex and not well understood. In this survey, the extent of polygyny in Nepal was measured by asking all currently married respondents the question: "Besides yourself, how many other wives does your husband have?" The proportion of currently married women in a polygynous union is shown in Table 5.3, according to age group and selected background characteristics. Overall, 6 percent of currently married women in Nepal are in a polygynous union. Older women are more likely to be in a polygynous union than younger women. Also, polygyny is higher among rural women than urban women. There are only small regional differences in polygyny.

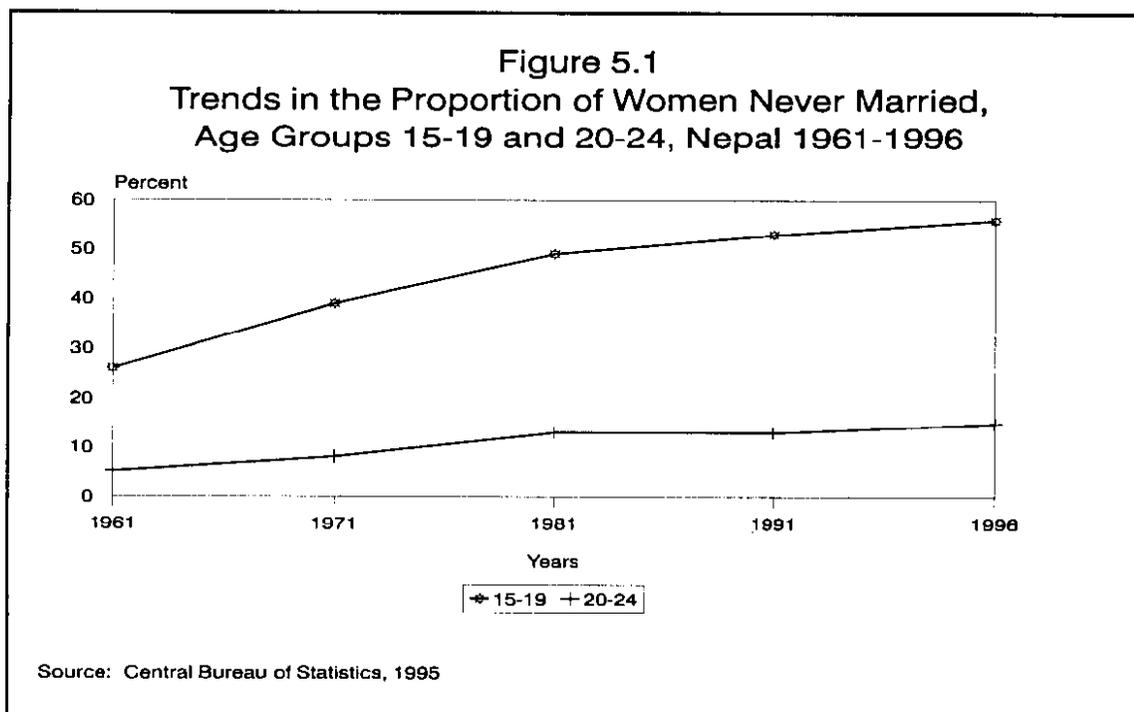
There is a weak inverse relationship between female education and polygyny—the proportion of married women in a polygynous union is 6 percent among uneducated women compared with 4 percent among women who have at least a secondary education.

Table 5.2. Never-married women
Percentage of women who have never married, by age group, Nepal 1961-1996

Age group	1961	1971	1981	1991	1996
15-19	25.7	39.3	49.2	52.7	56.0
20-24	5.3	7.9	13.1	12.8	14.8
25-29	1.9	2.6	5.4	3.7	4.6
30-35	1.0	1.4	3.1	1.9	1.9
35-39	0.8	1.1	2.6	1.3	1.5
40-44	0.7	0.9	2.5	1.1	1.1
45-49	0.6	0.8	2.9	0.9	1.4

Source: Data for 1961-1991 is from the Central Bureau of Statistics, 1995:173.

² The proportion reported as never married in the 1991 NFHS is much higher than that reported in the 1996 NFHS and all national censuses.



5.3 Age at First Marriage

First marriage marks the point in a woman's life at which childbearing becomes socially acceptable. Women who marry early will have, on average, longer exposure to the chance of becoming pregnant and, therefore, early age at first marriage often implies early age at childbearing and higher fertility for a society. Information on age at first marriage was obtained by asking all respondents the month and year, or age, when they started living together with their first husband.

The median age at first marriage in Nepal has risen slowly over the last 25 years or so (Table 5.4), from 15.5 years among the cohort of women currently age 45-49 to 17.1 years among the cohort of women age 20-24 (representing more recent marital patterns). This trend towards later marriage is supported by data showing that the proportion of women married by age 15 has declined from 41 percent among women age 45-49 to 14 percent among those currently age 15-19 years. Overall, 82 percent of Nepalese women age 20-49 are married by age 20 and 93 percent by age 25.

Table 5.5 examines the median age at marriage for women age 20-49 by selected background characteristics. The median age at first marriage observed for women age 20-49 is 16.4 years. The urban-rural differential in age at marriage is just over one year; however, this difference is much more pronounced among younger women than older women. Rural women age 20-24 married on average at age 17, whilst their urban counterparts married 2.4 years later. Women in the *Terai* ecological region marry earlier than women in the Hill and Mountain regions. Among the development regions, the Eastern region has the latest median age at marriage (17.3 years) and the Far-western region has the earliest (15.2 years).

There is a strong relationship between female education and age at first marriage. The median age at first marriage for women with no formal education is 16.0 years compared with 16.9 years for those with primary education and 19.8 years for women with secondary education.

Table 5.3 Polygyny

Percentage of currently married women age 15-49 in a polygynous union, by age and selected background characteristics, Nepal 1996

Background characteristic	Age of respondent							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	4.0	1.8	3.8	7.1	6.9	7.7	1.5	4.7
Rural	3.6	4.2	5.1	6.2	8.8	8.5	9.0	6.1
Ecological region								
Mountain	3.6	5.2	1.0	5.6	8.7	11.1	8.9	5.9
Hill	2.4	3.3	5.9	7.8	9.1	9.1	9.0	6.4
Terai	4.3	4.4	4.6	5.1	8.2	7.3	8.0	5.6
Development region								
Eastern	6.3	3.8	4.5	7.7	8.8	7.1	12.7	6.7
Central	3.9	3.0	3.6	5.1	8.3	8.5	4.8	4.9
Western	0.7	5.9	7.1	6.4	8.9	11.5	8.7	7.0
Mid-western	3.7	4.4	7.2	6.9	7.8	3.8	9.7	6.1
Far-western	2.1	3.9	2.4	5.4	9.4	10.8	10.1	5.6
Education								
No education	3.4	4.5	5.1	6.2	8.9	8.6	9.1	6.4
Primary	4.2	3.3	4.4	4.4	9.7	(6.9)	(0.0)	4.5
Secondary+	3.8	2.9	4.1	9.5	(0.0)	(7.6)	*	4.3
Literacy								
Literate	2.3	3.2	5.5	8.1	6.7	8.7	3.8	4.9
Illiterate	4.1	4.4	4.8	5.8	8.9	8.4	8.9	6.2
Total	3.6	4.0	4.9	6.3	8.6	8.4	8.5	6.0

Note: Figures in parentheses are based on 25-49 women; an asterisk indicates a figure is based on fewer than 25 women and has been suppressed.

Table 5.4 Age at first marriage

Percentage of women age 15-49 who were first married by exact age 15, 18, 20, 22, and 25, and median age at first marriage, according to current age, Nepal 1996

Current age	Percentage of women who were first married by exact age:					Percent never married	Number of women	Median age at first marriage
	15	18	20	22	25			
15-19	14.4	NA	NA	NA	NA	56.0	2,229	a
20-24	19.1	60.3	75.7	NA	NA	14.8	1,909	17.1
25-29	25.2	67.7	81.6	89.7	94.2	4.6	1,671	16.5
30-34	29.3	69.0	83.8	90.7	95.6	1.9	1,387	16.4
35-39	30.3	72.1	85.2	91.4	95.4	1.5	1,136	16.2
40-44	36.5	75.0	87.1	93.0	96.9	1.1	933	15.8
45-49	40.7	78.8	88.1	93.4	96.4	1.4	836	15.5
20-49	28.2	68.8	82.4	89.4	93.0	5.4	7,872	16.4
25-49	31.1	71.5	84.6	91.3	95.5	2.4	5,963	16.2

NA = Not applicable

^a Omitted because less than 50 percent of the women in the age group were first married by age 15.

Table 5.5 Median age at first marriage

Median age at first marriage among women age 20-49 years, by current age and selected background characteristics, Nepal 1996

Background characteristic	Current age						Women age 20-49	Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49		
Residence								
Urban	19.4	18.0	17.1	16.9	16.7	16.0	17.7	17.2
Rural	17.0	16.4	16.3	16.2	15.8	15.5	16.3	16.1
Ecological region								
Mountain	17.3	17.1	16.5	16.4	16.5	16.5	16.8	16.6
Hill	18.0	17.3	17.1	16.9	16.4	15.9	17.1	16.8
Terai	16.4	15.9	15.8	15.7	15.3	15.1	15.8	15.7
Development region								
Eastern	18.7	17.5	17.4	16.6	16.4	16.1	17.3	16.9
Central	16.6	16.2	16.0	16.0	15.5	15.2	16.0	15.9
Western	17.7	17.1	16.4	16.5	16.5	15.9	16.8	16.5
Mid-western	16.8	16.0	16.4	16.1	15.9	15.6	16.2	16.0
Far-western	15.9	15.4	15.3	14.8	14.6	14.4	15.2	15.0
Education								
No education	16.4	16.1	16.1	16.1	15.8	15.5	16.0	16.0
Primary	17.3	16.9	16.9	16.8	15.4	16.2	16.9	16.6
Secondary+	a	19.8	19.1	18.7	18.5	17.0	19.8	19.4
Total	17.1	16.5	16.4	16.2	15.8	15.5	16.4	16.2

Note: The median for women 15-19 could not be determined because some women may still get married before reaching age 20.

^a Omitted because less than 50 percent of the women in the age group were first married by age 20.

5.4 Recent Sexual Activity

In the absence of effective contraception, the probability of becoming pregnant is related to the frequency of intercourse. Information on sexual activity, therefore, can be used to refine measures of exposure to pregnancy. In the 1996 NFHS, women were asked how long ago their last sexual activity occurred.³ Even though most women were embarrassed to answer this question at first, field observations showed that with some probing most women did answer the question and for the most part they were honest with their answers. Table 5.6 shows the distribution of women by reported sexual activity, according to their background characteristics.

Overall, 68 percent of married women were sexually active in the last four weeks. The remaining non-active women were largely comprised of those either practising short-term (less than 2 years) postpartum abstinence (7 percent) or those not postpartum but still abstaining for the short-term (21 percent).

The relationship between sexual activity and age follows a bell-shaped pattern with a peak at ages 30-34 and lower percentages at the youngest and oldest ages. A similar pattern is observed with regard to marital duration, with a peak at 15-19 years of marriage. Three of 4 urban women were sexually active in the last 4 weeks compared with 2 of 3 rural women.

³ There were 32 currently married women who said that they had started living with the husband (and were therefore interviewed) but who had not had sexual intercourse. These women have been included in all the tables in this report.

Table 5.6 Recent sexual activity

Percent distribution of currently married women by sexual activity in the four weeks preceding the survey, and among those not sexually active, the length of time they have been abstaining and whether postpartum or not postpartum, according to selected background characteristics and contraceptive method currently used, Nepal 1996

Background characteristic/ contraceptive method	Sexually active in last four weeks	Not sexually active in last four weeks					Missing	Total	Number of women
		Abstaining (postpartum)		Abstaining (not postpartum)					
		0-1 years	2+ years	0-1 years	2+ years				
Age									
15-19	63.4	9.5	0.3	22.3	0.8	0.7	100.0	965	
20-24	66.5	11.7	0.4	19.7	0.7	0.9	100.0	1,602	
25-29	72.7	8.8	0.1	16.2	1.2	0.9	100.0	1,560	
30-34	73.2	6.4	0.2	18.2	1.4	0.6	100.0	1,292	
35-39	70.3	4.0	0.3	22.8	1.8	0.8	100.0	1,042	
40-44	66.0	2.3	0.2	26.6	4.1	0.7	100.0	828	
45-49	58.0	0.8	0.2	29.8	9.9	1.5	100.0	695	
Duration of union (years)									
0-4	65.3	10.7	0.3	20.4	0.7	0.7	100.0	1,586	
5-9	67.1	10.1	0.3	20.1	1.1	1.1	100.0	1,569	
10-14	72.8	8.7	0.1	16.4	1.2	0.7	100.0	1,434	
15-19	73.8	4.7	0.3	19.0	1.4	0.8	100.0	1,146	
20-24	71.6	3.8	0.1	21.5	2.0	1.0	100.0	932	
25-29	63.5	2.1	0.3	27.6	6.0	0.5	100.0	724	
30+	56.1	1.2	0.3	32.2	9.0	1.3	100.0	592	
Residence									
Urban	75.4	3.8	0.0	17.4	2.6	0.4	100.0	668	
Rural	67.4	7.4	0.3	21.4	2.2	0.9	100.0	7,314	
Ecological region									
Mountain	67.4	8.1	0.4	20.4	2.3	0.6	100.0	538	
Hill	69.3	7.0	0.3	20.2	2.2	0.6	100.0	3,363	
Terai	67.3	7.0	0.2	21.9	2.2	1.0	100.0	4,082	
Development region									
Eastern	69.6	6.3	0.2	21.0	2.0	0.8	100.0	1,829	
Central	69.3	6.9	0.2	19.7	2.1	1.1	100.0	2,677	
Western	64.7	8.0	0.4	23.5	2.6	0.6	100.0	1,561	
Mid-western	70.5	6.7	0.1	20.4	1.5	0.6	100.0	1,146	
Far-western	64.0	8.2	0.5	22.1	3.4	0.9	100.0	769	
Sub-region									
Eastern Mountain	77.2	4.5	0.3	14.5	2.8	0.7	100.0	120	
Central Mountain	64.7	8.9	0.6	20.6	3.1	0.3	100.0	183	
Western Mountain	64.5	9.3	0.3	23.3	1.6	0.8	100.0	236	
Eastern Hill	74.9	4.5	0.4	18.5	1.4	0.2	100.0	538	
Central Hill	75.5	5.9	0.1	15.0	2.3	0.8	100.0	993	
Western Hill	63.0	9.6	0.5	24.4	2.0	0.7	100.0	952	
Mid-western Hill	70.3	5.8	0.2	21.5	1.7	0.2	100.0	567	
Far-western Hill	56.9	9.0	0.7	25.2	4.8	1.7	100.0	313	
Eastern Terai	66.3	7.3	0.1	22.9	2.2	1.1	100.0	1,171	
Central Terai	65.7	7.3	0.2	22.7	1.9	1.4	100.0	1,502	
Western Terai	67.3	5.6	0.2	22.3	3.7	0.5	100.0	609	
Mid-western Terai	72.1	7.5	0.0	18.3	1.2	0.9	100.0	476	
Far-western Terai	70.7	6.6	0.4	18.9	2.7	0.3	100.0	324	
Education									
No education	67.8	6.8	0.3	21.6	2.4	0.8	100.0	6,347	
Primary	67.9	9.0	0.0	18.9	2.1	1.2	100.0	896	
Some secondary	69.3	8.4	0.2	20.0	0.8	0.9	100.0	513	
SLC and above	75.6	5.9	0.0	16.9	1.2	0.0	100.0	227	

Continued

Table 5.6 — Continued

Background characteristic/ contraceptive method	Sexually active in last four weeks	Not sexually active in last four weeks				Missing	Total	Number of women
		Abstaining (postpartum)		Abstaining (not postpartum)				
		0-1 years	2+ years	0-1 years	2+ years			
Literacy								
Illiterate	67.8	7.0	0.3	21.3	2.4	0.8	100.0	6,288
Literate	69.1	7.6	0.1	20.2	1.8	0.9	100.0	1,694
Contraceptive method								
No method	62.6	9.7	0.4	23.0	2.7	1.0	100.0	5,708
Pill	87.4	0.9	0.0	11.7	0.0	0.0	100.0	110
Sterilization	78.2	0.6	0.0	19.0	1.5	0.6	100.0	1,395
Periodic abstinence	82.7	0.0	0.0	17.3	0.0	0.0	100.0	71
Other	88.2	0.6	0.0	11.1	0.2	0.0	100.0	678
Total	68.1	7.1	0.3	21.1	2.2	0.8	100.0	7,982

Note: Total includes 21 users of IUD and 32 currently married women who reported never having had sex.
SLC = School Leaving Certificate

There is little variation in sexual activity by ecological region, but when looking at development regions some differentials emerge. Women residing in the Far-western region were least likely to be sexually active in the four weeks before the survey and women residing in the Mid-western region most likely. Sexual activity in the past four weeks ranges from a low of 57 percent among women living in the Far-western Hill sub-region to a high of 77 percent among women living in the Eastern Mountain sub-region.

Sexual activity varies positively with education and ranges from a high of 76 percent among women with a SLC to a low of 68 percent among women with primary education or no education.

The NFHS data show that current contraceptive use is related to sexual activity, with users more likely than nonusers to have had recent sex (Table 5.6).

The practice of postpartum abstinence is closely related to age, marital duration, and urban-rural residence. Younger women and those married for a shorter period of time are more likely than older, long-married women to be sexually non-active because of postpartum abstinence. Rural women are about twice as likely to be postpartum abstaining as their urban counterparts. These correlations are due in large part to the greater likelihood that these women have recently had a child.

5.5 Postpartum Amenorrhoea, Abstinence and Insusceptibility

Postpartum amenorrhoea refers to the interval between childbirth and the return of menstruation. During this period, the risk of pregnancy is much reduced. The length of protection from conception following childbirth depends on the duration and intensity of breastfeeding (which plays a role in the delayed resumption of menstruation following birth) and the length of time before sexual intercourse is resumed. Women who gave birth during the three years prior to the survey were asked about the duration of postpartum amenorrhoea and sexual abstinence. Women are considered *insusceptible* if they are not exposed to the risk of pregnancy, either because they are amenorrhoeic or are still abstaining from sex following a birth.

Table 5.7 Postpartum amenorrhoea, abstinence, and insusceptibility

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrhoeic, abstaining, and insusceptible, by number of months since birth, and median and mean durations, Nepal 1996

Months since birth	Amenor-rhoic	Abstaining	Insus-ceptible	Number of births
<2	98.5	90.9	99.4	180
2-3	86.1	54.0	92.3	278
4-5	80.0	31.8	84.1	258
6-7	70.8	20.4	75.0	250
8-9	61.1	14.1	64.1	216
10-11	49.4	12.9	55.8	249
12-13	39.3	8.0	43.2	277
14-15	32.9	7.4	36.9	260
16-17	27.8	5.2	30.2	247
18-19	17.9	2.7	18.6	241
20-21	13.8	5.5	17.0	230
22-23	11.9	4.1	14.5	229
24-25	6.2	2.0	7.8	257
26-27	5.0	3.4	8.1	250
28-29	5.1	0.7	5.7	248
30-31	1.4	1.3	2.7	201
32-33	3.2	0.9	3.5	228
34-35	2.0	0.0	2.0	245
Total	34.0	14.1	36.8	4,343
Median	10.3	3.0	11.3	-
Mean	12.5	5.6	13.5	-
Prevalence/Incidence mean ¹	12.1	5.0	3.1	-

¹ The prevalence-incidence mean is borrowed from epidemiology and is defined as the number of children whose mothers are amenorrhoeic (prevalence) divided by the average number of births per month (incidence).

Table 5.7 presents the percentage of births in the last three years for which mothers are postpartum amenorrhoeic, abstaining, and insusceptible by the number of months since the birth. The period of postpartum amenorrhoea is considerably longer than the period of postpartum abstinence and is, therefore, a principal determinant of the length of postpartum insusceptibility to pregnancy in Nepal. The median duration of amenorrhoea is 10 months, the duration of abstinence is 3 months, and the period of insusceptibility is 11 months. Virtually all women are insusceptible to pregnancy within the first two months following a birth and both amenorrhoea and abstinence are important factors in their insusceptibility. However, starting from the second month after birth, the contribution of abstinence to the insusceptible period is greatly reduced as more women resume sexual relations. At 10-11 months after birth, about one-half of women are still amenorrhoeic while only 13 percent are still abstaining. By 18-19 months postpartum, less than 1 in 5 women are insusceptible (19 percent), largely because of amenorrhoea (18 percent). Only 3 percent of postpartum women are still abstaining at durations of 18-19 months.

Table 5.8 shows the median duration of postpartum amenorrhoea, abstinence, and insusceptibility by selected background characteristics. Postpartum insusceptibility varies by age of the mother, with older mothers (30 or more years) insusceptible and amenorrhoeic for almost 3 months longer than younger women (less than 30).

Rural women and less educated women have longer periods of amenorrhoea, sexual abstinence, and insusceptibility than more educated women and urban women. Also, there are notable regional differentials in the period of postpartum insusceptibility, with women residing in the Mountains most likely to be insusceptible. Postpartum insusceptibility ranges from a low of 10 months in the Eastern development region to about 14 months in the Mid-western and Far-western regions.

Table 5.8 Median duration of postpartum insusceptibility by background characteristics

Median number of months of postpartum amenorrhoea, postpartum abstinence, and postpartum insusceptibility, by selected background characteristics, Nepal 1996

Background characteristic	Median duration (months)			Number of births
	Postpartum amenorrhoea	Postpartum abstinence	Postpartum insusceptibility	
Age				
<30	9.6	3.0	10.4	3,047
30+	12.3	3.2	13.6	1,296
Residence				
Urban	(8.3)	(2.0)	(9.2)	275
Rural	10.5	3.1	11.6	4,067
Ecological region				
Mountain	12.6	2.5	13.1	334
Hill	10.7	3.0	12.2	1,847
Terai	9.9	3.2	10.4	2,161
Development region				
Eastern	9.6	3.2	10.1	917
Central	10.1	3.1	11.0	1,427
Western	10.1	3.4	11.0	872
Mid-western	13.6	2.4	14.1	686
Far-western	11.3	2.5	13.7	440
Education				
No education	11.1	2.9	12.0	3,447
Primary	(9.1)	(3.4)	(10.0)	503
Secondary+	(6.5)	(3.3)	(7.7)	393
Literacy				
Literate	7.7	3.1	8.7	896
Illiterate	11.2	3.0	12.0	3,447
Total	10.3	3.0	11.3	4,343

Note: Medians are based on current status. Figures in parentheses are based on 25 to 49 cases.

5.6 Termination of Exposure to Pregnancy

The chance of becoming pregnant declines with age after age 30, as increasing proportions of women become infecund or subfecund. Although the onset of infecundity is difficult to determine for an individual woman, there are ways of estimating it for a population. Table 5.9 presents data on two indicators of decreasing exposure to the risk of pregnancy for women age 30 years and over: menopause and long-term abstinence.

For analytical purposes, a woman is considered menopausal if she is neither pregnant nor postpartum amenorrhoeic and has not had a menstrual period in the six months preceding the survey or if she reports herself as being menopausal. The table shows that the proportion of women who have reached menopause increases steadily with age, from 4 percent of women age 30-34, to 21 percent of women age 42-43, and to 61 percent of women age 48-49.

The percentage practising long-term abstinence refers to the proportion of currently married women who did not have sexual intercourse in the three years preceding the survey. The proportion of currently married women who have not had sexual intercourse for the last three years is 2 percent or less until age 44, after which long-term abstinence rises to a peak of 9 percent among women age 48-49.

Table 5.9 Termination of exposure to the risk of pregnancy

Indicators of menopause and long-term abstinence among currently married women age 30-49, by age, Nepal 1996

Age	Menopause ¹		Long-term abstinence ²	
	Percent	Number	Percent	Number
30-34	3.7	941	1.0	1,292
35-39	5.7	855	1.5	1,042
40-41	13.8	338	2.2	387
42-43	20.7	297	2.1	309
44-45	29.0	307	5.3	324
46-47	43.9	256	5.0	259
48-49	61.2	238	8.7	243
Total	16.6	3,231	2.5	3,856

¹ Percentage of non-pregnant, non-amenorrhoeic currently married women whose last menstrual period occurred six or more months preceding the survey or who report that they are menopausal.

² Percentage of currently married women who did not have intercourse in the three years preceding the survey.

CHAPTER 6

FERTILITY PREFERENCES

Fertility preferences have become an important topic of research especially in developing countries. Information on fertility preferences is useful as an indicator of general attitudes towards childbearing and the possible future course of fertility. Moreover, data on fertility preferences are also useful for assessing the unmet need for family planning and the number of unwanted or mistimed births in the population. Several questions were asked in the NFHS concerning women's fertility preferences. Although the interpretation of fertility preferences has been the subject of controversy, the results obtained from these questions are important for assessing the extent to which unwanted or mistimed pregnancies occur and the effect on fertility of prevention of such pregnancies.

6.1 Desire for More Children

In the NFHS, currently married non-pregnant women were asked whether they wanted to have another child and, if so, how soon. Currently married pregnant women were asked if they wanted another child after the one they were expecting and, if so, how long they would like to wait from the birth of the child they were expecting until the birth of the next child.

Table 6.1 shows the percent distribution of currently married women by desire for another child, according to the number of living children. Forty-one percent of currently married Nepalese women age 15-49 say they want no more children, and an additional 23 percent either have been sterilized or say that they cannot have any more children (see Figure 6.1). Thirty-five percent of married women want to have a child at some time

Table 6.1 Fertility preferences by number of living children

Percent distribution of currently married women by desire for more children, according to number of living children, Nepal 1996

Desire for more children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Want another soon ²	58.7	19.9	8.6	5.4	2.3	1.8	0.5	12.5
Want another later ³	25.3	59.1	24.6	12.6	5.5	2.7	1.0	20.6
Want another, undecided when	5.7	2.8	2.1	0.8	0.3	0.0	0.6	1.7
Undecided	1.6	1.8	2.0	1.5	0.8	1.2	0.5	1.4
Want no more	1.1	11.1	44.9	48.2	56.1	62.0	68.1	41.3
Sterilized	0.7	1.9	14.5	27.4	30.5	26.5	17.6	17.5
Declared infecund	7.0	3.3	3.1	3.8	4.3	5.8	11.7	5.0
Missing	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	811	1,286	1,557	1,576	1,208	740	805	7,982

¹ Includes current pregnancy

² Want next birth within two years

³ Want to delay next birth for two or more years

in the future; 21 percent say they would like to have another child after two years, while 13 percent say they would like to have another soon (within two years). Only 1 percent are undecided about whether they want another child. Thus, the vast majority of women want to either space their next birth or limit childbearing altogether. These women can be considered to be potentially in need of family planning services.

Desire for additional children is expected to drop progressively as the number of living children increases. This pattern is observed in Table 6.1. Fifty-nine percent of married women with no children want to have a child soon, compared with less than 2 percent of women with five children and less than 1 percent of women with six or more children. Conversely, the percentage of women who want no more children or who are sterilized rises from 2 percent for women with no children to 86 percent for those with six or more children.

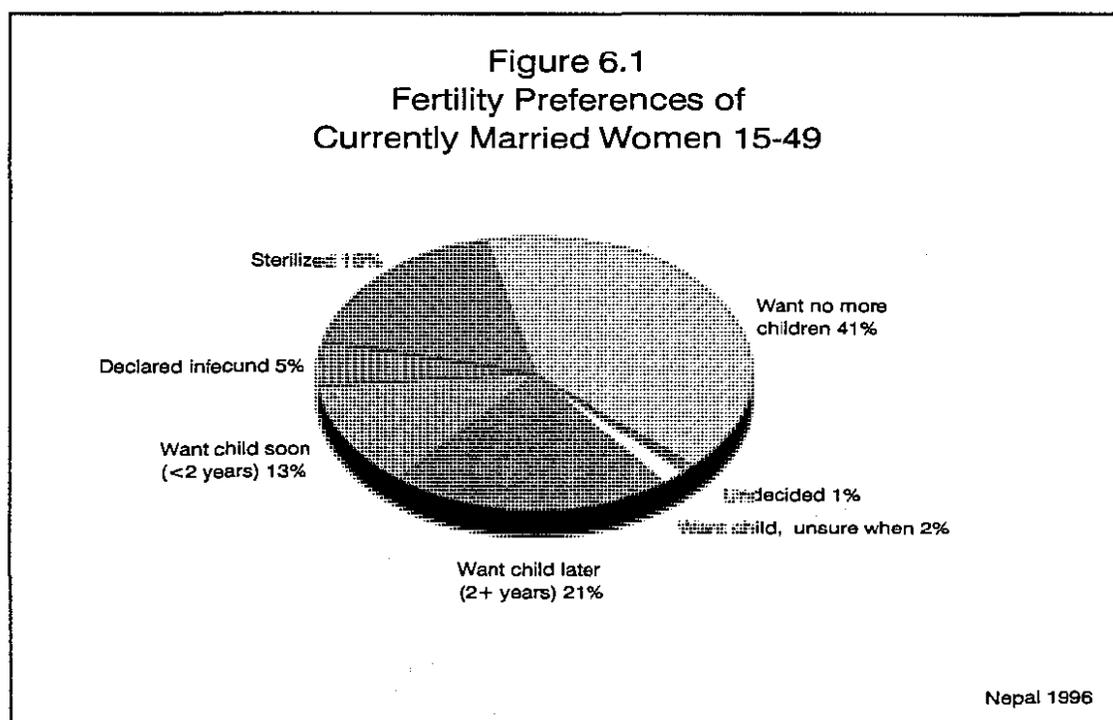


Table 6.2 shows the percent distribution of currently married women by desire for more children according to the current age. The data show that the proportion of women who want no more children increases with age, reaching a maximum for women in their late thirties before declining. Seven percent of married women age 15-19 want no more children or have been sterilized, compared with 86 percent of women age 35-39 and 63 percent of women age 45-49. In contrast, the proportion of women who want to have another child later declines with age, as does the proportion of women who want the next birth soon. A substantial proportion of women under 30 years of age want to delay their next birth, indicating considerable potential demand for temporary methods of family planning for spacing.

The proportion of women who want no more children is the most important measure of fertility preference. Table 6.3 shows the percentage of currently married women who want no more children by number of living children and selected background characteristics. It is well documented that urban women begin to want to limit family size at lower parities than rural women. Table 6.3 shows that 83 percent of urban women with two children say that they do not want another child, compared with only 56 percent of rural women (Figure 6.2).

Table 6.2 Fertility preferences by age

Percent distribution of currently married women by desire for more children, according to age, Nepal 1996

Desire for children	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Want another soon ¹	30.7	18.4	12.0	9.4	5.8	3.0	1.7	12.5
Want another later ²	56.1	40.3	20.8	7.4	2.5	0.6	0.4	20.6
Want another, undecided when	3.8	2.6	1.8	1.2	0.7	0.4	0.6	1.7
Undecided	1.6	1.8	1.5	1.9	1.7	0.3	0.2	1.4
Want no more	6.9	32.5	46.3	55.0	55.9	51.4	38.4	41.3
Sterilized	0.5	4.3	17.0	23.7	30.2	31.6	24.8	17.5
Declared infecund	0.2	0.1	0.6	1.3	3.2	12.2	33.8	5.0
Missing	0.2	0.1	0.1	0.1	0.0	0.4	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	965	1,602	1,560	1,292	1,042	828	695	7,982

¹ Want next birth within two years

² Want to delay next birth for two or more years

However, identical proportions want to stop childbearing among both urban and rural women with six or more children.

Sixty-two percent of women residing in the Hill region want to have no more children compared with 54 percent and 57 percent, respectively, for women living in the Mountain and *Terai* regions, which suggests that women from the Mountain and *Terai* regions are more pronatalist than women from the Hill region. Among development regions, the percentage of women who want no more children ranges from 50 percent in the Far-western region to 64 percent in the Western region.

A positive association between the educational level and the proportion wanting no more children is clearly evident for married women with up to four children. For example, among women with two children, 53 percent of those with no education want to stop childbearing, compared with 84 percent of those with at least some secondary education. Among women who have five or more children, the relationship between educational level and desire to stop childbearing is less clear. Within each category of number of living children, literacy is associated with a higher percentage of women who want to have no more children. For example, among women with two children, 52 percent of illiterate women want to stop childbearing, compared with 78 percent of literate women. However, overall, illiterate women are slightly more likely than literate women to want no more children (59 versus 57 percent) because the majority of women are illiterate and concentrated in the older age groups and are more likely to have reached their desired number.

6.2 Need for Family Planning Services

Fecund women who are currently married and who say either they do not want any more children or that they want to wait two or more years before having another child, but are not using contraception, are considered

Table 6.3. Desire to limit childbearing by background characteristics

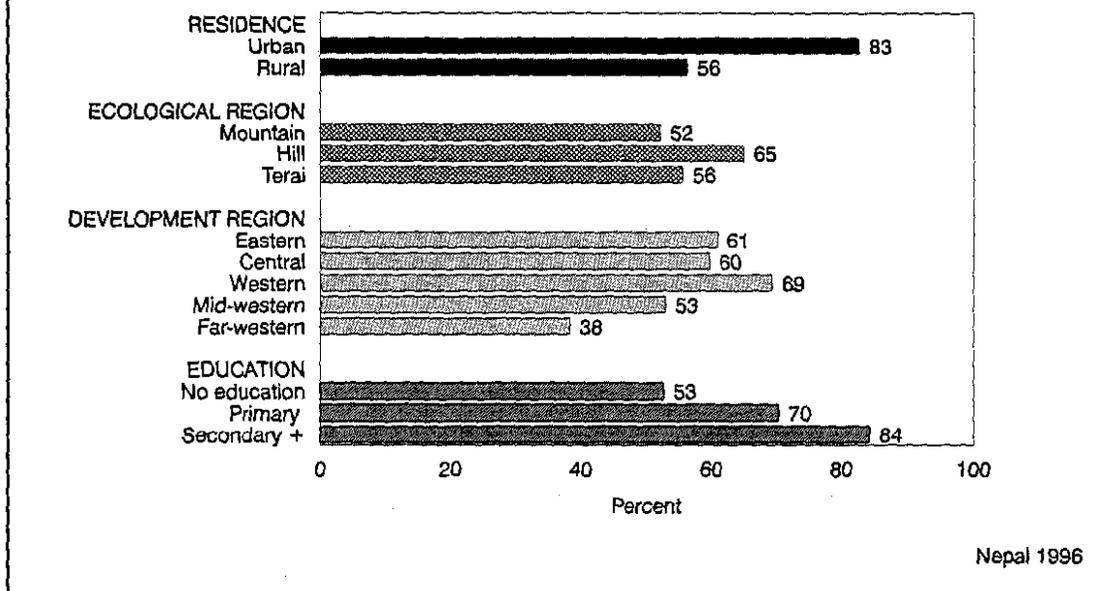
Percentage of currently married women who want no more children, by number of living children and selected background characteristics, Nepal 1996

Background characteristic	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	6.0	24.1	82.6	90.3	94.0	93.5	86.3	70.7
Rural	1.5	11.8	56.3	74.3	86.0	88.1	85.7	57.7
Ecological region								
Mountain	0.9	10.2	52.2	71.0	83.5	85.4	84.9	53.6
Hill	2.0	16.5	65.0	79.1	85.7	88.3	85.4	61.5
Terai	1.6	10.7	55.6	73.3	87.9	89.0	86.1	57.2
Development region								
Eastern	1.9	11.9	60.9	78.7	88.6	92.5	89.1	60.7
Central	2.2	13.3	59.7	73.4	90.3	90.0	87.0	58.4
Western	2.8	19.7	69.3	82.9	87.5	87.1	79.4	63.6
Mid-western	0.0	9.6	53.0	71.1	79.6	85.0	89.3	55.4
Far-western	0.5	6.9	38.3	67.6	75.9	83.8	81.5	50.4
Sub-region								
Eastern Mountain	(0.0)	2.0	(60.4)	80.0	(86.4)	*	(81.4)	57.6
Central Mountain	(2.9)	17.5	69.8	(71.7)	87.9	(90.9)	(94.1)	61.7
Western Mountain	(0.0)	8.9	31.7	64.2	78.5	(78.9)	(80.5)	45.3
Eastern Hill	(0.0)	15.5	52.1	74.4	82.4	94.3	94.1	61.0
Central Hill	5.4	19.5	75.6	84.3	90.1	89.4	82.2	66.0
Western Hill	2.7	20.8	74.1	88.4	89.5	90.5	81.1	67.0
Mid-western Hill	0.0	12.1	51.9	65.9	79.8	81.8	86.9	54.0
Far-western Hill	0.0	3.0	28.8	64.8	(71.4)	(83.3)	(84.2)	44.8
Eastern Terai	2.9	11.5	64.9	80.2	91.6	91.6	86.2	60.9
Central Terai	0.8	8.3	46.7	66.3	90.8	90.2	89.4	53.0
Western Terai	3.0	17.9	61.0	72.6	84.7	82.7	76.5	58.2
Mid-western Terai	(0.0)	7.4	61.4	78.2	80.3	90.5	91.9	60.8
Far-western Terai	(1.4)	9.5	42.7	70.1	77.1	86.2	82.4	55.9
Education								
No education	1.7	12.0	52.7	72.9	85.5	87.8	85.4	59.7
Primary	1.6	12.3	70.3	88.1	94.0	97.0	93.2	55.9
Secondary+	2.1	17.5	84.2	88.3	96.2	95.2	72.3	53.6
Literacy								
Literate	1.9	15.2	78.0	89.8	95.0	94.7	88.6	57.2
Illiterate	1.7	11.9	52.1	72.2	85.3	87.7	85.5	59.2
Total	1.7	13.0	59.4	75.6	86.7	88.5	85.7	58.7

Note: Women who have been sterilized are considered to want no more children. Figures in parentheses are based on 25 to 49 women; an asterisk indicates that a figure is based on fewer than 25 women and has been suppressed.

¹ Includes current pregnancy

Figure 6.2
Percentage of Currently Married Women With Two Children Who
Want No More Children by Background Characteristics



to have an *unmet need* for family planning.¹ Information on fertility desires and contraceptive behaviour have been used widely to provide estimates of unmet need (Westoff, 1988). Current users of family planning methods are said to have a *met need* for family planning. The *total demand* for family planning is the sum of the met and unmet need for family planning. Women who desire to cease childbearing but practise no contraception are most likely to be potential clients for family planning programmes (De Silva, 1992).

Table 6.4 presents data on unmet need, met need and total demand for family planning services, according to whether there is a need for spacing or limiting births. Thirty-one percent of currently married women in Nepal have an unmet need for family planning services—14 percent for spacing purposes and 17 percent for limiting births. Together with the 29 percent who are currently using a contraceptive method, the total demand for family planning among currently married women is 60 percent. Therefore, if all women who say they want to space or limit their children were to use methods, the contraceptive prevalence rate would double from 29 to 60 percent of married women. Table 6.4 also indicates that 48 percent of the family planning need in Nepal is currently being met.

A comparison with the 1991 NFHS data shows that the unmet need for family planning has increased only slightly from 28 percent in 1991 to 31 percent in 1996 (Ministry of Health, 1993). However, there has been a 14 percent increase in the percentage of women using any method of family planning and a corresponding increase of 18 percent in the demand for family planning between 1991 and 1996. The percentage of women with no demand for family planning decreased from 50 percent in 1991 to 40 percent in 1996.

¹ For an exact description of the calculation, see footnote 1, Table 6.4.

Table 6.4 Need for family planning services among currently married women

Percentage of currently married women with unmet need for family planning, met need for family planning, and the total demand for family planning services, by selected background characteristics, Nepal 1996

Background characteristic	Unmet need for family planning ¹			Met need for family planning (currently using) ²			Total demand for family planning			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	38.9	1.6	40.5	5.3	1.3	6.5	44.1	2.9	47.0	13.9	965
20-24	28.8	9.0	37.8	5.5	10.2	15.8	34.3	19.2	53.6	29.4	1,602
25-29	12.9	21.6	34.6	2.8	27.9	30.7	15.7	49.5	65.2	47.0	1,560
30-34	5.3	27.0	32.3	1.7	37.4	39.0	6.9	64.4	71.3	54.7	1,292
35-39	2.3	26.8	29.1	0.2	42.5	42.7	2.5	69.3	71.8	59.5	1,042
40-44	0.8	21.4	22.2	0.2	40.5	40.7	1.0	61.9	62.9	64.6	828
45-49	0.1	9.1	9.2	0.0	27.9	27.9	0.1	37.0	37.1	75.3	695
Residence											
Urban	7.4	14.3	21.7	6.5	43.5	50.1	14.0	57.8	71.8	69.8	668
Rural	14.9	17.4	32.3	2.2	24.3	26.5	17.1	41.6	58.8	45.1	7,314
Ecological region											
Mountain	13.9	20.3	34.2	2.2	15.6	17.8	16.1	36.0	52.0	34.2	538
Hill	14.3	18.7	33.1	3.0	26.6	29.6	17.3	45.3	62.6	47.2	3,363
Terai	14.2	15.4	29.6	2.3	26.7	29.0	16.6	42.0	58.6	49.5	4,082
Development region											
Eastern	12.2	17.1	29.3	3.2	27.7	30.8	15.3	44.8	60.1	51.3	1,829
Central	14.9	15.4	30.4	2.7	28.3	31.0	17.6	43.7	61.3	50.5	2,677
Western	13.8	20.6	34.4	1.7	24.8	26.5	15.5	45.4	60.9	43.5	1,561
Mid-western	13.5	17.8	31.4	3.3	23.6	26.9	16.8	41.4	58.2	46.1	1,146
Far-western	18.8	14.9	33.7	1.8	19.0	20.8	20.6	33.9	54.5	38.1	769
Sub-region											
Eastern Mountain	13.1	22.1	35.2	4.8	21.4	26.2	17.9	43.4	61.4	42.7	120
Central Mountain	16.0	22.4	38.3	1.5	19.6	21.2	17.5	42.0	59.5	35.6	183
Western Mountain	12.7	17.9	30.6	1.3	9.6	10.9	14.0	27.5	41.5	26.3	236
Eastern Hill	15.8	18.7	34.5	2.9	22.2	25.1	18.7	40.9	59.5	42.1	538
Central Hill	10.4	14.9	25.3	5.4	37.8	43.2	15.7	52.7	68.4	63.1	993
Western Hill	14.2	23.0	37.2	1.6	26.5	28.0	15.8	49.4	65.2	43.0	952
Mid-western Hill	15.2	21.0	36.2	2.1	17.2	19.2	17.3	38.1	55.4	34.7	567
Far-western Hill	23.0	14.0	37.0	1.7	15.7	17.4	24.7	29.8	54.5	32.0	313
Eastern Terai	10.4	15.8	26.3	3.1	30.8	33.9	13.5	46.7	60.2	56.4	1,171
Central Terai	17.8	14.9	32.7	1.1	23.1	24.1	18.9	38.0	56.9	42.4	1,502
Western Terai	13.1	17.0	30.1	1.9	22.1	24.0	15.0	39.1	54.1	44.4	609
Mid-western Terai	11.9	13.6	25.5	5.3	35.1	40.3	17.2	48.7	65.8	61.2	476
Far-western Terai	17.0	15.2	32.2	2.1	24.7	26.9	19.1	40.0	59.0	45.5	324
Education											
No education	12.7	18.4	31.1	1.7	24.7	26.4	14.4	43.1	57.5	45.9	6,347
Primary	21.1	15.0	36.2	3.7	27.2	30.8	24.8	42.2	67.0	46.0	896
Some secondary	21.2	9.6	30.9	7.4	32.3	39.6	28.6	41.9	70.5	56.2	513
SLC and above	14.3	6.9	21.2	12.4	39.6	52.0	26.8	46.5	73.2	71.1	227

Continued

Table 6.4 — *Continued*

Background characteristic	Unmet need for family planning ¹			Met need for family planning (currently using) ²			Total demand for family planning			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Literacy											
Illiterate	13.1	18.2	31.3	1.7	24.1	25.7	14.8	42.3	57.1	45.1	6,288
Literate	18.4	13.0	31.5	6.1	32.6	38.7	24.6	45.6	70.1	55.1	1,694
Number of living children											
0	22.9	0.2	23.1	2.8	0.6	3.4	25.7	0.8	26.5	12.8	1,030
1	32.0	3.4	35.4	7.5	4.2	11.7	39.5	7.6	47.1	24.9	1,253
2	18.2	13.8	32.1	3.4	27.2	30.6	21.7	41.0	62.7	48.8	1,516
3	9.2	20.1	29.3	1.5	38.1	39.6	10.7	58.2	68.9	57.4	1,525
4+	3.2	30.3	33.5	0.4	38.2	38.5	3.6	68.4	72.0	53.5	2,659
Total	14.3	17.1	31.4	2.6	25.9	28.5	16.9	43.0	59.9	47.6	7,982

SLC = School Leaving Certificate

¹ Unmet need for *spacing* includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning but say they want to wait two or more years for their next birth. Also included in unmet need for spacing are women who are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for *limiting* refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning but want no more children. Excluded from the unmet need category are menopausal or infecund women.

² Using for *spacing* is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Using for *limiting* is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

As expected, unmet need for spacing is higher among younger women, while the unmet need for limiting childbearing is higher among older women (Table 6.4). The total unmet need for family planning decreases consistently with age, while the percentage of total demand satisfied increases with age from 14 percent among women age 15-19 to 75 percent among women age 45-49. This pattern suggests considerable unmet demand for family planning for spacing among younger women in Nepal.

The level of unmet need among rural women is higher than that among urban women. Among the three ecological regions 34 percent of women residing in the Mountain region are in need of family planning compared with 33 percent of women in the Hill region and 30 percent of women from the *Terai*. The percentage of women with unmet need ranges from 29 percent in the Eastern region to 34 percent in the Western and Far-western regions. Among sub-regions the unmet need ranges from 25 percent among women who live in the Central Hill sub-region to 38 percent among women who live in the Central Mountain sub-region.

Unmet need is lower among women with at least a SLC than among less educated women. However, virtually identical proportions are in need of family planning among literate and illiterate women, although the percentage of total demand satisfied is lower among illiterate women.

Twenty-three percent of women with no children are in need of family planning services, compared with 35 percent of women with one child. As expected, unmet need for spacing is higher among low parity women, while unmet need for limiting childbearing is higher among high parity women.

6.3 Ideal Family Size

Two questions are used to measure ideal family size in the NFHS. Women who had no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For women who had children, the question was rephrased as follows: "If you could go back to the time 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?" These questions are based on hypothetical situations; therefore the responses to them are expected to in part reflect societal norms. Moreover, among women who have not started childbearing, the data provide an idea of the total number of children these women will have in the future, while among older, higher parity women, these data provide a measure of the level of unwanted fertility.

Table 6.5 shows that the vast majority of ever-married women were able to give a numeric answer to these questions; less than 3 percent of women gave a non-numeric answer. Therefore, the majority of women in Nepal have thought about how many children they would like to have. Van de Walle (1992) argues that a numerical desired family size is a necessary condition for adopting fertility 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 (United Nations, 1987).

The majority of women consider three or less to be an ideal number of children, indicating that a small family size norm has become widespread in Nepal. Thirty-five percent of women prefer a two-child family and another 35 percent consider a three-child family ideal, while only 2 percent say they would choose to have six or more children. Among women with two children, fifty-two percent say they think two children are ideal.

Table 6.5 Ideal and actual number of children								
Percent distribution of ever-married women by ideal number of children, and mean ideal number of children for ever-married women and for currently married women, according to number of living children, Nepal 1996								
Ideal number of children	Number of living children ¹							Total
	0	1	2	3	4	5	6	
0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	3.7	7.2	3.0	1.5	0.7	0.6	0.1	2.6
2	44.8	50.4	52.4	28.3	24.3	18.5	12.9	35.3
3	30.3	27.9	28.3	46.8	34.2	38.8	34.8	34.6
4	14.3	8.9	13.1	17.6	34.1	26.9	33.5	19.9
5	2.1	2.1	1.0	2.6	2.1	9.5	7.1	3.2
6+	1.6	1.3	0.8	1.1	1.7	2.5	6.8	1.9
Non-numeric response	2.9	2.2	1.4	2.1	2.9	3.3	4.8	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	866	1,378	1,636	1,664	1,271	773	841	8,429
Mean ideal number of children								
Ever-married women	2.7	2.5	2.6	3.0	3.2	3.4	3.6	2.9
Number of women	841	1,348	1,614	1,629	1,234	748	800	8,215
Currently married women	2.7	2.5	2.6	3.0	3.2	3.4	3.6	2.9
Number of women	789	1,259	1,535	1,543	1,175	719	771	7,790

Note: The means exclude women who gave non-numeric responses.
¹ Includes current pregnancy

Similarly, among women with one child, 50 percent say they think two children are ideal, suggesting that they will limit their family size after one more child. Table 6.5 also shows that among ever-married women giving numeric responses, the mean ideal family size is 2.9 children. This represents a decline from the level of 3.1 among women in 1991 (Ministry of Health, 1993).

The mean ideal number of children increases with the number of living children from 2.7 among childless women to 3.6 among women with six or more children (Table 6.5). There are several possible explanations for the relationship between ideal and actual number of children. Women with larger families, being older, on average, than women with smaller families, may have larger ideal family sizes, because of attitudes they acquired 20-30 years ago. Moreover, some women who already have larger families may tend to rationalize their family size by reporting their actual number of children as their ideal number. Despite the likelihood that some rationalization of large families occurs, it is common for women to report ideal family sizes lower than their actual number of children. For example, 59 percent of women with four children report fewer than four children as their ideal number and 85 percent of those with five children state an ideal number of children less than five. These proportions are considerably higher than similar figures reported in the 1991 NFHS. For example, in 1991, only 46 percent of women with four children stated ideal family sizes that were less than four and 74 percent of those with five children stated an ideal family size of less than five (Ministry of Health, 1993) indicating an increasing preference for smaller families even among high parity women in Nepal.

Table 6.6 shows the mean ideal number of children for ever-married women by age group and selected background characteristics. The mean ideal number of children increases with age from 2.7 among women age 15-19 to 3.5 among women age 45-49. Rural women have higher family size norms than urban women; this differential is reflected in every age group. Women from the Mountains have higher family size norms than women from the Hills and *Terai*. Again, this differential is reflected in every age group. In contrast, women residing in the Hills have the lowest mean ideal family size at all ages. The mean ideal number of children reported among women in the five development regions ranges from 2.7 in the Western region to 3.2 in the Far-western region. However, among sub-regions, women from the Western Hill sub-region reported on average 2.5 children as the ideal number while, at the other extreme, women from the Western Mountain sub-region reported on average 3.5 children as the ideal number.

The relationship between mean ideal number of children and level of educational attainment is negative. Women with no education have the largest mean ideal family size (3.1 children) while women with some secondary education have the smallest (2.1 children). This negative relationship is true for every age group. Similarly, the mean ideal number of children reported by illiterate women is higher than that reported by literate women.

6.4 Fertility Planning

The NFHS data provide an opportunity to estimate levels of unwanted fertility. One way of estimating unwanted fertility is based on responses to a question as to whether each birth in the three years before the survey was planned (wanted then), is timed (wanted, but at a later time), or unwanted (wanted no more children). These data are likely to result in underestimates of unplanned childbearing, since women may rationalize unplanned births and declare them as planned once they are born. Another way of measuring unwanted fertility utilizes the data on ideal family size to calculate what the total fertility rate would be if all unwanted births were avoided. This measure may also suffer from underestimation to the extent that women are unwilling to report an ideal family size lower than their actual family size. Data using these two approaches are presented below.

Table 6.7 shows the percent distribution of births in the three years before the survey by whether the birth was wanted then, wanted later, or not wanted. Overall, 62 percent of the births in the three-year period can be considered as planned, 19 percent as mistimed and 18 percent as unwanted. The proportion of unplanned births increases directly with the birth order of the child; 40 percent of all fourth and higher order births were unwanted. Thus, a much larger proportion of births to older women are found to be unwanted—more than half of births among women over age 35.

Table 6.6 Mean ideal number of children by background characteristics

Mean ideal number of children for ever-married women age 15-49 by age and selected background characteristics, Nepal 1996

Background characteristic	Age of woman							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Residence								
Urban	2.3	2.2	2.4	2.5	2.5	2.7	3.0	2.4
Rural	2.7	2.6	2.8	3.0	3.2	3.4	3.5	3.0
Ecological region								
Mountain	2.8	2.8	3.1	3.2	3.3	3.8	3.8	3.2
Hill	2.5	2.4	2.6	2.9	3.1	3.2	3.3	2.8
Terai	2.8	2.7	2.8	3.0	3.1	3.3	3.5	3.0
Development region								
Eastern	2.6	2.5	2.7	2.9	3.0	3.3	3.4	2.9
Central	2.8	2.7	2.7	3.0	3.0	3.4	3.6	3.0
Western	2.4	2.4	2.7	2.8	2.9	3.0	3.1	2.7
Mid-western	2.7	2.6	3.0	3.2	3.5	3.5	3.6	3.1
Far-western	2.9	2.9	3.1	3.3	3.5	3.5	3.5	3.2
Sub-region								
Eastern Mountain	*	2.6	2.8	3.1	(3.2)	3.8	(4.1)	3.1
Central Mountain	(2.5)	2.7	2.6	2.8	3.0	(3.6)	(3.5)	2.9
Western Mountain	(3.2)	2.9	3.5	3.6	3.6	3.9	(3.9)	3.5
Eastern Hill	(2.4)	2.6	2.8	3.1	3.2	3.5	3.8	3.1
Central Hill	2.4	2.3	2.5	2.7	2.8	3.0	3.3	2.7
Western Hill	2.2	2.1	2.4	2.6	2.8	2.9	2.9	2.5
Mid-western Terai	2.6	2.6	3.0	3.3	3.7	3.6	3.6	3.1
Far-western Terai	2.9	3.0	3.1	3.2	3.5	3.5	(3.4)	3.2
Eastern Terai	2.7	2.5	2.6	2.8	2.9	3.0	3.1	2.7
Central Terai	3.0	2.9	3.0	3.2	3.3	3.6	3.9	3.2
Western Terai	2.8	2.8	3.1	3.2	3.2	3.3	3.6	3.1
Mid-western Terai	2.6	2.5	2.8	3.0	3.4	(3.2)	3.4	2.9
Far-western Terai	2.8	2.7	3.1	3.1	3.3	3.4	3.5	3.1
Education								
No education	2.9	2.8	2.9	3.1	3.2	3.4	3.5	3.1
Primary	2.4	2.3	2.4	2.5	2.6	2.9	3.0	2.5
Secondary+	2.2	2.1	2.1	2.2	2.2	2.3	3.1	2.1
Literacy								
Literate	2.3	2.2	2.3	2.4	2.5	2.5	3.0	2.3
Illiterate	2.9	2.8	2.9	3.1	3.2	3.4	3.5	3.1
Total	2.7	2.6	2.8	3.0	3.1	3.3	3.5	2.9

Note: Figures in parentheses are based on 25 to 49 women; an asterisk indicates that a figure is based on fewer than 25 women and has been suppressed.

Table 6.7 Fertility planning status

Percent distribution of births in the three years preceding the survey and current pregnancies by fertility planning status, according to birth order and mother's age at birth, Nepal 1996

Birth order and mother's age at birth	Planning status of birth				Total	Number of births
	Wanted then	Wanted later	Not wanted	Missing		
Birth order						
1	78.3	20.0	0.6	1.1	100.0	1,200
2	69.3	28.9	1.1	0.7	100.0	1,103
3	60.7	24.7	13.5	1.1	100.0	875
4+	48.3	10.9	40.3	0.5	100.0	1,966
Age at birth						
<20	70.1	28.2	1.0	0.7	100.0	956
20-24	67.9	25.6	5.5	1.0	100.0	1,734
25-29	61.7	15.3	22.1	0.9	100.0	1,230
30-34	53.6	8.1	37.9	0.4	100.0	721
35-39	40.6	6.2	52.8	0.4	100.0	356
40-44	32.8	5.3	61.0	0.9	100.0	122
45-49	(29.7)	(0.0)	(70.3)	(0.0)	100.0	26
Total	61.9	19.2	18.1	0.8	100.0	5,144

Note: Figures in parentheses are based on 25 to 49 births and current pregnancies.
Birth order includes current pregnancy

Table 6.8 presents "wanted" fertility rates calculated using the second approach to measuring unwanted fertility. The wanted fertility rate is calculated in the same manner as the total fertility rate, but unwanted births are excluded from the numerator. For this purpose, unwanted births are defined as those which exceed the number considered ideal by the respondent. This rate represents the level of fertility that would have prevailed in the three years preceding the survey if all unwanted births had been prevented. A comparison of the total wanted fertility rate and the actual fertility rate suggests the potential demographic impact of the elimination of unwanted births.

The wanted fertility rate in Nepal as a whole is 2.9 births per woman, 1.7 children less than the actual total fertility rate. This implies that the total fertility rate is 59 percent higher than it would be if unwanted births were avoided. The difference between wanted and actual total fertility rates is larger among rural than urban women and among women from the Mountains than from the Hills and *Terai*. Among the five development regions the difference between wanted and actual total fertility rates is largest in the Mid-western region. The difference is also larger among women with no education than among those with some secondary education.

Table 6.8. Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by selected background characteristics, Nepal 1996

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	1.9	2.9
Rural	3.1	4.8
Ecological region		
Mountain	3.6	5.6
Hill	2.8	4.5
Terai	3.0	4.6
Development region		
Eastern	2.6	4.1
Central	3.0	4.6
Western	2.8	4.7
Mid-western	3.5	5.5
Far-western	3.5	5.2
Education		
No education	3.3	5.1
Primary	2.3	3.8
Secondary+	1.9	2.5
Total	2.9	4.6

Note: Rates are based on births to women 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 3.2.

CHAPTER 7

INFANT AND CHILD MORTALITY

This chapter presents information on levels, trends and differentials in neonatal, postneonatal, infant and child mortality and on the prevalence of high-risk fertility behaviour. This information is central to an assessment of the demographic situation in Nepal. It is also crucial to the design of policies and programmes targeted at the reduction of infant and child mortality and the avoidance of high-risk behaviour.

Mortality estimates are computed from information collected in the pregnancy history section of the Individual Questionnaire in the Nepal Family Health Survey (NFHS). In the NFHS, reproductive histories were obtained from all respondents. Each woman was first asked about the number of sons and daughters living with her, the number living elsewhere and the number who had died, and the number of pregnancies that did not end in a live birth. She was then asked for a history of all her pregnancies, including the type of pregnancy outcome and the month and year of pregnancy termination. For each pregnancy ending in a live birth, the mother was asked the child's name, sex, age (if alive) or age at death (if dead) and whether the child was living with her.

The information on live births is used to directly estimate mortality rates. In this report, infant and child mortality are measured using the following five rates:

- Neonatal mortality:** the probability of dying within the first month of life;
- Postneonatal mortality:** the difference between infant and neonatal mortality;
- Infant mortality:** the probability of dying before the first birthday;
- Child mortality:** the probability of dying between the first and fifth birthday;
- Under-five mortality:** the probability of dying before the fifth birthday.

All rates are expressed per 1,000 live births, except in the case of child mortality, which is expressed per 1,000 children surviving to 12 months of age.

Information on pregnancies that did not end in a live birth and on children who died within 7 days is used to estimate **perinatal mortality**, which is the number of stillbirths and early neonatal deaths per 1,000 stillbirths and live births.

The reliability of mortality estimates depends on the extent to which date of birth and age at death are accurately reported and recorded and the completeness with which child deaths are reported. Omission of births and deaths directly affects mortality estimates; displacement of dates has an impact on mortality trends; and misreporting of age at death may distort the age pattern of mortality. An examination of the NFHS data on infant and child mortality indicates that the data are of good quality and that there are no serious biases in reporting. Data quality is discussed in greater detail in Appendix C.

7.1 Levels and Trends in Infant and Child Mortality

Table 7.1 presents neonatal, postneonatal, infant, child, and under-five mortality rates for five-year periods in the 15 years preceding the survey. Under-five mortality in Nepal is 118 deaths per 1,000 births in the most recent five-year period (0-4 years preceding the survey). This means that about one in every 8 children born in the country dies before reaching age five. Approximately two of three under-five deaths occur in the first year

of life—infant mortality is 79 deaths per 1,000 births and child mortality is 43 deaths per 1,000 births. During infancy, the risk of neonatal death (50 per 1,000) is nearly twice as high as the risk of postneonatal death (29 per 1,000).

Table 7.1 Infant and child mortality

Infant and child mortality rates by five-year periods preceding the survey, Nepal 1996

Years preceding survey	Neonatal mortality (NN)	Postneonatal mortality (PNN)	Infant mortality (IQ ₀)	Child mortality (CQ ₁)	Under-five mortality (UQ ₀)
0-4	49.9	28.6	78.5	43.2	118.3
5-9	66.9	41.4	108.3	59.8	161.6
10-14	72.2	54.5	126.7	78.8	195.6

According to data collected in the NFHS, mortality levels have declined rapidly in Nepal since the early eighties (Table 7.1). Current under-five mortality is 40 percent lower than it was 10-14 years before the survey; the pace of decline was somewhat faster for child mortality (45 percent) than infant mortality (38 percent). The corresponding decline in neonatal and postneonatal mortality is 31 percent and 48 percent, respectively.

Table 7.2 Trends in infant mortality, 1969-1994

Trends in the infant mortality rate in Nepal, 1969-1994

Approximate midpoint	NFS 1976	NFFS 1986	NFHS 1991	NFHS 1996
1969	156			
1974	140			
1979		90	123	
1984		103	115	127
1989			80	108
1994				79

Source: Ministry of Health, 1987: 80; Ministry of Health, 1993:132

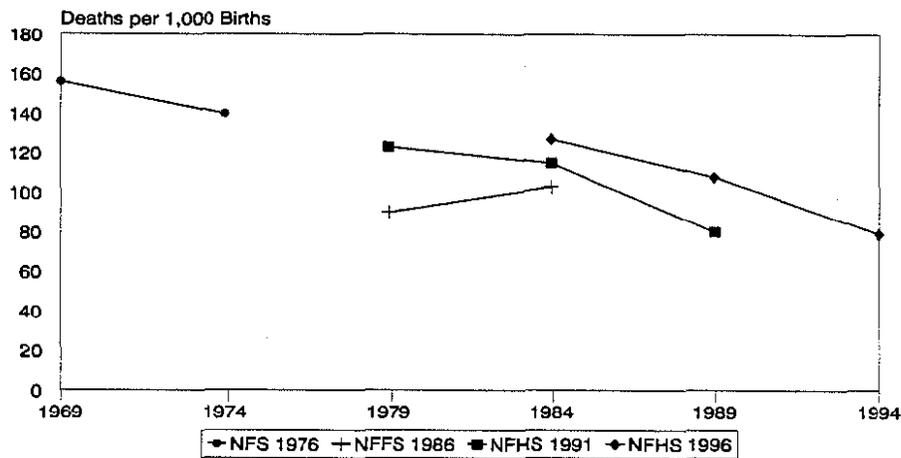
Mortality trends can also be examined by comparing data from the NFHS with data from other earlier sources. However, these comparisons should be interpreted with caution since the quality of data, method of analysis, time references, and sample coverage vary. Table 7.2 and Figure 7.1 show direct estimates of infant mortality from various sources. There is some indication that the infant mortality rate was underestimated in the 1986 and 1991 data, but this does not alter the broad conclusion that infant mortality declined from a high of 156 deaths per 1,000 births in 1969 to 79 deaths per 1,000 births in 1994.

7.2 Socio-economic Differentials in Mortality

Table 7.3 presents socio-economic differentials in childhood mortality in Nepal. In order to have a sufficient number of cases for statistical reliability, mortality rates are calculated for a 10-year period. This table focuses on basic socio-economic characteristics, including urban-rural residence, ecological region and development region, mother's educational level, and the type of maternity care received by the mother prior to the birth of the child.

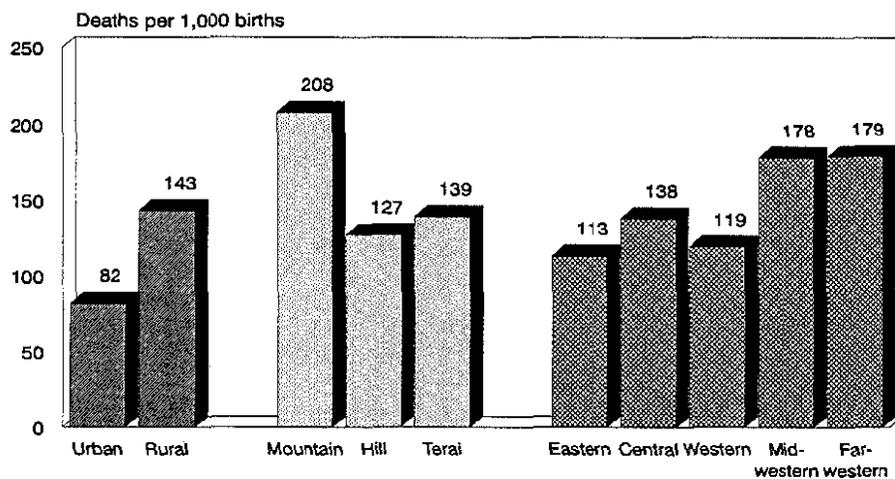
Mortality is consistently lower in urban than in rural areas (Figure 7.2). In the 10 years preceding the survey, infant mortality is 36 percent lower and under-five mortality is 43 percent lower in urban than in rural areas. There is also considerable variation in mortality by ecological region with children living in the Mountains faring much worse than children living in the Hills or *Terai*. For example, one of five children living in the Mountains dies before the fifth birthday compared with one of seven children living in the *Terai* and one of eight children living in the Hills. This may be due to the fact that health services in the Hill and *Terai* regions of Nepal

Figure 7.1
Trends in Infant Mortality
Nepal, 1969-1994



Source: Ministry of Health, 1987, 1993

Figure 7.2
Under-five Mortality by Place of Residence



Nepal 1996

are relatively better than in the Mountain region. Mortality is also much higher in the Mid-western and Far-western regions of Nepal than in the Eastern, Western and Central regions.

Maternal education is strongly related to mortality. Children born to mothers with no education experience much higher levels of mortality than children born to mothers with some education, with children born to the most highly educated mothers least likely to die young. For example, under-five mortality for children of uneducated mothers is 149 per 1,000 births, about 50 percent higher than for children of mothers who have some primary education, and 145 percent higher than for children of mothers who have some secondary education. The educational differentials become larger with increasing age of the child.

Table 7.3 Infant and child mortality by socio-economic characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by socio-economic characteristics and medical maternity care, Nepal 1996

Socio-economic characteristic	Neonatal mortality (NN)	Post-neonatal mortality (PNN)	Infant mortality (${}_1Q_0$)	Child mortality (${}_4Q_1$)	Under-five mortality (${}_5Q_0$)
Residence					
Urban	43.1	17.9	61.1	22.5	82.2
Rural	59.3	36.0	95.3	53.2	143.4
Ecological region					
Mountain	70.8	65.8	136.5	82.2	207.5
Hill	50.6	36.8	87.4	43.3	126.9
Terai	62.7	28.2	90.9	53.0	139.1
Development region					
Eastern	57.8	21.6	79.4	36.3	112.8
Central	56.0	30.3	86.3	56.1	137.5
Western	53.1	31.3	84.3	37.6	118.8
Mid-western	63.4	51.4	114.8	71.2	177.8
Far-western	67.3	57.0	124.3	62.3	178.9
Education					
No education	60.3	37.3	97.5	56.8	148.8
Primary	52.2	27.8	80.0	21.0	99.3
Secondary+	41.1	12.3	53.4	7.7	60.7
Medical maternity care¹					
No antenatal or delivery care	47.1	32.8	79.9	NA	NA
Either antenatal or delivery care	37.7	12.2	49.9	NA	NA
Both antenatal and delivery care	(26.1)	*	*	NA	NA
Total	58.2	34.8	93.0	50.9	139.2

Note: Figures in parentheses are based on 250-499 births; an asterisk indicates that the figure is based on fewer than 250 exposed persons and has been suppressed.

NA = Not applicable

¹ Refers to births in the three years before the survey. Includes care received from doctor, nurse/midwife, maternal and child health (MCH) worker, Village Health Worker (VHW), health assistant, and health post staff.

Use of basic maternity services is generally associated with lower mortality. Since information on the utilization of maternity services is available for children born in the three years before the survey, child and under-five mortality rates are not applicable. Moreover, since the number of births for whom mothers received both antenatal and delivery care is small, mortality rates are either not displayed or shown in parentheses due to their statistical unreliability.

7.3 Demographic Differentials in Mortality

Besides socio-economic characteristics, demographic characteristics of the child and the mother have been found to affect mortality risks. These include the sex of the child, mother's age at birth, birth order, length of previous birth interval, and the mother's perception of the size of the child at birth. The relationship between these demographic characteristics and mortality is shown in Table 7.4.

Neonatal mortality is higher among males than females, as expected. Postneonatal mortality varies only slightly with the sex of the child, but child mortality is 24 percent higher among females than males (57 per 1,000 births and 46 per 1,000 births, respectively).

Since female mortality is typically lower than male mortality during childhood, this pattern suggests some gender-related differences in child-rearing practices, presumably in feeding patterns and utilization of health care services, that favour boys over girls.

The relationship between maternal age (at birth) and childhood mortality is U-shaped, being substantially higher among children born to mothers age less than 20 or more than 30 years (Figure 7.3). Mortality rates are not shown for mothers age 40 and above due to the small number of births for these older mothers.

As expected first births and higher order births experience higher mortality. For example, infant mortality for first births and births of order 7 and higher is 101 per 1,000 births and 117 per 1,000 births, respectively, compared with 83 per 1,000 births for second and third order births. Mortality levels are also higher among children

Table 7.4 Infant and child mortality by demographic characteristics

Infant and child mortality rates for the ten-year period preceding the survey, by selected demographic characteristics, Nepal 1996

Demographic characteristic	Neonatal mortality (NN)	Post-neonatal mortality (PNN)	Infant mortality (IQ ₀)	Child mortality (IQ ₁)	Under-five mortality (IQ ₀)
Sex of child					
Male	65.6	36.2	101.9	45.5	142.8
Female	50.4	33.3	83.7	56.5	135.5
Age of mother at birth¹					
< 20	83.4	36.7	120.1	44.1	158.9
20-29	48.0	31.5	79.5	52.4	127.7
30-39	62.3	41.6	103.9	54.5	152.8
Birth order					
1	71.9	28.8	100.7	36.1	133.1
2-3	49.9	33.4	83.2	48.1	127.3
4-6	55.5	35.6	91.2	63.9	149.2
7+	66.1	50.7	116.7	57.3	167.4
Previous birth interval					
< 2 years	83.7	57.6	141.4	74.7	205.5
2-3 years	46.1	32.7	78.8	52.4	127.1
4 +	30.4	14.4	44.7	32.1	75.4
Size at birth²					
Small or very small	38.2	22.3	(60.5)	NA	NA
Average	40.7	28.8	69.5	NA	NA
Large or very large	46.9	20.1	67.0	NA	NA

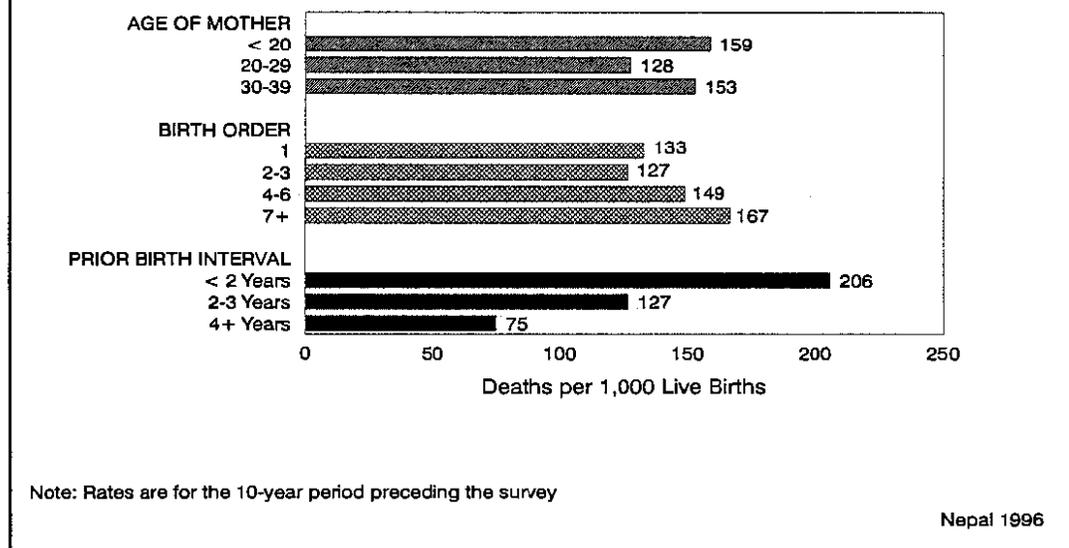
Note: Figures in parentheses are rates based on 250-499 births.

NA = Not applicable

¹Rates for age group 40-49 are not shown because they are based on fewer than 250 exposed persons.

² Refers to births in the three years before the survey

Figure 7.3
Under-Five Mortality by
Selected Demographic Characteristics



born less than 2 years after a previous child, with under-five mortality for this group being one and a half times higher than for children born 2-3 years after a previous birth and nearly three times higher than for children born 4 years or more after a previous birth (Figure 7.3).

A child's size at birth has often been found to be an important determinant of the chances of survival in infancy. In the NFHS, mothers were asked whether their child was very small, small, average, large or very large at birth. Even though this is a subjective assessment, it has been shown to closely correlate with actual birth weight in most countries. In Nepal, size at birth varies positively with mortality levels, not negatively as is usually the case. Nevertheless, very small births do have the highest mortality levels but, because there are so few such births (fewer than 25), to be statistically meaningful they are grouped together with small births. Very large births are grouped with large births for the same reason.

7.4 Perinatal Mortality

Perinatal mortality reflects an adverse outcome for pregnancies of at least seven months gestation. The perinatal mortality rate is obtained by summing all stillbirths and deaths to children within the first week of life (early neonatal deaths) and dividing by the sum of all stillbirths and live births. The perinatal mortality rate captures stillbirths and early neonatal deaths, two seemingly different outcomes which result from similar conditions.

In the NFHS, women were asked to report on all the pregnancies that they have had in their lifetime. The pregnancy history provides information on all the respondent's children born alive or dead, whether or not still living, and all the pregnancies that did not end in a live birth.

Information on perinatal mortality is obtained from reports of pregnancy losses and pregnancy duration (which defines stillbirths), and deaths to children within the first week of life. These events are highly susceptible

to omission and/or misreporting. Nevertheless, retrospective surveys provide more representative and complete enumeration of perinatal deaths than do most vital registration systems and hospital-based studies in developing countries.

Table 7.5 Perinatal mortality

Perinatal mortality rates for the ten-year period preceding the survey, by background characteristics of mother, Nepal 1996

Background characteristic	Perinatal mortality rate 0-9 years preceding survey
Age group	
<20	60.9
20-29	56.2
30-39	51.5
40-49	76.5
No. of pregnancies at event	
1	70.7
2-3	47.4
4-5	49.7
6+	68.1
Residence	
Urban	47.1
Rural	57.6
Ecological region	
Mountain	60.8
Hill	45.8
Terai	65.8
Development region	
Eastern	62.2
Central	52.9
Western	52.9
Mid-western	62.0
Far-western	57.6
Education	
No education	57.8
Primary	52.6
Secondary +	58.7
Previous pregnancy interval	
<2 years	77.2
2-3 years	44.0
4+ years	31.3
Total	56.9

Note: Perinatal mortality is the number of stillbirths and early neonatal deaths (live births dying before day 7) per 1,000 stillbirths and live births.

Perinatal mortality in Nepal has declined by 17 percent over the last 15 years from 63 perinatal deaths per 1,000 stillbirths and live births in the period 10-14 years before the survey to 52 in the period 0-4 years before the survey (data not shown).

The perinatal mortality rate for the ten years preceding the survey is 57 perinatal deaths per 1,000 stillbirths and live births (Table 7.5). First pregnancies and sixth and higher-order pregnancies are at an increased risk of perinatal loss, as are pregnancies among women residing in rural areas, in the *Terai*, and in the Eastern and Mid-western regions of Nepal. Generally, as mothers educational level rises, mortality falls. Surprisingly, in Nepal there is little difference by education of the mother. Pregnancies that occur at less than two-year intervals are also at an increased risk of loss (Figure 7.4).

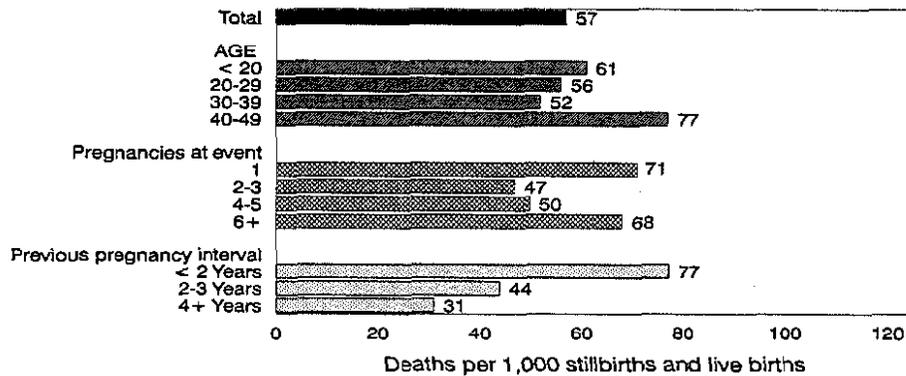
7.5 High-Risk Fertility Behaviour

Research has shown that there is a strong relationship between certain characteristics associated with fertility behaviour and children's survival chances. Typically, the probability of dying in infancy is much greater for children born to mothers who are too young or too old, if they are born after a short birth interval, or if they are born to mothers with high parity. For analysis purposes, a mother is classified as "too young" if she is less than 18 years old and "too old" if she is over 34 years at the time of delivery. A "short birth interval" is defined by a birth occurring less than 24 months after the previous birth, and a mother is of "high parity" if she has given birth to three or more living children, that is, if the child is of birth order 4 or higher.

Table 7.6 shows the percent distribution of children born in the five years before the survey and of currently married women by these risk factors. The table also displays the risk ratio of mortality for children by comparing the proportion of deceased children in each high-risk category with the proportion of deceased children not in any high-risk category.

More than one of two Nepalese children born in the five years before the survey fall into a high-risk category (56 percent), with 39 percent in a single high-risk category and 17 percent in a multiple high-risk category. High birth order and short birth interval were the most common high-risk factors.

Figure 7.4
Perinatal Mortality by
Selected Demographic Characteristics



Note: Rates are for the 10-year period preceding the survey

Nepal 1996

The relationship between risk factors and mortality is given by the risk ratios displayed in column 2 of Table 7.6. In general, risk ratios are higher for children in a multiple high-risk category than in a single high-risk category. The most vulnerable births are those to women who are age less than 18 years at the birth of their child and have a prior birth interval of less than 24 months. These children are nearly four times more likely to die than children not in any high-risk category. Fortunately, less than 1 percent of births are to women in this category. It is also worthwhile to note that 7 percent of births occur among mothers who already have 3 children and had a short prior birth interval. These children are nearly two and a half times more likely to die than children that are not in any high-risk category.

The final column of Table 7.6 addresses the question of what percentage of currently married women have the potential for having a high-risk birth. This was obtained by simulating the distribution of currently married women by the risk category in which a birth would fall, if a woman were to conceive at the time of the survey.

Overall, 65 percent of currently married women have the potential to give birth to a child with an elevated risk of mortality. Twenty-two percent of these women are or would be too old and have or would have too many children. A slightly higher proportion of women exhibit the potential for having a birth in a multiple high-risk category than in a single high-risk category.

Table 7.6 High-risk fertility behaviour

Percent distribution of children born in the five years preceding the survey by category of elevated risk of dying, and the percent distribution of currently married women at risk of conceiving a child with an elevated risk of dying, by category of increased risk, Nepal 1996

Risk category	Births in 5 years preceding the survey		Percentage of currently married women ^a
	Percentage of births	Risk ratio	
Not in any high-risk category	27.3	1.00	27.6 ^b
Unavoidable risk category			
First births to women 18-34	16.6	1.37	7.7
Single high-risk category			
Mother's age <18	6.6	1.85	3.3
Mother's age >34	0.3	2.32	3.1
Birth interval <24 months	9.5	1.67	9.6
Birth order >3	22.5	1.28	14.1
Subtotal	38.9	1.48	30.1
Multiple high-risk category			
Age <18 & birth interval <24 months ^c	0.6	3.94	0.5
Age >34 & birth interval <24 months	0.1	2.19	0.0
Age >34 & birth order >3	8.1	1.35	22.2
Age >34 & birth interval <24 months & birth order >3	1.5	2.36	2.6
Birth interval <24 months & birth order >3	6.9	2.42	9.2
Subtotal	17.2	1.96	34.5
In any high-risk category	56.1	1.63	64.7
Total	100.0	NA	100.0
Number of births	7,272	NA	7,982

Note: Risk ratio is the ratio of the proportion dead of births in a specific high-risk category to the proportion dead of births *not in any high-risk category*.

NA = Not applicable

^a Women were assigned to risk categories according to the status they would have at the birth of a child, if the child were conceived at the time of the survey: age less than 17 years and 3 months, age older than 34 years and 2 months, latest birth less than 15 months ago, and latest birth of order 3 or higher.

^b Includes sterilized women

^c Includes the combined categories *Age <18 and birth order >3*.

CHAPTER 8

MATERNAL AND CHILD HEALTH

This chapter presents the survey findings in four areas of importance to maternal and child health (MCH): antenatal and delivery services, characteristics of the newborn, vaccination coverage, and common childhood illnesses and their treatment. Combined with information on maternal and childhood mortality, this information can be used to identify subgroups of women and children who are “at risk” because of nonuse of MCH services, and to provide information to assist in the planning of appropriate improvements in services. Data were obtained for all live births which occurred in the three years preceding the survey.

8.1 Antenatal Care

Antenatal Care Coverage

Table 8.1 shows the percent distribution of births in the three years preceding the survey by source of antenatal care received during pregnancy, according to background characteristics. Interviewers were instructed to record all persons a woman had seen for care, but in the table, only the provider with the highest qualifications is listed. For 24 percent of births, mothers received antenatal care from a doctor (13 percent) or trained nurse or midwife (11 percent). For 10 percent of births, mothers received antenatal care from a village health worker (VHW), maternal and child health (MCH) worker (4 percent), or other health professional (2 percent). Women received antenatal care from a traditional birth attendant (TBA) for only 1 percent of births. For the majority of births in Nepal (56 percent), mothers did not receive any antenatal care.

Comparison with the 1991 Nepal Fertility, Family Planning and Health Survey (NFHS 1991) results show that some improvements in the utilization of antenatal services has occurred during the last five years. The percentage of births to women receiving antenatal services from a doctor, nurse or midwife has increased from 15 percent in 1988-91 to 24 percent in 1994-96, and the percent receiving no antenatal care dropped from around 80 percent to 56 percent over the same period.

Younger women are more likely to use antenatal services than older women. This is especially true with regard to care from doctors and nurses or midwives. Similarly, lower birth order is associated with greater use of services provided by medically trained health workers. Perhaps this pattern occurs because young women tend to be more educated than older women and are thus more likely to have greater familiarity with the benefits of antenatal care.

There are substantial differences in the use of antenatal services between urban and rural areas. Overall, utilization is 79 percent higher in urban areas than in rural areas, and urban women are using doctors, nurses and midwives much more frequently than rural women. Rural women are more likely to use VHWs and MCH workers for antenatal care. Utilization of antenatal services is higher in the *Terai* than in the Hill and Mountain regions. The Western Mountain sub-region is especially under-served: for 83 percent of births, no antenatal services were received. In the Eastern, Central, and Western *Terai* sub-regions, the situation is somewhat better—some antenatal care was received for more than half of births.

Table 8.1 Antenatal care

Percent distribution of live births in the three years preceding the survey by source of antenatal care during pregnancy, according to background characteristics, Nepal 1996

Background characteristic	Antenatal care provider ¹									Total	Number of births	
	Doctor	Nurse/ANM	VHW	MCH worker	Other health professional ²	Traditional birth attendant	Other	No one	Missing			
Mother's age at birth												
< 20	16.5	14.7	12.8	3.9	1.8	0.7	2.5	44.3	2.7	100.0	817	
20-34	12.6	10.6	9.7	4.1	1.9	0.8	1.7	56.1	2.4	100.0	3,136	
35+	6.1	5.4	6.8	3.5	0.2	0.8	1.5	74.2	1.5	100.0	422	
Birth order												
1	21.3	15.2	8.3	4.2	2.6	0.5	1.9	43.2	2.9	100.0	1,004	
2-3	13.6	11.8	11.3	4.4	1.7	0.5	1.4	53.3	2.0	100.0	1,684	
4-5	8.1	9.4	10.6	4.3	1.1	1.3	2.3	60.0	2.8	100.0	978	
6+	4.9	4.6	8.7	2.5	1.5	0.8	2.3	72.7	1.9	100.0	709	
Residence												
Urban	45.7	20.5	0.0	0.8	0.0	0.0	0.0	32.6	0.4	100.0	278	
Rural	10.5	10.2	10.7	4.2	1.8	0.8	2.0	57.2	2.5	100.0	4,097	
Ecological region												
Mountain	5.5	10.8	3.3	2.4	2.2	0.0	1.3	74.3	0.0	100.0	337	
Hill	12.0	12.3	5.7	5.0	1.4	0.2	1.3	60.0	2.1	100.0	1,862	
Terai	14.4	9.7	14.7	3.5	2.0	1.4	2.4	49.0	2.9	100.0	2,176	
Development region												
Eastern	14.5	9.0	11.4	2.7	3.7	1.5	1.2	55.4	0.6	100.0	924	
Central	14.9	9.1	14.0	3.7	1.0	0.5	1.8	49.6	5.3	100.0	1,434	
Western	13.8	17.2	7.7	6.5	0.3	0.1	3.3	50.6	0.5	100.0	881	
Mid-western	6.8	6.9	8.5	4.4	2.6	1.5	2.0	64.9	2.4	100.0	695	
Far-western	9.2	14.3	1.0	2.2	1.6	0.0	0.2	71.2	0.2	100.0	441	

Continued

Table 8.1 — *Continued*

Background characteristic	Antenatal care provider ¹									Number of births	
	Doctor	Nurse/ ANM	VHW	MCH worker	Other health professional ²	Traditional birth attendant	Other	No one	Missing		Total
Sub-region											
Eastern Mountain	10.8	12.6	0.0	5.4	3.0	0.0	3.0	65.3	0.0	100.0	69
Central Mountain	3.2	19.9	3.2	3.2	0.0	0.0	0.9	69.4	0.0	100.0	121
Western Mountain	5.0	2.5	5.0	0.4	3.7	0.0	0.8	82.6	0.0	100.0	147
Eastern Hill	10.2	8.8	9.5	2.8	1.8	0.0	1.1	64.0	1.8	100.0	313
Central Hill	18.6	15.1	2.9	6.7	1.1	0.0	1.4	51.0	3.1	100.0	492
Western Hill	14.5	17.4	5.4	7.0	0.4	0.0	1.7	52.8	0.7	100.0	525
Mid-western Hill	4.1	5.6	8.2	2.7	3.0	0.8	1.1	70.1	4.4	100.0	357
Far-western Hill	5.6	9.1	2.6	2.2	0.9	0.0	0.4	79.2	0.0	100.0	175
Eastern Terai	17.4	8.6	13.9	2.3	4.8	2.6	1.1	49.3	0.0	100.0	542
Central Terai	14.4	3.9	22.3	2.0	1.1	0.9	2.2	45.8	7.4	100.0	821
Western Terai	12.7	16.8	11.2	5.8	0.0	0.3	5.6	47.4	0.3	100.0	356
Mid-western Terai	11.6	9.9	8.2	7.6	2.5	2.8	3.2	53.8	0.3	100.0	273
Far-western Terai	13.5	24.2	0.0	2.8	0.4	0.0	0.0	58.6	0.6	100.0	184
Mother's education											
No education	7.9	8.3	10.8	3.8	1.6	0.9	2.0	62.2	2.4	100.0	3,470
Primary	18.3	20.0	7.8	4.0	3.0	0.0	1.9	41.7	3.2	100.0	510
Some secondary	39.3	23.1	7.9	6.7	1.2	0.0	0.8	20.0	1.1	100.0	279
SLC and above	68.9	17.4	0.0	4.8	1.0	0.0	0.0	6.9	1.0	100.0	115
Literacy											
Literate	31.2	21.1	7.2	6.2	2.4	0.3	1.1	28.7	1.9	100.0	907
Illiterate	7.9	8.2	10.8	3.5	1.6	0.9	2.0	62.7	2.5	100.0	3,468
Total	12.7	10.9	10.0	4.0	1.7	0.8	1.8	55.7	2.4	100.0	4,375

ANM = Auxiliary Nurse Midwife

MCH Worker = Maternal Child Health Worker

SLC = School Leaving Certificate

VHW = Village Health Worker

¹ If the respondent mentioned more than one provider, only the most qualified provider is considered.² Includes health assistants and health post staff.

Table 8.1 shows that as a woman's education increases, the likelihood that she will not receive any antenatal care decreases sharply from 62 percent of births to women with no education to only 7 percent of births to women who have completed their SLC. Use of a doctor for antenatal care increases from 8 percent among births to uneducated women to over two-thirds of births among women who have completed their SLC.

Table 8.2 Number of antenatal care visits and stage of pregnancy

Percent distribution of live births in the three years preceding the survey by number of antenatal care (ANC) visits, and by the stage of pregnancy at the time of the first visit, Nepal 1996

Number of visits and stage of pregnancy	Percent
Number of visits	
None	55.7
1	10.7
2	10.5
3	11.6
4+	8.8
Don't know/missing	2.8
Total	100.0
Median	3.0
Number of months pregnant at time of first visit	
No antenatal care	55.7
< 6 months	24.9
6-7 months	12.5
8+ months	4.0
Don't know/missing	3.0
Total	100.0
Median	5.4
Total	4,375

Antenatal care can be more effective in avoiding adverse pregnancy outcomes when it is sought early in the pregnancy and continues through to delivery. Obstetricians generally recommend that antenatal visits be made on a monthly basis to the 28th week (seventh month), fortnightly to the 36th week (eighth month), and then weekly until the 40th (until birth). If the first antenatal visit is made at the third month of pregnancy, this optimum schedule translates to a total of at least 12-13 visits during the pregnancy. The number of antenatal visits recommended by the safe motherhood programme in Nepal is 3.

Information about the number and timing of antenatal visits made by pregnant women is presented in Table 8.2. The median number of visits among women who receive antenatal care is 3, and one of two women who receive antenatal care have fewer than 3 visits. Around one-quarter of women (56 percent of women receiving some antenatal care) reported that their first visit occurred at less than 6 months of pregnancy. Among women who received care, the median duration of pregnancy at first visit was 5 months.

Tetanus Toxoid Coverage

An important component of antenatal care in Nepal is ensuring that pregnant women and children are adequately protected against tetanus. Tetanus toxoid injections are given during pregnancy for prevention of neonatal tetanus, an important cause of death among infants in Nepal. For full protection, a pregnant woman should receive two doses of the toxoid. However, if a woman has been vaccinated during a previous pregnancy, she may only require one dose during the current pregnancy.

Table 8.3 provides information on tetanus toxoid coverage during pregnancy for all births in the three years preceding the survey. For about one-third (33 percent) of births, mothers received two or more doses of tetanus toxoid during pregnancy, while 13 percent received one dose. For well over half of births (54 percent), mothers did not receive a single dose of tetanus toxoid. Tetanus toxoid coverage has improved since 1991, when 27 percent of births were protected by two doses and 15 percent by one dose of tetanus toxoid (Ministry of Health, 1993).

The differentials in tetanus toxoid closely resemble those discussed above with reference to antenatal care. Young maternal age, low birth order, higher education, urban residence, and residence in the *Terai* region are all associated with better tetanus toxoid coverage. Unfortunately, for more than 80 percent of births in the Western Mountain and Far-western Hill sub-regions, mothers received no tetanus toxoid.

Table 8.3 Tetanus toxoid vaccinations

Percent distribution of live births in the three years preceding the survey by number of tetanus toxoid injections received during pregnancy, according to background characteristics, Nepal 1996

Background characteristic	Number of tetanus toxoid injections				Total	Number of births
	None	One dose	Two doses or more	Don't know/ Missing		
Mother's age at birth						
< 20	44.0	15.0	40.7	0.4	100.0	817
20-34	53.5	13.6	32.6	0.3	100.0	3,136
35+	73.6	9.7	16.7	0.0	100.0	422
Birth order						
1	43.4	13.2	42.9	0.4	100.0	1,004
2-3	50.0	14.4	35.4	0.2	100.0	1,684
4-5	57.2	13.8	28.7	0.3	100.0	978
6+	71.9	11.0	16.6	0.5	100.0	709
Residence						
Urban	33.0	17.6	48.3	1.1	100.0	278
Rural	55.0	13.2	31.5	0.3	100.0	4,097
Ecological region						
Mountain	75.3	10.7	13.8	0.2	100.0	337
Hill	60.2	12.7	26.7	0.4	100.0	1,862
Terai	44.7	14.5	40.6	0.2	100.0	2,176
Development region						
Eastern	50.3	15.6	34.0	0.2	100.0	924
Central	45.0	14.6	40.0	0.4	100.0	1,434
Western	52.0	14.9	32.6	0.4	100.0	881
Mid-western	63.8	9.6	26.3	0.2	100.0	695
Far-western	76.0	8.1	15.7	0.1	100.0	441
Sub-region						
Eastern Mountain	67.7	15.0	17.4	0.0	100.0	69
Central Mountain	70.4	10.6	18.5	0.5	100.0	121
Western Mountain	83.0	8.7	8.3	0.0	100.0	147
Eastern Hill	62.9	13.4	23.7	0.0	100.0	313
Central Hill	51.0	14.8	33.3	0.8	100.0	492
Western Hill	54.1	14.9	30.3	0.7	100.0	525
Mid-western Hill	68.0	8.4	23.6	0.0	100.0	357
Far-western Hill	83.1	7.8	9.1	0.0	100.0	175
Eastern Terai	40.8	16.9	42.0	0.3	100.0	542
Central Terai	37.6	15.0	47.1	0.2	100.0	821
Western Terai	48.9	15.0	36.1	0.0	100.0	356
Mid-western Terai	54.3	11.4	33.7	0.6	100.0	273
Far-western Terai	65.4	8.4	25.8	0.4	100.0	184
Mother's education						
No education	60.0	12.6	27.1	0.3	100.0	3,470
Primary	39.6	14.4	45.5	0.5	100.0	510
Some secondary	19.4	22.0	58.6	0.0	100.0	279
SLC and above	8.1	13.6	77.3	1.0	100.0	115
Literacy						
Literate	28.6	18.2	52.7	0.5	100.0	907
Illiterate	60.2	12.2	27.4	0.3	100.0	3,468
Total	53.6	13.4	32.6	0.3	100.0	4,375

SLC = School Leaving Certificate

Night Blindness

In the NFHS, women were also asked if they suffered from night blindness during pregnancy, for births in the three years preceding the survey. Mothers of 18 percent of births suffered from night blindness during their pregnancy (data not shown). Night blindness was more common among women age 25 and above, rural women, women from the Mountains, women from the Mid-western and Far-western regions and the Central Mountain and Far-western Hill sub-regions, women with primary or no education, and illiterate women.

8.2 Delivery Care

Place of Delivery

Traditionally, Nepalese children are delivered at home with the assistance of TBAs or elders of the community. An important component of efforts to reduce the health risks of mothers and children is to increase the proportion of babies delivered under medical supervision. Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that can cause the death or serious illness of the mother and/or the baby.

Respondents in the NFHS were asked to report the place of birth of all children born in the three years before the survey (Table 8.4). At the national level, only 8 percent of births are delivered in health facilities. This is a slight improvement since 1991 when the comparable figure was 6 percent (Ministry of Health, 1993). This suggests that, despite an increase in the number of facilities offering delivery services, use of health facilities is still impractical or inappropriate for the average Nepalese woman.

Young women and low parity women are more likely than older, high parity women to deliver at a health facility. A child born in an urban area is eight times more likely to have been delivered at a health facility than a rural child. Children living in the Mountains are much less likely to be delivered in a health facility than children living in the Hills and *Terai*. Three percent of children in the Mid-Western development region are delivered in a health facility compared with 11 percent of children in the Central region. Delivery in a health facility ranges from a high of 20 percent of births in the Central Hill sub-region to less than 2 percent each in the Central and Western Mountain sub-regions and in the Mid-western and Far-western Hill sub-regions. Use of delivery facilities rises sharply with maternal education from 4 percent of births among women with no education to 58 percent among children of women in the highest education category.

Women who receive antenatal services are more likely to subsequently deliver in a health facility. This may be due to several reasons: women having practical access to antenatal services, also have access to delivery facilities; women who have had complications identified during pregnancy are advised to deliver with medical supervision; and women with knowledge of the benefits of modern medical care will choose to use both antenatal and delivery services (if accessible).

Assistance at Delivery

The level of assistance a woman receives during the birth of her child also has important health consequences for both mother and child. Births delivered at home are more likely to be delivered without professional assistance, whereas births delivered at a health facility are more likely to be delivered by trained medical personnel. Table 8.5 shows that 9 percent of births were delivered under the supervision of a doctor (6 percent) or trained nurse or midwife (3 percent). This has changed only slightly from 8 percent reported in the 1991 NFHS. MCH workers and other health professionals (VHW, health assistants or health post staff) assisted

Table 8.4 Place of delivery

Percent distribution of live births in the three years preceding the survey by place of delivery, according to background characteristics and number of antenatal care visits, Nepal 1996

Background characteristic	Place of delivery			Total	Number of births
	Health facility	At home	Don't know/ Missing		
Mother's age at birth					
< 20	8.8	90.7	0.5	100.0	817
20-34	7.6	91.6	0.8	100.0	3,136
35+	4.9	93.9	1.2	100.0	422
Birth order					
1	14.6	85.0	0.4	100.0	1,004
2-3	7.7	91.3	1.0	100.0	1,684
4-5	3.9	95.5	0.6	100.0	978
6+	2.2	96.6	1.2	100.0	709
Residence					
Urban	43.8	56.2	0.0	100.0	278
Rural	5.1	94.1	0.8	100.0	4,097
Ecological region					
Mountain	2.0	96.3	1.7	100.0	337
Hill	9.0	90.0	1.0	100.0	1,862
Terai	7.2	92.4	0.4	100.0	2,176
Development region					
Eastern	7.2	91.9	0.9	100.0	924
Central	11.3	88.0	0.7	100.0	1,434
Western	7.4	92.0	0.5	100.0	881
Mid-western	2.7	96.5	0.8	100.0	695
Far-western	3.9	94.8	1.3	100.0	441
Sub-region					
Eastern Mountain	3.0	94.6	2.4	100.0	69
Central Mountain	1.9	95.4	2.8	100.0	121
Western Mountain	1.7	97.9	0.4	100.0	147
Eastern Hill	4.2	95.1	0.7	100.0	313
Central Hill	19.9	79.0	1.1	100.0	492
Western Hill	9.1	90.0	0.9	100.0	525
Mid-western Hill	1.8	97.4	0.8	100.0	357
Far-western Hill	1.3	96.5	2.2	100.0	175
Eastern Terai	9.5	89.7	0.9	100.0	542
Central Terai	7.6	92.3	0.2	100.0	821
Western Terai	5.0	95.0	0.0	100.0	356
Mid-western Terai	4.3	95.0	0.6	100.0	273
Far-western Terai	7.0	91.9	1.1	100.0	184
Mother's education					
No education	3.8	95.6	0.6	100.0	3,470
Primary	10.7	87.7	1.6	100.0	510
Some secondary	27.5	71.6	1.0	100.0	279
SLC and above	58.3	40.8	1.0	100.0	115
Literacy					
Literate	22.6	76.2	1.2	100.0	907
Illiterate	3.6	95.7	0.7	100.0	3,468
Antenatal care visits					
None	2.1	97.1	0.8	100.0	2,435
1-3 visits	8.0	91.3	0.7	100.0	1,434
4 or more visits	41.4	57.9	0.7	100.0	386
Don't know/missing	4.3	93.7	1.9	100.0	121
Total	7.6	91.7	0.8	100.0	4,375

SLC = School Leaving Certificate

Table 8.5 Assistance during delivery

Percent distribution of live births in the three years preceding the survey by type of assistance during delivery, according to background characteristics and number of antenatal care visits, Nepal 1996

Background characteristic	Attendant assisting during delivery ¹									Total	Number of births
	Doctor	Nurse/ ANM	MCH worker	Other health professional ²	Traditional birth attendant	Friend/ relative	Other	No one	Missing		
Mother's age at birth											
< 20	6.9	5.4	0.9	0.5	29.2	52.3	0.1	4.6	0.1	100.0	817
20-34	5.7	2.8	0.7	0.4	21.4	57.1	0.5	11.3	0.0	100.0	3,136
35+	4.0	1.6	0.3	0.7	17.8	54.8	0.7	19.4	0.8	100.0	422
Birth order											
1	11.3	6.6	1.2	0.7	24.0	52.1	0.2	3.8	0.2	100.0	1,004
2-3	5.9	2.5	0.6	0.2	23.5	57.4	0.6	9.3	0.0	100.0	1,684
4-5	2.5	2.5	0.5	0.7	22.1	56.9	0.5	14.2	0.0	100.0	978
6+	2.1	1.0	0.2	0.3	18.9	57.0	0.3	19.8	0.5	100.0	709
Residence											
Urban	30.3	16.2	0.0	0.0	12.1	36.7	0.6	4.1	0.0	100.0	278
Rural	4.1	2.3	0.7	0.5	23.2	57.3	0.4	11.3	0.1	100.0	4,097
Ecological region											
Mountain	1.7	1.2	0.0	0.0	13.9	74.4	0.2	8.6	0.0	100.0	337.0
Hill	6.3	3.7	0.7	0.3	8.9	62.4	0.5	17.0	0.2	100.0	1,862.0
Terai	6.0	3.1	0.8	0.6	35.6	47.7	0.4	5.9	0.0	100.0	2,176.0
Development region											
Eastern	6.3	3.6	0.5	1.0	24.8	55.1	0.6	8.1	0.0	100.0	924.0
Central	8.9	3.3	0.8	0.4	27.0	52.0	0.5	7.1	0.0	100.0	1,434.0
Western	5.0	3.6	1.2	0.4	13.6	64.5	0.2	11.2	0.4	100.0	881.0
Mid-western	1.7	2.4	0.5	0.1	28.5	47.6	0.4	18.7	0.1	100.0	695.0
Far-western	2.7	2.3	0.0	0.2	11.4	66.9	0.5	15.8	0.1	100.0	441.0
Sub-region											
Eastern Mountain	4.2	2.4	0.0	0.0	3.6	80.2	0.0	9.6	0.0	100.0	69.0
Central Mountain	1.4	0.5	0.0	0.0	19.0	70.8	0.0	8.3	0.0	100.0	121.0
Western Mountain	0.8	1.2	0.0	0.0	14.5	74.7	0.4	8.3	0.0	100.0	147.0
Eastern Hill	3.2	3.2	0.4	0.4	4.9	75.6	0.0	12.4	0.0	100.0	313.0
Central Hill	14.5	5.0	1.4	0.2	9.7	59.2	1.1	9.0	0.0	100.0	492.0
Western Hill	5.4	5.2	0.9	0.4	12.2	59.9	0.2	15.0	0.7	100.0	525.0
Mid-western Hill	1.5	1.2	0.0	0.3	8.3	58.9	0.5	29.2	0.3	100.0	357.0
Far-western Hill	1.3	1.3	0.0	0.4	4.8	61.9	0.9	29.4	0.0	100.0	175.0
Eastern Terai	8.4	4.1	0.6	1.4	39.0	40.1	1.0	5.4	0.0	100.0	542.0
Central Terai	6.6	2.7	0.5	0.5	38.6	45.0	0.2	5.8	0.0	100.0	821.0
Western Terai	4.2	1.2	1.6	0.3	15.7	71.2	0.3	5.6	0.0	100.0	356.0
Mid-western Terai	2.3	4.1	1.3	0.0	55.7	29.3	0.0	7.3	0.0	100.0	273.0
Far-western Terai	4.7	4.0	0.0	0.0	20.3	63.8	0.4	6.6	0.4	100.0	184.0

Continued

Table 8.5 — Continued

Background characteristic	Attendant assisting during delivery ¹										Number of births
	Doctor	Nurse/ ANM	MCH worker	Other health professional ²	Traditional birth attendant	Friend/ relative	Other	No one	Missing	Total	
Mother's education											
No education	3.0	1.5	0.6	0.3	24.0	58.1	0.5	11.9	0.1	100.0	3,470
Primary	8.8	5.6	0.4	0.8	19.9	55.6	0.3	8.3	0.1	100.0	510
Some secondary	19.3	14.2	1.0	0.8	14.5	44.0	0.4	5.9	0.0	100.0	279
SLC and above	44.3	16.1	2.3	0.8	10.3	24.3	0.0	1.8	0.0	100.0	115
Literacy											
Literate	17.2	9.6	1.0	0.8	16.8	45.6	0.5	8.4	0.1	100.0	907
Illiterate	2.8	1.5	0.6	0.3	24.0	58.7	0.4	11.5	0.1	100.0	3,468
Antenatal care visits											
None	1.8	0.9	0.5	0.3	19.0	62.7	0.5	14.1	0.1	100.0	2,435
1-3 visits	5.4	4.5	0.8	0.7	30.7	50.2	0.5	7.3	0.1	100.0	1,434
4 or more visits	33.6	13.5	1.2	0.6	14.3	33.8	0.0	3.0	0.0	100.0	386
Don't know/missing	2.2	2.1	0.0	0.0	22.5	59.7	0.0	12.1	1.5	100.0	121
Total	5.8	3.2	0.7	0.4	22.5	56.0	0.4	10.9	0.1	100.0	4,375

ANM = Auxiliary Nurse Midwife

MCH = Maternal-Child Health Worker

SLC = School Leaving Certificate

¹ If the respondent mentioned more than one attendant, only the most qualified attendant was considered.² Other health professionals include Village Health Worker, Health Assistant and Health Post Staff.

in just over 1 percent of births. Traditional birth attendants assisted in 23 percent of births, while relatives and friends provided primary assistance in 56 percent of births. Eleven percent of births were delivered without any assistance, which is about the same as was reported in the 1991 NFHS (10 percent).

Older women and women who have already had many births are much more likely to have received no assistance at delivery, whereas first births and births to younger women tend to receive better care during delivery, including more frequent supervision by a physician.

Urban women are much more likely than rural women to receive the benefit of medical supervision during delivery; births in urban areas are 7 times more likely to be delivered with the assistance of a doctor than births in rural areas. Also, as seen with place of delivery, more educated women and women living in the *Terai* and the Central Hill sub-region are much more likely to have the advantage of medically-supervised delivery.

Table 8.6 Use of clean delivery kits

Percentage of births occurring at home in which a safe delivery kit was used, by urban-rural residence and ecological region, Nepal 1996

Background characteristic	Clean delivery kit used	Number of births
Residence		
Urban	4.1	156
Rural	1.7	3,854
Ecological region		
Mountain	1.0	325
Hill	1.3	1,675
Terai	2.4	2,010
Total	1.8	4,010

Table 8.6 provides information on whether or not a clean delivery kit¹ was used for births delivered at home. A clean delivery kit was used in only 2 percent of home deliveries. The low usage of these specific clean delivery kits may be due to the fact that they are not yet widely available, since they were first marketed only in March 1995, or that the message of using safe equipment in home deliveries has not reached the bulk of Nepalese mothers. Home deliveries in urban areas are more likely to use these delivery kits than rural areas. Likewise, clean delivery kits are more likely to be used in the *Terai* than in the Hills or Mountains, but the differences are small.

Characteristics and Complications of Delivery

According to mothers' reports, only 1 percent of babies born in Nepal are delivered by caesarean section (Table 8.7). Caesarean sections (C-sections) are less common among women with a large number of children, rural women, and those with little or no education. It should be borne in mind that services for C-sections in Nepal are limited to Kathmandu and 15 Ministry of Health or Mission hospitals where obstetric and gynaecological services are available, and that emergency medical services are not standard in Nepal. Thus, delivery by caesarean section is low.

Respondents were also asked for their own subjective assessment of whether their child was very large, larger than average, average, smaller than average, or very small in size at birth. While information of this type is subject to considerable error for individual births, at the population level, the proportion of births that are reported as very small or small is correlated with the prevalence of low birth weight. The NFHS data indicate that about one-quarter of births were reported as being very small or smaller than average at birth, and that such births are associated with low educational level of the mother and residence in the Mid-western and Far-western regions (Table 8.7).

¹ This is a specially prepared kit, containing a razor blade, a cutting surface, a plastic sheet, a piece of soap, a string and pictorial instructions, assembled by Maternal Child Health Product Pvt. Ltd., and marketed commercially by the Contraceptive Retail Sales (CRS) company.

Table 8.7 Delivery characteristics: caesarean section and birth size

Among births in the three years preceding the survey, the percentage of deliveries by caesarean section, and the percent distribution by the mother's estimate of baby's size at birth, according to background characteristics, Nepal 1996

Background characteristic	Percentage of deliveries by caesarean section	Size of child at birth				Total	Number of births
		Very small	Smaller than average	Average or larger	Don't know		
Mother's age at birth							
<20	1.2	6.0	20.8	73.1	0.1	100.0	817
20-34	0.9	4.5	20.0	75.4	0.1	100.0	3,136
35+	1.0	7.8	21.8	70.4	0.0	100.0	422
Birth order							
1	2.5	6.1	21.1	72.6	0.2	100.0	1,004
2-3	0.8	4.3	19.4	76.2	0.1	100.0	1,684
4-5	0.3	4.7	19.1	76.0	0.2	100.0	978
6+	0.2	6.2	23.0	70.8	0.0	100.0	709
Residence							
Urban	5.4	6.0	16.9	77.1	0.0	100.0	278
Rural	0.7	5.0	20.6	74.3	0.1	100.0	4,097
Ecological region							
Mountain	0.3	4.7	21.9	73.4	0.0	100.0	337
Hill	1.2	4.7	20.6	74.7	0.1	100.0	1,862
Terai	0.9	5.5	19.9	74.5	0.1	100.0	2,176
Development region							
Eastern	1.4	5.1	19.1	75.9	0.0	100.0	924
Central	1.1	3.1	17.8	79.0	0.1	100.0	1,434
Western	1.1	4.0	18.3	77.4	0.3	100.0	881
Mid-western	0.6	8.9	23.8	67.3	0.0	100.0	695
Far-western	0.2	8.0	29.6	62.3	0.1	100.0	441
Sub-region							
Eastern Mountain	0.6	1.8	17.4	80.8	0.0	100.0	69
Central Mountain	0.0	1.9	20.8	77.3	0.0	100.0	121
Western Mountain	0.4	8.3	24.9	66.8	0.0	100.0	147
Eastern Hill	1.1	4.2	20.5	75.3	0.0	100.0	313
Central Hill	2.0	2.5	20.9	76.6	0.0	100.0	492
Western Hill	1.6	2.6	16.8	80.1	0.4	100.0	525
Mid-western Hill	0.3	11.0	22.3	66.8	0.0	100.0	357
Far-western Hill	0.0	4.8	27.3	68.0	0.0	100.0	175
Eastern Terai	1.7	6.0	18.4	75.6	0.0	100.0	542
Central Terai	0.7	3.6	15.5	80.7	0.2	100.0	821
Western Terai	0.3	6.1	20.5	73.4	0.0	100.0	356
Mid-western Terai	1.1	7.6	27.9	64.5	0.0	100.0	273
Far-western Terai	0.5	8.9	30.5	60.3	0.4	100.0	184
Mother's education							
No education	0.7	5.2	21.6	73.1	0.1	100.0	3,470
Primary	1.0	5.6	18.1	76.2	0.1	100.0	510
Some secondary	2.3	3.0	12.1	84.9	0.0	100.0	279
SLC and above	6.6	4.9	11.5	83.7	0.0	100.0	115
Literacy							
Literate	2.2	4.6	15.3	80.1	0.1	100.0	907
Illiterate	0.7	5.2	21.7	73.0	0.1	100.0	3,468
Total	1.0	5.1	20.3	74.5	0.1	100.0	4,375

SLC = School Leaving Certificate

8.3 Postpartum Care

Women in the NFHS were also asked if they had received a check-up from anyone within 24 hours following the delivery of any child born in the three years preceding the survey. The majority of women did not receive postpartum care from a trained medical professional. Seven percent were seen by doctors, 2 percent by a nurse or midwife, and 4 percent by an MCH worker and 24 percent by a traditional birth attendant (data not shown). Forty-two percent were visited by relatives or friends and one of five women did not receive postpartum care from anyone.

8.4 Vaccination of Children

The NFHS collected information on vaccination coverage for all children born in the three years preceding the survey, although the data presented here are for children age 12-23 months—the youngest cohort of children who have reached the age by which they should be fully vaccinated—and are restricted to children who were alive at the time of the survey. The Expanded Program on Immunization as implemented in Nepal follows the guidelines set by the World Health Organization (WHO) for vaccinating children. In order to be considered fully vaccinated, a child should receive the following vaccinations: one dose of BCG, three doses each of DPT and polio, and one dose of measles vaccine. BCG, which should be given at birth or first clinical contact, protects against tuberculosis. DPT protects against diphtheria, pertussis, and tetanus. DPT and polio require three vaccinations at approximately six, ten and 14 weeks of age (since this regime is not always followed, emphasis is given on getting all three doses by the time the child reaches the age of 12 months). Measles should be given at or soon after reaching nine months. It is recommended that children receive the complete schedule of vaccinations before twelve months of age.

Information on vaccination coverage was collected in two ways: from children's health cards seen by the interviewer and from mothers' verbal reports. If a mother was able to present a health card to the interviewer, this was used as the source of information, with the interviewer recording vaccination dates directly from the card. In addition to collecting vaccination information from cards, there were two ways of collecting the information from the mother herself. If a vaccination card had been presented, but a vaccine had not been recorded on the card as being given, the mother was asked to recall whether or not that particular vaccine had been given. If the mother was not able to provide a card for the child at all, she was asked to recall whether or not the child had received BCG, polio and DPT (including the number of doses for each), and measles vaccinations. Cards were presented for 22 percent of children 12-23 months.

Information on vaccination coverage is presented in Table 8.8, according to the source of information used to determine coverage, i.e., the child health card or mother's report. Twenty-one percent of children age 12-23 months had a BCG vaccination recorded on their health card. However, not all children who are vaccinated have cards available since health cards are often retained at the health centres; an additional 55 percent of children did not have a card but were reported by their mothers to have received the BCG vaccine. Thus, overall, 76 percent of children age 12-23 months are reported to have been vaccinated against tuberculosis. Vaccinations are most effective when given at the proper age; according to the health card, 73 percent of children received the BCG vaccine by 12 months of age.

Coverage for the first doses of DPT and polio is similar to BCG coverage, 76 percent and 77 percent, respectively (Figure 8.1). Coverage declines after the first dose, as drop-out rates are high in Nepal. For polio, coverage falls to 65 percent for the second and 51 percent for the third dose; therefore one-third of children who start the polio series do not complete it. The drop-out rate is similar for the DPT series as is expected since polio and DPT are commonly administered together. Fifty-seven percent of children age 12-23 months were vaccinated against measles.

Table 8.8 Vaccinations by source of information

Percentage of children 12-23 months who have received specific vaccines at any time before the survey, by source of information about vaccination, and the percentage vaccinated by 12 months of age, Nepal 1996

Source of information	Percentage of children who received:										Number of children
	BCG	DPT			Polio			Measles	All ¹	None	
		1	2	3+	1	2	3+				
Vaccinated at any time before the survey											
Vaccination card	21.4	21.4	19.2	16.8	21.4	19.3	16.6	15.3	14.0	0.0	299
Mother's report	54.6	55.0	47.0	36.7	55.2	45.2	34.3	41.3	29.3	20.2	1,080
Either source	76.0	76.4	66.2	53.5	76.5	64.5	50.9	56.6	43.3	20.2	1,379
Vaccinated by 12 months of age	73.1	73.9	63.2	50.8	74.1	61.5	48.3	45.0	35.9	24.3	1,379

Note: For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

¹ Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

Overall, 43 percent of children age 12-23 months had all the recommended vaccinations, 36 percent before their first birthday. One of five children age 12-23 months is not vaccinated at all. While this remains far from the goal of 90 percent coverage by the year 1995 articulated in 1991 (UNICEF, 1991), it does represent an improvement since 1991 when complete coverage (all vaccinations by the survey date) was estimated to be 37 percent.

Table 8.9 presents vaccination coverage (according to information from health cards and mothers' reports) among children age 12-23 months by selected background characteristics. In general, male children are more likely to be fully vaccinated than female children (47 percent versus 40 percent). There is an inverse relationship between full coverage and birth order. For example, 49 percent of first births are fully immunized compared with 34 percent of sixth and higher order births.

Children in urban areas are also much more likely to be fully immunized than rural children (71 percent versus 42 percent). One would expect higher coverage rates in the *Terai* region for two reasons: transportation and communication facilities are much better than in the Hill and Mountain regions; and a cold chain is easier to maintain than in the Hill and Mountain regions. Despite these factors, complete coverage among children living in the *Terai* (37 percent) is not any higher than among children living in the Mountains (37 percent) and significantly lower than among children in the Hills (51 percent). Much of the difference can be explained by higher DPT and polio drop-out rates in the *Terai* and Mountain regions. Children living in the Western development region and in the Central Hill sub-region are more likely to be fully vaccinated than children living in other areas.

Table 8.9 Vaccinations by background characteristics

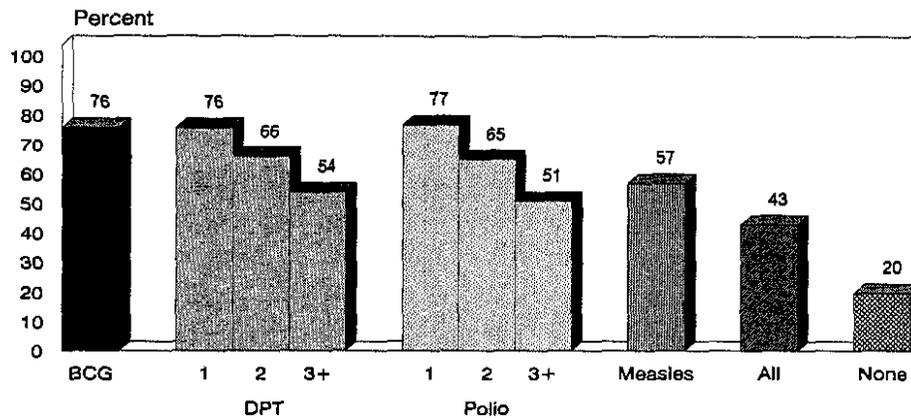
Percentage of children 12-23 months who had received specific vaccines by the time of the survey (according to the vaccination card or the mother's report), and the percentage with a vaccination card, according to background characteristics, Nepal 1996

Background characteristic	Percentage of children who received:										Per- cent with a card	Number of children
	BCG	DPT			Polio			Measles	All ¹	None		
		1	2	3+	1	2	3+					
Child's sex												
Male	74.3	75.9	67.4	54.7	75.7	65.1	52.0	59.0	46.7	21.6	22.2	705
Female	77.7	77.1	65.1	52.2	77.4	63.9	49.8	54.0	39.9	18.8	21.2	675
Birth order												
1	79.3	79.2	71.8	58.9	79.4	69.9	55.0	64.4	49.0	17.8	24.4	313
2-3	82.1	82.3	70.6	56.4	82.2	68.4	54.0	60.4	46.0	13.8	23.0	532
4-5	70.3	70.6	62.6	50.0	71.7	61.9	47.8	51.6	39.8	25.3	19.1	300
6+	64.8	66.8	53.4	44.2	66.0	51.7	42.4	43.7	34.2	31.5	18.5	234
Residence												
Urban	87.6	87.0	85.3	77.4	87.0	85.3	77.4	77.2	71.1	11.6	39.2	84
Rural	75.2	75.8	65.0	51.9	75.9	63.2	49.2	55.2	41.5	20.8	20.6	1,295
Ecological region												
Mountain	64.9	65.3	52.7	44.0	62.5	51.5	41.9	49.9	36.9	28.6	20.4	111
Hill	77.1	76.6	69.5	58.9	76.1	67.0	56.5	62.6	51.3	20.0	23.2	619
Terai	76.8	78.2	65.5	49.9	79.3	64.3	47.1	52.0	36.9	19.0	20.5	649
Development region												
Eastern	80.8	81.8	71.8	57.7	82.5	71.3	54.5	63.3	45.2	15.6	17.8	294
Central	77.8	80.3	67.6	52.1	80.2	65.7	50.7	54.8	43.2	17.4	22.2	452
Western	81.2	80.7	72.2	62.4	80.8	71.0	61.5	56.8	51.0	16.9	31.2	267
Mid-western	70.5	68.8	61.4	50.9	68.6	56.0	44.2	55.8	39.0	26.4	18.3	218
Far-western	59.1	57.4	47.3	37.2	57.3	47.8	34.9	49.1	32.5	34.7	15.7	147
Sub-region												
Eastern Mountain	64.4	66.1	54.2	44.1	61.0	49.2	39.0	50.8	35.6	30.5	16.9	24
Central Mountain	77.9	77.9	64.7	58.8	77.9	66.2	57.4	58.8	51.5	19.1	44.1	38
Western Mountain	55.0	55.0	42.5	32.5	51.3	41.3	31.3	42.5	26.3	35.0	3.8	49
Eastern Hill	72.3	73.3	68.3	51.5	73.3	65.3	48.5	60.4	42.6	24.8	8.9	112
Central Hill	83.9	85.3	80.5	71.1	83.3	77.8	71.1	73.2	67.9	13.5	35.8	162
Western Hill	89.4	87.9	80.9	74.5	88.7	79.4	73.0	68.8	63.8	9.9	31.0	161
Mid-western Hill	66.1	63.7	56.5	46.8	63.7	51.6	39.5	50.8	34.7	30.6	13.7	121
Far-western Hill	58.3	56.0	39.3	25.0	54.8	40.5	23.8	46.4	23.8	33.3	14.3	64
Eastern Terai	89.3	90.3	77.0	64.1	92.2	79.0	61.2	67.3	48.5	6.8	24.3	158
Central Terai	73.9	77.4	59.7	38.9	78.6	58.0	36.5	42.4	26.1	19.6	10.2	253
Western Terai	68.9	69.8	59.2	44.1	68.9	58.3	44.1	38.8	31.7	27.5	31.7	106
Mid-western Terai	76.9	75.8	72.3	62.3	76.9	65.4	55.4	66.9	49.6	21.9	30.4	75
Far-western Terai	69.1	67.2	61.9	54.0	69.4	61.9	49.4	56.6	45.3	29.8	22.3	57
Mother's education												
No education	71.9	72.5	61.5	48.4	72.5	59.3	45.3	52.0	38.1	23.8	21.2	1,111
Primary	88.3	88.2	80.5	68.3	88.3	81.6	68.0	65.0	56.0	9.0	22.8	141
Some secondary	97.0	98.6	90.3	77.7	98.6	88.0	76.4	84.9	72.1	1.4	25.2	92
SLC and above	100.0	95.6	95.6	91.0	100.0	100.0	92.2	92.9	82.3	0.0	25.7	35
Literacy												
Literate	92.5	93.2	86.0	76.1	93.8	86.6	75.0	76.8	66.2	5.2	25.9	267
Illiterate	72.0	72.4	61.5	48.0	72.4	59.2	45.1	51.7	37.8	23.8	20.7	1,112
Total	76.0	76.4	66.2	53.5	76.5	64.5	50.9	56.6	43.3	20.2	21.7	1,379

SLC = School Leaving Certificate

¹ Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

Figure 8.1
Vaccination Coverage
Among Children Age 12-23 Months



Note: Based on health card information and mothers' report

Nepal 1996

Maternal education is strongly linked to immunization status: 82 percent of children whose mothers have completed their SLC are fully vaccinated, compared with only 38 percent of children whose mothers are without formal schooling.

Trends in Vaccination Coverage

As mentioned earlier, it is recommended that children receive all their required vaccinations during the first year of life. Table 8.10 shows the percentage of children who have received vaccinations during the first year of life according to their current age. A general idea of the trend in vaccination coverage can be obtained by comparing the coverage among children age 12-23 months with those age 24-35 months, with the former group being vaccinated a year before the survey and the latter two years before the survey. There is very little difference in the coverage between the two cohorts, with a slight improvement in the coverage for the first dose of polio and measles in the last year.

8.5 Vitamin A and Iodine

Micronutrients play an important role in the development of children as well as in curtailing high morbidity and mortality rates. It has been suggested that Vitamin A not only prevents night blindness but also decreases morbidity due to measles and other communicable diseases. The National Vitamin A Programme

Table 8.10 Vaccinations in first year of life

Among children 12-35 months old, the percentage with a vaccination card and the percentage who had received each vaccine before their first birthday, according to current age of the child, Nepal 1996

Vaccine	Current age of child in months		All children 12-35 months
	12-23	24-35	
Vaccination card seen by interviewer	21.7	12.1	17.0
Percentage vaccinated at 0-11 months¹			
BCG	73.1	74.2	73.7
DPT			
1	73.9	73.3	73.6
2	63.2	63.5	63.3
3 ⁺	50.8	49.3	50.1
Polio			
1	74.1	71.7	72.9
2	61.5	61.0	61.3
3 ⁺	48.3	47.9	48.1
Measles	45.0	42.0	43.5
All vaccinations ²	35.9	36.6	36.2
No vaccinations	24.3	26.3	25.3
Number of children	1,379	1,332	2,711

¹ Information was obtained either from a vaccination card or from the mother if there was no written record. For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as that for children with a written vaccination record.

² Children who have received BCG, measles and three doses of DPT and polio vaccines.

launched by the Department of Health was providing a semi-annual distribution of Vitamin A capsules to children 6-60 months in 27 districts in the *Terai* and Far-western Hill sub-region at the time of the survey. Iodine deficiency among children leads to stunted growth as well as goiter and mental retardation. The Ministry of Health has halted the distribution of iodine capsules, except in 8 high-risk districts, but is promoting universal use of iodized salt.

Table 8.11 shows that 32 percent of children age 6-35 months received Vitamin A supplements during the six months preceding the survey. Older children are more likely to receive Vitamin A supplementation than younger children. There is no gender difference in Vitamin A supplementation, and Vitamin A supplementation differs little by birth order. Since the programme has a rural orientation (Vitamin A capsules are most often distributed by female community health volunteers who are based in rural communities), more rural children (33 percent) are covered by the programme than urban children (18 percent). Coverage of Vitamin A among *Terai* children (53 percent) is much higher than in the Hill and Mountain regions of the country, reflecting the initial programme effect. A similar picture can also be seen for the sub-regions in the *Terai*. More women with less education provide their children with Vitamin A than women with higher education. This could be due to the emphasis of the distributioprogramme in rural areas where the proportion educated women is small.

Respondents in the NFHS were asked if any of their children under three years suffered from night blindness. If respondents stated "No" or "Don't know," interviewers were instructed to probe, by asking if the child has more than usual difficulty in seeing at dusk, at night, or in a room with poor light. In Nepal, 1 percent of children below three years of age suffer from night blindness (Table 8.11). There are only slight differences by background characteristics.

Mothers were also asked if their children under three years of age received iodine capsules during the six months preceding the survey. Less than 3 percent of children received iodine capsules. Older children (12-35 months), female children, children of birth order three and below, urban children, children who live in the *Terai*, children from the Eastern development region (especially children who live in the Eastern *Terai* sub-region), and children born to literate mothers, are more likely than other children to receive iodine capsules.

Table 8.11 Treatment with Vitamin A and iodine

Percentage of children age 6-35 months who received Vitamin A and suffered from night blindness and percentage of children under three years who received iodine capsules, by background characteristics, Nepal 1996

Background characteristic	Children 6-35 months			Children 0-35 months	
	Received Vitamin A	Night blindness	Total	Received iodine capsules	Number of children
Child's age					
< 6 months	NA	NA	NA	0.1	686
6-11 months	18.1	0.5	675	1.9	675
12-23 months	34.9	1.1	1,379	3.3	1,379
24-35 months	36.6	1.1	1,332	3.9	1,332
Child's sex					
Male	32.0	1.0	1,733	2.4	2,078
Female	32.5	1.0	1,653	3.1	1,994
Birth order					
1	28.7	1.0	763	3.0	922
2-3	32.9	0.9	1,322	2.8	1,595
4-5	33.4	0.9	755	2.5	905
6+	33.9	1.2	546	2.4	650
Residence					
Urban	18.4	0.2	227	3.0	264
Rural	33.2	1.0	3,159	2.7	3,808
Ecological region					
Mountain	8.1	1.8	249	0.7	303
Hill	12.4	0.6	1,468	1.7	1,737
Terai	53.3	1.2	1,669	3.9	2,032
Development region					
Eastern	29.9	1.3	725	4.6	874
Central	30.5	0.8	1,132	1.9	1,354
Western	31.6	0.6	671	1.4	811
Mid-western	29.3	0.6	524	3.3	631
Far-western	48.7	2.3	334	3.3	402
Sub-region					
Eastern Mountain	4.6	0.8	54	0.7	63
Central Mountain	0.6	2.5	88	0.5	110
Western Mountain	16.0	1.7	107	0.9	130
Eastern Hill	5.8	0.4	265	0.4	299
Central Hill	6.9	0.6	403	2.4	474
Western Hill	3.0	0.6	392	1.2	484
Mid-western Hill	15.8	0.4	273	2.1	320
Far-western Hill	61.5	1.1	136	2.4	160
Eastern Terai	49.0	1.9	406	7.5	512
Central Terai	49.5	0.7	641	1.7	770
Western Terai	71.5	0.7	280	1.7	327
Mid-western Terai	52.2	0.8	203	5.2	253
Far-western Terai	47.8	3.6	139	5.2	170

Continued

Table 8.11 — Continued

Background characteristic	Children 6-35 months			Children 0-35 months	
	Received Vitamin A	Night blindness	Total	Received iodine capsules	Number of children
Mother's education	33.6	1.2	2,705	2.4	3,223
No education	28.1	0.4	375	4.4	475
Primary	27.0	0.0	217	3.2	266
Some secondary SLC and above	20.4	0.0	88	3.7	109
Literacy					
Literate	26.2	0.0	690	3.6	854
Illiterate	33.7	1.2	2,696	2.5	3,218
Total	32.2	1.0	3,386	2.7	4,072

NA = Not applicable
SLC = School Leaving Certificate

8.6 Acute Respiratory Infection

Pneumonia is a leading cause of childhood mortality in Nepal. The programme to control acute respiratory infections (ARI) aims at treating cases of ARI early before complications develop. Early diagnosis and treatment with antibiotics can prevent a large proportion of deaths due to pneumonia. There is, therefore, emphasis placed on the recognition of signs of impending severity, both by mothers and primary health care workers so that help can be sought.

The prevalence of ARI was estimated by asking mothers if their children under age three had been ill with a cough accompanied by short rapid breathing in the two weeks preceding the survey. These symptoms are compatible with pneumonia. It should be borne in mind that morbidity data collected in surveys are subjective—that is, based on the mother's perception of illness and not validated by medical personnel—and that prevalence of ARI is subject to seasonality. For example, service statistics from the Department of Health show that the largest number of ARI visits are made during the period mid-January to mid-June (Department of Health Services, 1995), which roughly corresponds to the dates of the survey fieldwork.

Table 8.12 shows that 34 percent of children under three years of age were ill with ARI at some time in the two weeks preceding the survey. The prevalence of ARI varies by age of the child, dropping from around 37-38 percent from birth to two years of age to 26 percent after age two. The differences in ARI prevalence by sex of the child, birth order, urban-rural residence, ecological and development regions are small. ARI does vary, however, by sub-regions ranging from a high of 45 percent in the Far-western *Terai* sub-region to a low of 27 percent in the Eastern Mountain sub-region.

Use of a health facility for treatment of ARI is low in Nepal; less than 1 in 5 children reported to be suffering from ARI was taken to a health facility. Use of a health facility for ARI is lowest among children under 6 months of age and highest for children 12-23 months old. Sex of the child does not influence use of a health facility, but residence does. Children in urban areas and children in the Mid-western and Far-western regions are most likely to be taken to a health facility for treatment. Children of more educated mothers are also more likely to receive treatment in a facility than children of women with little or no education.

Table 8.12 Prevalence and treatment of acute respiratory infection and prevalence of fever

Percentage of children under three years who were ill with a cough accompanied by fast breathing during the two weeks preceding the survey and the percentage of ill children who were taken to a health facility and the percentage of children ill with fever, by background characteristics, Nepal 1996

Background characteristic	Percentage of children with cough accompanied by fast breathing (ARI)	Among children with ARI, percentage taken to a health facility or provider ¹	Percentage of children ill with fever	Number of children
Child's age				
< 6 months	37.0	12.1	30.3	686
6-11 months	38.1	19.0	45.8	675
12-23 months	38.0	21.1	44.3	1,379
24-35 months	26.4	17.8	35.7	1,332
Child's sex				
Male	34.6	18.2	39.8	2,078
Female	33.6	18.2	38.9	1,994
Birth order				
1	36.9	20.3	40.8	922
2-3	34.2	18.7	37.5	1,595
4-5	33.2	16.1	39.8	905
6+	31.1	16.4	41.3	650
Residence				
Urban	30.4	28.5	39.4	264
Rural	34.3	17.6	39.4	3,808
Ecological region				
Mountain	32.7	18.5	45.0	303
Hill	34.2	19.2	40.5	1,737
Terai	34.2	17.3	37.5	2,032
Development region				
Eastern	31.5	14.7	33.5	874
Central	35.2	17.0	41.3	1,354
Western	31.1	17.2	34.5	811
Mid-western	37.8	21.3	46.4	631
Far-western	36.2	25.3	44.3	402
Sub-region				
Eastern Mountain	27.0	26.8	34.9	63
Central Mountain	40.1	21.5	56.3	110
Western Mountain	29.1	11.3	40.4	130
Eastern Hill	30.6	16.9	31.0	299
Central Hill	42.6	21.0	48.4	474
Western Hill	28.8	16.9	32.1	484
Mid-western Hill	34.7	21.9	52.3	320
Far-western Hill	31.8	16.4	37.0	160
Eastern Terai	32.6	12.3	34.8	512
Central Terai	30.0	12.7	34.9	770
Western Terai	34.5	17.6	38.1	327
Mid-western Terai	42.8	23.3	41.7	253
Far-western Terai	44.6	33.5	50.9	170

Continued

Table 8.12 — Continued

Background characteristic	Percentage of children with cough accompanied by fast breathing (ARI)	Among children with ARI, percentage taken to a health facility or provider ¹	Percentage of children ill with fever	Number of children
Mother's education				
No education	34.6	17.3	40.0	3,223
Primary	34.3	19.8	37.7	475
Some secondary	32.3	25.6	35.8	266
SLC and above	22.2	24.3	35.7	109
Literacy				
Literate	31.7	24.9	36.2	854
Illiterate	34.7	16.6	40.2	3,218
Total	34.1	18.2	39.4	4,072

SLC = School Leaving Certificate

¹ Includes all health facilities except pharmacy, shop, and traditional practitioner.

8.7 Fever

A major manifestation of acute infection in children is fever. In the NFHS, mothers were asked whether their children under age three had a fever in the two weeks preceding the survey. Table 8.12 shows that 39 percent of children under three years of age were reported to have had fever in the two weeks prior to the survey. Prevalence of fever peaks at 46 percent among children age 6-11 months. Differentials by sex, birth order, and urban-rural residence are negligible, but there is considerable variation in the prevalence of fever among the ecological and development regions and sub-regions. Fever is most prevalent in the Mountain region and in the Mid-western and Far-western regions, especially in the Central Mountain sub-region.

8.8 Diarrhoea

Dehydration caused by severe diarrhoea is a major cause of morbidity and mortality among young children in Nepal. A simple and effective response to a child's dehydration is a prompt increase in fluid intake, that is, oral rehydration therapy (ORT). Rehydration therapy may include the use of solution prepared from packets of oral rehydration salts (ORS) or recommended home fluids (RHF) such as sugar-salt-water solution.

In Nepal, the Ministry of Health utilizes both preventive as well as curative strategies to minimise the effect of diarrhoea on child health. The Department of Health emphasises health education programmes to reduce the incidence of diarrhoea among children, and promotes the use of oral rehydration therapy mostly through ORS. However, their policy on RHF is to promote breastfeeding and intake of additional fluids, and the use of sugar-salt-water solution is actively discouraged and contrary to policy. Initially this programme recommended the use of both ORS and RHF. In recent years, however, because of the widespread availability of ORS packets (through both health institutions and commercial outlets), the programme mostly emphasises the use of ORS.

In the NFHS, women who had a birth in the three years preceding the survey were asked about their knowledge of ORS and treatment of diarrhoea in general. For all children under three years experiencing a bout of diarrhoea in the last two weeks, mothers were asked whether there was blood in the diarrhoea, whether fluid intake was increased or decreased, whether the child was given ORS, and what else was given to treat the child's diarrhoea. It should be noted that the incidence of diarrhoea in Nepal is seasonal, thus care should be taken in the interpretation of the data. Service statistics from the Department of Health show that visits to health

institutions for the treatment of diarrhoea is high during the mid-April to mid-August period (Department of Health Services, 1995).

Table 8.13 presents data on the prevalence of diarrhoea in children under three years of age. Twenty-eight percent of children had experienced diarrhoea at some time in the two weeks preceding the survey; 6 percent of children had experienced bloody diarrhoea probably indicating dysentery. Diarrhoeal prevalence increases with age to peak at age 6-23 months (35-36 percent) then falls again at older ages (Figure 8.2). A similar pattern is observed for bloody diarrhoea.

Diarrhoea and bloody diarrhoea varies little by sex and birth order. The relationship between maternal education and diarrhoeal prevalence in children is pronounced, especially with regard to bloody diarrhoea. The children of women with at least some secondary school are less likely to experience bloody diarrhoea (2 percent) than children of women with no education (7 percent).

Diarrhoeal prevalence, especially bloody diarrhoea, varies by residence. For example, children in the Mountain region are much more likely to experience bloody diarrhoea than children in the *Terai*. Across sub-regions, prevalence of bloody diarrhoea is 16 percent in the Western Mountain sub-region compared with 3 percent in the Eastern Mountain, Hill, and *Terai* sub-regions.

General knowledge of ORS is widespread among mothers (95 percent); yet when asked about specific eating and drinking regimes for sick children, the findings are less encouraging (Table 8.14). Among women with a birth in the three years preceding the survey, 14 percent reported that a child should get less to drink and 18 percent said they should get less to eat when the child is sick with diarrhoea. Only 30 percent of women correctly said that the child should receive more to drink; and 69 percent said that the child should get more to eat.

Older mothers more commonly than younger mothers believe that a child with diarrhoea should receive less to drink and eat. Mothers in the Mountain and Far-western regions are also more likely to report that children with diarrhoea should receive less to eat and drink. Perhaps unexpectedly, maternal education does not lead to a consistent pattern of better knowledge regarding food and fluid intake during diarrhoeal episodes.

Table 8.15 shows data concerning types of treatment of recent episodes of diarrhoea among children under three years, as reported by the mother. The NFHS indicates that only 14 percent of children with diarrhoea in the two weeks preceding the survey were taken to a health facility for treatment; older children, children of lower birth order, urban children, and children from the Mid-western and Far-western regions were more likely to be taken to a facility.

Twenty-six percent of children with diarrhoea were given solution prepared from ORS packets, while 4 percent were given recommended home fluids (RHF) such as breast milk. Only 35 percent of children with diarrhoea were given more to drink than before the diarrhoea. Overall, 51 percent of children were given neither ORS nor RHF nor increased fluids, placing this group at higher risk of mortality. Very few children with diarrhoea were given antibiotic injections, but 37 percent were provided some sort of home-based traditional remedies. Over one-third (35 percent) of children with diarrhoea were not given any treatment

Table 8.13 Prevalence of diarrhoea

Percentage of children under three years of age with diarrhoea and diarrhoea with blood during the two weeks preceding the survey, by selected background characteristics, Nepal 1996

Background characteristic	Diarrhoea in the preceding 2 weeks		
	All diarrhoea	Diarrhoea with blood	Number of children ¹
Child's age			
< 6 months	19.0	2.0	686
6-11 months	35.8	7.6	675
12-23 months	35.1	8.5	1,379
24-35 months	19.7	5.8	1,332
Child's sex			
Male	28.7	7.0	2,078
Female	26.2	5.8	1,994
Birth order			
1	27.9	6.2	922
2-3	26.3	6.1	1,595
4-5	26.4	5.7	905
6+	31.2	8.1	650
Residence			
Urban	23.8	4.5	264
Rural	27.7	6.5	3,808
Ecological region			
Mountain	37.1	12.7	303
Hill	27.7	7.0	1,737
Terai	25.8	4.9	2,032
Development region			
Eastern	22.6	3.2	874
Central	26.4	6.0	1,354
Western	25.6	4.8	811
Mid-western	34.6	10.6	631
Far-western	34.2	10.9	402

Continued

Table 8.13 — Continued

Background characteristic	Diarrhoea in the preceding 2 weeks		
	All diarrhoea	Diarrhoea with blood	Number of children ¹
Sub-region			
Eastern Mountain	21.1	3.3	63
Central Mountain	46.7	14.7	110
Western Mountain	36.6	15.5	130
Eastern Hill	17.3	3.0	299
Central Hill	31.6	6.3	474
Western Hill	20.1	4.3	484
Mid-western Hill	41.3	13.4	320
Far-western Hill	31.3	12.3	160
Eastern Terai	25.9	3.4	512
Central Terai	20.4	4.6	770
Western Terai	33.7	5.5	327
Mid-western Terai	27.2	6.1	253
Far-western Terai	33.5	7.5	170
Mother's education			
No education	28.2	7.0	3,223
Primary	28.1	5.6	475
Some secondary	20.4	1.9	266
SLC and above	20.1	2.1	109
Literacy			
Literate	23.9	3.9	854
Illiterate	28.4	7.0	3,218
Total	27.5	6.4	4,072

SLC = School Leaving Certificate

¹ Includes diarrhoea in the past 24 hours.

Generally, therapeutic intervention increases with increasing age of the child. For instance, increasing fluid intake changes from 19 percent of children under 6 months of age to 41 percent of children 24-35 months old. Similarly, non-treatment drops sharply with increasing age, from 57 percent of children under 6 months to 31 percent of children 24-35 months old. Male children are slightly more likely than female children to receive increased fluids. Urban children and children of more educated women are also more likely to be treated with some form of oral rehydration therapy. Children of illiterate women, for instance, are nearly twice as likely to have received *no* treatment for diarrhoea (38 percent) than children of literate women (21 percent).

Nearly two-thirds (63 percent) of children sick with diarrhoea were given less food during the illness and 31 percent were given less to drink (data not shown). These patterns reflect a distressing lack of practical knowledge among some women regarding nutritional requirements of children during episodes of diarrhoeal illness.

Table 8.16 shows the percentage of women with children under three years who know about ORS, the percentage who have ever used ORS, and among those who have ever used Jeevan Jal (a commercially produced packet of ORS widely available in Nepal) the percentage who prepared it correctly. Too concentrated a mixture of ORS can be dangerous. The liter is not a common measure in Nepal, and tea glasses, which are indicated as the measure to use on the Jeevan Jal packet, come in differing sizes. In the NFHS, a woman who mixed a full packet of Jeevan Jal with one litre, or two *manas*, or six tea glasses of water is considered as having prepared Jeevan Jal correctly.

It is heartening to note that knowledge of ORS in Nepal is nearly universal among mothers who had a birth in the three years before the survey (95 percent). Since knowledge of ORS is nearly universal, differentials are small. Older and less educated women are less likely to know about ORS than younger and more educated women. Women from the Far-western region are less likely to have heard of ORS than women from other development regions.

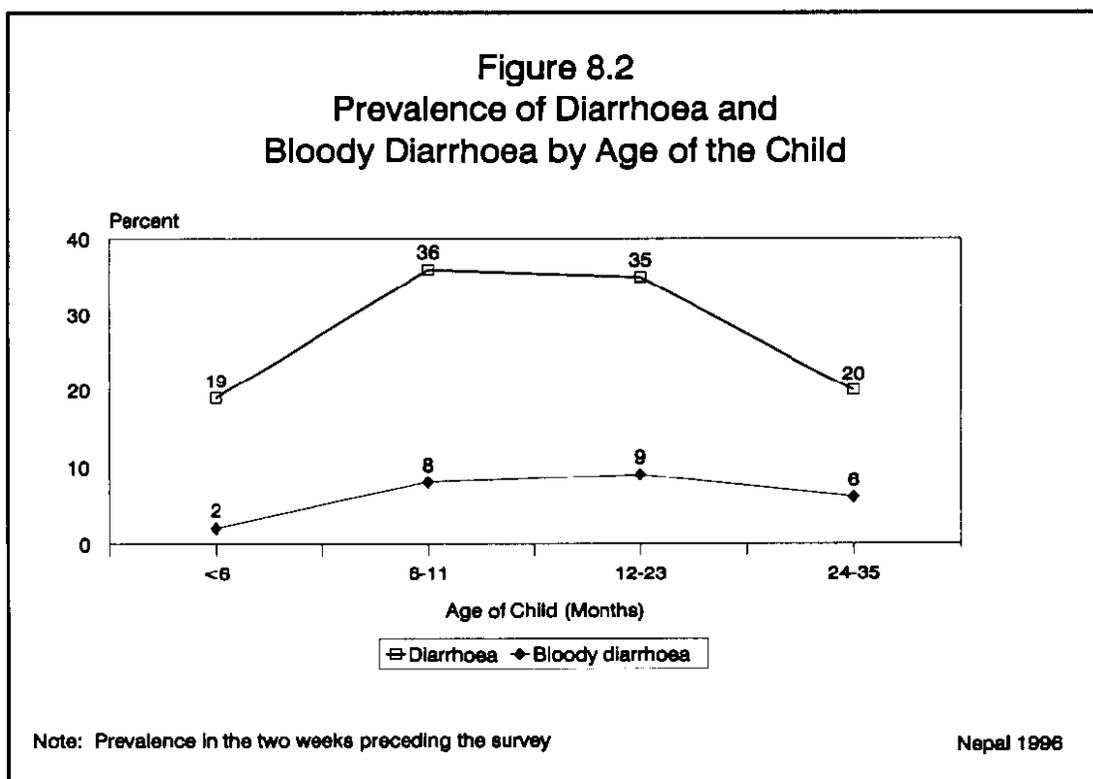


Table 8.14 Knowledge of diarrhoea care

Percentage of women with births in the three years preceding the survey who know about the use of packets of oral rehydration salts (ORS) for treatment of diarrhoea, and the percent distribution by opinion on appropriate feeding practices during diarrhoea, according to background characteristics, Nepal 1996

Background characteristic	Know about ORS packets	Quantities that should be given during diarrhoea:								Number of women
		Liquids				Solid foods				
		Less	Same	More	Don't know	Less	Same	More	Don't know	
Age										
15-19	95.3	13.2	47.0	37.8	1.9	11.8	10.2	76.5	1.4	403
20-24	95.9	11.6	58.6	27.9	2.0	15.0	12.3	70.9	1.8	1,210
25-29	95.6	12.8	55.7	28.9	2.6	19.5	10.5	68.1	1.9	1,024
30-34	94.1	16.1	51.1	30.6	2.1	18.2	11.6	67.8	2.4	643
35+	91.0	21.5	41.8	32.7	4.0	23.7	10.6	63.0	2.7	532
Residence										
Urban	96.9	12.8	63.7	22.7	0.9	19.6	10.0	69.2	1.2	248
Rural	94.6	14.3	52.3	30.9	2.5	17.5	11.3	69.1	2.1	3,565
Ecological region										
Mountain	93.3	18.3	54.9	23.7	3.1	23.1	16.6	57.4	2.9	291
Hill	93.0	14.5	60.9	22.2	2.4	20.5	14.5	62.9	2.1	1,638
Terai	96.6	13.4	45.9	38.4	2.3	14.3	7.6	76.4	1.8	1,883
Development region										
Eastern	95.5	11.4	43.6	40.7	4.3	14.2	19.3	62.8	3.8	802
Central	95.6	15.8	54.8	26.5	3.0	18.3	6.2	73.6	1.9	1,268
Western	96.9	11.6	67.1	19.9	1.4	15.4	6.7	75.9	2.0	764
Mid-western	93.0	11.8	54.3	32.7	1.2	20.3	18.4	60.3	0.9	595
Far-western	89.0	24.2	36.7	38.5	0.6	23.2	8.7	67.7	0.4	384
Sub-region										
Eastern Mountain	96.6	17.2	55.9	22.8	4.1	18.6	29.0	48.3	4.1	60
Central Mountain	91.7	24.4	58.3	15.0	2.2	27.2	7.8	62.8	2.2	101
Western Mountain	93.0	14.0	51.9	30.8	3.3	22.0	17.8	57.5	2.8	131
Eastern Hill	92.3	14.6	48.0	32.5	4.9	18.3	28.0	50.0	3.7	272
Central Hill	94.1	17.8	62.0	16.4	3.7	25.1	8.1	63.9	2.9	450
Western Hill	97.1	10.8	74.4	12.6	2.2	14.6	8.6	74.2	2.7	458
Mid-western Hill	91.3	11.6	59.6	28.9	0.0	24.7	23.3	52.0	0.0	303
Far-western Hill	82.0	21.0	42.4	36.6	0.0	20.5	9.3	70.2	0.0	156
Eastern Terai	97.3	8.7	39.6	47.8	3.9	11.2	13.0	72.0	3.8	470
Central Terai	97.1	13.3	49.7	34.4	2.6	12.7	4.8	81.2	1.2	718
Western Terai	96.6	12.9	56.0	30.8	0.3	16.5	4.0	78.6	0.9	306
Mid-western Terai	95.5	14.0	46.1	38.0	1.9	15.2	10.5	73.1	1.1	232
Far-western Terai	93.8	28.1	27.0	44.2	0.7	24.7	6.6	68.1	0.7	157
Mother's education										
No education	93.6	15.8	47.1	34.3	2.9	18.2	9.6	69.8	2.3	3,022
Primary	98.5	10.8	67.7	20.5	1.0	17.2	17.1	64.5	1.2	434
Some secondary	99.7	5.0	85.2	9.1	0.6	10.1	17.7	71.8	0.4	251
SLC and above	100.0	6.3	85.1	8.5	0.0	20.0	17.8	62.2	0.0	105
Literacy										
Literate	93.6	7.4	79.2	12.7	0.7	15.8	18.3	64.9	1.0	796
Illiterate	99.4	16.0	46.1	35.0	2.9	18.1	9.4	70.3	2.3	3,016
Total	94.8	14.2	53.0	30.4	2.4	17.6	11.2	69.1	2.0	3,813

SLC = School Leaving Certificate

Table 8.15 Treatment of diarrhoea

Among children under three years who had diarrhoea in the two weeks preceding the survey, the percentage taken for treatment to a health facility or provider, the percentage who received oral rehydration therapy (ORT), the percentage who did not receive any ORT, and the percentage given other treatments, according to background characteristics, Nepal 1996

Background characteristic	Percentage taken to a health facility or provider ¹	Oral rehydration therapy (ORT)				Did not receive any ORT	Other treatments			Number of children
		ORS packet	RHF at home	Either ORS or RHF	In-creased fluids		Injec-tion	Home remedy/ Other	No treat-ment	
Child's age										
< 6 months	5.1	3.8	0.7	4.5	19.4	76.6	0.0	22.5	56.7	130
6-11 months	12.1	20.7	3.3	22.4	26.7	60.9	1.5	35.8	40.8	242
12-23 months	17.5	30.7	5.6	34.7	40.0	44.2	1.0	41.6	28.0	485
24-35 months	12.9	32.6	3.9	35.1	41.1	41.8	2.9	35.3	30.6	262
Child's sex										
Male	14.7	27.7	4.2	30.0	37.1	48.8	1.3	37.5	32.8	597
Female	12.9	23.8	4.1	27.0	32.5	53.6	1.6	35.7	36.9	522
Birth order										
1	15.9	27.5	5.2	31.2	33.5	52.8	0.6	38.6	35.8	257
2-3	15.5	29.0	3.4	31.3	41.1	44.3	1.9	40.4	28.3	419
4-5	12.8	24.2	3.0	25.7	29.4	56.4	2.3	32.3	41.0	239
6+	8.9	19.2	5.8	23.2	30.6	56.1	0.5	31.5	39.0	203
Residence										
Urban	18.3	40.7	9.0	46.2	42.6	38.7	2.5	48.0	25.6	63
Rural	13.6	25.0	3.9	27.6	34.5	51.7	1.4	36.0	35.3	1,056
Ecological region										
Mountain	13.4	28.9	5.3	32.7	42.6	44.9	0.0	31.9	33.1	112
Hill	13.1	24.1	4.0	26.9	36.7	49.7	0.3	32.9	36.1	481
Terai	14.6	26.8	4.1	29.2	31.7	53.5	2.8	41.1	33.8	525
Development region										
Eastern	11.9	31.9	6.5	35.7	29.3	54.1	0.8	38.3	36.6	197
Central	11.0	25.4	4.8	29.1	37.0	50.0	2.3	35.2	34.6	358
Western	10.5	24.9	3.7	26.8	39.8	46.0	0.5	42.4	25.3	208
Mid-western	18.4	23.1	2.9	25.3	38.4	49.8	0.8	32.3	37.1	218
Far-western	21.6	24.1	1.9	25.0	24.8	58.7	2.6	36.4	42.5	138
Sub-region										
Eastern Mountain	(15.6)	(25.0)	(6.3)	(31.3)	(28.1)	(62.5)	(0.0)	(31.3)	(46.9)	13
Central Mountain	9.8	29.3	7.6	34.8	48.9	39.1	0.0	28.3	30.4	52
Western Mountain	16.7	29.5	2.6	30.8	39.7	46.2	0.0	35.9	32.1	48
Eastern Hill	12.8	34.0	4.3	34.0	23.4	55.3	0.0	31.9	40.4	52
Central Hill	12.4	26.6	6.0	31.5	39.0	45.2	0.5	34.2	31.3	150
Western Hill	9.8	27.0	4.3	29.3	42.2	43.7	0.0	41.0	27.7	97
Mid-western Hill	16.2	17.6	2.9	20.6	38.2	52.2	0.0	27.9	41.9	132
Far-western Hill	13.6	18.2	0.0	18.2	28.8	62.1	1.5	27.3	47.0	50
Eastern Terai	11.2	31.8	7.4	36.8	31.8	52.7	1.2	41.5	34.1	132
Central Terai	10.1	23.1	2.8	25.0	31.3	58.2	4.7	38.3	39.2	157
Western Terai	11.1	23.1	3.1	24.6	37.7	48.0	0.9	43.7	23.1	110
Mid-western Terai	25.5	31.4	2.5	32.6	33.1	48.5	2.5	43.5	30.1	69
Far-western Terai	28.3	27.2	3.4	28.3	19.6	59.2	4.9	40.4	43.0	57

Continued

Table 8.15 — Continued

Background characteristic	Percentage taken to a health facility or provider ¹	Oral rehydration therapy (ORT)				Did not receive any ORT	Other treatments			Number of children
		ORS packet	RHF at home	Either ORS or RHF	In-creased fluids		Injec-tion	Home remedy/ Other	No treat-ment	
Mother's education										
No education	13.0	23.3	3.5	25.8	32.0	53.7	1.3	35.2	37.6	909
Primary	19.0	37.3	6.0	40.5	46.0	40.7	3.3	40.3	24.4	134
Secondary+	14.3	36.0	9.0	41.7	51.3	37.4	0.0	47.9	18.6	76
Literacy										
Literate	17.1	33.5	5.8	37.0	49.8	38.9	0.7	45.4	20.6	204
Illiterate	13.1	24.2	3.8	26.7	31.6	53.7	1.6	34.7	37.8	914
Total	13.8	25.9	4.2	28.6	35.0	51.0	1.4	36.7	34.7	1,119

Note: Figures in parentheses are based on 25 to 49 children who had diarrhoea. Oral rehydration therapy (ORT) includes solution prepared from commercially produced packets of oral rehydration salts (ORS), and recommended home fluids (RHF), such as breastmilk, and increased fluids.

¹ Includes all health facilities except pharmacy, shop and traditional practitioner.

About 63 percent of mothers who had a birth in the three years preceding the survey have used ORS at sometime. Women who live in urban areas, or who are educated are more likely to have used ORS than their rural or less educated counterparts. Likewise, women from the *Terai* are more likely to have used ORS than women from the Hills or Mountains.

In order to get an idea of whether or not mothers know how to mix ORS properly, women who had used a whole packet of Jeevan Jal were asked for the amount of water they used to prepare the solution. As can be seen from Table 8.16 only about one in three women know how to mix Jeevan Jal correctly. As expected, women who are better educated are more likely to prepare the solution correctly. Surprisingly, no urban-rural differences were observed.

The mothers were further asked where they could obtain ORS packets. The most common sources mentioned were pharmacies (59 percent), health or sub-health posts (51 percent), shops (38 percent), and public hospitals or district clinics (21 percent) (data not shown).

Women were also asked about the time taken to the nearest source of ORS. Two of five women are less than half an hour from a source of ORS and another one-third are within an hour of a source (data not shown). As expected, urban women and women from the *Terai* are closer to a source than rural women and those living in the Hills and Mountains.

Table 8.16 Knowledge and use of ORS and Jeevan Jal

Percentage of women with a birth in the three years preceding the survey who know about ORS, the percentage who have ever used ORS, and among those who have used Jeevan Jal, the percentage who used it correctly, according to background characteristics, Nepal, 1996

Background characteristic	Percentage of women who:			Among women who ever used Jeevan Jal, the percentage who:	
	Know about ORS	Ever-used ORS	Number of women	Used it correctly	Number of women
Age					
15-19	95.3	49.7	403	29.1	195
20-24	95.9	62.7	1,210	36.6	740
25-29	95.6	67.2	1,024	33.4	673
30-34	94.1	62.7	643	35.9	399
35-39	92.2	67.8	347	34.3	234
40-44	88.5	58.4	142	28.7	83
45-49	(89.8)	(65.5)	43	(34.9)	27
Residence					
Urban	96.9	79.2	248	34.8	184
Rural	94.6	61.7	3,565	34.4	2,166
Ecological region					
Mountain	93.3	57.0	291	34.4	166
Hill	93.0	58.0	1,638	37.7	935
Terai	96.6	68.0	1,883	32.0	1,249
Development region					
Eastern	95.5	68.7	802	38.0	541
Central	95.6	63.2	1,268	32.9	776
Western	96.9	61.2	764	41.7	460
Mid-western	93.0	62.1	595	29.6	368
Far-western	89.0	53.9	384	23.1	205
Sub-region					
Eastern Mountain	96.6	62.8	60	34.1	38
Central Mountain	91.7	57.8	101	38.5	58
Western Mountain	93.0	53.7	131	31.3	70
Eastern Hill	92.3	57.3	272	41.1	156
Central Hill	94.1	61.8	450	43.1	268
Western Hill	97.1	58.5	458	43.2	263
Mid-western Hill	91.3	60.9	303	27.9	184
Far-western Hill	82.0	41.0	156	11.9	64
Eastern Terai	97.3	76.1	470	37.1	347
Central Terai	97.1	64.8	718	26.2	449
Western Terai	96.6	65.4	306	39.6	197
Mid-western Terai	95.5	66.4	232	29.6	152
Far-western Terai	93.8	66.2	157	29.3	102
Mother's education					
No education	93.6	60.8	3,022	30.8	1,814
Primary	98.5	67.2	434	47.8	287
Some secondary	99.7	72.0	251	45.3	173
SLC and above	100.0	81.5	105	44.9	76
Literacy					
Literate	99.4	71.3	796	49.5	546
Illiterate	93.6	60.6	3,016	29.9	1,804
Total	94.8	62.9	3,813	34.4	2,350

Note: *Jeevan Jal* is a brand of oral rehydration salts (ORS) that is widely available in Nepal. Figures in parentheses are based on 25 to 49 women. SLC = School Leaving Certificate

CHAPTER 9

INFANT FEEDING, CHILDHOOD AND MATERNAL NUTRITION

The Nepal Family Health Survey (NFHS) asked mothers about the duration and intensity of breastfeeding, the types of complementary food given, and whether or not a bottle with a nipple was used while breastfeeding, for all births occurring during the three years before the survey. Furthermore, the height and weight of these children as well as their mother's height and weight were measured.

Infant feeding practices affect the health of both the mother and her child. They are important determinants of children's nutritional status and many studies have shown that breastfeeding has beneficial effects on the nutritional status, morbidity, and mortality of young children. Breastfeeding is also associated with longer periods of postpartum amenorrhoea, which in turn leads to longer birth intervals and lower fertility levels. A longer birth interval allows mothers to recover fully before the next pregnancy and averts maternal depletion, which may follow births that are too closely spaced.

Maternal nutritional status has important implications for the health of the mother as well as that of her children. A woman who is in poor nutritional health has a greater risk of having an adverse pregnancy outcome and is more likely to give birth to underweight babies.

9.1 Breastfeeding and Supplementation

Prevalence of Breastfeeding

Table 9.1 shows the percentage of children who were ever breastfed and the timing of initial breastfeeding for all children born in the three years before the survey by selected background characteristics. Breastfeeding is nearly universal in Nepal: 98 percent of children were breastfed at sometime. The 1991 NFHS showed a similar proportion breastfed: 97 percent of children born during the five years before the survey (Ministry of Health, 1993).

The differentials in children ever breastfed by sex, residence, ecological region, and development region are small. However, children of mothers who are at least high school graduates (SLC) are less likely to be breastfed than children of mothers with lower levels of education.

Early initiation of breastfeeding is beneficial for both mothers and their children: early suckling benefits mothers because it stimulates the release of a hormone that helps the uterus to contract; the first breast milk is important for babies because it contains colostrum which is rich in antibodies that protect the newborn from diseases. In Nepal, although almost all babies are breastfed at some time, only 18 percent are breastfed within one hour of birth and three of five babies are breastfed within 24 hours of birth. The 1991 NFHS, which collected information on all children born in the five years before the survey, found that 22 percent of children were breastfed within one hour of birth (Ministry of Health, 1993). It is important to point out that since 1991 the proportion of children breastfed within one hour has markedly declined in the rural areas, the Mountain region and the Central development region of Nepal.

Table 9.1 Initial breastfeeding

Percentage of children born in the three years preceding the survey who were ever breastfed, and the percentage who started breastfeeding within one hour of birth and within one day of birth, by selected background characteristics, Nepal, 1996

Background characteristic	Percentage ever breastfed	Percentage who started breastfeeding:		Number of children
		Within one hour of birth	Within one day of birth ¹	
Child's sex				
Male	97.1	18.1	59.9	2,251
Female	98.3	18.3	59.6	2,124
Residence				
Urban	97.3	17.0	66.8	278
Rural	97.7	18.3	59.3	4,097
Ecological region				
Mountain	98.2	21.7	75.2	337
Hill	98.5	22.1	77.3	1,862
Terai	96.9	14.2	42.0	2,176
Development region				
Eastern	97.3	18.4	54.5	924
Central	97.4	11.7	49.7	1,434
Western	98.0	15.9	58.5	881
Mid-western	97.9	27.3	71.9	695
Far-western	98.5	28.9	86.3	441
Sub-region				
Eastern Mountain	97.0	23.5	77.8	69
Central Mountain	98.6	10.8	82.2	121
Western Mountain	98.3	30.0	68.4	147
Eastern Hill	99.3	28.8	84.0	313
Central Hill	99.1	15.5	82.7	492
Western Hill	98.6	20.4	68.3	525
Mid-western Hill	97.0	26.5	72.5	357
Far-western Hill	98.3	25.1	86.8	175
Eastern Terai	96.1	11.5	34.0	542
Central Terai	96.2	9.5	24.4	821
Western Terai	97.1	9.2	43.8	356
Mid-western Terai	98.7	29.5	76.8	273
Far-western Terai	99.1	29.6	86.5	184
Education				
No education	97.9	18.3	58.9	3,470
Primary	96.6	16.6	61.3	510
Some secondary	98.2	19.1	64.5	279
SLC and above	93.8	21.0	68.1	115
Literacy				
Literate	96.7	19.1	66.9	907
Illiterate	97.9	18.0	57.9	3,468

Continued

Table 9.1 — Continued

Background characteristic	Percentage ever breastfed	Percentage who started breastfeeding:		Number of children
		Within one hour of birth	Within one day of birth ¹	
Assistance at delivery				
Medically trained personnel ²	96.3	17.5	62.7	441
Traditional midwife	98.3	12.8	40.8	986
Other or none	97.7	20.0	65.7	2,943
Place of delivery				
Health facility	96.3	20.6	68.6	330
At home	97.8	18.1	59.0	4,010
Total	97.7	18.2	59.7	4,375

Note: Figures are based on all children born in the three years preceding the survey, whether living or dead at the time of the interview. Total includes 5 children with missing information on assistance at delivery and 34 children with missing information on place of delivery.

SLC = School Leaving Certificate

¹ Includes children who started breastfeeding within one hour of birth.

² Includes doctor, nurse/midwife, MCH worker and other health professionals such as VHW, health assistant, and health post staff.

There is little difference in the timing of initial breastfeeding by sex and urban-rural residence. However, there is some variation in the initiation of breastfeeding by other background characteristics. Children living in the *Terai* are least likely to be breastfed immediately after birth or even within one day of birth compared with children living in the Mountain and Hill regions of Nepal. With regard to development regions, children from the Far-western development region are most likely to be breastfed immediately after birth and within one day of birth in contrast to children from the Central development region. Women who have completed their SLC are slightly more likely to initiate breastfeeding within one hour and within one day of birth, compared with women who have lower levels of education, as are literate women. Surprisingly, there is little difference in the timing of initial breastfeeding between children delivered by medically trained personnel and children not delivered by a medically trained personnel or midwives. Children delivered by a traditional birth attendant are least likely to be breastfed within one hour and within one day of birth.

Breastfeeding Status by Child's Age

In the NFHS, children who received only breast milk in the 24 hours before the survey are defined as being *exclusively breastfed*, and children who are *fully breastfed* receive only plain water in addition to breast milk. Exclusive breastfeeding is recommended for the first 4-6 months of a child's life because breast milk is uncontaminated and contains all the nutrients needed by children in the first few months of life. In addition, it provides some immunity to disease through the mother's antibodies. Early supplementation, especially under unhygienic conditions, can result in infection and lower immunity to disease.

The NFHS asked mothers about the current breastfeeding status of all children under three years of age and, if the child was being breastfed, whether other liquid or complementary solid foods were given to the child during the 24 hours prior to the survey. Table 9.2 and Figure 9.1 show the distribution of living children by breastfeeding status.

Nine of ten children less than two months of age are exclusively breastfed, 1 percent are fully breastfed and another 9 percent receive complementary foods and liquids. Only three of five children continue to be exclusively breastfed by the time they are 4-5 months old. Full breastfeeding increases to 5 percent for children age 4-5 months and 34 percent of these children receive complementary foods. The proportion of children exclusively breastfed declines sharply for children 6 months and older when solid and mushy food become an important part of their diet. By 6-7 months of age, 64 percent of children are given breast milk and complementary foods other than plain water. This rises to a high of 95 percent by 14-15 months of age. Among many cultures in Nepal, the first time solid food is given is solemnized with a formal ceremony called *Pasnee*, or rice feeding ceremony. This ceremony is considered auspicious starting from the fifth or subsequent odd numbered month of age for female children, and the sixth or even numbered month of age for male children. Overall, four of five children are given complementary foods other than plain water by the ninth month of age.

Duration and Frequency of Breastfeeding

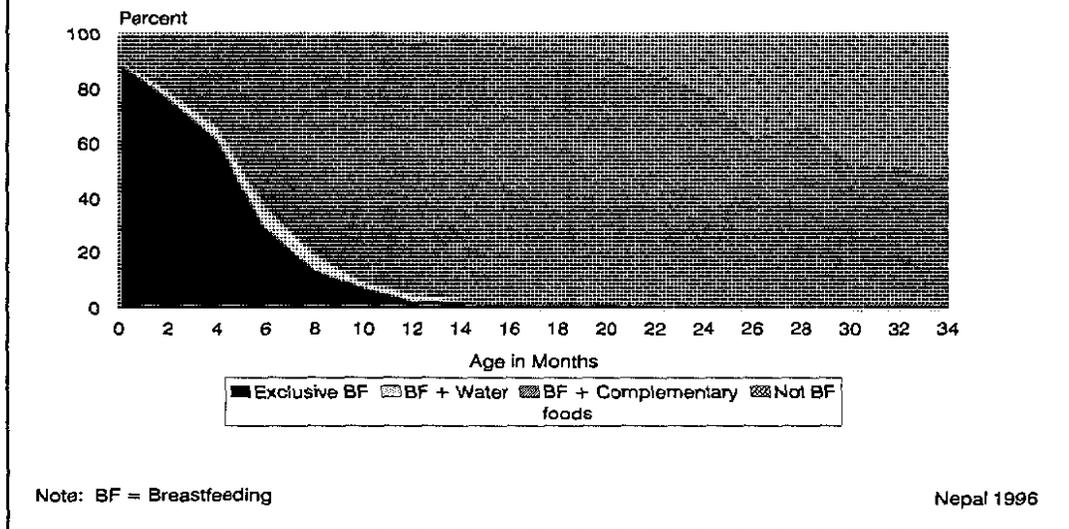
Table 9.3 presents the duration of breastfeeding by selected background characteristics. The estimates of mean and median duration of breastfeeding are based on current status data, that is, the proportion of children under 3 years of age who were being breastfed at the time of the survey, as opposed to retrospective data on the length of breastfeeding of older children who are no longer breastfed. The prevalence-incidence mean, which is provided here for possible comparison with other data sources, is obtained by dividing the number of children whose mothers are amenorrhoeic by the average number of births per month.

Table 9.2 Breastfeeding status
Percent distribution of living children by breastfeeding status, according to child's age in months, Nepal 1996

Age in months	Not breast-feeding	Exclusively breastfed	Breastfeeding and:		Total	Number of living children
			Plain water only	Complementary foods		
< 2	0.3	89.0	1.2	9.4	100.0	177
2-3	0.6	76.7	2.8	19.9	100.0	253
4-5	0.0	61.0	5.3	33.7	100.0	255
6-7	0.0	28.3	7.9	63.8	100.0	236
8-9	1.8	13.0	6.2	79.0	100.0	204
10-11	0.0	7.0	2.3	90.7	100.0	236
12-13	4.9	2.0	3.0	90.1	100.0	264
14-15	1.8	1.9	1.3	95.0	100.0	236
16-17	5.3	0.7	0.3	93.7	100.0	222
18-19	6.7	0.0	0.6	92.7	100.0	221
20-21	9.4	1.2	0.0	89.4	100.0	219
22-23	15.2	0.0	0.0	84.8	100.0	217
24-25	22.8	0.0	0.0	77.2	100.0	245
26-27	39.4	0.0	0.0	60.6	100.0	235
28-29	33.3	0.0	0.0	66.7	100.0	227
30-31	49.1	0.3	0.0	50.6	100.0	179
32-33	49.8	0.7	0.0	49.5	100.0	217
34-35	53.6	0.3	0.0	46.1	100.0	229
0-3 months	0.5	81.8	2.2	15.6	100.0	431
4-6 months	0.0	51.8	5.7	42.5	100.0	370
7-9 months	1.1	17.6	7.3	74.0	100.0	325

Note: Breastfeeding status refers to 24 hours preceding the survey. Children classified as *breastfeeding and plain water only* receive no complementary foods.

Figure 9.1
Distribution of Children by Breastfeeding Status
According to Age



The median duration of breastfeeding is 31 months and the mean is 28 months. The 1991 NFHS indicated a median of 30 months and a mean of 28 months (Ministry of Health, 1993).

A median could not be calculated for male children because the smoothed percentages never fell below 50 percent. As such the median duration of breastfeeding for male children is presumably higher than 36 months. Female children are breastfed for a shorter duration (31 months). Rural women and women from the *Terai* are likely to breastfeed their children longer than their counterparts. The duration of breastfeeding varies little by development region. Literate mothers breastfeed their children for shorter durations than illiterate mothers and duration of breastfeeding declines with an increase in mother's level of education. Children delivered by medically trained personnel are breastfed for shorter durations than births attended by traditional midwives or relatives, neighbours, others, and no one.

The duration of postpartum amenorrhoea is affected by the length of time spent breastfeeding and the frequency of breastfeeding. A large majority of children, that is, 95 percent of children below the age of six months were breastfed 6 or more times in the 24 hours preceding the survey.

Types of Supplemental Foods

Table 9.4 presents the percentage of children under 36 months of age by the type of food received in the 24 hours before the interview. Overall, 84 percent of children age less than 3 years were breastfed, whereas 8 percent were not given any kind of milk at all, and 39 percent were given milk other than breast milk. Only 1 percent of children were given infant formula. For other solid food, 77 percent of children age below 3 years were given grain/flour/cereal, 52 percent were given potatoes/yams/tubers, and 16 percent were given meat/fish/eggs. More than 97 percent of children age 24 months and over were given grain/flour/cereal, about three-fourths were given potatoes/yams/tubers, about a quarter were given meat/fish/egg, and around 45 percent were given other types of milk.

Table 9.3 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and full breastfeeding among children under three years of age, and the percentage of children under six months of age who were breastfed six or more times in the 24 hours preceding the interview, according to background characteristics, Nepal 1996

Background characteristic	Among children under 3 years, median duration in months:				Children under six months	
	Any breast- feeding	Exclusive breast- feeding	Full breast- feeding ¹	Number of children	Breastfed 6 or more	Number of children
					times in preceding 24 hours	
Child's sex						
Male	a	4.4	5.1	2,251	94.6	346
Female	30.7	5.0	5.6	2,124	95.8	340
Residence						
Urban	24.5	(3.9)	(4.5)	278	100.0	37
Rural	31.3	4.8	5.4	4,097	94.9	649
Ecological region						
Mountain	30.3	(3.3)	(3.4)	337	91.0	54
Hill	30.8	3.8	4.0	1,862	93.3	269
Terai	31.1	6.1	7.1	2,176	97.2	363
Development region						
Eastern	29.9	4.4	4.8	924	95.2	149
Central	31.4	4.7	5.5	1,434	95.2	221
Western	31.1	4.2	5.3	881	96.9	140
Mid-western	31.3	5.4	5.4	695	92.7	107
Far-western	29.2	5.6	6.0	441	95.6	69
Mother's Education						
No education	31.3	5.0	5.6	3,470	95.1	518
Primary	30.2	4.8	5.3	510	94.3	100
Secondary+	26.8	3.3	3.8	394	97.2	69
Literacy						
Illiterate	31.5	5.1	5.7	3,468	94.9	521
Literate	27.7	3.8	4.3	907	96.1	165
Assistance at delivery						
Medically trained personnel ²	25.9	4.1	4.3	441	96.5	72
Traditional midwife	32.3	6.2	7.3	986	96.8	179
Other or none	30.9	4.3	4.9	2,943	94.3	434
Total	31.0	4.7	5.3	4,375	95.2	686
Mean	28.4	5.7	6.3	97.7	NA	NA
Prevalence/Incidence mean	27.8	5.1	5.7	NA	NA	NA

Note: Medians and means are based on current status. Figures in parentheses are based on 25 to 49 children. A breakdown by sub-regions is not shown because of the small number of cases in several of the sub-regions. Total includes 5 children for whom information on assistance at delivery is missing.

NA = Not applicable

¹ Either exclusively breastfed or received only plain water

² Includes doctor, nurse/midwife, MCH worker and other health professionals such as VHW, health assistant and health post staff.

³ Median is 36 months or more.

Bottle Feeding

The extent to which Nepalese children are bottle fed is also shown in Table 9.4. Bottle feeding is discouraged among very young children because of its potential negative effects on a child's health. It is often associated with increased risk of illness, especially diarrhoeal disease, because of the difficulty in sterilizing the nipples properly. The use of a bottle with a nipple can also reduce the period when the mother is not at risk of conception since bottle feeding is associated with a lessening of the intensity of breastfeeding and a consequent shortening of the period of postpartum amenorrhoea. The use of bottles with nipples is relatively rare in Nepal (3 percent).

Table 9.4 Types of food received by children in the preceding 24 hours

Percentage of children under three years of age who received specific types of food in the 24 hours before the interview, and the percentage using a bottle with a nipple, by child's age in months, Nepal 1996

Age (in months)	Any breast milk	No milk of any kind	Infant formula	Other milk	Other liquids	Meat/poultry/fish/eggs	Grain/flour/cereal	Potatoes/yams/tubers	Other	Use of bottle with a nipple	Number of children
<2	99.7	0.0	0.8	7.1	1.1	0.0	1.9	0.0	2.2	0.6	177
2-3	99.4	0.0	0.9	13.6	2.0	0.0	6.3	0.0	4.5	3.6	253
4-5	100.0	0.0	1.6	23.2	6.4	0.8	14.8	2.1	5.9	5.3	255
6-7	100.0	0.0	2.1	37.3	28.0	5.9	49.5	11.2	23.9	6.8	236
8-9	98.2	0.0	3.0	43.5	53.0	9.0	71.4	31.3	33.5	4.7	204
10-11	100.0	0.0	1.1	36.7	60.4	13.5	85.0	49.1	42.7	2.8	236
12-13	95.1	1.3	1.8	44.8	73.2	17.9	92.9	55.1	48.7	3.0	264
14-15	98.2	0.7	0.0	43.1	79.6	17.4	94.5	62.7	49.9	0.8	236
16-17	94.7	1.4	0.9	50.2	74.1	19.1	96.0	68.5	57.4	1.4	222
18-23	89.6	3.8	0.7	44.6	84.3	23.1	97.0	69.3	55.8	2.1	657
24-29	68.3	15.2	0.5	43.7	87.3	22.7	97.9	75.6	56.9	2.5	707
30-35	49.0	26.3	0.7	45.1	87.5	23.2	97.2	74.3	59.3	1.1	625
0-3 months	99.5	0.0	0.9	10.9	1.6	0.0	4.5	0.0	3.5	2.4	431
4-6 months	100.0	0.0	1.4	29.0	12.0	2.3	23.0	4.2	12.2	5.3	370
7-9 months	98.9	0.0	3.1	39.6	44.9	7.9	66.2	24.6	29.2	6.0	325
Total	84.1	7.5	1.0	38.9	63.9	16.1	77.1	51.8	43.4	2.6	4,072

9.2 Nutritional Status of Children

One of the major contribution of the NFHS to the study of child health is the anthropometric data for children born during the three-year period preceding the survey. Anthropometry provides one of the most important indicators of children's nutritional status. A measuring board (Shorr Board) was used to measure the height of children; children under two years were measured lying down (supine) while those over two years were measured standing up. The weight of children was obtained using an electronic Seca scale. Combining the height, weight and age data, three indices of physical growth describing children's nutritional status were constructed: height-for-age, weight-for-age, and weight-for-height.

The three indices provide indications of children's susceptibility to diseases and their chances of survival and are expressed as standardised (z-score) deviation units from the median of a reference population recommended by the World Health Organisation (WHO). The use of a reference population is based on the

finding that well-nourished children in all population groups for which data exist follow similar growth patterns before puberty and, thus, exhibit similar distributions with respect to height and weight at given ages (Martorell and Habicht, 1986). One of the most commonly used reference populations is the international reference population defined by the United States National Center for Health Statistics (NCHS) and accepted by WHO and the United States Centers for Disease Control. The reference population serves as a point of comparison, facilitating the examination of differences in the anthropometric status of sub-groups in a population and changes in nutritional status over time. Children who fall below two standard deviations from the reference median are regarded as malnourished, whereas children who fall three standard deviations below the reference median are regarded as severely malnourished. Each of the three indices measures somewhat different aspects of nutritional status.

The height-for-age index provides an indicator of linear growth retardation. Children whose height-for-age is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age, or *stunted*. Children who are below minus three standard deviations (-3 SD) from the reference population median are *severely stunted*. Stunting of a child's growth may be the result of a failure to receive adequate nutrition over a long period of time or of the effects of recurrent or chronic illness. Height-for-age, therefore, represents a measure of the outcome of undernutrition in a population over a long period, and does not vary appreciably with the season of data collection.

The weight-for-height index measures body mass in relation to body length. Children whose weight-for-height measures are below minus two standard deviations (-2 SD) from the median of the reference population are too thin for their height, or *wasted*, while those whose measures are below minus three standard deviations (-3 SD) from the reference population median are *severely wasted*. Wasting represents the failure to receive adequate nutrition during the period immediately before the survey. It may be the result of recent episodes of illness or acute food shortage.

Weight-for-age is a composite index of height-for-age and weight-for-height. Children whose weight-for-age measures are below minus two standard deviations (-2 SD) from the median of the reference population are *underweight* for their age while those whose measures are below minus three standard deviations (-3 SD) from the reference population are *severely underweight*. Being underweight for one's age, therefore, could mean that a child is stunted, or wasted, or both stunted and wasted.

Anthropometric Data Collection

All children born in the three years before the survey to women interviewed in the NFHS, were weighed and measured. Height and weight measurements were obtained for 93 percent of the 4,072 children in this group (who were age 0-35 months at the time of the survey). However, 2 percent of the children weighed and measured were considered to have implausibly high or low values for the height or weight measures. The following analysis focuses on the 3,705 children under age three for whom complete and plausible anthropometric data were collected.

Levels of Child Malnutrition

Table 9.5 shows the proportions of children classified as malnourished according to each of the three measures of nutritional status by selected demographic characteristics of the child. Table 9.6 shows the same measures according to socio-economic characteristics of the mother.

Table 9.5 Nutritional status of children by demographic characteristics

Percentage of children under three years of age who are classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, and mean z-scores, by selected demographic characteristics, Nepal 1996

Demographic characteristic	Height-for-age			Weight-for-height			Weight-for-age			Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	
Child's age										
<6 months	1.5	14.9	-1.0	0.7	3.8	-0.1	0.8	8.8	-0.8	594
6-11 months	6.9	29.2	-1.4	1.0	7.3	-0.6	9.7	37.9	-1.6	658
12-23 months	24.2	59.4	-2.2	3.4	20.5	-1.3	22.8	59.3	-2.2	1,290
24-35 months	32.9	64.1	-2.4	0.6	7.0	-0.8	20.2	57.7	-2.1	1,162
Child's sex										
Male	18.6	46.6	-1.9	2.1	12.3	-0.8	15.7	45.8	-1.8	1,887
Female	21.9	50.2	-2.0	1.3	10.2	-0.8	16.6	48.0	-1.9	1,817
Birth order										
1	16.2	40.9	-1.7	1.4	8.3	-0.7	12.0	39.5	-1.7	819
2-3	19.0	48.4	-1.9	1.9	10.2	-0.8	14.4	45.4	-1.8	1,469
4-5	22.6	49.9	-2.0	1.6	13.5	-0.9	19.4	51.3	-2.0	823
6+	25.2	56.4	-2.2	1.8	14.8	-0.9	21.5	54.7	-2.1	594
Previous birth interval										
First birth	16.2	40.9	-1.7	1.4	8.3	-0.7	12.0	39.4	-1.7	823
< 24 months	23.7	51.2	-2.1	2.0	13.2	-0.9	16.2	49.0	-1.9	604
24-47 months	21.0	50.8	-2.0	1.5	11.2	-0.9	17.9	49.2	-1.9	1,737
48+ months	19.7	48.9	-2.0	2.3	13.5	-0.8	16.6	48.8	-1.9	541
Total	20.2	48.4	-2.0	1.7	11.2	-0.8	16.1	46.9	-1.9	3,705

Note: Figures are for children born in the period 0-35 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population. Children are classified as malnourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of the reference population.

¹ Includes children who are below -3 SD

An examination of Table 9.5 on height-for-age suggests that there is considerable chronic malnutrition among Nepalese children. Overall, 48 percent of children under age three are stunted and 20 percent are severely stunted. A child's age is associated with the likelihood of stunting. Stunting increases sharply from 15 percent among children below 6 months of age to 64 percent among children age 24-35 months. Female children are slightly more likely to be stunted (50 percent) or severely stunted (22 percent) than male children (47 percent and 19 percent, respectively). Stunting is more prevalent among children of higher birth order and children with a short birth interval.

Table 9.6 Nutritional status of children by background characteristics

Percentage of children under three years of age who are classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, and mean z-scores, by selected background characteristics, Nepal 1996

Background characteristic	Height-for-age			Weight-for-height			Weight-for-age			Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	
Residence										
Urban	10.5	35.4	-1.5	0.6	5.8	-0.6	6.4	29.8	-1.4	237
Rural	20.9	49.3	-2.0	1.7	11.6	-0.9	16.8	48.1	-1.9	3,468
Ecological region										
Mountain	27.5	56.6	-2.2	2.5	13.6	-0.9	22.7	53.2	-2.1	270
Hill	19.9	48.7	-2.0	1.5	9.3	-0.7	13.5	44.4	-1.8	1,611
Terai	19.4	46.9	-1.9	1.7	12.6	-0.9	17.4	48.2	-1.9	1,824
Development region										
Eastern	14.5	38.3	-1.7	1.3	10.2	-0.8	11.4	38.0	-1.7	765
Central	22.0	50.9	-2.0	1.9	10.1	-0.8	17.5	48.2	-1.9	1,247
Western	20.4	50.0	-2.1	1.5	11.2	-0.7	15.2	47.7	-1.9	762
Mid-western	22.2	51.0	-2.0	1.3	11.9	-0.9	16.3	48.8	-1.9	555
Far-western	22.7	53.2	-2.1	2.6	16.5	-1.1	22.7	56.3	-2.2	376
Sub-region										
Eastern Mountain	15.7	44.0	-1.7	1.5	6.7	-0.7	8.2	34.3	-1.6	55
Central Mountain	24.6	53.1	-2.2	1.7	12.8	-0.8	20.1	47.5	-2.0	100
Western Mountain	35.8	65.8	-2.5	3.7	17.6	-1.1	32.1	67.4	-2.4	114
Eastern Hill	15.7	41.9	-1.8	0.8	8.5	-0.7	10.1	37.5	-1.7	274
Central Hill	17.1	44.1	-1.8	1.5	7.5	-0.6	10.9	38.8	-1.6	446
Western Hill	20.8	48.9	-2.0	1.0	6.8	-0.6	10.7	43.3	-1.7	451
Mid-western Hill	23.5	56.4	-2.1	2.0	11.2	-0.9	17.9	51.2	-2.0	295
Far-western Hill	26.6	58.9	-2.2	3.1	19.8	-1.2	27.6	64.6	-2.3	146
Eastern Terai	13.5	35.3	-1.6	1.6	11.6	-0.9	12.7	38.8	-1.7	436
Central Terai	24.7	54.9	-2.1	2.1	11.3	-1.0	21.4	54.2	-2.1	702
Western Terai	19.8	51.6	-2.1	2.1	17.6	-1.0	21.6	54.1	-2.0	311
Mid-western Terai	14.7	39.4	-1.6	0.4	11.3	-0.8	9.6	40.8	-1.6	214
Far-western Terai	17.4	44.0	-1.8	1.1	13.3	-0.9	15.6	45.4	-1.9	162

Continued

Table 9.6 — *Continued*

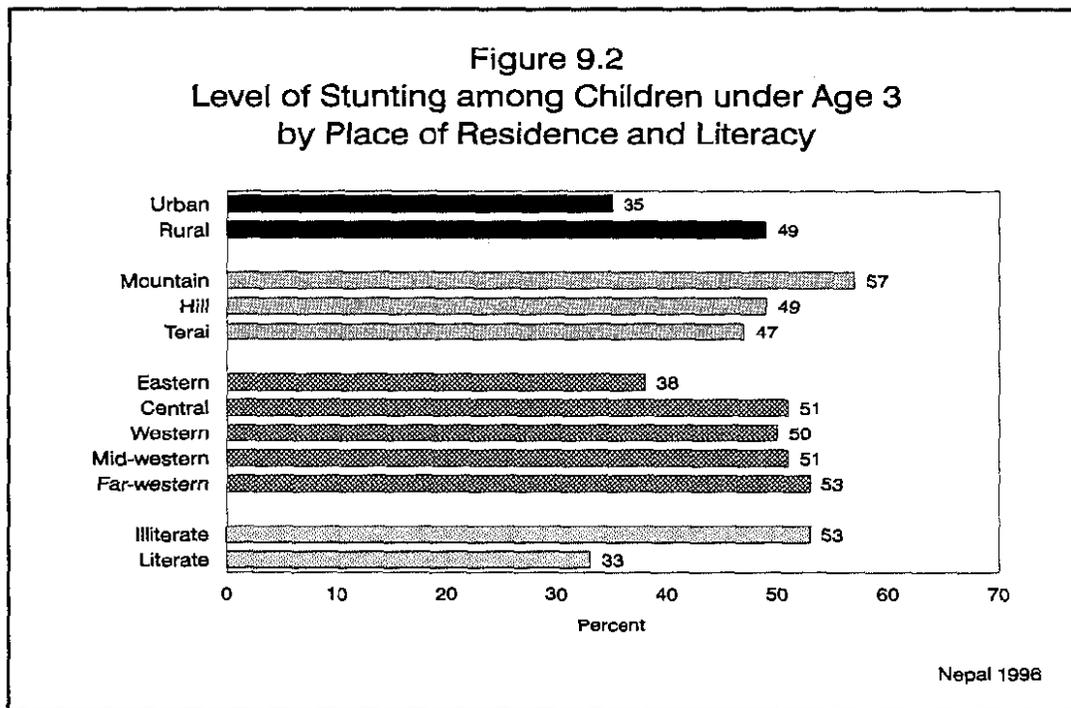
Background characteristic	Height-for-age			Weight-for-height			Weight-for-age			Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	Percentage below -3 SD	Percentage below -2 SD ¹	Mean z-score	
Education										
No education	22.7	52.4	-2.1	2.0	12.2	-0.9	18.2	51.1	-2.0	2,924
Primary	13.9	40.1	-1.7	0.9	8.4	-0.6	10.7	36.2	-1.5	441
Some secondary	6.8	28.3	-1.4	0.3	7.8	-0.7	6.2	29.2	-1.4	244
SLC and above	5.8	15.3	-1.0	0.0	4.7	-0.4	2.4	14.4	-0.9	95
Literacy										
Literate	10.6	32.8	-1.5	0.4	7.9	-0.6	9.0	31.8	-1.4	786
Illiterate	22.8	52.6	-2.1	2.0	12.1	-0.9	18.0	51.0	-2.0	2,919
Total	20.2	48.4	-2.0	1.7	11.2	-0.8	16.1	46.9	-1.9	3,705

Note: Figures are for children born in the period 0-35 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population. Children are classified as malnourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of the reference population.

SLC = School Leaving Certificate

¹ Includes children who are below -3 SD

Table 9.6 and Figure 9.2 reveal marked differentials in stunting. Children in rural areas are more likely to be stunted (49 percent) than children in urban areas (35 percent), and children in the Mountain region are more likely to be stunted (57 percent) than children in the Hill (49 percent) and *Terai* (47 percent) regions. This is probably because healthy food is more readily available in the Hills and *Terai* than in the Mountains. The Eastern development region has the lowest level of stunting (38 percent). The percentage stunted varies from 35 percent in the Eastern *Terai* sub-region to 66 percent in the Western Mountain sub-region. However, because the number of children by sub-region is small, these results have to be interpreted with caution. As expected, stunting decreases directly with mother's level of education and children of illiterate mothers are more likely to be stunted than children of literate mothers.



The weight-for-height index in Tables 9.5 and 9.6 provides a measure of wasting, or acute malnutrition. Overall, 11 percent of children below the age of 3 are wasted and 2 percent are severely wasted. The level of wasting increases from 4 percent among children under 6 months of age, peaks at 21 percent among children 12-23 months of age, and then declines to 7 percent among children age 24-35 months. The proportion of children wasted increases with increasing birth order. There is little difference by birth interval.

As Table 9.6 shows, urban children, those living in the Hills, in the Eastern and Central development regions especially in the Eastern Mountain and Western Hill sub-regions are less likely to be wasted than other children. The differentials in wasting by mother's education and literacy are similar to those observed for stunting.

Weight-for-age takes into account both chronic and acute undernutrition and is often used to monitor nutritional status on a longitudinal basis. Forty-seven percent of Nepalese children are underweight and 16 percent are severely underweight. Low weight-for-age is more common among children more than six months old and higher order births (6+) but is not strongly associated with child's sex or birth interval. Differentials in the percentage of children underweight by socio-economic characteristics are similar to those observed for wasting.

Trends in Child Nutrition

Cycle 1 of the Nepal Multiple Indicator Surveillance (NMIS) study conducted in 1995 also collected information on the nutritional status of children in Nepal (National Planning Commission Secretariat and UNICEF-Nepal, 1996). This study provides information on chronic malnutrition among Nepalese children age 6-36 months. The 1995 NMIS revealed an overall level of chronic malnutrition (stunting) among children 6-36 months of 63 percent (below -2 SD from the reference height for age standard). The proportion suffering from chronic malnutrition (stunting) is higher in the 1995 NMIS compared with the NFHS (48 percent). Part of this difference can be attributed to the fact that the 1995 NMIS did not collect information on children below 6 months of age. As can be seen in Table 9.5, children under 6 months of age are less likely to suffer from chronic malnutrition, in part because of the almost universal practice of breastfeeding in Nepal. The proportion suffering from malnutrition among children older than 6 months of age according to the NFHS data is 55 percent. Therefore, excluding children under 6 months from the analysis does in fact inflate the percentage malnourished.

9.3 Nutritional Status of Mothers

Mothers of children born during the three-year period before the survey were weighed and measured in the NFHS. These data can be used to assess the nutritional status of Nepalese women. However, it is important to note that the analysis is based only on women who had a live birth during the three-year period before the survey and is not representative of the entire sample of ever-married women age 15-49 interviewed in the NFHS. As such, both younger women (who may not yet have given birth) and older women (who would have stopped childbearing more than three years ago) are underrepresented in the group for which information on maternal nutritional status is available.

The basic measures used to assess maternal nutritional status in this report are height and weight of women and body mass index (BMI), which is an indicator that combines height and weight data. Table 9.7 shows the distribution of mothers who had a live birth in the three years preceding the survey, by height and body mass index (BMI) according to selected background characteristics. Anthropometric data were not obtained for a small group of women (2 percent) most of whom were not present at the time the DHS measurer visited. In addition, pregnant women and women who had given birth within three months of the survey interview were excluded from the calculation of weight and body mass measures.

Maternal height is an outcome of nutrition during childhood and adolescence. It is useful in predicting the risks associated with difficult deliveries, since small stature is often associated with small pelvis size. Short

Table 9.7 Maternal nutritional status by background characteristics

Among women who had a birth in the three years preceding the survey, mean height and percentage of women shorter than 145 centimetres, mean body mass index (BMI), and percentage of women whose BMI is less than 18.5 (kg/m²), by selected background characteristics, Nepal 1996

Background characteristic	Height			BMI		
	Mean	Percentage <145 cm	Number of women	Mean	Percentage <18.5 (kg/m ²)	Number of women
Age						
15-19	150.1	13.3	393	19.7	30.6	336
20-24	150.9	13.3	1,192	19.8	29.8	981
25-29	150.3	13.9	1,008	19.9	25.2	880
30-34	150.3	16.1	631	19.8	27.5	545
35-49	150.0	19.5	522	19.8	30.5	474
Residence						
Urban	150.6	15.1	242	20.5	22.8	211
Rural	150.4	14.7	3,504	19.8	28.7	3,006
Ecological region						
Mountain	150.2	14.7	287	20.4	13.6	241
Hill	150.4	15.0	1,609	20.5	16.5	1,377
Terai	150.5	14.6	1,851	19.1	40.7	1,599
Development region						
Eastern	150.4	12.9	780	19.7	32.7	689
Central	150.1	16.7	1,255	19.6	32.0	1,072
Western	150.1	16.3	748	20.2	23.2	638
Mid-western	150.9	13.8	582	20.0	20.4	493
Far-western	151.2	10.9	382	19.5	29.2	325
Sub-region						
Eastern Mountain	150.4	15.3	57	21.2	12.2	51
Central Mountain	149.9	14.5	100	20.4	13.1	81
Western Mountain	150.4	14.6	130	19.9	14.6	109
Eastern Hill	149.9	15.4	265	20.7	12.6	228
Central Hill	150.0	16.6	447	20.8	12.9	396
Western Hill	150.1	15.8	446	20.9	15.6	377
Mid-western Hill	151.1	13.0	297	20.0	21.3	247
Far-western Hill	151.3	10.8	154	19.4	28.1	130
Eastern Terai	150.7	11.1	458	19.0	46.4	410
Central Terai	150.2	17.0	708	18.8	47.3	595
Western Terai	150.1	17.0	302	19.3	34.2	262
Mid-western Terai	151.1	12.5	226	20.0	20.7	196
Far-western Terai	151.2	12.5	157	19.4	36.7	136
Education						
No education	150.1	16.3	2,968	19.7	28.7	2,536
Primary	151.2	9.8	427	20.1	27.3	366
Some secondary	151.6	8.9	248	20.1	29.7	224
SLC and above	152.7	6.8	104	21.1	19.7	91
Literacy						
Literate	151.4	9.7	783	20.3	24.9	686
Illiterate	150.2	16.1	2,963	19.7	29.3	2,531
Total	150.4	14.8	3,746	19.8	28.3	3,217

Note: The BMI index excludes pregnant women and those who are less than three months postpartum.
SLC = School Leaving Certificate

women also face increased risk of having low birth weight babies. The height below which a woman is considered to be at nutritional risk is in the range of 140-150 centimetres. The mean height of mothers measured in the NFHS is 150 centimetres. Fifteen percent of Nepalese women are less than 145 centimetres.

Low pre-pregnancy weight is often associated with unfavourable pregnancy outcomes, although maternal height must also be taken into account. The mean weight of mothers, excluding those who were pregnant or who had a birth within three months of the interview, is 45 kilograms (data not shown).

The BMI, which utilises both height and weight and provides a better measure of thinness than weight alone, is defined as weight in kilograms divided by the square of the height in metres. For the BMI, a cut-off of 18.5 has been recommended for indicating chronic energy deficiency among nonpregnant women. The mean BMI for women in Nepal is 19.8 (Table 9.7). One of four women in Nepal falls below the cut-off, indicating that the level of chronic energy deficiency in Nepal is relatively high.

In general there is very little variation by background characteristics in maternal height and body mass measures among Nepalese women (Table 9.7). The percentage of women with height below 145 centimetres is highest among women age 35-49 (20 percent), women living in the Central region, and the Central and Western *Terai* and Central Hill sub-regions (17 percent each), women with no education, and women who are illiterate (16 percent each). Rural women, women living in the *Terai*, Eastern and Central regions and especially in the Eastern and Central *Terai* sub-regions, women who have not completed their SLC, and illiterate women are more likely to fall below the 18.5 BMI measure than other women.

CHAPTER 10

MATERNAL MORTALITY

One of the most important indicators of maternal health is maternal mortality. As worldwide attention on reproductive health has increased, so has the need to provide reliable countrywide estimates of maternal deaths. In the past, national estimates were based on small-scale and hospital-based studies and vital registration data, all of which have serious limitations. In response to the increasing need for reliable data on maternal mortality, the Demographic and Health Surveys (DHS) has developed a series of questions designed to gather information and obtain a direct estimate of maternal mortality. These questions were included in the Nepal Family Health Survey (NFHS). Safe motherhood has been identified as a national priority in the new National Health Policy, and the Government has targeted the goal of reducing maternal mortality to 4 per 1,000 live births by the year 2000 (Ministry of Health, 1994).

Direct estimates of maternal mortality from the NFHS use data on the age of surviving sisters, the age at death of sisters who have died, and the number of years since the death of sisters. In the NFHS, interviewers were asked to list all the brothers and sisters of a respondent born to her natural mother, starting with the first, and then obtain information on: the survivorship of each of the siblings; the ages of surviving siblings; the year of death or years since death of deceased siblings; and the age at death of deceased siblings. For each sister who died at age 12 or over, the respondent is asked additional questions to determine if the death was maternity related: that is whether or not the sister was pregnant when she died; and if so, whether the sister died during childbirth; and if not, whether or not the sister died within two months after a pregnancy termination or childbirth. Listing all siblings in chronological order of their birth is believed to result in better reporting of events than would be the case if only information on sisters were sought. Moreover, the information collected according to DHS procedures also allows the direct estimation of adult male and female mortality.

10.1 Data Quality Issues

A brief discussion of data quality is warranted here. A more detailed discussion appears in Appendix C. One measure of quality is the completeness of information on siblings. Overall, the NFHS data on siblings is nearly complete with less than half of one percent of siblings with missing information on age at death and years since death (Appendix Table C.7). The distribution of year of birth of respondents in relation to their siblings is another, albeit crude, measure of the quality of the data on maternal mortality. The median year of birth of respondents (the beginning of Nepalese year 2025, which corresponds to April 15, 1967 through April 14, 1968 in the Western calendar) coincides with the median year of birth of siblings, implying that there is no substantial underreporting of siblings (Appendix Table C.8). The mean sibship size is yet another crude measure of data quality (Appendix Table C.9). The absence of a monotonic decline in sibship size in line with a decline in fertility suggests there may be some omission in the reporting of older siblings (those born before the beginning of the Nepalese year 2007, which corresponds to April 15, 1949 through April 14, 1950 in the Western calendar). In fact, the slightly high sex ratio among these older siblings suggests the omission of sisters. However, since adult mortality rates are reported here for the seven years preceding the survey this omission is unlikely to affect the calculation of mortality rates. Moreover, if the omission occurred mostly among sisters who did not survive to adulthood (which is most likely the case) it may not even bias the estimation of maternal mortality.

10.2 Adult Mortality

Direct estimates of male and female adult mortality can be obtained from information collected in the sibling history. Age-specific death rates are computed by dividing the number of deaths in each age group by the total person-months of exposure in that age group during a specified reference period. The Individual Questionnaire was only used for women who were ever married. As such, an expansion factor is applied to account for the proportion of women who were never married in the calculation of mortality rates. Age-specific death rates are then adjusted by the current age distribution of the *de facto* female population age 15-49 from the household schedule, by taking the sum of each age-specific mortality rate multiplied by the percentage of women

in that age group, to obtain an overall age-standardized female adult mortality rate. It is assumed that the age distribution of respondents is the same as that of siblings. The same procedure is applied to obtain the male adult mortality rate using the age distribution of the male population obtained from the household schedule.

Table 10.1 Adult mortality rates

Direct estimates of female and male adult mortality for the period 0-6 years prior to the survey, and model life table rates, Nepal 1996

WOMEN					
Age	Deaths	Exposure	NFHS mortality rates	Coale-Demeny model life tables rates ¹	
				Model WEST	Model EAST
15-19	56	19,627	2.84	3.44	2.27
20-24	47	20,576	2.29	4.50	3.04
25-29	67	18,107	3.70	5.15	3.57
30-34	45	14,556	3.12	5.86	4.08
35-39	41	10,818	3.77	6.67	4.79
40-44	33	6,513	5.13	7.67	5.63
45-49	31	3,964	7.70	9.24	7.14
15-49	320	94,161	3.64 ^a	5.29	3.69
MEN					
15-19	43	21,134	2.05	3.28	2.52
20-24	52	22,151	2.37	4.66	3.66
25-29	37	19,529	1.89	5.05	3.71
30-34	38	15,728	2.40	5.77	4.11
35-39	28	11,397	2.45	6.97	5.08
40-44	34	7,465	4.52	8.93	6.79
45-49	38	4,457	8.60	11.69	9.30
15-49	270	101,861	2.95 ^a	5.49	4.14

¹ Model life tables were selected at a level of mortality approximately corresponding to a sex-specific probability of dying between birth and age 5 for the period 0-9 years before the survey (i.e., 143 per 1,000 for males and 136 per 1,000 for females). Mortality rates are expressed per 1,000 population.

^a Age-adjusted rate

In total, respondents enumerated 52,406 siblings, of whom 25,349 were sisters and 27,057 were brothers. There were 11 siblings for whom the sex was not known. Direct estimates of age-specific adult mortality rates for males and females are shown in Table 10.1. To minimize the impact of possible heaping on years since death ending in zero and five, direct estimates are presented for the period 0-6 years before the survey. The number of sibling deaths during the period 1990-1996 is fairly small. Age-specific rates are based on relatively few occurrences and therefore subject to sampling variability. As such, it is preferable to aggregate the data over the age range 15-49. There are more female deaths than male deaths during the six years before the survey (320 compared with 270). The female adult mortality rate is 23 percent higher than the male adult mortality rate.

There is no reliable information on adult mortality in Nepal. Completeness in the reporting of death in the 1991 Census was less than 40 percent (Central Bureau of Statistics, 1995). The lack of reliable estimates of adult mortality by age distribution has meant depending on the use of the existing fragmented information to

estimate mortality. In the absence of reliable data on adult mortality, the estimates in the NFHS can be compared with the Coale-Demeny Regional Model Life Tables to gauge their plausibility and reliability (Coale and

Demeny, 1966). The *West* model life table was chosen because it most closely resembles the estimated mortality pattern from the NFHS data using the ratio of under-five mortality and mortality between 5 and 9 years calculated from the pregnancy history section of the Individual Questionnaire.

Within the regional models, two mortality levels were selected which most closely correspond to the under-five mortality rates of 143 per 1,000 for males and 136 per 1,000 for females estimated from the NFHS data for the period 0-9 years before the survey (see Table 7.4). The under-five mortality rate for females lies between Level 15 and Level 16 of the *West* model life table. The implied rates were then estimated through linear interpolation. A similar process was applied in estimating the male mortality rates.

Based on this comparison, it appears that female mortality estimates from the sibling history are somewhat erratic, but are generally lower than those reflected by the *West* model life table (Table 10.1). Also, the NFHS male mortality estimates are substantially lower than model life table estimates across all age groups. This could mean that either adult mortality is underreported relative to child mortality or child mortality is overreported relative to adult mortality (which is unlikely), or that the model life tables do not capture the observed age patterns of mortality in Nepal.

Adult mortality estimates obtained from the *East* model life table are also included in Table 10.1 since they are closer to the rates obtained from the NFHS.

10.3 Maternal Mortality

Table 10.2 provides information on maternal mortality for the period 0-6 years before the survey. Once again this time period is chosen to reduce any possible impact of heaping of reported years since death on 5-year intervals. Age-specific mortality rates are calculated by dividing the number of maternal deaths by years of exposure. To remove the effect of truncation bias (the upper boundary for eligibility in the NFHS is 49 years), the overall rate for women age 15-49 is standardized by the age distribution of the survey respondents. Maternal deaths are defined as any death that occurred during pregnancy, childbirth, or within two months after the birth or termination of a pregnancy.

Maternal mortality in Nepal is high relative to developed countries. However, for each age group, maternal deaths in the NFHS are found to be a relatively rare occurrence. As such, the age-specific pattern should be interpreted with caution. There were 87 maternal deaths in the seven years preceding the survey. The maternal mortality rate, which is the annual number of maternal deaths per 1,000 women age 15-49 for the period 1990-

Age	Deaths	Exposure	Mortality rates ¹	Proportion of maternal deaths to female deaths
15-19	17.0	19,627	0.864	0.304
20-24	19.6	20,576	0.952	0.415
25-29	23.2	18,107	1.283	0.346
30-34	11.0	14,556	0.753	0.242
35-39	13.1	10,818	1.215	0.322
40-44	0.9	6,513	0.130	0.025
45-49	1.9	3,964	0.484	0.063
15-49	86.7	94,161	0.875 ^a	0.271
General Fertility Rate (GFR)			0.162	
Maternal Mortality Ratio (MMR) ²			539	

¹ Expressed per 1,000 woman-years of exposure
² Expressed per 100,000 live-births; calculated as the maternal mortality rate divided by the general fertility rate
^a Age-adjusted rate

1996 is 0.875. Maternal deaths accounted for 27 percent of all deaths to women age 15-49 during the 7 years prior to the survey. There were 38 female deaths for which information on the time of occurrence in relation to pregnancy was missing. Based on the proportion of female deaths that were maternal, this could translate to an additional 10 maternal deaths.

The maternal mortality ratio, which is obtained by dividing the age-standardized maternal mortality rate by the age-standardized general fertility rate, is often considered a more useful measure of maternal mortality, since it measures the obstetric risk associated with each live birth. The maternal mortality ratio for Nepal for the 1990-1996 period is 539 deaths per 100,000 live births (or alternatively 5 deaths per 1,000 live births). The ratio for 1991, estimated by the indirect method (with some adjustments), was 515 deaths per 100,000 live births (Ministry of Health, 1993). However, it is not possible to draw any conclusions regarding the trend in maternal mortality in Nepal from these two estimates because of the small number of events, the large sampling variability, and real differences in reporting errors. Nevertheless, maternal mortality continues to be high in Nepal and therefore, the need for greater emphasis and programmes in this area.

CHAPTER 11

KNOWLEDGE OF AIDS

Acquired Immune Deficiency Syndrome (AIDS) was first recognized internationally in 1981. As of 1996 an estimated 20 million individuals have been identified with the human immunodeficiency virus (HIV), which causes AIDS, and 4 million adults are estimated to have AIDS (Chin, 1997). Once infected with the HIV, a large proportion die within 5-10 years (World Health Organisation, 1992). The HIV/AIDS pandemic is one of the most serious health concerns in the world today because of its high case fatality rate and the lack of a curative treatment or vaccine. Epidemiological studies have identified sexual intercourse, intravenous injections, blood transfusions and fetal transmission from infected mothers as the main routes of transmission of AIDS. Studies have also indicated that the HIV cannot be transmitted through food, water, vectors or casual contact.

AIDS was first identified in Nepal in 1988. During the early 1990s, HIV seroprevalence surveys have shown a gradual increase in the prevalence of HIV infections among persons with sexually transmitted diseases (STD) and female commercial sex workers in Nepal. The potential for the spread of HIV in Nepal is considered large because of the presence of extensive use of commercial sex workers, high rates of STDs, low condom use and pockets of intravenous drug users. As of the end of 1996, a total of 82 AIDS cases and close to 500 HIV infections were reported to the Ministry of Health's National Centre for AIDS and STD Control (Chin, 1997). While no specific studies are available to estimate how incomplete or inaccurate the Ministry of Health's reports may be, given the existing medical and public health infrastructure and the limited HIV/AIDS surveillance system in place in Nepal, the actual number of AIDS cases that may have occurred could be at least 5 to 10 times the reported number and the actual number of HIV infections prevalent at least 20 to 30 times greater (Chin, 1997). By the year 2000, the cumulative prevalence of HIV infections is projected to be 25,000 cases and the cumulative total number of AIDS cases close to 5,000.

In light of the seriousness of the situation, His Majesty's Government of Nepal is committed to the prevention and control of AIDS and other STDs in Nepal through a multi-sectorial approach. In 1987, the Nepalese government initiated the National AIDS Prevention and Control Project (NAPCP), with financial and technical support from the World Health Organization (WHO). The project aimed at preventing HIV transmission through sex and blood, preventing prenatal transmission, and reducing the impact of HIV/AIDS on individual and families (Chin et al., 1994). Recognizing the importance of a multi-sectorial response to preventing the AIDS epidemic, the National AIDS Coordination Committee (NACC) was established in 1992. It was made up of representatives from key ministries and non-governmental organizations. The NAPCP became a focal point for the NACC and was responsible for coordinating HIV/AIDS prevention and control programmes with the various ministries. The activities of the NAPCP is being coordinated through the National Centre for AIDS and STD Control (NCASC) established in 1993. The activities of the NCASC include: screening of blood samples, conducting surveillance, generation of information, education and communication (IEC) materials for the general public and high risk groups, distribution and promotion of condoms, treatment of STDs, counselling persons at risk and those who tested positive for the HIV, and training of health workers in the clinical management of HIV/AIDS patients.

The NFHS 1996 included a series of questions on the knowledge of AIDS. All ever-married women age 15-49 years were first asked if they had ever heard of AIDS. Those who had were asked about the source of their knowledge on AIDS, how it is transmitted, whether it could be prevented, and their perception of the precautions person can take to avoid AIDS. These results are discussed below.¹

11.1 Knowledge of AIDS

Data on knowledge of AIDS and the source of that knowledge is presented in Table 11.1 by background characteristics of respondents. Overall, slightly more than one-fourth (27 percent) of ever-married women have heard about AIDS. Women age 20-39 years are more likely to have heard about AIDS than other women.

There is a substantial difference in the knowledge of AIDS by women's place of residence. More urban women have heard of AIDS (67 percent) than rural women (23 percent). Knowledge of AIDS is more prevalent among women in the Hills (35 percent) than among women in the *Terai* (21 percent) and Mountains (18 percent). Women from the Western development region are more knowledgeable about AIDS (36 percent) than women from the other regions. The knowledge of AIDS is least prevalent among women from the Far-western development region (10 percent).

Knowledge of AIDS varies with level of education. While more than nine of ten women who have passed their SLC are aware of AIDS, only 17 percent of women with no education are aware of AIDS.

11.2 Source of Knowledge About AIDS

Table 11.1 also shows the source of knowledge on AIDS among those who have heard about the disease. The major source of information on AIDS is the radio (79 percent), followed by friends and relatives (45 percent) and television (30 percent). While for the most part there is little difference between currently and formerly married women in the proportion who have heard of AIDS, currently married women are more than twice as likely to have read about AIDS in a newspaper or pamphlet as formerly married women.

Among urban women, radio and television are almost equally important sources of information on AIDS, but rural women are four times more likely to have heard about AIDS on the radio than on the television. In contrast to women living in the Hills and *Terai*, women in the Mountains get little information about AIDS from the television and more from pamphlets and health workers. The television is an important source of knowledge on AIDS among women in the Central development region but not for women in the Far-western region.

As expected, educated women are much more likely to read about AIDS than women with no education. For example, newspapers and pamphlets are sources for 66 and 33 percent, respectively, among women who have completed their SLC, compared with 3 and 7 percent, respectively, among women who have no education. The pattern is similar for literate and illiterate women.

11.3 Knowledge of Prevention of AIDS

Respondents who had heard about AIDS were also asked how the disease could be prevented. Information presented in Table 11.2 reveals that about half of respondents believe that limiting sex to just one partner would help in avoiding AIDS. Thirty-six percent and 31 percent of respondents, respectively, believe

¹ Sub-regions are not discussed in this chapter because of the small number of women in most sub-regions.

that avoiding prostitutes and using condoms during intercourse are ways to avoid AIDS. Thirteen percent of respondents each say that abstaining from sex altogether and avoiding blood transfusions would help avoid getting AIDS. More than one-fifth (22 percent) of respondents who have heard of AIDS are unaware of how to avoid the disease and one in ten women has misconceptions about how the disease could be prevented.

Table 11.1 Knowledge of AIDS and sources of information on AIDS

Percentage of women who have ever heard of AIDS, percentage who received information about AIDS from specific sources, and mean number of sources of information about AIDS, by selected background characteristics, Nepal 1996

Background characteristic	Percentage who have heard of AIDS	Number of women	Source of knowledge among those who have heard of AIDS							Number of women who know of AIDS	Mean number of sources
			Radio	TV	News-paper	Pam-plet	Health worker	Friend/Rela-tive	Other source		
Age											
15-19	24.3	982	79.0	22.9	16.9	9.2	7.9	42.7	19.2	238	1.9
20-24	32.9	1,626	80.8	26.8	25.9	12.3	8.6	44.1	11.9	535	2.0
25-29	29.0	1,594	78.2	35.1	16.9	12.2	8.9	44.4	17.7	463	2.0
30-39	27.2	2,480	79.4	32.3	14.7	10.1	10.0	47.9	12.5	674	2.0
40-49	20.2	1,747	74.7	31.3	7.9	8.9	8.6	45.0	15.7	353	1.8
Marital status											
Currently married	26.9	7,982	78.7	30.4	17.4	10.8	8.9	45.1	14.5	2,149	2.0
Formerly married	25.6	447	78.0	30.2	8.6	9.7	11.8	49.7	16.2	114	1.9
Residence											
Urban	66.5	712	79.2	68.6	24.1	14.6	5.5	38.9	13.2	473	2.4
Rural	23.2	7,717	78.6	20.3	15.1	9.8	9.9	47.0	15.0	1,790	1.9
Ecological region											
Mountain	17.5	569	83.0	8.5	11.9	17.5	17.4	55.5	15.6	100	2.0
Hill	35.1	3,600	81.7	30.5	16.1	11.5	8.4	43.8	12.9	1,263	2.0
Terai	21.1	4,259	73.9	32.8	18.7	9.0	8.9	46.3	16.9	900	2.0
Development region											
Eastern	32.0	1,941	85.6	29.3	18.3	9.3	9.4	51.2	12.8	620	2.1
Central	26.6	2,827	72.0	49.1	15.9	11.6	7.0	39.5	15.6	753	2.0
Western	35.7	1,647	81.6	16.6	18.8	13.4	13.1	48.4	14.3	588	2.0
Mid-western	18.2	1,196	75.5	15.0	12.9	4.8	3.1	43.3	14.4	218	1.6
Far-western	10.2	819	75.9	7.7	13.9	11.0	11.2	36.3	22.2	84	1.7
Education											
No education	17.3	6,742	74.5	20.4	3.3	6.7	8.1	46.7	13.1	1,164	1.6
Primary	50.2	925	77.0	25.2	12.8	8.0	9.0	49.7	17.0	464	1.9
Some secondary	79.6	531	85.9	41.8	34.8	14.1	9.3	41.7	14.0	423	2.3
SLC and above	91.8	231	90.9	73.9	65.5	32.6	13.6	34.7	19.0	212	3.2
Literacy											
Literate	69.9	1,764	83.9	38.3	30.1	15.1	10.0	42.4	16.0	1,232	2.3
Illiterate	15.5	6,665	72.5	21.0	1.3	5.6	7.8	48.7	13.0	1,031	1.6
Total	26.8	8,429	78.7	30.4	17.0	10.8	9.0	45.3	14.6	2,263	2.0

SLC = School Leaving Certificate

Table 11.2 Knowledge of ways to avoid HIV/AIDS

Percentage of ever-married women who have heard of AIDS and who know of specific ways to avoid HIV/AIDS and percentage with misinformation, by selected background characteristics, Nepal 1996

Background characteristic	Ways to avoid HIV/AIDS									Percentage with any misinformation ¹	Number of women
	No way to avoid AIDS	Abstain from sex	Use condoms	Have only one sexual partner	Avoid sex with prostitutes	Avoid trans-fusions	Avoid injections	Other ways	Don't know any way		
Age											
15-19	6.7	11.1	34.7	58.1	37.3	16.3	8.0	9.1	17.7	0.6	238
20-24	9.3	13.1	33.5	52.9	33.1	13.2	11.9	9.4	22.0	1.3	535
25-29	8.2	15.7	33.0	53.9	36.9	16.7	12.2	10.7	19.3	1.7	463
30-39	7.0	14.6	30.9	53.0	36.6	11.1	13.1	11.7	20.6	1.6	674
40-49	9.8	10.2	21.5	46.2	34.1	11.6	8.9	9.0	29.7	1.8	353
Marital status											
Currently married	8.2	13.5	31.4	52.9	35.5	13.4	11.4	10.3	21.5	1.4	2,149
Formerly married	8.9	11.7	21.1	47.2	36.4	12.2	12.4	10.8	26.6	2.2	114
Residence											
Urban	5.2	18.7	33.0	52.8	32.2	19.1	16.9	10.6	15.3	1.6	473
Rural	9.0	12.0	30.3	52.6	36.4	11.8	10.0	10.2	23.5	1.4	1,790
Ecological region											
Mountain	6.4	11.1	34.3	47.5	49.8	16.7	12.5	6.5	23.7	2.2	100
Hill	5.1	13.4	33.7	57.6	32.6	14.5	12.5	8.1	19.4	1.6	1,263
Terai	12.8	13.6	26.6	46.2	38.1	11.4	9.9	13.8	24.9	1.2	900
Development region											
Eastern	15.9	14.0	26.0	40.7	36.0	13.1	10.8	10.7	32.0	1.0	620
Central	6.2	16.2	31.5	53.3	32.1	17.4	14.8	9.1	18.7	1.9	753
Western	1.4	11.9	38.4	70.3	36.3	11.7	11.1	9.3	11.6	1.9	588
Mid-western	12.5	9.6	26.3	44.8	35.6	7.4	4.6	14.1	30.9	0.0	218
Far-western	7.0	3.6	19.9	32.3	57.3	7.0	6.8	15.3	21.2	2.3	84
Education											
No education	9.5	9.5	22.1	48.2	34.8	8.3	6.9	8.9	29.6	2.0	1,164
Primary	10.5	11.8	32.3	54.4	35.9	13.6	9.3	11.0	21.0	1.0	464
Some secondary	5.4	18.3	40.6	59.3	37.6	18.4	15.9	10.8	10.2	1.0	423
SLC and above	1.9	28.6	56.6	59.9	34.4	30.6	32.2	15.6	3.4	0.8	212
Literacy											
Literate	6.2	17.1	40.3	58.7	36.3	17.8	15.5	11.5	13.2	1.1	1,232
Illiterate	10.7	9.0	19.7	45.4	34.6	8.0	6.6	8.8	32.1	1.9	1,031
Total	8.2	13.4	30.9	52.6	35.5	13.4	11.5	10.3	21.8	1.5	2,263

SLC = School Leaving Certificate

¹ Includes avoiding kissing, mosquito bites, and seeking protection from traditional healer.

Knowledge about AIDS prevention is generally higher among women who are currently married and educated women. A higher percentage of currently married women and women who are more educated think that condom use during sexual intercourse would help prevent AIDS. Educated women are also more aware that AIDS can be prevented by avoiding transfusions of HIV-contaminated blood and injections using HIV-contaminated needles/syringes.

Knowledge about the prevention of AIDS is somewhat higher among urban women, women living in the Hills and in the Western development region. A higher percentage of urban than rural women think that AIDS can be prevented by abstaining from sex and avoiding blood transfusions and injections. On the other hand, more rural women think that AIDS can be prevented by avoiding sex with prostitutes. Use of condoms to avoid AIDS was reported by 34 percent each of women living in the Mountain and Hill regions compared with 27 percent of women living in the *Terai*. The percentage of women who think there is nothing that a person can do to avoid AIDS is twice as high in the *Terai* as in the Mountains and Hills, and twice as high in the Eastern and Mid-western development regions as in the Central and Far-western regions. Very few women (1 percent), living in the Western development region believe that AIDS cannot be avoided.

11.4 Perceptions about AIDS

Women who had heard about AIDS were asked whether a healthy-looking person can have the disease, whether AIDS is a fatal disease, and whether their chances of getting AIDS are great, moderate, small or nil. This information is presented in Table 11.3, according to women's background characteristics. More than three-fourths of women (77 percent) believe that a healthy-looking person can have AIDS, 8 percent do not think so, and 15 percent are unsure about it. Women in the youngest age group (15-19) are most likely to think that a healthy-looking person can have AIDS, and the percentage of women who are unsure is highest among older women (40-49). More educated women than uneducated women think that a healthy-looking person can have the disease. There was little difference by place of residence and region in women's perception of the risk of getting AIDS.

Three-fourths of women believe that AIDS is almost always fatal, while 16 percent think it is only sometimes fatal. Less than 1 percent of women think that the disease is not fatal and 8 percent do not know whether AIDS is a fatal disease. Educated women are more aware that the disease is fatal than uneducated women. The difference by urban-rural residence is negligible, but there is some difference by development region. Women from the Mid-western development region are least likely to think that the disease is almost always fatal.

Women were also asked about their chances of getting AIDS. About two-thirds of women think that they have no risk of getting AIDS, 16 percent think that they have a small chance, 6 percent think they have a moderate chance, and two percent believe that they have a great chance of getting AIDS. There is little difference in women's perception of their chances of getting AIDS by age, marital status and urban-rural residence. Women living in the *Terai* and in the Eastern and Mid-western regions are less likely than other women to think that they have no risk of getting AIDS.

Women were also asked if their knowledge of AIDS has influenced or changed their decisions about having sex or their sexual behaviour. The majority of women (94 percent) stated that it had not (data not shown).

Table 11.3 Awareness of AIDS-related health issues

Percent distribution of women who have heard of AIDS by awareness of certain AIDS-related health issues, according to selected background characteristics, Nepal 1996

Background characteristic	Can a healthy-looking person have the AIDS virus?				Is AIDS a fatal disease?					Women's chance of getting AIDS							Number of women
	No	Yes	Don't know	Total	Almost never	Sometimes	Almost always	Don't know	Total	No risk at all	Small	Moderate	Great	Has AIDS	Don't know	Total	
Age																	
15-19	8.9	82.6	8.5	100.0	3.0	18.8	72.8	5.5	100.0	70.2	14.5	8.0	1.7	0.0	5.4	100.0	238
20-24	6.9	80.8	12.2	100.0	0.2	16.6	76.4	6.8	100.0	65.8	16.8	5.9	2.4	0.0	9.1	100.0	535
25-29	9.6	76.2	14.1	100.0	0.6	16.5	77.0	5.8	100.0	67.1	16.9	5.4	2.6	0.0	8.1	100.0	463
30-39	6.3	78.3	15.5	100.0	0.4	14.2	77.7	7.8	100.0	67.3	16.8	5.1	1.9	0.4	8.5	100.0	674
40-49	10.9	67.8	20.8	100.0	1.3	15.5	71.2	12.0	100.0	70.7	11.4	4.8	1.0	0.0	12.0	100.0	353
Current marital status																	
Currently married	8.1	77.4	14.4	100.0	0.7	16.1	75.7	7.5	100.0	67.9	15.7	5.6	2.0	0.1	8.7	100.0	2,149
Formerly married	8.0	75.3	16.7	100.0	2.2	12.2	76.5	9.1	100.0	64.5	16.8	5.1	3.0	0.6	9.9	100.0	114
Residence																	
Urban	9.9	77.1	12.9	100.0	1.2	14.2	77.7	7.0	100.0	69.8	18.1	3.9	2.2	0.3	5.8	100.0	473
Rural	7.6	77.3	14.9	100.0	0.7	16.4	75.2	7.7	100.0	67.2	15.1	6.1	2.0	0.1	9.6	100.0	1,790
Ecological region																	
Mountain	6.4	77.9	14.5	100.0	0.0	10.4	79.7	10.0	100.0	68.4	11.4	4.6	0.0	0.0	15.1	100.0	100
Hill	6.1	76.4	17.6	100.0	0.1	11.6	79.0	9.2	100.0	71.9	13.3	3.5	1.4	0.2	9.8	100.0	1,263
Terai	11.1	78.5	10.2	100.0	1.8	22.5	70.6	5.0	100.0	61.9	19.6	8.7	3.1	0.0	6.7	100.0	900
Development region																	
Eastern	7.3	78.3	14.4	100.0	0.8	19.4	76.4	3.3	100.0	55.3	20.3	8.2	3.3	0.0	12.9	100.0	620
Central	11.0	76.7	12.1	100.0	0.7	13.5	78.9	6.9	100.0	73.4	16.9	3.9	0.9	0.3	4.4	100.0	753
Western	2.2	80.9	16.7	100.0	0.2	9.0	79.1	11.6	100.0	77.3	10.3	2.5	1.1	0.0	8.8	100.0	588
Mid-western	13.1	69.0	17.7	100.0	2.6	30.4	56.4	10.6	100.0	56.6	14.8	12.0	4.9	0.0	11.8	100.0	218
Far-western	16.2	70.2	13.6	100.0	1.3	22.6	67.9	8.2	100.0	70.8	11.1	6.8	1.8	0.0	9.4	100.0	84
Education																	
No education	8.1	71.8	19.9	100.0	0.7	16.9	71.2	11.2	100.0	66.7	13.1	5.5	2.0	0.1	12.6	100.0	1,164
Primary	8.8	76.7	14.6	100.0	1.4	15.0	76.6	7.0	100.0	63.4	19.0	6.7	2.5	0.2	8.3	100.0	464
Some secondary	8.2	86.5	5.3	100.0	0.7	15.3	82.2	1.8	100.0	71.1	19.4	5.3	1.7	0.0	2.5	100.0	423
SLC and above	6.5	90.3	3.0	100.0	0.3	13.8	85.4	0.5	100.0	76.5	15.5	4.1	1.8	0.4	1.7	100.0	212
Literacy																	
Literate	7.4	83.4	9.1	100.0	0.5	14.8	80.7	4.0	100.0	69.0	17.9	5.8	2.0	0.1	5.3	100.0	1,232
Illiterate	8.9	69.9	21.0	100.0	1.2	17.3	69.7	11.8	100.0	66.2	13.2	5.4	2.0	0.2	13.0	100.0	1,031
Total	8.1	77.3	14.5	100.0	0.8	15.9	75.7	7.6	100.0	67.7	15.7	5.6	2.0	0.1	8.8	100.0	2,263

SLC = School Leaving Certificate

11.5 Knowledge and Use of Condoms

The use of a condom during sexual intercourse is an important way of preventing the spread of AIDS. In the NFHS, information was gathered from currently married women about whether they had used a condom the last time they had sex and whether they know a source for condoms and, if so, what the source is. This information is presented in Table 11.4 only for women who had heard of AIDS (which is roughly one-quarter of all respondents).

Ninety-eight percent of women who have heard of AIDS have also heard about the condom, 5 percent used it the last time they had sex and another 4 percent use it as a method of family planning but did not use it the last time they had sex. There is little difference in knowledge of condoms by women's perception of the fatality of the disease and background characteristics.

A slightly higher percentage of women are aware of the availability of condoms from the public sector (41 percent) than from the private sector (39 percent). About one-fifth of the women are aware of other sources for condoms. Women who believe that AIDS is almost always fatal and who state that they have no risk or have a small risk of getting AIDS are twice as likely to mention the private sector as a source for condoms as women who say they have a moderate or great risk of getting AIDS.

Rural women who have heard of AIDS are more likely to cite a public sector source for condoms (48 percent), in contrast to urban women who are more likely to cite a private sector source (60 percent). In the Mountain region, a higher proportion of women cite the public sector as a source for condoms, whereas for women from the Hill region, the private sector is more important. The percentage of women who mention the private sector as a source for condoms is higher in the Central and Western development regions than in other regions. In the Eastern and Far-western development regions public sources play a more prominent role than private sources.

Educated women are more likely to cite private sector sources for condoms, while uneducated women are more aware of public sector sources. For example, 59 percent of women who have passed their SLC cited a private source for condoms, compared with only 33 percent of women with no education.

Table 11.4 Knowledge and use of condoms

Among currently married women who know of AIDS, percentage who know about condoms, percentage who know a source for condoms, and percentage who used condom during last sex, according to perception of AIDS risk and selected background characteristics, Nepal 1996

Background characteristic	Knows about condoms ¹	Knows source for condoms ²			Condom used during last sex		Condom used for family planning but not used during last sex	Number of women
		Public sector	Private medical sector/pharmacy	Other source	Last month	Earlier		
Perception of AIDS risk								
Among those who believe AIDS always fatal								
No/small risk	98.4	39.4	40.9	19.6	4.1	1.4	4.0	1,416
Moderate/great risk/has AIDS	97.0	51.4	22.0	26.6	6.9	1.9	6.0	116
Don't know	98.7	70.5	20.4	9.1	1.6	1.3	1.6	88
Among those who do not believe AIDS always fatal, or don't know								
No/small risk	96.5	36.6	38.8	24.4	4.4	0.5	2.6	374
Moderate/great/has AIDS	98.0	44.9	34.3	20.8	5.5	0.0	5.5	48
Don't know	88.8	33.2	45.4	21.4	4.2	0.0	5.1	99
Age								
15-19	99.8	47.3	32.2	20.6	2.7	0.7	3.3	225
20-24	98.1	39.9	40.0	20.1	5.5	0.6	4.7	529
25-29	99.0	39.4	36.7	23.8	5.4	1.8	4.9	453
30-39	96.4	39.7	40.4	19.6	3.7	1.4	3.5	625
40-49	94.9	40.9	40.6	18.5	2.6	0.8	2.1	310
Residence								
Urban	96.8	13.9	59.6	26.2	8.3	1.8	8.4	442
Rural	97.7	47.6	33.3	19.1	3.2	1.0	2.7	1,701
Ecological region								
Mountain	94.2	55.9	17.9	26.2	3.3	0.6	3.5	97
Hill	98.1	40.2	43.5	16.1	4.3	1.0	4.2	1,186
Terai	97.1	39.6	34.4	26.0	4.3	1.3	3.4	859
Development region								
Eastern	96.9	56.5	28.1	15.4	3.1	1.7	3.5	579
Central	96.5	26.4	47.6	25.9	5.5	0.7	4.8	707
Western	98.6	40.6	43.7	15.6	2.8	1.5	2.4	564
Mid-western	99.6	36.5	32.0	31.5	7.1	0.0	6.4	212
Far-western	97.6	64.1	19.7	16.3	3.4	1.7	2.3	80
Education								
No education	96.2	46.2	33.0	20.6	2.2	0.6	1.8	1,084
Primary	98.3	42.5	33.8	23.7	2.5	0.9	1.1	447
Some secondary	98.9	33.4	49.0	17.6	7.7	2.3	6.8	404
SLC and above	100.0	22.2	58.8	19.0	12.0	2.5	14.9	208
Literacy								
Literate	98.9	36.6	43.0	20.3	6.1	1.9	5.7	1,176
Illiterate	95.8	45.6	33.4	20.8	2.0	0.3	1.7	967
Total	97.5	40.7	38.7	20.5	4.2	1.1	3.9	2,142

SLC = School Leaving Certificate

¹ Includes knowledge of condoms for either family planning or disease prevention

² For current family planning users of condoms, source is the place where last obtained; for others, source is the first mentioned source that is known.

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APPENDIX A

SAMPLE DESIGN

The sample for the Nepal Family Health Survey (NFHS) was designed to provide estimates, with acceptable precision, of population and health indicators including fertility and mortality rates for the country as a whole, and for urban and rural areas separately. In addition the sample was designed to provide estimates of most key variables, with the exception of fertility and mortality estimates, for the three ecological regions (Mountains, Hills and *Terai* or plains), the five developmental regions (Eastern, Central, Western, Mid-western, and Far-western) and the 13 domains obtained by cross classifying the three ecological regions with the five developmental regions.¹

An initial sample size of 7,500 completed individual interviews was chosen, taking into consideration budgetary constraints and the needs of data users. This sample size was based on the need to provide estimates of several health indicators including contraceptive rates for the 13 domains, which required a minimum target sample of 350 completed interviews with eligible women in each of the domains. This allocation by domain was considered the most efficient, based on the experience of previous DHS surveys in similar countries. The sample also had to take into consideration a 10 percent overall non-response rate. A separate estimate of mortality for the entire urban area required a minimum sample size of 1,000 completed interviews with eligible women. Furthermore, because Nepal is predominantly rural (90 percent), it was also necessary to oversample each selected urban census enumeration area by 50 percent to obtain a minimum urban sample for calculating mortality rates. Based on these considerations, a final targeted sample size of 8,252 households was deemed to yield adequate numbers of completed interviews with eligible women. The number of households actually visited was 8,500 (because in some cases there was more than one household present in the location of a selected household at the time of interview) and interviews were successfully completed for 8,429 eligible respondents.

The 1991 Population Census served as the sampling frame for the NFHS. Administratively, Nepal is divided into 75 districts. Each district is subdivided into Village Development Committees (VDCs), and each VDC into wards. The primary sampling unit (PSU) for the NFHS is a ward or group of wards in rural areas, and subwards in the urban areas. Each rural PSU is expected to yield about 100 households, according to the 1991 Population Census. The average size of 100 households per PSU (also called a standard segment) was established as a convenient measure for a complete updating of all structures and their corresponding households. In practice, a rural PSU can have between 100 and 500 households. In the rural areas, the ward is small enough in size for a complete household listing but in urban areas the ward size is large. It was therefore necessary to subdivide each urban ward into subwards. Information for the subdivision of urban wards was obtained from the Living Standards Measurement Survey, a World Bank-funded project. In total, 253 PSUs were selected—34 in the urban areas and 219 in the rural areas. Table A.1 shows the sample distribution of PSUs.

The sample for the NFHS is a two-stage stratified sample consisting of the 253 wards (or subwards) selected. The sample was allocated to each district by urban and rural areas and the number of PSUs was calculated based on an average sample take (which is the number of ultimate sample units or households in a cluster) of 25 completed interviews per PSU. In each urban or rural area of a district, the first stage of sampling was done by selecting wards (or subwards) systematically with probability proportional to size (in terms of the

¹ Due to their small size, the mountain areas of the Western, Mid-western and Far-western regions were combined.

Table A.1 Sample allocation by primary sampling units (PSUs)

Allocated sample size and number of PSUs in each district by place of residence

Ecological region/ Development region/ District	Sample	Urban PSUs	Rural PSUs	Total PSUs
MOUNTAIN				
Eastern	350			
Taplejung	117	-	4	4
Sankhuwasabha	138	-	5	5
Solukhumbu	95	-	3	3
Central	350			
Dolakha	129	-	4	4
Sindhupalchok	194	-	6	6
Rasuwa	27	-	1	1
Western	11			
Manang	3	-	0	0
Mustang	8	-	0	0
Mid-western	149			
Dolpa	14	-	0	0
Jumla	43	-	1	1
Mugu	21	-	1	1
Kalikot	51	-	2	2
Humla	20	-	1	1
Far-western	190			
Bajhang	79	-	3	3
Bajura	53	-	2	2
Darchula	58	-	2	2
HILL				
Eastern	500			
Bhojpur	70	-	2	2
Dhankuta	51	0	2	2
Ilam	80	0	3	3
Khotang	76	-	3	3
Okhaldhunga	49	-	2	2
Panchthar	61	-	2	2
Terhathum	36	-	1	1
Udayapur	77	-	3	3
Central	950			
Bhaktapur	61	1	1	2
Dhading	99	-	3	3
Kathmandu	239	7	1	8
Kabhrepalanchok	115	1	3	4
Lalitpur	91	2	1	3
Makawanpur	112	1	3	4
Nuwakot	87	0	3	3
Ramechhap	67	-	2	2
Sindhuli	79	-	3	3

Continued

Table A.1 — *Continued*

Ecological region/ Development region/ District	Sample	Urban PSUs	Rural PSUs	Total PSUs
Western	850			
Arghakhanchi	64	-	2	2
Baglung	82	-	3	3
Gorkha	89	-	3	3
Gulmi	94	-	3	3
Kaski	103	2	1	3
Lamjung	54	-	2	2
Myagdi	35	-	1	1
Palpa	83	0	3	3
Parbat	50	-	2	2
Syanja	103	-	3	3
Tanahu	94	0	3	3
Mid-western	500			
Dailekh	77	-	3	3
Jajarkot	47	-	2	2
Pyuthan	72	-	2	2
Rolpa	74	-	2	2
Rukum	64	-	2	2
Salyan	75	-	3	3
Surkhet	93	1	2	3
Far-western	400			
Achham	118	-	4	4
Baitadi	120	-	4	4
Dadeldhura	62	-	2	2
Doti	100	0	3	3
TERAI				
Eastern	950			
Jhapa	212	1	6	7
Morang	241	3	5	8
Sunsari	166	2	4	6
Saptari	166	1	5	6
Siraha	165	0	6	6
Central	1,000			
Dhanusha	179	1	5	6
Mahottari	145	0	5	5
Sarlahi	162	0	5	5
Rautahat	136	0	5	5
Bara	137	2	3	5
Parsa	123	0	4	4
Chitwan	117	1	3	4
Western	500			
Nawalparasi	164	0	5	5
Rupandehi	196	2	5	7
Kapilvastu	140	0	5	5
Mid-western	400			
Banke	123	1	3	4
Bardiya	125	-	4	4
Dangdeokhuri	152	1	4	5
Far-western	400			
Kailali	247	2	6	8
Kanchunpur	153	2	3	5
Total	7,500	34	219	253

number of households in each ward according to the 1991 Population Census). The probability of selecting a ward (or subward) is calculated as:

$$P_{ii} = (a * M_i) / (\sum M_i)$$

where:

a = the number of designated wards to be selected in the urban or rural area of a district;

M_i = the number of households of the *i*th ward according to the 1991 Population Census;

∑M_i = the total number of households in the urban/rural district area according to the 1991 Population Census.

In the second stage of sampling, within each selected ward (or subward), a complete household listing operation was carried out and households were selected in such a way as to maintain a self-weighting sample within the urban and rural areas of each of the 13 domains. However, since urban areas were oversampled, the total sample in each domain is weighted and a final weighting procedure is applied to provide estimates for the different domains and for the urban and rural areas of the country as a whole. The overall probability of household selection or the sampling fraction (*f*) is given by the formula:

$$f = P_{ii} * (c_i / L_i)$$

where:

c_i = the number of households selected (sample take); and

L_i = the total number of households, listed in the *i*th selected ward.

Accordingly, the sample take is calculated as:

$$c_i = (f * L_i) / P_{ii}$$

and the probability of selecting a household within the selected ward (or subward) is:

$$c_i / L_i$$

Unlike most other DHS surveys, households in Nepal were selected contiguously, beginning with a randomly selected start number, from the household listing for each ward (or subward). This selection process was used to minimise the difficulty encountered in moving from one selected household to another, given the mountainous terrain in most parts of Nepal and the scattered nature of households. Even though this was not the case in the urban areas of Nepal, a similar selection process was adopted in order to maintain procedural consistency. The intraclass correlation is smaller in the rural areas than in the urban areas and selecting a compact group of households will yield the same effect as selecting them systematically. Even though intraclass correlation in the urban areas may be higher, the selection of subwards (which are smaller in area and hence tend to be more homogenous) reduces the possibility of any serious bias.

The overall sampling fractions were estimated and their values are shown in Table A.2. Although an independent selection was done in the urban and rural areas of each district, the overall sampling fraction in each of the 21 combinations of areas of residence remains constant. However, adjustment factors (weights) need to be used for the national estimates. Table A.2 also provides the values of the woman weights used in calculating most of the estimates in the NFHS.

Table A.2 Sampling fractions and woman weights				
Overall sampling fractions and woman weights by place of residence				
Ecological Region	Development Region	Residence	Overall sampling fraction	Woman weights
Mountain	Eastern	Total	1/174.8503	0.412612
	Central	Total	1/243.8117	0.559818
	Western			
	Mid-western			
	Far-western	Total	1/263.4171	0.610724
Hill	Eastern	Total	1/470.1056	1.104982
	Central	Rural	1/479.6342	1.113277
		Urban	1/319.7561	0.742185
	Western	Rural	1/490.1330	1.141504
		Urban	1/326.7554	0.761003
	Mid-western	Rural	1/421.8893	0.972208
Urban		1/281.2595	0.648139	
	Far-western	Total	1/327.3959	0.758864
Terai	Eastern	Rural	1/641.5474	1.538711
		Urban	1/427.6983	1.025807
	Central	Rural	1/636.3190	1.488361
		Urban	1/424.2127	0.992241
	Western	Rural	1/401.7500	0.944723
		Urban	1/267.8334	0.629815
	Mid-western	Rural	1/368.7282	0.863009
		Urban	1/245.8188	0.575339
	Far-western	Rural	1/274.2670	0.645772
		Urban	1/182.8447	0.430514



APPENDIX B

ESTIMATES OF SAMPLING ERRORS

The estimates from a sample survey are affected by two types of errors: (1) nonsampling errors, and (2) sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the NFHS to minimise this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the NFHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

A sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulae for calculating sampling errors. However, the NFHS sample is the result of a two-stage stratified design and, consequently, it was necessary to use more complex formulae. The computer software used to calculate sampling errors for the NFHS is the ISSA Sampling Error Module (ISSAS). This module used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y , and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$var(r) = \frac{1-f}{x^2} \sum_{h=1}^H \left[\frac{m_h}{m_h-1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - r \cdot x_{hi} \text{ , and } z_h = y_h - r \cdot x_h$$

where h represents the stratum which varies from 1 to H,
 m_h is the total number of enumeration areas (EA) selected in the h^{th} stratum,
 y_h is the sum of the values of variable y in EA i in the h^{th} stratum,
 x_h is the sum of the number of cases in EA i in the h^{th} stratum, and
 f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulae. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent replications are thus created. In the NFHS, there were 253 non-empty clusters. Hence, 253 replications were created. The variance of a rate r is calculated as follows:

$$\text{var}(r) = \frac{1}{k(k-1)} \sum_{i=1}^k (r_i - r)^2$$

in which

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 253 clusters,
 $r_{(i)}$ is the estimate computed from the reduced sample of 252 clusters (i^{th} cluster excluded), and
 k is the total number of clusters.

In addition to the standard error, ISSAS computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. ISSAS also computes the relative standard error and 95 percent confidence limits for the estimates.

Sampling errors for the NFHS are calculated for selected variables considered to be of primary interest. The results are presented in this appendix for the country as a whole, for urban and rural areas, for each of the five development regions: Eastern, Central, Western, Mid-western, and Far-western; and for each of three ecological regions: Mountain, Hill and Terai. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 to B.12 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits ($R \pm 2SE$), for each variable. The DEFT is considered undefined when the standard error considering simple random sample is zero (when the estimate is close to 0 or 1).

In general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. There are some differentials in the relative standard error for the estimates of sub-populations. For example, for the variable of *Using contraception among currently married women age 15-49*, the relative standard errors as a percent of the estimated mean for the whole country, for urban areas, and for rural areas are 4.1 percent, 5.5 percent, and 4.7 percent, respectively.

The confidence interval for the contraceptive prevalence rate (e.g., *Using contraception among currently married women age 15-49*) can be interpreted as follows: the overall national sample proportion is 0.285 and its standard error is 0.012. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, ie. $0.285 \pm 2 \times 0.012$. There is a high probability (95 percent) that the *true* value of the contraceptive prevalence rate among currently married women age 15 to 49 is between 0.261 and 0.308.

Table B.1 List of selected variables for sampling errors, Nepal 1996

Variable name	Type	Base Population
Urban resident	Proportion	Ever-married women 15-49
No education	Proportion	Ever-married women 15-49
Secondary or more	Proportion	Ever-married women 15-49
Currently in union	Proportion	Ever-married women 15-49
Ever in union before 20	Proportion	Ever-married women 15-49
Sex before 18	Proportion	Ever-married women 15-49
Children ever born	Mean	Currently married women 15-49
Children ever born to women over 40	Mean	Currently married women 40-49
Children surviving	Mean	Currently married women 15-49
Knowing any method	Proportion	Currently married women 15-49
Knowing any modern method	Proportion	Currently married women 15-49
Ever use any method	Proportion	Currently married women 15-49
Using any method	Proportion	Currently married women 15-49
Using any modern method	Proportion	Currently married women 15-49
Using pill	Proportion	Currently married women 15-49
Using IUD	Proportion	Currently married women 15-49
Using injectables	Proportion	Currently married women 15-49
Using Norplant	Proportion	Currently married women 15-49
Using condom	Proportion	Currently married women 15-49
Using female sterilization	Proportion	Currently married women 15-49
Using male sterilization	Proportion	Currently married women 15-49
Currently using abstinence	Proportion	Currently married women 15-49
Using withdrawal	Proportion	Currently married women 15-49
Using public sector source	Proportion	Currently married women 15-49
Want no more children	Proportion	Currently married women 15-49
Want to delay child at least 2 years	Proportion	Currently married women 15-49
Ideal number of children	Mean	Ever-married women 15-49
Mothers received tetanus injection	Proportion	Births in last 3 years
Mothers received medical care at delivery	Proportion	Births in last 3 years
Had diarrhoea in the last 2 weeks	Proportion	Children under 3
Treated with ORS packets	Proportion	Children under 3 with diarrhoea in last 2 weeks
Sought medical treatment	Proportion	Children under 3 with diarrhoea in last 2 weeks
Having health card	Proportion	Children 12-23 months
Received BCG vaccination	Proportion	Children 12-23 months
Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
Received Polio vaccination (3 doses)	Proportion	Children 12-23 months
Received measles vaccination	Proportion	Children 12-23 months
Fully immunized	Proportion	Children 12-23 months
Weight-for-height	Proportion	Children 0-35 months
Height-for-age	Proportion	Children 0-35 months
Weight-for-age	Proportion	Children 0-35 months
Total fertility rate (3 years)	Rate	Women-years of exposure to childbearing
Neonatal mortality rate (0-9 years)	Rate	Number of births
Postneonatal mortality rate (0-9 years)	Rate	Number of births
Infant mortality rate (0-9 years)	Rate	Number of births
Child mortality rate (0-9 years)	Rate	Number of births
Under-five mortality rate (0-9 years)	Rate	Number of births

Table B2. Sampling errors - Total sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.084	0.008	8429	8429	2.602	0.093	0.069	0.100
No education	0.800	0.011	8429	8429	2.452	0.013	0.779	0.821
Secondary or more	0.090	0.007	8429	8429	2.321	0.080	0.076	0.105
Currently in union	0.947	0.003	8429	8429	1.180	0.003	0.941	0.953
Ever in union before 20	0.871	0.006	7474	7447	1.617	0.007	0.859	0.884
Sex before 18	0.672	0.009	7474	7447	1.666	0.013	0.654	0.691
Children ever born	3.414	0.034	7978	7982	1.223	0.010	3.346	3.482
Children ever born to women over 40	5.928	0.088	1540	1522	1.354	0.015	5.751	6.104
Children surviving	2.795	0.026	7978	7982	1.171	0.009	2.743	2.847
Knowing any method	0.984	0.003	7978	7982	2.374	0.003	0.978	0.991
Knowing any modern method	0.983	0.003	7978	7982	2.395	0.003	0.977	0.990
Ever use any method	0.384	0.013	7978	7982	2.316	0.033	0.359	0.409
Using any method	0.285	0.012	7978	7982	2.314	0.041	0.261	0.308
Using any modern method	0.260	0.011	7978	7982	2.310	0.044	0.237	0.283
Using pill	0.014	0.002	7978	7982	1.822	0.173	0.009	0.019
Using IUD	0.003	0.001	7978	7982	1.172	0.258	0.001	0.004
Using injectables	0.045	0.004	7978	7982	1.646	0.085	0.037	0.053
Using Norplant	0.004	0.001	7978	7982	1.429	0.248	0.002	0.006
Using condom	0.019	0.002	7978	7982	1.617	0.129	0.014	0.024
Using female sterilization	0.121	0.007	7978	7982	2.006	0.061	0.106	0.135
Using male sterilization	0.054	0.004	7978	7982	1.416	0.066	0.047	0.061
Currently using abstinence	0.009	0.002	7978	7982	1.478	0.175	0.006	0.012
Using withdrawal	0.014	0.002	7978	7982	1.227	0.115	0.011	0.017
Using public sector source	0.790	0.018	2081	2077	1.970	0.022	0.755	0.825
Want no more children	0.413	0.007	7978	7982	1.355	0.018	0.398	0.428
Want to delay child at least 2 years	0.206	0.005	7978	7982	1.092	0.024	0.196	0.215
Ideal number of children	2.929	0.032	8243	8215	2.740	0.011	2.865	2.994
Mothers received tetanus injection	0.460	0.017	4417	4375	2.048	0.036	0.427	0.494
Mothers received medical care at delivery	0.101	0.008	4417	4375	1.648	0.079	0.085	0.117
Had diarrhoea in the last 2 weeks	0.275	0.010	4097	4072	1.414	0.036	0.255	0.295
Treated with ORS packets	0.259	0.019	1176	1119	1.446	0.073	0.221	0.297
Sought medical treatment	0.138	0.011	1176	1119	1.117	0.083	0.115	0.161
Having health card	0.217	0.016	1402	1379	1.421	0.073	0.185	0.249
Received BCG vaccination	0.760	0.018	1402	1379	1.577	0.024	0.723	0.796
Received DPT vaccination (3 doses)	0.535	0.022	1402	1379	1.637	0.041	0.491	0.579
Received Polio vaccination (3 doses)	0.509	0.022	1402	1379	1.663	0.044	0.464	0.554
Received measles vaccination	0.566	0.021	1402	1379	1.560	0.037	0.524	0.607
Fully immunized	0.433	0.021	1402	1379	1.540	0.047	0.392	0.475
Weight-for-height	0.112	0.006	3732	3705	1.157	0.054	0.100	0.125
Height-for-age	0.484	0.012	3732	3705	1.487	0.025	0.459	0.508
Weight-for-age	0.469	0.012	3732	3705	1.429	0.025	0.445	0.493
Total fertility rate (3 years)	4.641	0.095	NA	28178	1.392	0.020	4.451	4.831
Neonatal mortality rate (0-9 years)	58.185	2.468	14628	14441	1.119	0.042	53.248	63.122
Postneonatal mortality rate (0-9 years)	34.790	2.007	14651	14464	1.225	0.058	30.776	38.803
Infant mortality rate (0-9 years)	92.975	3.306	14654	14466	1.219	0.036	86.362	99.587
Child mortality rate (0-9 years)	50.949	2.873	14779	14593	1.308	0.056	45.202	56.695
Under-five mortality rate (0-9 years)	139.186	4.591	14808	14620	1.379	0.033	130.005	148.367

NA = Not applicable

Table B3. Sampling errors - Urban sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	1.000	0.000	954	712	NA	0.000	1.000	1.000
No education	0.481	0.037	954	712	2.304	0.077	0.407	0.556
Secondary or more	0.365	0.039	954	712	2.490	0.106	0.288	0.443
Currently in union	0.938	0.006	954	712	0.780	0.006	0.926	0.951
Ever in union before 20	0.783	0.026	885	660	1.864	0.033	0.731	0.834
Sex before 18	0.553	0.025	885	660	1.519	0.046	0.502	0.604
Children ever born	2.883	0.085	900	668	1.276	0.029	2.713	3.053
Children ever born to women over 40	4.835	0.261	156	115	1.495	0.054	4.313	5.358
Children surviving	2.555	0.069	900	668	1.251	0.027	2.416	2.694
Knowing any method	0.991	0.005	900	668	1.633	0.005	0.981	1.000
Knowing any modern method	0.991	0.005	900	668	1.633	0.005	0.981	1.000
Ever use any method	0.664	0.028	900	668	1.761	0.042	0.609	0.719
Using any method	0.501	0.028	900	668	1.652	0.055	0.446	0.556
Using any modern method	0.451	0.025	900	668	1.502	0.055	0.401	0.501
Using pill	0.036	0.007	900	668	1.050	0.182	0.023	0.049
Using IUD	0.022	0.006	900	668	1.297	0.288	0.009	0.035
Using injectables	0.088	0.012	900	668	1.299	0.140	0.063	0.112
Using Norplant	0.019	0.005	900	668	1.153	0.278	0.008	0.029
Using condom	0.062	0.018	900	668	2.185	0.284	0.027	0.097
Using female sterilization	0.165	0.017	900	668	1.348	0.101	0.132	0.198
Using male sterilization	0.060	0.009	900	668	1.148	0.152	0.041	0.078
Currently using abstinence	0.014	0.003	900	668	0.880	0.250	0.007	0.020
Using withdrawal	0.035	0.008	900	668	1.378	0.240	0.018	0.052
Using public sector source	0.592	0.046	405	301	1.884	0.078	0.499	0.684
Want no more children	0.482	0.017	900	668	0.997	0.034	0.449	0.515
Want to delay child at least 2 years	0.143	0.011	900	668	0.912	0.075	0.122	0.164
Ideal number of children	2.446	0.057	949	707	2.010	0.023	2.332	2.560
Mothers received tetanus injection	0.659	0.044	385	278	1.641	0.067	0.571	0.747
Mothers received medical care at delivery	0.465	0.044	385	276	1.585	0.095	0.376	0.553
Had diarrhoea in the last 2 weeks	0.238	0.022	365	264	0.946	0.093	0.194	0.282
Treated with ORS packets	0.407	0.045	88	63	0.831	0.111	0.317	0.498
Sought medical treatment	0.183	0.038	88	63	0.912	0.210	0.106	0.260
Having health card	0.392	0.049	118	84	1.063	0.125	0.294	0.490
Received BCG vaccination	0.876	0.035	118	84	1.137	0.040	0.805	0.946
Received DPT vaccination (3 doses)	0.774	0.048	118	84	1.221	0.062	0.677	0.870
Received Polio vaccination (3 doses)	0.774	0.048	118	84	1.221	0.062	0.677	0.870
Received measles vaccination	0.772	0.053	118	84	1.331	0.068	0.666	0.877
Fully immunized	0.711	0.056	118	84	1.301	0.078	0.600	0.822
Weight-for-height	0.058	0.013	333	237	0.918	0.222	0.032	0.084
Height-for-age	0.354	0.034	333	237	1.265	0.097	0.285	0.422
Weight-for-age	0.298	0.029	333	237	1.108	0.096	0.241	0.355
Total fertility rate (3 years)	2.853	0.199	NA	2698	1.403	0.070	2.456	3.251
Neonatal mortality rate (0-9 years)	43.142	5.491	1335	972	0.885	0.127	32.161	54.124
Postneonatal mortality rate (0-9 years)	17.943	3.454	1334	972	0.973	0.193	11.035	24.851
Infant mortality rate (0-9 years)	61.085	7.004	1335	972	1.008	0.115	47.076	75.093
Child mortality rate (0-9 years)	22.493	5.207	1343	978	1.215	0.231	12.080	32.907
Under-five mortality rate (0-9 years)	82.204	8.081	1344	978	1.017	0.098	66.042	98.367

NA = Not applicable

Table B4. Sampling errors - Rural sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.000	0.000	7475	7717	NA	NA	0.000	0.000
No education	0.829	0.011	7475	7717	2.432	0.013	0.808	0.850
Secondary or more	0.065	0.006	7475	7717	2.254	0.099	0.052	0.078
Currently in union	0.948	0.003	7475	7717	1.200	0.003	0.942	0.954
Ever in union before 20	0.880	0.006	6589	6787	1.585	0.007	0.867	0.893
Sex before 18	0.684	0.010	6589	6787	1.671	0.014	0.665	0.703
Children ever born	3.462	0.036	7078	7314	1.197	0.010	3.390	3.535
Children ever born to women over 40	6.017	0.092	1384	1407	1.339	0.015	5.833	6.201
Children surviving	2.817	0.027	7078	7314	1.152	0.010	2.762	2.872
Knowing any method	0.984	0.004	7078	7314	2.374	0.004	0.976	0.991
Knowing any modern method	0.983	0.004	7078	7314	2.393	0.004	0.975	0.990
Ever use any method	0.358	0.013	7078	7314	2.367	0.038	0.331	0.385
Using any method	0.265	0.013	7078	7314	2.395	0.047	0.240	0.290
Using any modern method	0.243	0.012	7078	7314	2.402	0.050	0.218	0.267
Using pill	0.012	0.003	7078	7314	1.984	0.216	0.007	0.017
Using IUD	0.001	0.000	7078	7314	1.384	0.580	0.000	0.002
Using injectables	0.041	0.004	7078	7314	1.723	0.099	0.033	0.049
Using Norplant	0.003	0.001	7078	7314	1.564	0.351	0.001	0.005
Using condom	0.015	0.002	7078	7314	1.452	0.138	0.011	0.020
Using female sterilization	0.117	0.008	7078	7314	2.059	0.067	0.101	0.132
Using male sterilization	0.054	0.004	7078	7314	1.429	0.071	0.046	0.061
Currently using abstinence	0.008	0.002	7078	7314	1.530	0.198	0.005	0.012
Using withdrawal	0.012	0.002	7078	7314	1.215	0.130	0.009	0.015
Using public sector source	0.824	0.019	1676	1776	2.090	0.024	0.785	0.863
Want no more children	0.406	0.008	7078	7314	1.364	0.020	0.390	0.422
Want to delay child at least 2 years	0.211	0.005	7078	7314	1.081	0.025	0.201	0.222
Ideal number of children	2.975	0.034	7294	7507	2.746	0.012	2.906	3.044
Mothers received tetanus injection	0.447	0.017	4032	4097	2.037	0.039	0.412	0.482
Mothers received medical care at delivery	0.076	0.008	4032	4097	1.680	0.099	0.061	0.091
Had diarrhoea in the last 2 weeks	0.277	0.011	3732	3808	1.421	0.038	0.256	0.298
Treated with ORS packets	0.250	0.020	1088	1056	1.461	0.079	0.210	0.289
Sought medical treatment	0.136	0.012	1088	1056	1.118	0.088	0.112	0.159
Having health card	0.206	0.017	1284	1295	1.436	0.080	0.173	0.239
Received BCG vaccination	0.752	0.019	1284	1295	1.569	0.025	0.714	0.791
Received DPT vaccination (3 doses)	0.519	0.023	1284	1295	1.631	0.044	0.473	0.566
Received Polio vaccination (3 doses)	0.492	0.023	1284	1295	1.657	0.048	0.445	0.539
Received measles vaccination	0.552	0.022	1284	1295	1.553	0.040	0.509	0.596
Fully immunized	0.415	0.021	1284	1295	1.536	0.052	0.373	0.458
Weight-for-height	0.116	0.006	3399	3468	1.148	0.055	0.103	0.129
Height-for-age	0.493	0.013	3399	3468	1.478	0.026	0.467	0.518
Weight-for-age	0.481	0.012	3399	3468	1.414	0.026	0.456	0.505
Total fertility rate (3 years)	4.826	0.098	NA	25606	1.345	0.020	4.630	5.022
Neonatal mortality rate (0-9 years)	59.268	2.613	13293	13468	1.114	0.044	54.043	64.494
Postneonatal mortality rate (0-9 years)	36.019	2.133	13317	13492	1.213	0.059	31.753	40.286
Infant mortality rate (0-9 years)	95.288	3.496	13319	13494	1.208	0.037	88.296	102.279
Child mortality rate (0-9 years)	53.210	3.033	13436	13616	1.283	0.057	47.144	59.277
Under-five mortality rate (0-9 years)	143.428	4.830	13464	13642	1.360	0.034	133.767	153.088

NA = Not applicable

Table B5. Sampling errors - Mountain sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.000	0.000	1061	569	NA	NA	0.000	0.000
No education	0.895	0.017	1061	569	1.781	0.019	0.861	0.928
Secondary or more	0.036	0.010	1061	569	1.715	0.272	0.017	0.056
Currently in union	0.945	0.007	1061	569	1.018	0.008	0.931	0.959
Ever in union before 20	0.829	0.018	950	507	1.511	0.022	0.792	0.866
Sex before 18	0.595	0.024	950	507	1.512	0.040	0.547	0.644
Children ever born	3.736	0.080	1002	538	0.922	0.021	3.577	3.896
Children ever born to women over 40	6.513	0.214	218	115	1.295	0.033	6.085	6.941
Children surviving	2.801	0.059	1002	538	0.903	0.021	2.682	2.919
Knowing any method	0.969	0.018	1002	538	3.227	0.018	0.933	1.000
Knowing any modern method	0.969	0.018	1002	538	3.227	0.018	0.933	1.000
Ever use any method	0.266	0.027	1002	538	1.914	0.100	0.213	0.319
Using any method	0.178	0.019	1002	538	1.559	0.106	0.140	0.215
Using any modern method	0.160	0.018	1002	538	1.569	0.114	0.124	0.197
Using pill	0.006	0.002	1002	538	0.855	0.357	0.002	0.010
Using IUD	0.001	0.001	1002	538	0.877	1.000	0.000	0.002
Using injectables	0.054	0.009	1002	538	1.195	0.159	0.037	0.071
Using Norplant	0.001	0.001	1002	538	0.877	1.000	0.000	0.002
Using condom	0.010	0.003	1002	538	1.051	0.325	0.004	0.017
Using female sterilization	0.021	0.006	1002	538	1.258	0.269	0.010	0.033
Using male sterilization	0.068	0.011	1002	538	1.409	0.165	0.045	0.090
Currently using abstinence	0.005	0.002	1002	538	0.975	0.446	0.001	0.009
Using withdrawal	0.011	0.003	1002	538	0.822	0.247	0.006	0.016
Using public sector source	0.891	0.031	168	86	1.299	0.035	0.828	0.953
Want no more children	0.447	0.015	1002	538	0.943	0.033	0.417	0.477
Want to delay child at least 2 years	0.243	0.017	1002	538	1.245	0.069	0.209	0.277
Ideal number of children	3.203	0.064	1048	561	1.852	0.020	3.075	3.331
Mothers received tetanus injection	0.245	0.024	624	337	1.328	0.098	0.197	0.293
Mothers received medical care at delivery	0.029	0.009	624	337	1.226	0.297	0.012	0.046
Had diarrhoea in the last 2 weeks	0.371	0.024	562	303	1.147	0.064	0.323	0.418
Treated with ORS packets	0.289	0.034	202	112	1.073	0.117	0.221	0.357
Sought medical treatment	0.134	0.029	202	112	1.227	0.215	0.076	0.192
Having health card	0.204	0.037	207	111	1.311	0.180	0.131	0.278
Received BCG vaccination	0.649	0.059	207	111	1.767	0.090	0.532	0.766
Received DPT vaccination (3 doses)	0.440	0.058	207	111	1.683	0.132	0.324	0.556
Received Polio vaccination (3 doses)	0.419	0.058	207	111	1.687	0.138	0.303	0.534
Received measles vaccination	0.499	0.062	207	111	1.792	0.125	0.375	0.624
Fully immunized	0.369	0.059	207	111	1.753	0.159	0.252	0.487
Weight-for-height	0.136	0.016	500	270	1.021	0.115	0.105	0.168
Height-for-age	0.566	0.026	500	270	1.212	0.046	0.514	0.618
Weight-for-age	0.532	0.028	500	270	1.231	0.052	0.477	0.587
Total fertility rate (3 years)	5.601	0.210	NA	1897	1.055	0.038	5.181	6.021
Neonatal mortality rate (0-9 years)	70.775	5.887	2070	1117	0.907	0.083	59.002	82.549
Postneonatal mortality rate (0-9 years)	65.752	9.387	2072	1118	1.648	0.143	46.978	84.527
Infant mortality rate (0-9 years)	136.528	11.662	2073	1119	1.350	0.085	113.204	159.851
Child mortality rate (0-9 years)	82.184	9.358	2097	1131	1.329	0.114	63.468	100.901
Under-five mortality rate (0-9 years)	207.491	15.575	2101	1134	1.505	0.075	176.340	238.642

NA = Not applicable

Table B6. Sampling errors - Hill sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.100	0.013	3597	3600	2.560	0.128	0.074	0.126
No education	0.775	0.017	3597	3600	2.378	0.021	0.741	0.808
Secondary or more	0.103	0.013	3597	3600	2.465	0.121	0.078	0.128
Currently in union	0.934	0.005	3597	3600	1.207	0.005	0.924	0.944
Ever in union before 20	0.827	0.011	3234	3245	1.663	0.013	0.805	0.850
Sex before 18	0.594	0.015	3234	3245	1.764	0.026	0.563	0.624
Children ever born	3.422	0.050	3358	3363	1.163	0.015	3.322	3.523
Children ever born to women over 40	5.905	0.130	669	674	1.279	0.022	5.646	6.164
Children surviving	2.854	0.038	3358	3363	1.085	0.013	2.778	2.929
Knowing any method	0.982	0.006	3358	3363	2.616	0.006	0.969	0.994
Knowing any modern method	0.981	0.006	3358	3363	2.665	0.006	0.968	0.993
Ever use any method	0.405	0.021	3358	3363	2.463	0.052	0.363	0.446
Using any method	0.296	0.021	3358	3363	2.620	0.070	0.254	0.337
Using any modern method	0.269	0.020	3358	3363	2.628	0.075	0.229	0.309
Using pill	0.021	0.005	3358	3363	2.014	0.236	0.011	0.031
Using IUD	0.003	0.001	3358	3363	1.248	0.393	0.001	0.005
Using injectables	0.061	0.007	3358	3363	1.727	0.117	0.046	0.075
Using Norplant	0.004	0.001	3358	3363	1.199	0.314	0.002	0.007
Using condom	0.021	0.004	3358	3363	1.565	0.185	0.013	0.029
Using female sterilization	0.075	0.010	3358	3363	2.263	0.137	0.054	0.095
Using male sterilization	0.083	0.006	3358	3363	1.175	0.067	0.072	0.094
Currently using abstinence	0.007	0.002	3358	3363	1.037	0.211	0.004	0.010
Using withdrawal	0.016	0.002	3358	3363	1.127	0.153	0.011	0.021
Using public sector source	0.726	0.032	918	905	2.144	0.044	0.663	0.789
Want no more children	0.457	0.010	3358	3363	1.207	0.023	0.436	0.478
Want to delay child at least 2 years	0.203	0.007	3358	3363	1.060	0.036	0.188	0.217
Ideal number of children	2.817	0.043	3559	3559	2.482	0.015	2.731	2.903
Mothers received tetanus injection	0.394	0.027	1843	1862	2.224	0.068	0.340	0.448
Mothers received medical care at delivery	0.110	0.014	1843	1862	1.809	0.125	0.082	0.137
Had diarrhoea in the last 2 weeks	0.277	0.016	1717	1737	1.490	0.058	0.245	0.309
Treated with ORS packets	0.241	0.023	482	481	1.171	0.095	0.195	0.287
Sought medical treatment	0.131	0.020	482	481	1.325	0.156	0.090	0.171
Having health card	0.232	0.022	614	619	1.270	0.094	0.188	0.275
Received BCG vaccination	0.771	0.026	614	619	1.533	0.034	0.720	0.823
Received DPT vaccination (3 doses)	0.589	0.031	614	619	1.552	0.052	0.528	0.651
Received Polio vaccination (3 doses)	0.565	0.031	614	619	1.561	0.055	0.503	0.627
Received measles vaccination	0.626	0.030	614	619	1.520	0.047	0.567	0.685
Fully immunized	0.513	0.030	614	619	1.500	0.059	0.452	0.573
Weight-for-height	0.093	0.007	1592	1611	0.912	0.071	0.079	0.106
Height-for-age	0.487	0.019	1592	1611	1.559	0.040	0.448	0.525
Weight-for-age	0.444	0.018	1592	1611	1.407	0.040	0.409	0.479
Total fertility rate (3 years)	4.498	0.144	NA	12650	1.396	0.032	4.211	4.786
Neonatal mortality rate (0-9 years)	50.646	3.537	6106	6169	1.092	0.070	43.572	57.721
Postneonatal mortality rate (0-9 years)	36.779	3.305	6119	6184	1.238	0.090	30.168	43.389
Infant mortality rate (0-9 years)	87.425	5.059	6120	6184	1.235	0.058	77.306	97.544
Child mortality rate (0-9 years)	43.274	3.826	6163	6224	1.309	0.088	35.622	50.926
Under-five mortality rate (0-9 years)	126.916	6.517	6178	6240	1.353	0.051	113.882	139.950

NA = Not applicable

Table B7. Sampling errors - Terai sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.083	0.011	3771	4260	2.473	0.134	0.060	0.105
No education	0.809	0.015	3771	4260	2.395	0.019	0.778	0.839
Secondary or more	0.087	0.009	3771	4260	2.056	0.109	0.068	0.105
Currently in union	0.958	0.004	3771	4260	1.126	0.004	0.951	0.966
Ever in union before 20	0.916	0.007	3290	3695	1.522	0.008	0.901	0.931
Sex before 18	0.752	0.011	3290	3695	1.488	0.015	0.730	0.774
Children ever born	3.365	0.052	3618	4082	1.273	0.015	3.261	3.469
Children ever born to women over 40	5.857	0.135	653	734	1.378	0.023	5.587	6.127
Children surviving	2.746	0.040	3618	4082	1.239	0.014	2.667	2.826
Knowing any method	0.989	0.003	3618	4082	1.915	0.003	0.982	0.995
Knowing any modern method	0.988	0.003	3618	4082	1.902	0.004	0.981	0.995
Ever use any method	0.382	0.017	3618	4082	2.120	0.045	0.348	0.416
Using any method	0.290	0.015	3618	4082	1.991	0.052	0.260	0.320
Using any modern method	0.266	0.015	3618	4082	1.976	0.055	0.237	0.295
Using pill	0.009	0.002	3618	4082	1.290	0.229	0.005	0.013
Using IUD	0.002	0.001	3618	4082	1.046	0.348	0.001	0.004
Using injectables	0.031	0.004	3618	4082	1.472	0.137	0.022	0.039
Using Norplant	0.004	0.002	3618	4082	1.507	0.375	0.001	0.008
Using condom	0.019	0.004	3618	4082	1.603	0.191	0.012	0.026
Using female sterilization	0.171	0.012	3618	4082	1.874	0.069	0.148	0.195
Using male sterilization	0.029	0.005	3618	4082	1.661	0.161	0.019	0.038
Currently using abstinence	0.011	0.003	3618	4082	1.601	0.255	0.005	0.016
Using withdrawal	0.013	0.002	3618	4082	1.281	0.185	0.008	0.018
Using public sector source	0.836	0.018	995	1086	1.537	0.022	0.800	0.872
Want no more children	0.372	0.012	3618	4082	1.452	0.031	0.349	0.395
Want to delay child at least 2 years	0.203	0.007	3618	4082	1.077	0.035	0.189	0.217
Ideal number of children	2.990	0.051	3636	4094	2.847	0.017	2.889	3.091
Mothers received tetanus injection	0.551	0.025	1950	2176	2.004	0.045	0.501	0.600
Mothers received medical care at delivery	0.104	0.011	1950	2176	1.454	0.105	0.082	0.126
Had diarrhoea in the last 2 weeks	0.258	0.014	1818	2032	1.371	0.055	0.230	0.287
Treated with ORS packets	0.268	0.034	492	525	1.637	0.125	0.201	0.335
Sought medical treatment	0.146	0.015	492	525	0.906	0.101	0.117	0.176
Having health card	0.205	0.026	581	649	1.522	0.126	0.154	0.257
Received BCG vaccination	0.768	0.028	581	649	1.582	0.036	0.712	0.823
Received DPT vaccination (3 doses)	0.499	0.035	581	649	1.653	0.069	0.430	0.568
Received Polio vaccination (3 doses)	0.471	0.035	581	649	1.683	0.075	0.401	0.541
Received measles vaccination	0.520	0.032	581	649	1.524	0.061	0.456	0.583
Fully immunized	0.369	0.030	581	649	1.492	0.082	0.309	0.429
Weight-for-height	0.126	0.010	1640	1824	1.243	0.082	0.106	0.147
Height-for-age	0.469	0.017	1640	1824	1.406	0.037	0.434	0.504
Weight-for-age	0.482	0.018	1640	1824	1.416	0.037	0.446	0.517
Total fertility rate (3 years)	4.643	0.139	NA	13613	1.354	0.030	4.364	4.922
Neonatal mortality rate (0-9 years)	62.722	3.752	6452	7155	1.109	0.060	55.219	70.226
Postneonatal mortality rate (0-9 years)	28.179	2.259	6460	7163	1.061	0.080	23.661	32.698
Infant mortality rate (0-9 years)	90.902	4.503	6461	7163	1.134	0.050	81.895	99.908
Child mortality rate (0-9 years)	53.008	4.433	6519	7238	1.268	0.084	44.143	61.873
Under-five mortality rate (0-9 years)	139.091	6.604	6529	7247	1.307	0.047	125.884	152.299

NA = Not applicable

Table B8. Sampling errors - Eastern sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.078	0.019	1683	1941	2.881	0.242	0.040	0.115
No education	0.763	0.023	1683	1941	2.207	0.030	0.717	0.809
Secondary or more	0.115	0.016	1683	1941	2.062	0.139	0.083	0.148
Currently in union	0.943	0.006	1683	1941	0.973	0.006	0.932	0.954
Ever in union before 20	0.793	0.014	1540	1763	1.320	0.017	0.766	0.820
Sex before 18	0.571	0.015	1540	1763	1.178	0.026	0.542	0.601
Children ever born	3.298	0.063	1583	1829	1.034	0.019	3.173	3.424
Children ever born to women over 40	5.704	0.184	308	335	1.210	0.032	5.335	6.073
Children surviving	2.796	0.056	1583	1829	1.143	0.020	2.684	2.908
Knowing any method	0.984	0.005	1583	1829	1.516	0.005	0.974	0.993
Knowing any modern method	0.982	0.005	1583	1829	1.541	0.005	0.972	0.993
Ever use any method	0.411	0.019	1583	1829	1.505	0.045	0.373	0.448
Using any method	0.308	0.020	1583	1829	1.692	0.064	0.269	0.347
Using any modern method	0.268	0.018	1583	1829	1.577	0.066	0.233	0.303
Using pill	0.017	0.004	1583	1829	1.174	0.227	0.009	0.024
Using IUD	0.001	0.001	1583	1829	0.873	0.782	0.000	0.002
Using injectables	0.050	0.008	1583	1829	1.504	0.166	0.033	0.066
Using Norplant	0.006	0.003	1583	1829	1.420	0.445	0.001	0.012
Using condom	0.022	0.007	1583	1829	1.921	0.319	0.008	0.037
Using female sterilization	0.132	0.016	1583	1829	1.839	0.119	0.101	0.163
Using male sterilization	0.040	0.007	1583	1829	1.392	0.172	0.026	0.053
Currently using abstinence	0.019	0.005	1583	1829	1.589	0.289	0.008	0.030
Using withdrawal	0.021	0.004	1583	1829	1.226	0.209	0.012	0.030
Using public sector source	0.818	0.030	412	490	1.570	0.036	0.759	0.878
Want no more children	0.436	0.020	1583	1829	1.578	0.045	0.397	0.475
Want to delay child at least 2 years	0.169	0.010	1583	1829	1.054	0.059	0.149	0.189
Ideal number of children	2.863	0.042	1662	1912	1.733	0.015	2.779	2.948
Mothers received tetanus injection	0.496	0.038	818	924	1.985	0.077	0.419	0.572
Mothers received medical care at delivery	0.114	0.016	818	924	1.366	0.142	0.081	0.146
Had diarrhoea in the last 2 weeks	0.226	0.022	771	874	1.477	0.098	0.181	0.270
Treated with ORS packets	0.319	0.057	169	198	1.586	0.177	0.206	0.432
Sought medical treatment	0.119	0.026	169	198	1.051	0.218	0.067	0.171
Having health card	0.178	0.034	268	294	1.403	0.193	0.110	0.247
Received BCG vaccination	0.808	0.035	268	294	1.403	0.043	0.739	0.877
Received DPT vaccination (3 doses)	0.577	0.039	268	294	1.239	0.067	0.499	0.654
Received Polio vaccination (3 doses)	0.545	0.043	268	294	1.375	0.079	0.459	0.632
Received measles vaccination	0.633	0.037	268	294	1.236	0.059	0.559	0.708
Fully immunized	0.452	0.044	268	294	1.402	0.097	0.364	0.540
Weight-for-height	0.102	0.012	677	765	1.047	0.123	0.077	0.127
Height-for-age	0.383	0.022	677	765	1.200	0.058	0.339	0.427
Weight-for-age	0.380	0.023	677	765	1.201	0.060	0.335	0.426
Total fertility rate (3 years)	4.111	0.211	NA	7003	1.431	0.051	3.690	4.532
Neonatal mortality rate (0-9 years)	57.777	6.024	2828	3192	1.166	0.104	45.729	69.825
Postneonatal mortality rate (0-9 years)	21.600	2.933	2833	3197	1.052	0.136	15.734	27.466
Infant mortality rate (0-9 years)	79.377	6.569	2833	3197	1.142	0.083	66.238	92.516
Child mortality rate (0-9 years)	36.301	5.038	2854	3219	1.106	0.139	26.225	46.377
Under-five mortality rate (0-9 years)	112.797	8.109	2859	3225	1.175	0.072	96.579	129.015

NA = Not applicable

Table B9. Sampling errors - Central sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.131	0.016	2515	2827	2.392	0.123	0.099	0.163
No education	0.794	0.021	2515	2827	2.597	0.026	0.753	0.836
Secondary or more	0.097	0.015	2515	2827	2.511	0.153	0.067	0.126
Currently in union	0.947	0.005	2515	2827	1.178	0.006	0.937	0.958
Ever in union before 20	0.884	0.012	2205	2449	1.774	0.014	0.859	0.908
Sex before 18	0.691	0.018	2205	2449	1.861	0.027	0.654	0.728
Children ever born	3.276	0.060	2373	2677	1.210	0.018	3.157	3.395
Children ever born to women over 40	5.722	0.172	455	512	1.527	0.030	5.378	6.067
Children surviving	2.693	0.042	2373	2677	1.075	0.016	2.609	2.777
Knowing any method	0.982	0.007	2373	2677	2.676	0.007	0.967	0.997
Knowing any modern method	0.981	0.008	2373	2677	2.714	0.008	0.966	0.996
Ever use any method	0.396	0.027	2373	2677	2.670	0.068	0.342	0.449
Using any method	0.310	0.024	2373	2677	2.504	0.077	0.262	0.357
Using any modern method	0.286	0.024	2373	2677	2.560	0.083	0.238	0.333
Using pill	0.015	0.006	2373	2677	2.379	0.400	0.003	0.026
Using IUD	0.005	0.002	2373	2677	1.075	0.311	0.002	0.008
Using injectables	0.051	0.007	2373	2677	1.577	0.139	0.037	0.065
Using Norplant	0.006	0.002	2373	2677	1.107	0.295	0.002	0.009
Using condom	0.018	0.004	2373	2677	1.594	0.240	0.010	0.027
Using female sterilization	0.136	0.014	2373	2677	1.926	0.100	0.109	0.163
Using male sterilization	0.054	0.007	2373	2677	1.409	0.121	0.041	0.067
Currently using abstinence	0.007	0.002	2373	2677	1.238	0.292	0.003	0.012
Using withdrawal	0.013	0.003	2373	2677	1.136	0.204	0.008	0.018
Using public sector source	0.750	0.036	723	765	2.240	0.048	0.678	0.822
Want no more children	0.394	0.013	2373	2677	1.263	0.032	0.368	0.419
Want to delay child at least 2 years	0.212	0.009	2373	2677	1.078	0.043	0.194	0.230
Ideal number of children	2.954	0.070	2423	2709	3.031	0.024	2.815	3.094
Mothers received tetanus injection	0.546	0.035	1268	1434	2.324	0.064	0.476	0.615
Mothers received medical care at delivery	0.134	0.019	1268	1434	1.851	0.140	0.096	0.171
Had diarrhoea in the last 2 weeks	0.264	0.017	1195	1354	1.340	0.066	0.230	0.299
Treated with ORS packets	0.254	0.031	345	358	1.252	0.121	0.193	0.316
Sought medical treatment	0.110	0.020	345	358	1.167	0.186	0.069	0.151
Having health card	0.222	0.023	401	452	1.094	0.102	0.177	0.267
Received BCG vaccination	0.778	0.027	401	452	1.318	0.035	0.724	0.833
Received DPT vaccination (3 doses)	0.521	0.038	401	452	1.511	0.072	0.446	0.596
Received Polio vaccination (3 doses)	0.507	0.037	401	452	1.497	0.074	0.432	0.581
Received measles vaccination	0.548	0.035	401	452	1.409	0.064	0.478	0.618
Fully immunized	0.432	0.033	401	452	1.322	0.076	0.367	0.497
Weight-for-height	0.101	0.009	1102	1247	0.980	0.087	0.083	0.118
Height-for-age	0.509	0.024	1102	1247	1.647	0.048	0.460	0.558
Weight-for-age	0.482	0.022	1102	1247	1.503	0.047	0.437	0.527
Total fertility rate (3 years)	4.562	0.174	NA	9160	1.442	0.038	4.214	4.910
Neonatal mortality rate (0-9 years)	55.958	4.332	4102	4632	1.080	0.077	47.294	64.622
Postneonatal mortality rate (0-9 years)	30.337	2.989	4107	4638	1.090	0.099	24.360	36.315
Infant mortality rate (0-9 years)	86.295	5.803	4108	4638	1.209	0.067	74.688	97.902
Child mortality rate (0-9 years)	56.054	5.648	4158	4697	1.294	0.101	44.758	67.350
Under-five mortality rate (0-9 years)	137.512	8.518	4165	4705	1.350	0.062	120.476	154.548

NA = Not applicable

Table B10. Sampling errors - Western sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.049	0.020	1594	1647	3.790	0.418	0.008	0.090
No education	0.761	0.028	1594	1647	2.591	0.036	0.706	0.817
Secondary or more	0.100	0.017	1594	1647	2.265	0.170	0.066	0.134
Currently in union	0.947	0.008	1594	1647	1.369	0.008	0.932	0.963
Ever in union before 20	0.875	0.016	1439	1489	1.877	0.019	0.842	0.907
Sex before 18	0.661	0.025	1439	1489	1.984	0.037	0.611	0.710
Children ever born	3.428	0.078	1513	1560	1.234	0.023	3.272	3.585
Children ever born to women over 40	5.744	0.202	302	313	1.335	0.035	5.341	6.148
Children surviving	2.869	0.057	1513	1561	1.105	0.020	2.755	2.982
Knowing any method	0.988	0.009	1513	1561	3.027	0.009	0.970	1.000
Knowing any modern method	0.988	0.009	1513	1561	3.027	0.009	0.970	1.000
Ever use any method	0.384	0.033	1513	1561	2.673	0.087	0.317	0.451
Using any method	0.265	0.030	1513	1561	2.643	0.113	0.205	0.324
Using any modern method	0.252	0.029	1513	1561	2.589	0.115	0.194	0.310
Using pill	0.011	0.004	1513	1561	1.413	0.350	0.003	0.018
Using IUD	0.003	0.002	1513	1561	1.485	0.756	0.000	0.006
Using injectables	0.034	0.007	1513	1561	1.565	0.213	0.020	0.049
Using Norplant	0.003	0.003	1513	1561	1.810	0.828	0.000	0.008
Using condom	0.013	0.004	1513	1561	1.348	0.299	0.005	0.021
Using female sterilization	0.106	0.016	1513	1561	2.049	0.153	0.073	0.138
Using male sterilization	0.081	0.011	1513	1561	1.510	0.131	0.060	0.103
Currently using abstinence	0.004	0.002	1513	1561	1.148	0.454	0.000	0.008
Using withdrawal	0.008	0.002	1513	1561	0.981	0.284	0.003	0.012
Using public sector source	0.842	0.027	381	393	1.419	0.032	0.789	0.895
Want no more children	0.449	0.014	1513	1561	1.100	0.031	0.421	0.477
Want to delay child at least 2 years	0.178	0.013	1513	1561	1.285	0.071	0.153	0.204
Ideal number of children	2.727	0.086	1535	1591	3.478	0.032	2.555	2.900
Mothers received tetanus injection	0.476	0.036	853	881	1.942	0.075	0.404	0.547
Mothers received medical care at delivery	0.101	0.017	853	881	1.539	0.169	0.067	0.135
Had diarrhoea in the last 2 weeks	0.256	0.027	785	811	1.727	0.106	0.202	0.310
Treated with ORS packets	0.249	0.053	205	208	1.738	0.211	0.144	0.355
Sought medical treatment	0.105	0.018	205	208	0.838	0.172	0.069	0.141
Having health card	0.312	0.056	258	267	1.916	0.178	0.201	0.424
Received BCG vaccination	0.812	0.061	258	267	2.526	0.076	0.690	0.935
Received DPT vaccination (3 doses)	0.624	0.077	258	267	2.547	0.124	0.469	0.778
Received Polio vaccination (3 doses)	0.615	0.077	258	267	2.536	0.126	0.461	0.770
Received measles vaccination	0.568	0.065	258	267	2.112	0.115	0.438	0.699
Fully immunized	0.510	0.067	258	267	2.137	0.131	0.377	0.644
Weight-for-height	0.112	0.020	738	762	1.662	0.174	0.073	0.151
Height-for-age	0.500	0.027	738	762	1.461	0.054	0.446	0.554
Weight-for-age	0.477	0.034	738	762	1.786	0.071	0.410	0.544
Total fertility rate (3 years)	4.656	0.200	NA	5697	1.386	0.043	4.257	5.055
Neonatal mortality rate (0-9 years)	53.059	5.754	2683	2771	1.201	0.108	41.552	64.566
Postneonatal mortality rate (0-9 years)	31.272	4.283	2688	2776	1.127	0.137	22.707	39.837
Infant mortality rate (0-9 years)	84.330	7.466	2688	2776	1.214	0.089	69.399	99.262
Child mortality rate (0-9 years)	37.604	5.889	2695	2783	1.463	0.157	25.825	49.382
Under-five mortality rate (0-9 years)	118.763	9.658	2700	2788	1.340	0.081	99.446	138.079

NA = Not applicable

Table B11. Sampling errors - Mid-western sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.044	0.008	1390	1196	1.486	0.186	0.028	0.060
No education	0.856	0.016	1390	1196	1.701	0.019	0.824	0.888
Secondary or more	0.058	0.010	1390	1196	1.631	0.176	0.038	0.079
Currently in union	0.959	0.007	1390	1196	1.280	0.007	0.945	0.973
Ever in union before 20	0.919	0.009	1215	1043	1.108	0.009	0.902	0.936
Sex before 18	0.735	0.018	1215	1043	1.457	0.025	0.698	0.772
Children ever born	3.698	0.108	1334	1146	1.460	0.029	3.482	3.915
Children ever born to women over 40	6.726	0.144	247	213	0.922	0.021	6.439	7.013
Children surviving	2.881	0.080	1334	1146	1.412	0.028	2.722	3.041
Knowing any method	0.988	0.005	1334	1146	1.847	0.005	0.978	0.999
Knowing any modern method	0.988	0.006	1334	1146	1.891	0.006	0.976	0.999
Ever use any method	0.380	0.024	1334	1146	1.802	0.063	0.332	0.427
Using any method	0.269	0.025	1334	1146	2.031	0.092	0.219	0.318
Using any modern method	0.242	0.024	1334	1146	2.063	0.100	0.194	0.291
Using pill	0.016	0.004	1334	1146	1.292	0.276	0.007	0.025
Using IUD	0.001	0.001	1334	1146	0.816	0.997	0.000	0.002
Using injectables	0.039	0.010	1334	1146	1.850	0.250	0.020	0.059
Using Norplant	0.001	0.001	1334	1146	0.823	1.006	0.000	0.002
Using condom	0.030	0.005	1334	1146	1.096	0.170	0.020	0.041
Using female sterilization	0.105	0.019	1334	1146	2.232	0.178	0.068	0.143
Using male sterilization	0.048	0.007	1334	1146	1.220	0.149	0.034	0.062
Currently using abstinence	0.007	0.002	1334	1146	0.926	0.311	0.002	0.011
Using withdrawal	0.017	0.004	1334	1146	1.197	0.246	0.009	0.026
Using public sector source	0.722	0.040	327	278	1.597	0.055	0.643	0.802
Want no more children	0.401	0.016	1334	1146	1.181	0.040	0.369	0.433
Want to delay child at least 2 years	0.233	0.012	1334	1146	0.995	0.049	0.210	0.256
Ideal number of children	3.069	0.072	1378	1186	2.459	0.023	2.925	3.213
Mothers received tetanus injection	0.359	0.033	800	695	1.782	0.091	0.294	0.424
Mothers received medical care at delivery	0.047	0.010	800	695	1.251	0.222	0.026	0.068
Had diarrhoea in the last 2 weeks	0.346	0.026	728	631	1.454	0.074	0.294	0.397
Treated with ORS packets	0.231	0.034	245	218	1.261	0.145	0.164	0.298
Sought medical treatment	0.184	0.032	245	218	1.332	0.176	0.119	0.249
Having health card	0.183	0.026	249	218	1.053	0.140	0.132	0.234
Received BCG vaccination	0.705	0.039	249	218	1.374	0.056	0.627	0.784
Received DPT vaccination (3 doses)	0.509	0.043	249	218	1.362	0.084	0.423	0.595
Received Polio vaccination (3 doses)	0.442	0.044	249	218	1.415	0.100	0.354	0.531
Received measles vaccination	0.558	0.049	249	218	1.574	0.088	0.460	0.657
Fully immunized	0.390	0.045	249	218	1.455	0.114	0.301	0.479
Weight-for-height	0.119	0.011	636	555	0.880	0.095	0.096	0.141
Height-for-age	0.510	0.029	636	555	1.469	0.058	0.451	0.569
Weight-for-age	0.488	0.019	636	555	0.957	0.040	0.450	0.527
Total fertility rate (3 years)	5.468	0.198	NA	3819	0.918	0.036	5.071	5.864
Neonatal mortality rate (0-9 years)	63.400	5.725	2712	2350	1.069	0.090	51.951	74.849
Postneonatal mortality rate (0-9 years)	51.431	6.059	2717	2354	1.301	0.118	39.312	63.549
Infant mortality rate (0-9 years)	114.830	7.440	2717	2354	1.071	0.065	99.950	129.711
Child mortality rate (0-9 years)	71.159	7.914	2748	2382	1.400	0.111	55.330	86.987
Under-five mortality rate (0-9 years)	177.818	11.906	2753	2386	1.450	0.067	154.006	201.630

NA = Not applicable

Table B12. Sampling errors - Far-western sample, Nepal 1996

Variable	Value (R)	Standard error (SE)	Number of cases		Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)			R-2SE	R+2SE
Urban resident	0.071	0.009	1247	819	1.205	0.124	0.053	0.088
No education	0.902	0.017	1247	819	1.958	0.018	0.869	0.935
Secondary or more	0.037	0.007	1247	819	1.363	0.198	0.022	0.051
Currently in union	0.939	0.006	1247	819	0.854	0.006	0.928	0.951
Ever in union before 20	0.948	0.009	1075	703	1.352	0.010	0.929	0.966
Sex before 18	0.794	0.016	1075	703	1.318	0.020	0.762	0.827
Children ever born	3.717	0.069	1175	769	0.881	0.019	3.578	3.856
Children ever born to women over 40	6.377	0.192	228	151	1.151	0.030	5.993	6.761
Children surviving	2.869	0.056	1175	769	0.930	0.019	2.758	2.980
Knowing any method	0.980	0.005	1175	769	1.174	0.005	0.971	0.990
Knowing any modern method	0.980	0.005	1175	769	1.174	0.005	0.971	0.990
Ever use any method	0.282	0.023	1175	769	1.779	0.083	0.236	0.329
Using any method	0.208	0.022	1175	769	1.854	0.106	0.164	0.252
Using any modern method	0.196	0.022	1175	769	1.864	0.110	0.153	0.239
Using pill	0.007	0.002	1175	769	0.964	0.346	0.002	0.011
Using IUD	0.002	0.001	1175	769	0.462	0.329	0.001	0.003
Using injectables	0.041	0.011	1175	769	1.952	0.274	0.019	0.064
Using Norplant	0.000	0.000	1175	769	NA	NA	0.000	0.000
Using condom	0.011	0.004	1175	769	1.203	0.337	0.003	0.018
Using female sterilization	0.093	0.018	1175	769	2.167	0.197	0.056	0.130
Using male sterilization	0.043	0.008	1175	769	1.394	0.192	0.026	0.059
Currently using abstinence	0.002	0.002	1175	769	1.249	0.732	0.000	0.006
Using withdrawal	0.009	0.005	1175	769	1.640	0.494	0.000	0.018
Using public sector source	0.893	0.020	238	151	0.996	0.022	0.852	0.933
Want no more children	0.368	0.019	1175	769	1.361	0.052	0.330	0.407
Want to delay child at least 2 years	0.284	0.012	1175	769	0.948	0.044	0.259	0.309
Ideal number of children	3.193	0.060	1245	818	2.071	0.019	3.074	3.313
Mothers received tetanus injection	0.239	0.026	678	441	1.454	0.110	0.186	0.291
Mothers received medical care at delivery	0.052	0.011	678	441	1.276	0.216	0.030	0.075
Had diarrhoea in the last 2 weeks	0.342	0.021	618	402	1.059	0.061	0.301	0.384
Treated with ORS packets	0.241	0.025	212	138	0.864	0.106	0.190	0.292
Sought medical treatment	0.216	0.025	212	138	0.901	0.117	0.165	0.266
Having health card	0.157	0.027	226	147	1.092	0.169	0.104	0.210
Received BCG vaccination	0.591	0.042	226	147	1.277	0.071	0.507	0.675
Received DPT vaccination (3 doses)	0.372	0.031	226	147	0.965	0.084	0.309	0.434
Received Polio vaccination (3 doses)	0.349	0.030	226	147	0.944	0.086	0.289	0.409
Received measles vaccination	0.491	0.042	226	147	1.244	0.085	0.408	0.575
Fully immunized	0.325	0.034	226	147	1.090	0.105	0.256	0.393
Weight-for-height	0.165	0.013	579	376	0.821	0.078	0.139	0.191
Height-for-age	0.532	0.022	579	376	1.046	0.041	0.489	0.576
Weight-for-age	0.563	0.015	579	376	0.722	0.027	0.533	0.593
Total fertility rate (3 years)	5.186	0.195	NA	2585	1.154	0.038	4.795	5.576
Neonatal mortality rate (0-9 years)	67.264	5.416	2303	1500	0.919	0.081	56.432	78.096
Postneonatal mortality rate (0-9 years)	57.012	7.386	2306	1500	1.414	0.130	42.240	71.784
Infant mortality rate (0-9 years)	124.276	10.238	2308	1501	1.326	0.082	103.799	144.753
Child mortality rate (0-9 years)	62.331	6.850	2324	1512	1.136	0.110	48.630	76.032
Under-five mortality rate (0-9 years)	178.861	11.676	2331	1516	1.274	0.065	155.509	202.213

NA = Not applicable

APPENDIX C

DATA QUALITY

This appendix is an assessment of the quality of the data collected in the Nepal Family Health Survey (NFHS). Unlike Appendix B which discusses the effect of sampling errors on the survey results, the discussion in this appendix focuses on the magnitude of *nonsampling* errors and its potential effects on interpreting the findings of the survey. Nonsampling errors can take several forms: digit preference; rounding or heaping on certain ages or dates; omission of certain events in the past; deliberate distortion of information by some interviewers who want to lighten their workload; lack of cooperation by respondents in giving information about themselves or their children; respondents not agreeing to be weighed and measured; respondents not allowing their children to be weighed or measured.

C.1 Age Reporting Errors

In most developing countries, ages are of little significance to the majority of the population and especially to those living in rural areas. Because it is well documented that in Nepal ages are poorly reported, considerable emphasis was placed during interviewer training, on obtaining accurate age information. There are also several built-in checks in the questionnaire that allowed interviewers to verify the accuracy of the information recorded on age. Table C.1 shows the distribution of the *de facto* household population by single year of age. Information on age is obtained from the Household Questionnaire.

It is clear from Table C.1 that there is some preference for ages ending in 0, 2 and 5, and, as expected, age heaping is more severe in the older ages. The typical pattern of heaping on age 12 is also evident. Nevertheless, age reporting in the NFHS is better than age data from previous sources. The age reporting among females in the reproductive age group appears to be particularly good, presumably because these women reported their own age (see Figure 2.2). The Myers' Index, which is a commonly used measure of overall digit preference in age reporting, for the male and female population age 10-60 years are 9.6 and 6.4, respectively. The corresponding indices in the 1991 Nepal Fertility, Family Planning and Health Survey is 28.0 and 22.3 for males and females, respectively (Ministry of Health Nepal, 1993). Myers' Indices range from 18.3 in the 1976 Nepal Fertility Survey to 25.3 in the 1986 Nepal Fertility and Family Planning Survey (NFFS) for currently married women age 20-49 (Ministry of Health Nepal, 1987). The Myers' Index in the NFHS for currently married women age 20-49 is 8.2. Another measure of the quality of the age data is the very small number of persons whose ages were recorded as not known or missing. In the NFHS age was reported as missing or not known for only two persons, both female (Table C.1).

Sometimes eligible women, that is, ever-married women age 15-49, may be shifted out of the eligible age range, or recorded as not married, by interviewers in order to reduce their workload. Table C.2 is intended to detect both displacement of women out of the eligible age range and differential rates of response by age. The number of ever-married women interviewed is calculated using household weights, in order to compare with the number of ever-married women age 15-49 in the household. Hence this number is slightly different from the total number of women interviewed based on individual women weights. Table C.2 shows that there is no bias in age reporting as indicated by the virtual absence of any difference between the age distribution of women recorded in the household schedule and those interviewed with the Individual Questionnaire. The table also shows the expected pattern of declining percentage as age increases, indicating that interviewers have not attempted to shift eligible women out of the eligible age range. Finally, Table C.2 also shows that response rates vary only slightly across the age of respondents.

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Nepal 1996

Age	Males		Females		Age	Males		Females	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
<1	734	3.6	719	3.2	37	159	0.8	197	0.9
1	710	3.4	679	3.1	38	165	0.8	228	1.0
2	696	3.4	676	3.0	39	183	0.9	205	0.9
3	639	3.1	655	3.0	40	209	1.0	223	1.0
4	641	3.1	679	3.1	41	188	0.9	197	0.9
5	713	3.5	661	3.0	42	173	0.8	199	0.9
6	662	3.2	655	3.0	43	122	0.6	155	0.7
7	690	3.3	656	3.0	44	132	0.6	172	0.8
8	619	3.0	606	2.7	45	208	1.0	204	0.9
9	589	2.8	625	2.8	46	170	0.8	182	0.8
10	585	2.8	538	2.4	47	150	0.7	146	0.7
11	579	2.8	541	2.4	48	151	0.7	160	0.7
12	699	3.4	637	2.9	49	109	0.5	153	0.7
13	505	2.4	469	2.1	50	154	0.7	114	0.5
14	514	2.5	501	2.3	51	143	0.7	160	0.7
15	451	2.2	496	2.2	52	169	0.8	167	0.8
16	454	2.2	464	2.1	53	100	0.5	146	0.7
17	341	1.7	472	2.1	54	127	0.6	130	0.6
18	394	1.9	471	2.1	55	147	0.7	148	0.7
19	285	1.4	356	1.6	56	150	0.7	115	0.5
20	311	1.5	418	1.9	57	112	0.5	112	0.5
21	275	1.3	407	1.8	58	98	0.5	105	0.5
22	337	1.6	424	1.9	59	84	0.4	97	0.4
23	247	1.2	347	1.6	60	122	0.6	118	0.5
24	307	1.5	403	1.8	61	97	0.5	120	0.5
25	286	1.4	384	1.7	62	134	0.6	109	0.5
26	295	1.4	371	1.7	63	62	0.3	87	0.4
27	283	1.4	358	1.6	64	75	0.4	54	0.2
28	270	1.3	366	1.6	65	110	0.5	117	0.5
29	214	1.0	254	1.1	66	57	0.3	50	0.2
30	261	1.3	315	1.4	67	71	0.3	64	0.3
31	200	1.0	213	1.0	68	53	0.3	61	0.3
32	266	1.3	314	1.4	69	59	0.3	54	0.2
33	160	0.8	239	1.1	70+	475	2.3	448	2.0
34	250	1.2	284	1.3	Don't know/ missing	0	0.0	2	0.0
35	246	1.2	266	1.2					
36	235	1.1	283	1.3					
					Total	20,658	100.0	22,205	100.0

Note: The de facto population includes all residents and nonresidents who slept in the household the night before the interview.

C.2 Omission and Displacement

Another common measure of data quality is the extent of missing information on key variables. If data collection is not carried out with sufficient care and patience, information is likely to be missing in a large number of cases and a high level of missing information may indicate that the non-missing information is of poor quality. Nevertheless, it is important to bear in mind that completeness of reporting does not necessarily imply accuracy of the results. In the NFHS, the extent of missing information is very low on all the measures shown with the exception of height and weight information on children (Table C.3). Data are 100 percent complete for month and year of birth and mother's educational level, and nearly complete for age at death, age at/date of first union, and prevalence of diarrhoea in the two weeks preceding the survey. Data on height and weight are available for more than 90 percent of the children, which is very good considering that in some parts of Nepal

the weather was not conducive for weighing and measuring children. In some cases, children were not measured because they were not at home at the time of the interview nor during subsequent call-backs and, in other cases, either the child refused to be weighed and/or measured or the mother refused to have her child weighed and measured.

Table C.2 Age distribution of eligible and interviewed women

Percent distribution of the de facto household population of women age 10-54 and of interviewed women age 15-49, and the percentage of eligible women who were interviewed (weighted) by five-year groups, Nepal 1996

	Household population of women		Ever-married women		Interviewed Women age 15-49		Percentage interviewed (weighted)
	Number	Percent	Number	Percent	Number	Percent	
10-14	2,686	NA	NA	NA	NA	NA	NA
15-19	2,259	21.9	967	11.2	945	11.2	97.7
20-24	1,999	19.4	1,726	20.0	1,687	20.0	97.7
25-29	1,734	16.8	1,664	19.3	1,633	19.3	98.1
30-34	1,365	13.2	1,343	15.6	1,318	15.6	98.1
35-39	1,179	11.4	1,164	13.5	1,145	13.5	98.3
40-44	946	9.2	936	10.8	921	10.9	98.4
45-49	846	8.2	833	9.6	807	9.5	96.9
50-54	718	NA	NA	NA	NA	NA	NA
15-49	10,328	NA	8,634	NA	8,457	NA	98.0

Note: The de facto population includes all residents and nonresidents who slept in the household the night before interview. The number of interviewed women is calculated using the household weights in order to be comparable to the number of ever-married women in the household. Thus, the numbers differ slightly from those shown in the rest of the report, which are based on individual woman weights.
NA= Not applicable

Data quality is also measured by the completeness and accuracy of information on births. Table C.4 shows the distribution of births by calendar year to ascertain if any unusual patterns exist which may indicate that births have been omitted or that the ages of children have been displaced. Complete information is available for almost all children with little difference between living and dead children. Birth history information is, in fact, as high as 100 percent complete for the four most recent years. Thus, the completeness of data on birth dates is very high. However, an examination of the NFHS data since 2043 indicates some omission of deaths in the most recent five-year period. The proportion of deaths to births decreases from 16 percent during the period 2043-2047 to 9 percent since 2047. Some of this decrease may be due to a real reduction in mortality during the more recent period and some may be due to the fact that younger children have had less exposure to the risk of mortality. Nevertheless, the sharp fall in the proportion of deaths since 2049 suggests some underreporting in the most recent period.

Age displacement is common in many surveys that include both demographic information and health information for children below a specified age. The cutoff date for asking health questions in Nepal was the first month (*Baisakh*, which is roughly equivalent to the Western month of April) of the Nepalese year 2049 (1992). Table C.4 shows that while there is no age displacement across this boundary for living children, there is evidence of possible misreporting of birth dates for dead children. The distribution of dead children in Nepal shows a deficit of births in calendar year 2049 and an excess of births in calendar year 2048 as denoted by the

calendar year ratios for dead children. This pattern is believed to be the result of transference of births by interviewers out of the period for which health data were collected. This has been noted in other DHS surveys. Transference is more obvious for dead children, presumably because information on dead children is harder to obtain from mothers, who are reluctant to talk about their deceased children. However, since birth displacement of dead children occurs within the five-year reference period for which mortality rates are calculated, these rates are unlikely to be affected by such displacement. Finally, the overall sex ratio is an expected 105 males to 100 females, indicating that underreporting of births by gender was not a problem in the NFHS.

Subject	Reference group	Percentage missing information	Number of cases
Birth Date	Birth in last 15 years		
Month only		0.14	20,317
Month and year		0.00	20,317
Age at death	Deaths to births in last 15 years	0.12	3,003
Age at/date of first union ¹	Ever-married women	0.11	8,429
Respondent's education	Ever-married women	0.00	8,429
Anthropometry²	Living children age 0-35 months		
Height missing		7.20	4,072
Weight missing		2.15	4,072
Height and weight missing		7.20	4,072
Diarrhoea in last 2 weeks	Living children age 0-35 months	0.39	4,072

¹Both year and age missing
²Child not measured

Underreporting of deaths is most severe for deaths which occur very early in infancy. Table C.5 looks at the evidence of underreporting of infant deaths. A selective underreporting of early neonatal deaths would result in an abnormally low ratio of deaths under seven days to all neonatal deaths. Early infant deaths have *not* been severely under reported in the NFHS as suggested by the high ratio of deaths in the first six days to all neonatal deaths.¹ This ratio also varies little over the 20 years before the survey (between 64 and 65) which further supports the evidence that early infant deaths have not been grossly underreported.

Heaping of the age at death on certain digits is another problem that is inherent in most retrospective surveys. Misreporting of age at death biases estimates of the age pattern of mortality if the net result of misreporting is the transference of deaths between age segments for which the rates are calculated; for example, an overestimate of child mortality relative to infant mortality may result if children who died during the first year of life are reported as having died at age one or older. In an effort to minimise the error in reporting the age at

¹There are no model mortality patterns for the neonatal period. However, one review of data from several developing countries concluded that, at levels of neonatal mortality of 20 per 1,000 or higher, approximately 70 percent of neonatal deaths occur within the first six days of life (Boerma, 1988).

Table C.4 Births by Nepali calendar years

Distribution of births by Nepalese calendar years for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year, Nepal 1996

Year	Number of births			Percentage with complete birth date ¹			Sex ratio at birth ²			Calendar ratio ³			Male			Female		
	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T
2052	1,282	83	1,365	100.0	99.3	100.0	100.2	132.3	101.9	NA	NA	NA	641	47	689	640	36	676
2051	1,361	117	1,478	100.0	100.0	100.0	105.7	110.9	106.1	104.3	131.0	106.0	699	62	761	662	56	717
2050	1,327	96	1,423	100.0	100.0	100.0	106.9	174.9	110.4	98.9	75.5	96.9	685	61	747	641	35	676
2049	1,322	138	1,460	100.0	100.0	100.0	99.4	101.2	99.6	102.2	86.7	100.5	659	69	728	663	69	731
2048	1,261	222	1,483	99.7	100.0	99.8	100.3	99.6	100.2	97.1	132.7	101.1	631	111	742	630	111	741
2047	1,276	197	1,473	99.9	99.1	99.8	99.7	112.0	101.3	104.3	86.9	101.5	637	104	741	639	93	732
2046	1,187	231	1,418	99.9	99.2	99.8	112.2	144.2	116.8	94.4	113.8	97.1	628	136	764	560	94	654
2045	1,240	209	1,449	99.8	100.0	99.8	106.3	95.4	104.6	107.6	91.6	104.9	639	102	741	601	107	708
2044	1,118	226	1,344	99.9	99.6	99.8	104.3	116.3	106.2	97.1	101.0	97.7	571	121	692	547	104	652
2043	1,063	238	1,301	99.9	99.1	99.8	91.2	122.1	96.2	NA	NA	NA	507	131	638	556	107	663
2048-2052	6,552	656	7,208	99.9	99.9	99.9	102.5	114.5	103.5	NA	NA	NA	3,316	350	3,667	3,236	306	3,542
2043-2047	5,885	1,100	6,985	99.9	99.4	99.8	102.7	117.5	104.9	NA	NA	NA	2,982	594	3,576	2,903	506	3,409
2038-2042	4,833	1,241	6,074	99.8	99.9	99.8	105.0	92.9	102.4	NA	NA	NA	2,476	598	3,074	2,357	643	3,000
2033-2037	3,317	1,067	4,384	99.9	99.4	99.8	109.5	95.7	106.0	NA	NA	NA	1,734	522	2,256	1,583	545	2,128
< 2033	2,870	1,280	4,150	99.8	99.6	99.8	115.2	103.8	111.5	NA	NA	NA	1,536	652	2,188	1,334	628	1,962
All	23,458	5,343	28,801	99.9	99.6	99.8	105.5	103.3	105.1	NA	NA	NA	12,045	2,716	14,760	11,413	2,628	14,041

Note: The beginning of the year 2053 in the Nepali calendar roughly corresponds to 15th April 1996 in the Western calendar. There were only a few births reported in the year 2053 and are not shown.

NA = Not applicable

¹Both year and month of birth given

² $(B_m/B_f)*100$, where B_m and B_f are the numbers of male and female births, respectively

³ $[2B_x/(B_{x-1}+B_{x+1})]*100$, where B_x is the number of births in calendar year x

Table C.5 Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five year periods of birth preceding the survey, Nepal 1996

Age at death (in days)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1	88	130	116	108	442
1	39	50	53	35	178
2	24	29	15	16	84
3	39	32	35	17	123
4	12	19	13	13	57
5	12	23	22	20	77
6	10	22	26	25	83
7	18	22	24	19	83
8	9	18	19	17	63
9	6	12	16	13	47
10	10	7	13	9	39
11	8	5	5	5	23
12	6	14	9	16	44
13	7	8	6	6	26
14	1	8	6	6	20
15	16	12	11	7	47
16	5	12	4	4	25
17	3	7	11	3	24
18	5	6	3	4	18
19	6	1	4	1	12
20	2	9	4	5	20
21	5	5	3	1	14
22	9	7	8	6	30
23	3	3	2	1	9
24	1	4	2	1	8
25	2	2	4	1	9
26	3	1	2	0	6
27	3	1	1	1	5
28	0	0	1	1	2
29	0	1	1	0	1
30	0	0	2	1	2
Total 0-30	352	469	440	360	1,620
Percent early neonatal ¹	63.8	65.1	64.0	64.8	64.4

¹ (0-6 days/0-30 days) *100

death, interviewers in the NFHS were instructed to record deaths under one month in days, and those under 2 years of age in months. They were also specifically asked to probe for deaths reported at one year of age to ensure that they had actually occurred at 12 months.

Table C.6 examines the distribution of deaths under two years of age during the 20 years prior to the survey by month of death and indicates some heaping at 3, 6, 12 and 18 months of age, with corresponding deficits in adjacent months, although these are less pronounced during the period 0-4 years preceding the survey. Digit preference does not appear to be sufficiently serious, to substantially alter the mortality rates calculated here.

Table C.6 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at ages under one month, for five-year periods preceding the survey, Nepal 1996

Age at death (in months)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1 ^a	352	469	440	360	1,621
1	32	44	51	34	160
2	30	32	31	27	120
3	15	33	42	33	122
4	19	10	28	17	74
5	12	22	21	20	76
6	14	23	27	35	99
7	9	13	15	11	48
8	12	21	22	20	75
9	12	29	27	17	85
10	10	18	27	23	78
11	14	31	29	32	106
12	15	19	32	35	101
13	7	27	20	11	65
14	6	9	15	12	41
15	7	16	15	18	56
16	6	5	7	9	27
17	4	11	14	7	36
18	10	26	21	17	75
19	2	13	9	5	28
20	3	2	5	4	15
21	2	4	8	3	17
22	2	5	11	6	24
23	4	4	15	4	26
1 year	2	0	7	4	13
Total 0-11	529	745	761	629	2,665
Percent neonatal ^b	66.4	63.0	57.8	57.2	60.8

^a Includes deaths under 1 month reported in days

^b (Under 1 month/under 1 year) * 100

C.3 Adult and Maternal Mortality

Section 8 of the Individual Questionnaire in the NFHS uses the direct method to collect data on maternal mortality. The procedure involved listing all the siblings of the respondent and then collecting information on: the survival status of each of the siblings; the ages of the surviving siblings; the ages and years since death of deceased siblings. For each deceased sister, additional questions were asked to determine if a death is due to maternal causes. Maternal death is defined as any death that occurs during pregnancy, childbirth, or within two months following the birth or termination of a pregnancy. This time-specific definition includes all deaths that occurred within the specified time period even if the death is due to a non-pregnancy related cause. However, this definition is unlikely to result in overreporting of maternal deaths because most deaths to women in the specified time period are likely to be due to maternal causes, and maternal deaths in general are more likely to be underreported than overreported.

There are two advantages to listing all siblings. First, a reporting of all siblings in chronological order of birth is thought to elicit more complete reporting of events, than if questions relate to sisters alone. Second, information collected on all siblings allows the direct estimation of adult mortality as well. The computing of adult mortality, including maternal mortality involves estimating the number of person-years of exposure to death and the number of deaths by time period. Estimates are usually shown by five-year or ten-year intervals before the survey for a period often not exceeding 15 years. To avoid possible heaping of ages since death ending in zero and five and to reduce the likelihood of underreporting (which is likely to be more severe the further back in time) the NFHS estimates of mortality are shown for the period 0-6 years before the survey. Nevertheless, the reliability of estimates depends on the completeness and accuracy of reporting and the size of the sample.

Table C.7 Data on siblings
 Number of siblings reported by survey respondents and completeness of reported data on age, age at death (AD) and years since death (YSD), Nepal 1996

Sibling status and completeness of reporting	Sisters		Brothers		Total	
	Number	Percent	Number	Percent	Number	Percent
All siblings	25,349	100.0	27,057	100.0	52,406	100.0
Living	18,844	74.3	20,136	74.4	38,981	74.4
Dead	6,487	25.6	6,862	25.4	13,349	25.5
Status unknow	18	0.1	58	0.2	76	0.1
Living siblings	18,844	100.0	20,136	100.0	38,981	100.0
Age reported	18,833	99.9	20,128	100.0	38,962	100.0
Age missing	11	0.1	8	0.0	19	0.0
Dead siblings	6,487	100.0	6,862	100.0	13,349	100.0
AD and YSD reported	6,448	99.4	6,819	99.4	13,267	99.4
Missing only AD	9	0.1	3	0.0	12	0.1
Missing only YSD	12	0.2	25	0.4	38	0.3
Missing both AD and YSD	18	0.3	14	0.2	32	0.2

The completeness of data on survivorship status, current age, age at death, and years since death of siblings is shown in Table C.7. Respondents are found to be highly knowledgeable about their siblings. Information was missing for less than 1 percent of siblings, with little difference between brothers and sisters. Rather than exclude siblings with missing information from the analysis, the information on the birth order of siblings in conjunction with other information is used to impute the missing data.² There were 11 siblings whose sex was not known and who were not included in the analysis (data not shown).

²The imputation procedure is based on the assumption that the reported birth ordering of the siblings in the birth history is correct. The first step is to calculate birth dates. For each living sibling with a reported age and for each dead sibling with complete information on both age at death and year of death, the birth date is calculated. For a sibling missing these data, a birth date is imputed within the range defined by the birth dates of the bracketing siblings. In the case of living siblings, an age is then calculated from the imputed birth date. In the case of dead siblings, if either age at death or year of death is reported, that information is combined with the birth date to produce the missing information. If both pieces of information are missing, the age at death is imputed. This imputation is based on the distribution of the ages at death for those whose year of death is unreported, but age at death is reported.

Table C.8 Indicators on data quality

Percent distribution of respondents and siblings by year of birth, Nepal 1996

Year of birth	Respondents	Siblings
Before 2002	0.0	4.6
2002-06	6.0	4.7
2007-11	9.2	7.2
2012-16	11.3	10.3
2017-21	12.8	12.6
2022-26	15.9	14.9
2027-31	18.7	15.0
2032 or later	26.0	30.7
Total	100.0	100.0
Lower range	2002	1974
Upper range	2038	2052
Median	2025	2025
Number of cases	10,101	52,395

Note: The beginning of the year 2053 in the Nepalese calendar roughly corresponds to 15th April 1996 in the Western calendar.

Table C.9 Sibship size and sex ratio of siblings

Mean sibship size and sex ratio of births, Nepal 1996

Year of birth of respondents and siblings	Mean sibship size	Sex ratio at birth of
< 2007	6.0	110.4
2007-11	6.0	105.4
2012-16	6.1	109.2
2017-21	6.1	107.4
2022-26	6.4	104.8
2027-31	6.3	105.5
2032-38	6.2	107.2
Total	6.2	106.7

Note: The beginning of the year 2053 in the Nepalese calendar roughly corresponds to 15th April 1996 in the Western calendar.

Table C.8, which shows the distribution of respondents and their siblings by year of birth, is a crude measure of data quality. If there is no bias, the year of birth of siblings should be roughly equivalent to the year of birth of respondents overall. The distribution of respondents and their siblings by year of birth is very similar—in fact, the median year of birth is the same, 2025—indicating that there is no serious underreporting of siblings. The mean sibship size (number of siblings) is yet another crude measure of data quality (Table C.9). Since fertility in Nepal has declined over time, one would expect mean sibship sizes to decline as well. The absence of a monotonic decline in the sibship size suggests there may be some omission in the reporting of older siblings. In fact, the slightly higher sex ratio among siblings born before 2007 suggests the omission of sisters. However, since adult mortality rates are reported here for the seven years preceding the survey this omission is unlikely to affect the calculation of mortality rates. Moreover, if the omission occurred mostly among sisters who did not survive to adulthood (which is most likely the case) it may not even bias the estimation of maternal mortality.

Nevertheless it should be noted that any data that rely on respondent's recall of events will suffer from some degree of misreporting. The problem is compounded if this information pertains to deceased persons and if the event occurred a long time before the survey and, as in the case of Nepal, if respondents have a difficulty conceptualising the dates of events.

APPENDIX D

SURVEY STAFF

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Rajan Kumar Jamkattel
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Sunil Pun
Shree Krishna Gopali
Siromani Ghimire
Suk Bahadur Gurung
Bishnu Hari Tripathi
Lok Mani Nepal
Dwarika Nath Dhital
Suman Jung Saha
Suresh Bhandari
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Kiran Raj Mishra
Narayan Gautam

Bed Raj Neupane
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Shree Krishna Saha
Ashesh Khanal
Niran Sangraula
Bishnu Bhattarai
Niramal Kumar Shrestha
Hari Kumar Shrestha
Bhim Prasad Upreti
Ganga Bahadur Basnet
Lawan Kumar Adhikari
Surendra Raj Lamsal
Anil Prasad Dhungana
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Sanita Sainju
Rukmini Bhatta
Sushila Shrestha
Soni Shrestha
Laxmi Rayamajh

APPENDIX E
QUESTIONNAIRES

HOUSEHOLD SCHEDULE

Now we would like some information about the people who usually live in your household or who are staying with you now.

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX		AGE	EDUCATION			MARITAL STATUS				ELIGIBILITY
			Does (NAME) usually live here?	Did (NAME) stay here last night?	Is (NAME) male or female?	How old is (NAME)?		Has (NAME) ever been to school?	IF ATTENDED SCHOOL		Has (NAME) ever been married?	IF AGE 10 YEARS OR OLDER			
(1)	(2)	(3)	YES NO	YES NO	M F	IN YEARS	YES NO	GRADE	YES NO	YES NO		YES NO	YES NO	(13)	
01		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	1 2	1 2	01	
02		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	1 2	1 2	02	
03		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	1 2	1 2	03	
04		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	1 2	1 2	04	
05		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	1 2	1 2	05	
06		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	1 2	1 2	06	
07		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	1 2	1 2	07	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
08		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	08
09		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	09
10		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	10
11		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	11
12		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	12
13		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	13
14		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2	<input type="text"/>	1 2	1 2	1 2	14

TICK HERE IF CONTINUATION SHEET USED

Just to make sure that I have a complete listing:

1) Are there any other persons such as small children or infants that we have not listed?

YES ENTER EACH IN TABLE NO

2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here?

YES ENTER EACH IN TABLE NO

3) Are there any guests or temporary visitors staying here, or anyone else who slept here last night that have not been listed?

YES ENTER EACH IN TABLE NO

*CODES FOR Q.3

RELATIONSHIP TO HEAD OF HOUSEHOLD:

- 01 = HEAD
- 02 = WIFE OR HUSBAND
- 03 = SON OR DAUGHTER
- 04 = SON-IN-LAW OR DAUGHTER-IN-LAW
- 05 = GRANDCHILD
- 06 = PARENT

- 07 = PARENT-IN-LAW
- 08 = BROTHER OR SISTER
- 09 = NEPHEW OR NIECE
- 10 = CO-WIFE
- 11 = OTHER RELATIVE
- 12 = ADOPTED/FOSTER/STEP CHILD
- 13 = NOT RELATED
- 98 = DON'T KNOW

** CODES FOR Q.9

GRADE FOR EDUCATION

- 00 = LESS THAN 1 YR
- 01 = GRADE 1
- 02 = GRADE 2
- 03 = GRADE 3
- 04 = GRADE 4
- 05 = GRADE 5
- 06 = GRADE 6

07 = GRADE 7

- 08 = GRADE 8
- 09 = GRADE 9
- 10 = COMPLETED SLC
- 11 = INTERMEDIATE FIRST YEAR
- 12 = INTERMEDIATE COMPLETE
- 13 = BACHELORS'S NOT COMPLETE
- 14 = BACHELOR'S/HIGHER
- 95 = NON-FORMAL EDUCATION
- 98 = DON'T KNOW

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
21	<p>MAIN MATERIAL OF THE FLOOR.</p> <p>RECORD OBSERVATION.</p>	<p>NATURAL FLOOR MUD/DUNG 11 RUDIMENTARY FLOOR WOOD PLANKS 21 FINISHED FLOOR POLISHED WOOD 31 CEMENT 32 LINOLEUM 33 MARBLE CHIPS 34 CARPET 35 OTHER _____ 96 (SPECIFY)</p>	
22	<p>What type of salt is usually used for cooking in your household?</p> <p>(ASK TO SEE SALT PACKAGE).</p>	<p>PACKAGED IODIZED 11 NOT IODIZED 12 NOT PACKAGED CRYSTAL SALT 21 LOOSE SALT 22 OTHER _____ 96 (SPECIFY)</p>	
23	<p>TEST THE SALT AND WRITE THE RESULT.</p>	<p>IODINE READING (PPM) .. <input type="text"/> <input type="text"/> <input type="text"/></p>	

**NEPAL FAMILY HEALTH SURVEY
INDIVIDUAL QUESTIONNAIRE**

IDENTIFICATION	
DISTRICT NAME AND NUMBER _____	<input type="text"/>
VILLAGE/MUNICIPALITY NAME AND NUMBER _____	<input type="text"/>
WARD NUMBER	<input type="text"/>
CLUSTER NUMBER	<input type="text"/>
HOUSEHOLD NUMBER	<input type="text"/>
CITY/TOWN/COUNTRYSIDE	<input type="text"/>
<small>(city=1, town=2, countryside=3)</small>	
NAME OF HOUSEHOLD HEAD _____	
NAME AND LINE NUMBER OF WOMAN _____	<input type="text"/>

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE				DAY MONTH YEAR
INTERVIEWER'S NAME				NAME
RESULT *				RESULT
NEXT VISIT: DATE TIME				TOTAL NO. OF VISITS

*RESULT CODES: 1 COMPLETED 4 REFUSED 7 OTHER _____
 2 NOT AT HOME 5 PARTLY COMPLETED (SPECIFY)
 3 POSTPONED 6 INCAPACITATED

LANGUAGE OF QUESTIONNAIRE**	<input type="text"/>	LANGUAGE OF INTERVIEW**	<input type="text"/>
NATIVE LANGUAGE OF RESPONDENT**	<input type="text"/>	TRANSLATOR USED	YES ... 1 NO 2

**LANGUAGE CODES
 1 NEPALI 2 BHOJPURI 3 MAITHILI 4 THARU 5 OTHER _____
(SPECIFY)

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
100	RECORD THE TIME.	HOUR <input type="text"/> <input type="text"/> MINUTES <input type="text"/> <input type="text"/>	
101	COLLECT ANY RELEVANT DOCUMENTS THAT MAY HAVE INFORMATION ON THE RESPONDENT'S AGE AND HER CHILDREN'S AGE AND IMMUNIZATION.		
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, or in the countryside?	CITY 1 TOWN 2 COUNTRYSIDE 3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS <input type="text"/> <input type="text"/> ALWAYS (SINCE BIRTH) 95 VISITOR 96	→105
104	Just before you moved here, did you live in a city, in a town, or in the countryside?	CITY 1 TOWN 2 COUNTRYSIDE 3	
105	In what month and year were you born?	MONTH <input type="text"/> <input type="text"/> DON'T KNOW MONTH 98 YEAR <input type="text"/> <input type="text"/> DON'T KNOW YEAR 98	
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS . <input type="text"/> <input type="text"/>	
107	Have you ever attended school?	YES 1 NO 2	→113
108	What is the highest grade you completed?	GRADE <input type="text"/> <input type="text"/>	
109	CHECK 106: AGE 24 OR BELOW <input type="checkbox"/> AGE 25 OR ABOVE <input type="checkbox"/>		→112
110	Are you currently attending school?	YES 1 NO 2	→112
111	What was the main reason you stopped attending school?	GOT PREGNANT 01 GOT MARRIED 02 TO CARE FOR YOUNGER CHILDREN 03 FAMILY NEEDED HELP ON FARM OR IN BUSINESS 04 COULD NOT PAY SCHOOL FEES ... 05 NEEDED TO EARN MONEY 06 GRADUATED/HAD ENOUGH SCHOOLING 07 FAILED SLC/DID NOT PASS ENTRANCE EXAMS 08 DID NOT LIKE SCHOOL 09 SCHOOL NOT ACCESSIBLE/ TOO FAR 10 OTHER _____ 96 (SPECIFY) DONT KNOW 98	

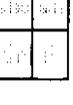
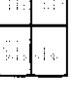
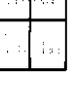
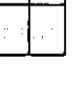
NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
112	CHECK 108: GRADE 5 AND BELOW <input type="checkbox"/> GRADE 6 AND ABOVE <input type="checkbox"/>		→115
113	Can you read and understand a letter or newspaper?	YES 1 NO 2	→116
114	Can you read this sentence. (SHOW SENTENCE TO BE READ).	READS EASILY 1 READS WITH DIFFICULTY 2 IS NOT ABLE TO READ 3	→116
115	Do you usually read a newspaper or magazine at least once a week?	YES 1 NO 2	
116	Do you usually listen to a radio every day?	YES 1 NO 2	
117	Do you usually watch television at least once a week?	YES 1 NO 2	
118	What is your religion?	HINDU 01 BUDDHIST 02 MUSLIM 03 CHRISTIAN 04 OTHER 96 (SPECIFY)	
119	What is your caste? WRITE CASTE IN SPACE PROVIDED. CODE WILL BE ENTERED BY FIELD EDITOR.	<input type="text"/> CASTE	
120	What is your current marital status?	CURRENTLY MARRIED 1 WIDOWED 2 DIVORCED 3 SEPARATED 4	→125
121	Is your husband living with you now or is he staying elsewhere?	LIVING WITH HER 1 STAYING ELSEWHERE 2	
122	Does your husband have any other wives besides yourself?	YES 1 NO 2	→125
123	How many other wives does he have?	NUMBER <input type="text"/> DON'T KNOW 98	→125
124	Are you the first, second,.....wife?	RANK <input type="text"/>	
125	Have you been married only once, or more than once?	ONCE 1 MORE THAN ONCE 2	
126	How old were you when you (first) got married?	AGE <input type="text"/>	
127	CHECK 125: MARRIED ONLY ONCE <input type="checkbox"/> MARRIED MORE THAN ONCE <input type="checkbox"/> In what month and year did you first start living with your husband? PROMPT: At gauna? Now we will talk about your first husband. In what month and year did you first start living with him?	MONTH <input type="text"/> DON'T KNOW MONTH 98 YEAR <input type="text"/> DON'T KNOW YEAR 98 HAS NOT STARTED LIVING WITH HUSBAND 95	→129 →END
128	How old were you when you first started living with him? PROMPT: At gauna?	AGE <input type="text"/>	

SECTION 2. REPRODUCTION

Now I would like to talk to you about all the pregnancies that you have had in your lifetime. By this I mean all the children born to you, whether they were born alive or dead, whether still living or not, whether living with you or elsewhere, and all the pregnancies that you have had that did not result in a live birth. I understand that it is not easy to talk about children who have died, or pregnancies that have terminated before full term, but it is extremely important that you tell us about all of them, so that we can develop programs that would help the Government of Nepal improve children's health in the future.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES 1 NO 2	→206
202	Do you have any sons or daughters to whom you have given birth who are living with you?	YES 1 NO 2	→204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME <input type="text"/> DAUGHTERS AT HOME <input type="text"/>	
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES 1 NO 2	→206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE <input type="text"/> DAUGHTERS ELSEWHERE .. <input type="text"/>	
206	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but survived only a few hours or days?	YES 1 NO 2	→208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD <input type="text"/> GIRLS DEAD <input type="text"/>	
208	Women sometimes have pregnancies that do not result in a live born child. That is, a pregnancy can end very early, in a miscarriage, or the child can be born dead. Have you had any such pregnancy that did not result in a live birth?	YES 1 NO 2	→210
209	In all, how many such pregnancies have there been?	PREGNANCY LOSSES <input type="text"/>	
210	SUM ANSWERS TO 203, 205, 207 AND 209, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL <input type="text"/>	
211	Just to make sure that I have this right: you have had _____ children who are still living (CHECK 203 and 205) _____ children who have died (CHECK 207), and _____ pregnancies which did not result in a live birth (CHECK 209). Is that correct? YES <input type="checkbox"/> NO <input type="checkbox"/> → PROBE AND CORRECT 201-210 AS NECESSARY.		
212	CHECK 210: ONE OR MORE PREGNANCIES <input type="checkbox"/> NO PREGNANCIES <input type="checkbox"/>		→234

213 Now I would like to ask you about all of your pregnancies, whether born alive, born dead, or lost before full term, starting with the first one you had.
 RECORD ALL THE PREGNANCIES. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

214 Think back to the time of your (first/next) pregnancy	215 Was that a single or multiple pregnancy?	216 Was the baby born alive, born dead, or lost before full term?	217 Did that baby cry, move, or breathe when it was born?	218 What was the name given to that child?	219 Is (NAME) a boy or a girl?	220 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	221 Is (NAME) still alive?
01	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES .. 1 NO ... 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR 	YES . 1 NO .. 2 ↓ 224
02	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES .. 1 NO ... 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR 	YES . 1 NO .. 2 ↓ 224
03	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES .. 1 NO ... 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR 	YES . 1 NO .. 2 ↓ 224
04	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES .. 1 NO ... 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR 	YES . 1 NO .. 2 ↓ 224
05	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES .. 1 NO ... 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR 	YES . 1 NO .. 2 ↓ 224
06	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES .. 1 NO ... 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR 	YES . 1 NO .. 2 ↓ 224
07	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES .. 1 NO ... 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR 	YES . 1 NO .. 2 ↓ 224
08	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES .. 1 NO ... 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR 	YES . 1 NO .. 2 ↓ 224

IF BORN ALIVE AND STILL LIVING:		IF BORN ALIVE BUT NOW DEAD:		IF BORN DEAD OR LOST BEFORE FULL TERM:		LOST BEFORE FULL TERM	
222 How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	223 Is (NAME) living with you?	224 How old was (NAME) when he/she died? IF '1 YR.', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	225 In what year and month did this pregnancy end?	226 How many months did the pregnancy last? RECORD IN COMPLETED MONTHS.	227 Did you or a doctor or someone else do anything to end this pregnancy?	228 FROM YEAR OF THIS PREGNANCY SUBTRACT YEAR OF PREVIOUS PREGNANCY. IS THE DIFFERENCE 4 OR MORE YEARS?	229 Were there any other pregnancies between the previous pregnancy mentioned and this pregnancy?
01 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (NEXT PREG.)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS 3 <input type="text"/> (SKIP TO NEXT PREGNANCY)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1. NO2.		
02 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1. NO2.	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
03 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1. NO2.	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
04 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1. NO2.	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
05 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1. NO2.	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
06 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1. NO2.	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
07 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1. NO2.	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
08 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1. NO2.	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2

214	215	216	217	218	219	220	221				
Think back to the time of your next pregnancy.	Was that a single or multiple pregnancy?	Was the baby born alive, born dead, or lost before full term?	Did that baby cry, move, or breathe when it was born?	What was the name given to that child?	is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	is (NAME) still alive?				
09	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES ... 1 NO 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>					YES . 1 NO .. 2 ↓ 224
10	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES ... 1 NO 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>					YES . 1 NO .. 2 ↓ 224
11	SINGLE .. 1 MULTIPLE 2	BORN ALIVE 1 (SKIP TO 218)← BORN DEAD 2 LOST BEFORE FULL TERM 3 (SKIP TO 225)←	YES ... 1 NO 2 ↓ 225	(NAME)	BOY . 1 GIRL . 2	MONTH YEAR <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>					YES . 1 NO .. 2 ↓ 224

IF BORN ALIVE AND STILL LIVING:		IF BORN ALIVE BUT NOW DEAD:	IF BORN DEAD OR LOST BEFORE FULL TERM:	LOST BEFORE FULL TERM			
222	223	224	225	226	227	228	229
How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	Is (NAME) living with you?	How old was (NAME) when he/she died? IF '1 YR.', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	In what year and month did this pregnancy end?	How many months did the pregnancy last? RECORD IN COMPLETED MONTHS.	Did you or a doctor or someone else do anything to end this pregnancy?	FROM YEAR OF THIS PREGNANCY SUBTRACT YEAR OF PREVIOUS PREGNANCY. IS THE DIFFERENCE 4 OR MORE?	Were there any other pregnancies between the previous pregnancy mentioned and this pregnancy?
09 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS 3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1 NO2	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
10 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS 3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1 NO2	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
11 AGE IN YEARS <input type="text"/>	YES 1 NO 2 (GO TO 228)	DAYS 1 <input type="text"/> MONTHS 2 <input type="text"/> YEARS 3 <input type="text"/> (SKIP TO 228)	MONTH .. <input type="text"/> YEAR <input type="text"/>	MONTHS <input type="text"/>	YES1 NO2	YES 1 NO 2 (NEXT PREGNANCY)	YES 1 NO 2
230	FROM YEAR OF INTERVIEW SUBTRACT YEAR OF LAST PREGNANCY. IS THE DIFFERENCE 4 YEARS OR MORE?				YES 1 NO 2		→232
231	Have you had any pregnancies since the last pregnancy mentioned?				YES 1 NO 2		
232	COMPARE 210 WITH NUMBER OF PREGNANCIES IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME <input type="checkbox"/> NUMBERS ARE DIFFERENT <input type="checkbox"/> (PROBE AND RECONCILE) CHECK: FOR EACH PREGNANCY: YEAR IS RECORDED IN 220 AND 225. FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED IN 222. FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED IN 224. FOR EACH PREGNANCY LOSS: DURATION IS RECORDED IN 226. FOR AGE AT DEATH 12 MONTHS OR 1 YR.: PROBE TO DETERMINE EXACT NUMBER OF MONTHS.						<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
233	CHECK 220 AND ENTER THE NUMBER OF BIRTHS SINCE BAISAKH 2049. IF NONE, RECORD '0'.						<input type="text"/>

SECTION 3. CONTRACEPTION

<p>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.</p> <p>CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN 302, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 301 OR 302, ASK 303.</p>				
301	Which ways or methods have you heard about?	302 Have you ever heard of (METHOD)?		303 Have you ever used (METHOD)?
		SPONTANEOUS YES	PROBED YES NO	
01	PILL Women can take a pill every day.	1	2 3	YES 1 NO 2
02	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	1	2 3	YES 1 NO 2
03	INJECTIONS Women can have an injection by a doctor, nurse or pharmacist, which stops them from becoming pregnant for several months.	1	2 3	YES 1 NO 2
04	NORPLANT Women can have several small rods placed in their upper arms by a doctor or nurse which can prevent pregnancy for several years.	1	2 3	YES 1 NO 2
05	DIAPHRAGM, FOAM, JELLY Women can place a sponge, suppository, diaphragm, jelly, or cream inside themselves before intercourse.	1	2 3	YES 1 NO 2
06	CONDOM Men can put a rubber sheath on their penis during sexual intercourse.	1	2 3	YES 1 NO 2
07	FEMALE STERILIZATION Women can have an operation to avoid having any more children.	1	2 3	Have you ever had an operation to avoid having any more children? YES 1 NO 2
08	MALE STERILIZATION Men can have an operation to avoid having any more children.	1	2 3	Has your husband ever had an operation to avoid having children? YES 1 NO 2
09	RHYTHM, PERIODIC ABSTINENCE Every month that a woman is sexually active she can avoid having sexual intercourse on the days of the month she is most likely to get pregnant.	1	2 3	YES 1 NO 2
10	WITHDRAWAL Men can be careful and pull out before climax.	1	2 3	YES 1 NO 2
11	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	1	3	YES 1 NO 2 YES 1 NO 2
	(SPECIFY)			
	(SPECIFY)			
304	<p>CHECK 303: NOT A SINGLE "YES" (NEVER USED) <input type="checkbox"/> AT LEAST ONE "YES" (EVER USED) <input type="checkbox"/> → SKIP TO 307A</p>			

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
305	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES 1 NO 2	→326
306	What have you used or done? CORRECT 303 AND 304 (AND 302 IF NECESSARY).		
307A	Now I would like to ask you about the first time that you did something or used a method to avoid getting pregnant. What was the first method you ever used?	PILL 01 IUD 02 INJECTIONS 03 NORPLANT 04 DIAPHRAGM/FOAM/JELLY 05 CONDOM 06 FEMALE STERILIZATION 07 MALE STERILIZATION 08 PERIODIC ABSTINENCE 09 WITHDRAWAL 10 OTHER _____ 96 (SPECIFY)	
307B	What is the main reason you chose to use this method?	EASY TO OBTAIN 01 CONVENIENT TO USE 02 INEXPENSIVE METHOD 03 DON'T LIKE STERILIZATION 04 PERMANENT METHOD 05 TEMPORARY METHOD 06 EFFECTIVE METHOD 07 RECOMMENDED BY HEALTH WORKER 08 HEALTH REASONS 09 NO/LITTLE SIDE EFFECTS 10 OTHER _____ 96 (SPECIFY)	
307C	Who advised you to first use this method?	HEALTH/SUB-HEALTH POST STAFF MCHW 11 VHW 12 AHW 13 NURSE/ANM 14 SENIOR AHW/HA 15 OTHER _____ 16 NGOs (SPECIFY) FPAN 21 CHW 22 OTHER _____ 26 OTHERS (SPECIFY) FCHV 31 HUSBAND 32 OTHER RELATIVE 33 FRIEND/NEIGHBOUR 34 OTHER _____ 36 (SPECIFY) NOBODY 41	
308	How many living sons did you have at the time you first used contraception (family planning), if any? How many living daughters did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF SONS <input type="text"/> <input type="text"/> NUMBER OF DAUGHTERS ... <input type="text"/> <input type="text"/>	
309	When you first used family planning, did you want to have another child but at a later time, or did you not want to have another child at all?	WANTED CHILD LATER 1 DID NOT WANT ANOTHER CHILD ... 2 OTHER _____ 6 (SPECIFY)	
310	CHECK 120: CURRENTLY MARRIED <input type="checkbox"/> WIDOWED <input type="checkbox"/> DIVORCED <input type="checkbox"/> SEPARATED _____		→401
311	CHECK 303 WOMAN NOT STERILIZED <input type="checkbox"/> WOMAN STERILIZED _____		→314A

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
312	CHECK 235 NOT PREGNANT <input type="checkbox"/> PREGNANT <input type="checkbox"/> OR UNSURE <input type="checkbox"/>		→327
313	Are you or your husband currently doing something or using any method to delay or avoid your getting pregnant?	YES 1 NO 2	→326
314	Which method are you using?	PILL 01 IUD 02 INJECTIONS 03 NORPLANT 04 DIAPHRAGM/FOAM/JELLY 05 CONDOM 06 FEMALE STERILIZATION 07 MALE STERILIZATION 08 PERIODIC ABSTINENCE 09 WITHDRAWAL 10 OTHER 96 (SPECIFY)	→321 →316 →320 →321
314A	CIRCLE '07' FOR FEMALE STERILIZATION.		
315A	At the time you first started using the pill, did you consult a doctor or a nurse or a health worker or not?	YES 1 NO 2	
315B	At the time you last got the pills, did you consult a doctor or a nurse or a health worker or not?	YES 1 NO 2	→321
316	Where did the sterilization take place? IF SOURCE IS HOSPITAL, HEALTH CENTRE, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL/DISTRICT CLINIC ... 11 PRIMARY/HEALTH CENTRE ... 12 MOBILE CAMP 13 OTHER PUBLIC 16 (SPECIFY) PRIVATE SECTOR HOSPITAL 21 CLINIC/NURSING HOME 22 FPAN 23 OTHER PRIVATE 26 (SPECIFY) OTHER 96 (SPECIFY) DON'T KNOW 98	
317	Do you regret that (you/your husband) had the operation not to have any (more) children?	YES 1 NO 2	→319
318	Why do you regret the operation?	RESPONDENT WANTS ANOTHER CHILD 01 SPOUSE WANTS ANOTHER CHILD . 02 SIDE EFFECTS 03 CHILD DIED 04 OTHER 96 (SPECIFY)	
319	In what month and year was the sterilization performed? IF DON'T KNOW YEAR PROBE: How many years ago?	MONTH <input type="text"/> DON'T KNOW MONTH 98 YEAR <input type="text"/> DON'T KNOW YEAR 98	→322
319A	How old were you at the time of sterilization?	AGE IN COMPLETED YEARS . <input type="text"/>	→322
320	How do you determine which days of your monthly cycle not to have sexual relations?	BASED ON CALENDAR 01 BASED ON BODY TEMPERATURE .. 02 BASED ON CERVICAL MUCUS (BILLINGS METHOD) 03 BASED ON BODY TEMPERATURE AND CERVICAL MUCUS 04 NO SPECIFIC SYSTEM 05 OTHER 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
321	For how many months have you been using (METHOD) continuously? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS <input type="text"/> <input type="text"/> 8 YEARS OR LONGER 96	
322	CHECK 314: CIRCLE METHOD CODE:	PILL 01 IUD 02 INJECTIONS 03 NORPLANT 04 DIAPHRAGM/FOAM/JELLY 05 CONDOM 06 FEMALE STERILIZATION 07 MALE STERILIZATION 08 PERIODIC ABSTINENCE 09 WITHDRAWAL 10 OTHER _____ 96 (SPECIFY)	→ 324A → 327
323	Where did you obtain (METHOD) the last time? IF SOURCE IS HOSPITAL, HEALTH CENTRE, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. (NAME OF PLACE)	PUBLIC SECTOR HOSPITAL/DISTRICT CLINIC ... 11 PRIMARY/ HEALTH CENTRE ... 12 FAMILY PLANNING CLINIC ... 13 HEALTH POST 14 SUB-HEALTH POST 15 MOBILE CLINIC 17 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE SECTOR HOSPITAL 21 CLINIC/NURSING HOME 22 PHARMACY 23 CHW 24 FPAN 25 OTHER PRIVATE _____ 26 (SPECIFY) OTHER SOURCE FCHV 31 SHOP 32 FRIEND/RELATIVE 33 OTHER _____ 36 (SPECIFY)	
323A	How long does it usually take to travel from your home to this place?	MINUTES <input type="text"/> <input type="text"/> <input type="text"/> DON'T KNOW 998	
323B	Is it easy or difficult to get there?	EASY 1 DIFFICULT 2 DON'T KNOW 8	
324	Do you know another place where you could have obtained (METHOD) the last time?	YES 1 NO 2	
324A	At the time of the sterilization operation, did you know another place where you could have received the operation?		→ 329

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
325	<p>People select the place where they get family planning services for various reasons.</p> <p>What was the <u>main</u> reason you went to (NAME OF PLACE IN Q.323 or Q.316) instead of the other place you know about?</p> <p>RECORD RESPONSE AND CIRCLE CODE.</p>	<p>ACCESS-RELATED REASONS</p> <p>CLOSER TO HOME 11</p> <p>CLOSER TO MARKET/WORK ... 12</p> <p>AVAILABILITY OF TRANSPORT . 13</p> <p>SERVICE-RELATED REASONS</p> <p>STAFF MORE COMPETENT/ FRIENDLY 21</p> <p>CLEANER FACILITY 22</p> <p>OFFERS MORE PRIVACY 23</p> <p>SHORTER WAITING TIME 24</p> <p>LONGER HRS OF SERVICE 25</p> <p>USE OTHER SERVICES AT THE FACILITY 26</p> <p>LOWER COST/CHEAPER 31</p> <p>WANTED ANONYMITY 41</p> <p>OTHER _____ 96 (SPECIFY)</p> <p>DONT KNOW 98</p>	<p>→329</p>
326	<p>What is the <u>main</u> reason you are not using a method of contraception to avoid pregnancy?</p>	<p>FERTILITY-RELATED REASONS</p> <p>NOT HAVING SEX 21</p> <p>INFREQUENT SEX 22</p> <p>MENOPAUSAL/HYSTERECTOMY 23</p> <p>SUBFECUND/INFECUND 24</p> <p>POSTPARTUM/BREASTFEEDING 25</p> <p>WANTS (MORE) CHILDREN 26</p> <p>OPPOSITION TO USE</p> <p>RESPONDENT OPPOSED 31</p> <p>HUSBAND OPPOSED 32</p> <p>OTHERS OPPOSED 33</p> <p>RELIGIOUS PROHIBITION 34</p> <p>LACK OF KNOWLEDGE</p> <p>KNOWS NO METHOD 41</p> <p>KNOWS NO SOURCE 42</p> <p>METHOD-RELATED REASONS</p> <p>HEALTH CONCERNS 51</p> <p>FEAR OF SIDE EFFECTS 52</p> <p>LACK OF ACCESS/TOO FAR ... 53</p> <p>COST TOO MUCH 54</p> <p>INCONVENIENT TO USE 55</p> <p>INTERFERES WITH BODY'S NATURAL PROCESS 56</p> <p>OTHER _____ 96 (SPECIFY)</p> <p>DONT KNOW 98</p>	<p>→329</p>
327	<p>Do you know of <u>a</u> place where you can obtain a method of family planning?</p>	<p>YES 1</p> <p>NO 2</p>	<p>→329</p>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
328	<p>Where is that?</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTRE, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>(NAME OF PLACE)</p>	<p>PUBLIC SECTOR</p> <p>HOSPITAL/DISTRICT CLINIC . . . 11</p> <p>PRIMARY/ HEALTH CENTRE . . . 12</p> <p>FAMILY PLANNING CLINIC 13</p> <p>HEALTH POST 14</p> <p>SUB-HEALTH POST 15</p> <p>MOBILE CLINIC 17</p> <p>OTHER PUBLIC _____ 16 (SPECIFY)</p> <p>PRIVATE SECTOR</p> <p>HOSPITAL 21</p> <p>CLINIC/NURSING HOME 22</p> <p>PHARMACY 23</p> <p>CHW 24</p> <p>FPAN 25</p> <p>OTHER PRIVATE _____ 26 (SPECIFY)</p> <p>OTHER SOURCE</p> <p>FCHV 31</p> <p>SHOP 32</p> <p>FRIEND/RELATIVE 33</p> <p>OTHER _____ 36 (SPECIFY)</p>	
329	Were you visited by a family planning programme worker or health worker in the last 12 months?	YES 1 NO 2	
330	Have you visited a health facility for any reason in the last 12 months?	YES 1 NO 2	→332
331	Did any staff member at the health facility speak to you about family planning methods?	YES 1 NO 2	
332	Do you think that breastfeeding can affect a woman's chance of becoming pregnant?	YES 1 NO 2 DON'T KNOW 8	→401
333	Do you think a woman's chance of becoming pregnant is increased or decreased by breastfeeding?	INCREASED 1 DECREASED 2 DEPENDS 3 DON'T KNOW 8	→401
334	CHECK 202, 204 AND 206: ONE OR MORE BIRTHS <input type="checkbox"/> NO BIRTHS <input type="checkbox"/>		→401
335	Have you ever relied on breastfeeding as a method of avoiding pregnancy?	YES 1 NO 2	→401
336	CHECK 235 AND 314: NOT PREGNANT OR UNSURE <input type="checkbox"/> EITHER PREGNANT OR STERILIZED <input type="checkbox"/>		→401
337	Are you currently relying on breastfeeding to avoid getting pregnant?	YES 1 NO 2	

SECTION 4A. PREGNANCY AND BREASTFEEDING

401	CHECK 233: ONE OR MORE BIRTHS SINCE BAISAKH 2049 <input type="checkbox"/>	NO BIRTHS SINCE BAISAKH 2049 <input type="checkbox"/> → SKIP TO 465
402	ENTER THE NAME, LINE NUMBER, AND SURVIVAL STATUS OF EACH BIRTH SINCE BAISAKH 2049 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 2 BIRTHS, USE ADDITIONAL QUESTIONNAIRES). Now I would like to ask you some questions about the health of all your children born in the last three years. We will talk about one child at a time.	
403	LAST BIRTH LINE NUMBER <input type="text"/> <input type="text"/>	NEXT-TO-LAST BIRTH LINE NUMBER <input type="text"/> <input type="text"/>
404	NAME FROM Q218 AND SURVIVAL STATUS FROM Q221 ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>
405	At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> , or did you want <u>no (more)</u> children at all? THEN 1 (SKIP TO 407) ← LATER 2 NO MORE 3 (SKIP TO 407) ←	THEN 1 (SKIP TO 407) ← LATER 2 NO MORE 3 (SKIP TO 407) ←
406	At the time you became pregnant with (NAME) how much longer would you like to have waited? MONTHS 1 <input type="text"/> <input type="text"/> YEARS 2 <input type="text"/> <input type="text"/> DON'T KNOW 998	MONTHS 1 <input type="text"/> <input type="text"/> YEARS 2 <input type="text"/> <input type="text"/> DON'T KNOW 998
407	When you were pregnant with (NAME), did you see anyone for antenatal care for this pregnancy? IF YES: Whom did you see? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	HEALTH PROFESSIONAL DOCTOR A NURSE/ANM B OTHER PERSON TRADITIONAL BIRTH ATTENDANT C MATERNAL AND CHILD HEALTH WORKER D OTHER X (SPECIFY) NO ONE Y (SKIP TO 410) ←
407A	How long did it take to get from your home to the nearest place where you saw a person? MINUTES <input type="text"/> <input type="text"/> <input type="text"/> SEEN AT HOME 990	MINUTES <input type="text"/> <input type="text"/> <input type="text"/> SEEN AT HOME 990
408	How many months pregnant were you when you first received antenatal care? MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98	MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98
409	How many times did you receive antenatal care during this pregnancy? NO. OF TIMES <input type="text"/> <input type="text"/> DON'T KNOW 98	NO. OF TIMES <input type="text"/> <input type="text"/> DON'T KNOW 98
410	When you were pregnant with (NAME) were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth? YES 1 NO 2 (SKIP TO 412A) ← DON'T KNOW 8	YES 1 NO 2 (SKIP TO 412A) ← DON'T KNOW 8
411	During this pregnancy, how many times did you get this injection? NO. OF TIMES <input type="text"/> DON'T KNOW 8	NO. OF TIMES <input type="text"/> DON'T KNOW 8

	NAME FROM Q218	LAST BIRTH NAME	NEXT-TO-LAST BIRTH NAME
412A	When you were pregnant with (NAME) did you receive any iron tablets? SHOW IRON TABLETS.	YES 1 NO 2 DON'T KNOW 8	YES 1 NO 2 DON'T KNOW 8
412B	When you were pregnant with (NAME) did you receive a combined iron and folic acid tablets? SHOW COMBINED IRON AND FOLIC ACID TABLETS.	YES 1 NO 2 DON'T KNOW 8	YES 1 NO 2 DON'T KNOW 8
412C	When you were pregnant with (NAME) did you suffer from [local term for night blindness]? IF 'NO' OR 'DON'T KNOW' PROBE: Did you have any difficulty seeing at dusk, at night, or in a room with poor light?	YES 1 RESPONDENT BLIND 2 NO 3 DON'T KNOW 8	YES 1 RESPONDENT BLIND 2 NO 3 DON'T KNOW 8
413	Where did you go to give birth to (NAME)?	HOME YOUR HOME 11 (GO TO 413B) ← OTHER HOME 12 PUBLIC SECTOR HOSPITAL 21 PRY./ HEALTH CENTRE .. 22 HEALTH POST 23 OTHER PUBLIC 26 (SPECIFY) PRIVATE SECTOR HOSPITAL 31 CLINIC/NURSING HOME .. 32 OTHER PRIVATE 36 (SPECIFY) OTHER 96 (SPECIFY)	HOME YOUR HOME 11 (GO TO 413B) ← OTHER HOME 12 PUBLIC SECTOR HOSPITAL 21 PRY./ HEALTH CENTRE .. 22 HEALTH POST 23 OTHER PUBLIC 26 (SPECIFY) PRIVATE SECTOR HOSPITAL 31 CLINIC/NURSING HOME .. 32 OTHER PRIVATE 36 (SPECIFY) OTHER 96 (SPECIFY)
413A		GO TO Q414.	GO TO Q414.
413B	Was a special safe delivery kit used? SHOW SAFE DELIVERY KIT THAT IS MARKETED BY CRS.	YES 1 NO 2 DON'T KNOW 8	YES 1 NO 2 DON'T KNOW 8

	NAME FROM Q218	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
414	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSONS AND RECORD ALL PERSONS ASSISTING.	HEALTH PROFESSIONAL DOCTOR A NURSE/ANM B OTHER PERSON TRADITIONAL BIRTH ATTENDANT C MATERNAL AND CHILD HEALTH WORKER D RELATIVE/FRIEND E OTHER _____ X (SPECIFY) NO ONE Y	HEALTH PROFESSIONAL DOCTOR A NURSE/ANM B OTHER PERSON TRADITIONAL BIRTH ATTENDANT C MATERNAL AND CHILD HEALTH WORKER D RELATIVE/FRIEND E OTHER _____ X (SPECIFY) NO ONE Y
414A	Did you receive a check-up (postpartum care) from anyone within 24 hours following the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSONS AND RECORD ALL PERSONS ASSISTING.	HEALTH PROFESSIONAL DOCTOR A NURSE/ANM B OTHER PERSON TRADITIONAL BIRTH ATTENDANT C MATERNAL AND CHILD HEALTH WORKER D RELATIVE/FRIEND E OTHER _____ X (SPECIFY) NO ONE Y	HEALTH PROFESSIONAL DOCTOR A NURSE/ANM B OTHER PERSON TRADITIONAL BIRTH ATTENDANT C MATERNAL AND CHILD HEALTH WORKER D RELATIVE/FRIEND E OTHER _____ X (SPECIFY) NO ONE Y
415	Around the time of the birth of (NAME), did you have any of the following problems: Long labour, that is, did your regular contractions last more than 12 hours? Excessive bleeding that was so much that you feared it was life threatening? A high fever with bad smelling vaginal discharge? Convulsions?	YES NO LABOUR MORE THAN 12 HOURS 1 2 EXCESSIVE BLEEDING .. 1 2 FEVER/BAD SMELLING VAG. DISCHARGE 1 2 CONVULSIONS 1 2	YES NO LABOUR MORE THAN 12 HOURS 1 2 EXCESSIVE BLEEDING .. 1 2 FEVER/BAD SMELLING VAG. DISCHARGE 1 2 CONVULSIONS 1 2
416	Was (NAME) delivered by caesarian section?	YES 1 NO 2	YES 1 NO 2
417	When (NAME) was born, was he/she: very large, large, average, small, or very small?	VERY LARGE 1 LARGE 2 AVERAGE 3 SMALL 4 VERY SMALL 5 DON'T KNOW 8	VERY LARGE 1 LARGE 2 AVERAGE 3 SMALL 4 VERY SMALL 5 DON'T KNOW 8
418	Has your period returned since the birth of (NAME)?	YES 1 (SKIP TO 420)← NO 2 (SKIP TO 421)←	
419	Did your period return between the birth of (NAME) and your next pregnancy?		YES 1 NO 2 (SKIP TO 423)←

	NAME FROM Q218	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
420	For how many months after the birth of (NAME) did you <u>not</u> have a period?	MONTHS <input type="text"/> DON'T KNOW 98	MONTHS <input type="text"/> DON'T KNOW 98
421	CHECK 235: RESPONDENT PREGNANT?	NOT PREG- <input type="checkbox"/> NANT PREGNANT <input type="checkbox"/> OR UNSURE (SKIP TO 423)←	
422	Have you resumed sexual relations since the birth of (NAME)?	YES 1 NO 2 (SKIP TO 424)←	
423	For how many months after the birth of (NAME) did you <u>not</u> have sexual relations?	MONTHS <input type="text"/> DON'T KNOW 98	MONTHS <input type="text"/> DON'T KNOW 98
424	Did you ever breastfeed (NAME)?	YES 1 NO 2 (SKIP TO 430)←	YES 1 NO 2 (SKIP TO 430)←
425	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00" HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY 000 HOURS 1 <input type="text"/> DAYS 2 <input type="text"/>	IMMEDIATELY 000 HOURS 1 <input type="text"/> DAYS 2 <input type="text"/>
425A	Did you squeeze out the milk from the breast before you first put (NAME) to the breast?	YES 1 NO 2	YES 1 NO 2
426	CHECK 404: CHILD ALIVE?	ALIVE <input type="checkbox"/> (SKIP TO 428)← DEAD <input type="checkbox"/>	ALIVE <input type="checkbox"/> (SKIP TO 428)← DEAD <input type="checkbox"/>
427	Are you still breastfeeding (NAME)?	YES 1 (SKIP TO 431)← NO 2	YES 1 (SKIP TO 431)← NO 2
428	For how many months did you breastfeed (NAME)?	MONTHS <input type="text"/> DON'T KNOW 98	MONTHS <input type="text"/> DON'T KNOW 98
429	Why did you stop breastfeeding (NAME)?	MOTHER ILL/WEAK 01 CHILD ILL/WEAK 02 CHILD DIED 03 NIPPLE/BREAST PROBLEM . 04 NOT ENOUGH MILK 05 MOTHER WORKING 06 CHILD REFUSED 07 WEANING AGE/AGE TO STOP 08 BECAME PREGNANT 09 STARTED USING CONTRACEPTION 10 OTHER _____ 96 (SPECIFY)	MOTHER ILL/WEAK 01 CHILD ILL/WEAK 02 CHILD DIED 03 NIPPLE/BREAST PROBLEM . 04 NOT ENOUGH MILK 05 MOTHER WORKING 06 CHILD REFUSED 07 WEANING AGE/AGE TO STOP 08 BECAME PREGNANT 09 STARTED USING CONTRACEPTION 10 OTHER _____ 96 (SPECIFY)
430	CHECK 404: CHILD ALIVE?	ALIVE <input type="checkbox"/> (SKIP TO 433) DEAD <input type="checkbox"/> (GO BACK TO 405 IN NEXT COL. OR, IF NO MORE BIRTHS, GO TO 439)	ALIVE <input type="checkbox"/> (SKIP TO 433) DEAD <input type="checkbox"/> (GO BACK TO 405 IN NEXT COL. OR, IF NO MORE BIRTHS, GO TO 439)
431	How many times did you breastfeed (NAME) last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC PROBE FOR APPROXIMATE NUMBER.	NUMBER OF NIGHTTIME FEEDINGS <input type="text"/>	NUMBER OF NIGHTTIME FEEDINGS <input type="text"/>
432	How many times did you breastfeed (NAME) yesterday during the daylight hours? IF ANSWER IS NOT NUMERIC PROBE FOR APPROXIMATE NUMBER.	NUMBER OF DAYLIGHT FEEDINGS <input type="text"/>	NUMBER OF DAYLIGHT FEEDINGS <input type="text"/>

	NAME FROM Q218	LAST BIRTH			NEXT-TO-LAST BIRTH														
		NAME _____			NAME _____														
433	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES	1	YES	1	NO	2	NO	2	DON'T KNOW	8	DON'T KNOW	8						
434	At any time yesterday or last night, was (NAME) given any of the following:	YES NO DK			YES NO DK														
	Plain water?	PLAIN WATER	1	2	8	PLAIN WATER	1	2	8	SUGAR WATER	1	2	8						
	Sugar water?	SUGAR WATER	1	2	8	JUICE	1	2	8	JUICE	1	2	8						
	Juice?	JUICE	1	2	8	TEA	1	2	8	TEA	1	2	8						
	Tea?	TEA	1	2	8	BABY FORMULA	1	2	8	BABY FORMULA	1	2	8						
	Baby formula?	BABY FORMULA	1	2	8	TINNED/ POWDERED MILK	1	2	8	TINNED/ POWDERED MILK	1	2	8						
	Tinned or powdered milk?	TINNED/ POWDERED MILK	1	2	8	FRESH MILK	1	2	8	FRESH MILK	1	2	8						
	Fresh milk?	FRESH MILK	1	2	8	OTHER LIQUIDS	1	2	8	OTHER LIQUIDS	1	2	8						
	Any other liquid?	OTHER LIQUIDS	1	2	8	FOOD MADE FROM GRAIN			1	2	8	FOOD MADE FROM GRAIN			1	2	8		
	Any food made from wheat, maize, rice, or other grain, such as porridge, bread, or noodles?	FOOD MADE FROM GRAIN			1	2	8	FOOD MADE FROM TUBER			1	2	8	FOOD MADE FROM TUBER			1	2	8
	Any food made from potatoes, yams, or local tuber?	FOOD MADE FROM TUBER			1	2	8	EGGS/FISH/POULTRY			1	2	8	EGGS/FISH/POULTRY			1	2	8
	Eggs, fish or poultry?	EGGS/FISH/POULTRY			1	2	8	MEAT			1	2	8	MEAT			1	2	8
	Meat?	MEAT			1	2	8	OTHER SOLID/SEMI-SOLID FOODS			1	2	8	OTHER SOLID/SEMI-SOLID FOODS			1	2	8
	Any other solid or semi-solid foods?	OTHER SOLID/SEMI-SOLID FOODS			1	2	8												
435	CHECK 434: FOOD OR LIQUID GIVEN YESTERDAY?	"YES" TO ONE/MORE <input type="checkbox"/>	"NO/DK" TO ALL <input type="checkbox"/>	(SKIP TO 437)	"YES" TO ONE/MORE <input type="checkbox"/>	"NO/DK" TO ALL <input type="checkbox"/>	(SKIP TO 437)												
436	(Aside from breastfeeding,) how many times did (NAME) eat yesterday, including both meals and snacks? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES	<input type="checkbox"/>	DON'T KNOW	8	NUMBER OF TIMES	<input type="checkbox"/>	DON'T KNOW	8										
437	On how many days during the last seven days was (NAME) given any of the following:	RECORD THE NUMBER OF DAYS.			RECORD THE NUMBER OF DAYS.														
	Plain water?	PLAIN WATER	<input type="checkbox"/>	PLAIN WATER	<input type="checkbox"/>	MILK	<input type="checkbox"/>	MILK	<input type="checkbox"/>										
	Any kind of milk (other than breast milk)?	MILK	<input type="checkbox"/>	OTHER LIQUIDS	<input type="checkbox"/>	FOOD MADE FROM GRAIN	<input type="checkbox"/>	FOOD MADE FROM GRAIN	<input type="checkbox"/>										
	Liquids other than plain water or milk?	OTHER LIQUIDS	<input type="checkbox"/>	FOOD MADE FROM TUBER	<input type="checkbox"/>	EGGS/FISH/POULTRY	<input type="checkbox"/>	EGGS/FISH/POULTRY	<input type="checkbox"/>										
	Food made from wheat, maize, rice, or other grain?	FOOD MADE FROM GRAIN	<input type="checkbox"/>	MEAT	<input type="checkbox"/>	OTHER SOLID/SEMI-SOLID FOODS	<input type="checkbox"/>	OTHER SOLID/SEMI-SOLID FOODS	<input type="checkbox"/>										
	Food made from potatoes, yams, or tuber?	FOOD MADE FROM TUBER	<input type="checkbox"/>																
	Eggs, fish, or poultry?	EGGS/FISH/POULTRY	<input type="checkbox"/>																
	Meat?	MEAT	<input type="checkbox"/>																
	Any other solid or semi-solid foods?	OTHER SOLID/SEMI-SOLID FOODS	<input type="checkbox"/>																
	IF DON'T KNOW, RECORD '8'.																		
438		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 439.			GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 439.														

SECTION 4B. IMMUNIZATION AND HEALTH

439	ENTER THE NAME, LINE NUMBER, AND SURVIVAL STATUS OF EACH BIRTH SINCE BAISAKH 2049 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 2 BIRTHS, USE ADDITIONAL QUESTIONNAIRES).																																																																																																																																																																																																		
440	LINE NUMBER FROM Q214	LAST BIRTH LINE NUMBER <input type="text"/> <input type="text"/>	NEXT-TO-LAST LINE NUMBER <input type="text"/> <input type="text"/>																																																																																																																																																																																																
441	NAME FROM Q218 AND SURVIVAL STATUS FROM Q221	NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> (GO TO 441 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.)	NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> (GO TO 441 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.)																																																																																																																																																																																																
442	Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it please?	YES, SEEN 1 (SKIP TO 444) ← <input type="checkbox"/> YES, NOT SEEN 2 (SKIP TO 446) ← <input type="checkbox"/> NO CARD 3	YES, SEEN 1 (SKIP TO 444) ← <input type="checkbox"/> YES, NOT SEEN 2 (SKIP TO 446) ← <input type="checkbox"/> NO CARD 3																																																																																																																																																																																																
443	Did you ever have a vaccination card for (NAME)?	YES 1 (SKIP TO 446) ← <input type="checkbox"/> NO 2	YES 1 (SKIP TO 446) ← <input type="checkbox"/> NO 2																																																																																																																																																																																																
444	(1) COPY VACCINATION DATE FOR EACH VACCINE FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED. BCG DPT 1 DPT 2 DPT 3 Polio 1 Polio 2 Polio 3 Measles	DAY MONTH YEAR BCG <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> D1 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> D2 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> D3 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> P1 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> P2 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> P3 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> MEA <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>																																																																																																	DAY MONTH YEAR BCG <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> D1 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> D2 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> D3 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> P1 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> P2 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> P3 <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> MEA <table border="1" style="display:inline-table; border-collapse: collapse;"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>																																																																																																
445	NAME FROM Q218	LAST BIRTH NAME _____	NEXT-TO-LAST NAME _____																																																																																																																																																																																																
445	Has (NAME) received any vaccinations that are not recorded on this card? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, POLIO 1-3, DPT 1-3, AND/OR MEASLES VACCINE(S).	YES 1 (PROBE FOR VACCINATIONS ← AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) (SKIP TO 448A) ← <input type="checkbox"/> NO 2 (SKIP TO 448A) ← <input type="checkbox"/> DON'T KNOW 8	YES 1 (PROBE FOR VACCINATIONS ← AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) (SKIP TO 448A) ← <input type="checkbox"/> NO 2 (SKIP TO 448A) ← <input type="checkbox"/> DON'T KNOW 8																																																																																																																																																																																																

	NAME FROM Q218	LAST BIRTH NAME _____	NEXT-TO-LAST NAME _____
446	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?	YES 1 NO 2 (SKIP TO 448A) ← DON'T KNOW 8	YES 1 NO 2 (SKIP TO 448A) ← DON'T KNOW 8
447	Please tell me if (NAME) received any of the following:		
447A	A BCG vaccination against tuberculosis, that is, an injection in the arm that caused a scar?	YES 1 NO 2 DON'T KNOW 8	YES 1 NO 2 DON'T KNOW 8
447B	Polio vaccine, that is, drops in the mouth?	YES 1 NO 2 (SKIP TO 447D) ← DON'T KNOW 8	YES 1 NO 2 (SKIP TO 447D) ← DON'T KNOW 8
447C	How many times?	NUMBER OF TIMES <input type="text"/>	NUMBER OF TIMES <input type="text"/>
447D	DPT vaccination, that is, an injection usually given at the same time as polio drops?	YES 1 NO 2 (SKIP TO 447F) ← DON'T KNOW 8	YES 1 NO 2 (SKIP TO 447F) ← DON'T KNOW 8
447E	How many times	NUMBER OF TIMES <input type="text"/>	NUMBER OF TIMES <input type="text"/>
447F	An injection to prevent measles?	YES 1 NO 2 DON'T KNOW 8	YES 1 NO 2 DON'T KNOW 8
448A	Did (NAME) receive Vitamin A during the last 6 months? SHOW VITAMIN A CAPSULE.	YES 1 NO 2 DON'T KNOW 8	YES 1 NO 2 DON'T KNOW 8
448B	Did (NAME) receive iodine capsules during the last 6 months? SHOW IODINE CAPSULES. IF YES: How many times?	YES 1 NO 2 NUMBER OF TIMES <input type="text"/>	YES 1 NO 2 NUMBER OF TIMES <input type="text"/>
448C	Does (NAME) suffer from (local term for night blindness)? IF NO OR DON'T KNOW PROBE: Does (NAME) have any difficulty (more difficulty than usual) seeing at dusk, at night, or in a room with poor light?	YES 1 CHILD BLIND 2 NO 3 DON'T KNOW 8	YES 1 CHILD BLIND 2 NO 3 DON'T KNOW 8
449	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES 1 NO 2 DON'T KNOW 8	YES 1 NO 2 DON'T KNOW 8
450	Has (NAME) been ill with a cough at any time in the last 2 weeks?	YES 1 NO 2 (SKIP TO 454) ← DON'T KNOW 8	YES 1 NO 2 (SKIP TO 454) ← DON'T KNOW 8
451	When (NAME) was ill with a cough, did he/she breathe faster than usual with short, fast breaths?	YES 1 NO 2 DON'T KNOW 8	YES 1 NO 2 DON'T KNOW 8
452	Did you seek advice or treatment for the cough or difficult breathing?	YES 1 NO 2 (SKIP TO 454) ←	YES 1 NO 2 (SKIP TO 454) ←

	NAME FROM Q218	LAST BIRTH NAME	NEXT-TO-LAST NAME
453	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR HOSP./DISTRICT CLINIC ... A PRY./HEALTH CENTRE ... B HEALTH/SUB-HEALTH POST C MOBILE CLINIC D FIELD WORKER E OTHER PUBLIC F (SPECIFY) PRIVATE SECTOR HOSPITAL G CLINIC/NURSING HOME ... H PHARMACY I MOBILE CLINIC J COMM. HEALTH WORKER . K OTHER PRIVATE L (SPECIFY) OTHER SOURCE SHOP N TRAD. PRACTITIONER O OTHER _____ X (SPECIFY)	PUBLIC SECTOR HOSP./DISTRICT CLINIC ... A PRY./HEALTH CENTRE ... B HEALTH/SUB-HEALTH POST C MOBILE CLINIC D FIELD WORKER E OTHER PUBLIC F (SPECIFY) PRIVATE SECTOR HOSPITAL G CLINIC/NURSING HOME ... H PHARMACY I MOBILE CLINIC J COMM. HEALTH WORKER . K OTHER PRIVATE L (SPECIFY) OTHER SOURCE SHOP N TRAD. PRACTITIONER O OTHER _____ X (SPECIFY)
454	Has (NAME) had diarrhoea, that is, loose or watery stool in the last 2 weeks?	YES 1 NO 2 (SKIP TO 464) ← DONT KNOW 8	YES 1 NO 2 (SKIP TO 464) ← DONT KNOW 8
455	Was there any blood in the stools?	YES 1 NO 2 DONT KNOW 8	YES 1 NO 2 DONT KNOW 8
456	On the worst day of the diarrhoea, how many bowel movements did (NAME) have?	NUMBER OF BOWEL MOVEMENTS <input type="text"/> DONT KNOW 98	NUMBER OF BOWEL MOVEMENTS <input type="text"/> DONT KNOW 98
457	Was he/she given the same amount to drink as before the diarrhoea, or more, or less?	SAME 1 MORE 2 LESS 3 DONT KNOW 8	SAME 1 MORE 2 LESS 3 DONT KNOW 8
458	Was he/she given the same amount of food to eat as before the diarrhoea, or more, or less?	SAME 1 MORE 2 LESS 3 DONT KNOW 8	SAME 1 MORE 2 LESS 3 DONT KNOW 8
459	Was (NAME) given a fluid made from a special packet such as Jeevan Jal to drink?	YES 1 NO 2 DONT KNOW 8	YES 1 NO 2 DONT KNOW 8
460	Was anything (else) given to treat the diarrhoea?	YES 1 NO 2 (SKIP TO 464) ← DONT KNOW 8	YES 1 NO 2 (SKIP TO 464) ← DONT KNOW 8
461	What was given to treat the diarrhoea? Anything else? RECORD ALL MENTIONED.	RECOMMENDED HOME FLUID A PILL OR SYRUP B INJECTION C (I.V.) INTRAVENOUS D HOME REMEDIES/ HERBAL MEDICINES E OTHER _____ X (SPECIFY)	RECOMMENDED HOME FLUID A PILL OR SYRUP B INJECTION C (I.V.) INTRAVENOUS D HOME REMEDIES/ HERBAL MEDICINES E OTHER _____ X (SPECIFY)
462	Did you seek advice or treatment for the diarrhoea?	YES 1 NO 2 (SKIP TO 464) ←	YES 1 NO 2 (SKIP TO 464) ←

	NAME FROM Q218	LAST BIRTH NAME _____	NEXT-TO-LAST NAME _____
463	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR HOSP./DISTRICT CLINIC ... A PRY./ HEALTH CENTRE ... B HEALTH/SUB-HEALTH POST C MOBILE CLINIC D FIELD WORKER E OTHER PUBLIC _____ F (SPECIFY) PRIVATE SECTOR HOSPITAL G CLINIC/NURSING HOME ... H PHARMACY I MOBILE CLINIC J COMM. HEALTH WORKER . K OTHER PRIVATE _____ L (SPECIFY) OTHER SOURCE SHOP N TRAD. PRACTITIONER O OTHER _____ X (SPECIFY)	PUBLIC SECTOR HOSP./DISTRICT CLINIC ... A PRY./ HEALTH CENTRE ... B HEALTH/SUB-HEALTH POST C MOBILE CLINIC D FIELD WORKER E OTHER PUBLIC _____ F (SPECIFY) PRIVATE SECTOR HOSPITAL G CLINIC/NURSING HOME ... H PHARMACY I MOBILE CLINIC J COMM. HEALTH WORKER . K OTHER PRIVATE _____ L (SPECIFY) OTHER SOURCE SHOP N TRAD. PRACTITIONER O OTHER _____ X (SPECIFY)
464		GO BACK TO 441 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.	GO BACK TO 441 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.
465	When a child has diarrhoea, should he/she be given the same amount to drink, more or less than usual?		SAME 1 MORE 2 LESS 3 DON'T KNOW 8
466	When a child has diarrhoea, should he/she be given the same amount to eat, more or less than usual?		SAME 1 MORE 2 LESS 3 DON'T KNOW 8
467	When a child is sick with diarrhoea, what signs of illness would tell you that he or she should be taken to a health facility or health worker? RECORD ALL MENTIONED.		REPEATED WATERY STOOLS A ANY WATERY STOOLS B REPEATED VOMITING C ANY VOMITING D BLOOD IN STOOLS E FEVER F MARKED THIRST G NOT EATING/NOT DRINKING WELL .. H GETTING SICKER/VERY SICK I NOT GETTING BETTER J OTHER _____ X (SPECIFY) DON'T KNOW Z
468	When a child is sick with a cough, what signs of illness would tell you that he or she should be taken to a health facility or health worker? RECORD ALL MENTIONED.		FAST BREATHING A DIFFICULT BREATHING B NOISY BREATHING C FEVER D CHEST IN DRAWING E UNABLE TO DRINK F NOT EATING/NOT DRINKING WELL .. G GETTING SICKER/VERY SICK H NOT GETTING BETTER I OTHER _____ X (SPECIFY) DON'T KNOW Z

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP																
469	CHECK 459, ALL COLUMNS: NO CHILD RECEIVED ORS OR QUESTION NOT ASKED <input type="checkbox"/>	ANY CHILD RECEIVED ORS <input type="checkbox"/>	→470B																
470	Have you ever heard of a special product called ORS such as Jeevan Jal you can get for treatment of diarrhoea?	YES 1 NO 2	→470B																
470A	Have you ever seen (a) packet(s) like this? SHOW PACKET OF JEEVAN JAL OR OTHER ORS PACKETS LIKELY TO BE USED IN THE LOCALITY OF THE INTERVIEW.	YES 1 NO 2	→501																
470B	Have you ever prepared the contents of a packet of Jeevan Jal or a packet of any other ORS with water, either for yourself or for someone else?	YES, JEEVAN JAL 1 YES, OTHER ORS 2 NO 3	→472A																
471A	Did you prepare the whole packet at once or only part of the packet?	WHOLE PACKET AT ONCE 1 ONLY PART OF PACKET 2	→472A																
471B	How much water did you mix with a packet of Jeevan Jal?	LITRE 1 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> MANA 2 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> TEA GLASS 3 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> OTHER 4 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> (SPECIFY) DON'T KNOW 998																	
472A	Where can you buy or obtain a packet of ORS like Jeevan Jal? PROBE: Where else? RECORD ALL MENTIONED.	PUBLIC SECTOR HOSPITAL/DISTRICT CLINIC A PRY. /HEALTH CENTRE B HEALTH/SUB-HEALTH POST C MOBILE CLINIC D FIELD WORKER E OTHER PUBLIC F _____ (SPECIFY) PRIVATE SECTOR HOSPITAL G CLINIC/NURSING HOME H PHARMACY I MOBILE CLINIC J COMM. HEALTH WORKER K OTHER PRIVATE L _____ (SPECIFY) OTHER SOURCE SHOP N TRAD. PRACTITIONER O OTHER X _____ (SPECIFY)																	
472B	How long does it take to get from your home to the nearest source of ORS?	MINUTES <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td></tr></table>																	

SECTION 5. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	CHECK 120: CURRENTLY MARRIED <input type="checkbox"/> WIDOWED DIVORCED SEPARATED <input type="checkbox"/>		→512
502	CHECK 314: NEITHER STERILIZED <input type="checkbox"/> HE OR SHE STERILIZED <input type="checkbox"/>		→512
503	CHECK 235: NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/> Now I have some questions about the future. Would you like to have (a/another) child would you or would you prefer not to have any (more) children? Now I have some questions about the future. After the child you are expecting now, like to have another child or would you prefer not to have any more children?	HAVE (A/ANOTHER)CHILD 1 NO MORE/NONE 2 SAYS SHE CAN'T GET PREGNANT 3 UNDECIDED/DON'T KNOW 8	→507 →505
504	CHECK 235: NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/> How long would you like to wait from now before the birth of (a/another) child? After the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS 1 <input type="text"/> YEARS 2 <input type="text"/> SOON/NOW 993 SAYS SHE CAN'T GET PREGNANT 994 OTHER 996 (SPECIFY) DON'T KNOW 998	→507
505	CHECK 235: NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/>		→508
506	If you became pregnant in the next few weeks, would you be <u>happy</u> , <u>unhappy</u> , or would it <u>not matter</u> very much?	HAPPY 1 UNHAPPY 2 WOULD NOT MATTER 3	
507	CHECK 313: USING A METHOD. NOT ASKED <input type="checkbox"/> NOT CURRENTLY USING <input type="checkbox"/> CURRENTLY USING <input type="checkbox"/>		→512
508	Do you think you will use a method to delay or avoid pregnancy within the next 12 months?	YES 1 NO 2 DON'T KNOW 8	→510
509	Do you think you will use a method of family planning at any time in the future?	YES 1 NO 2 DON'T KNOW 8	→511
510	Which method would you prefer to use?	PILL 01 IUD 02 INJECTIONS 03 NORPLANT 04 DIAPHRAGM/FOAM/JELLY 05 CONDOM 06 FEMALE STERILIZATION 07 MALE STERILIZATION 08 PERIODIC ABSTINENCE 09 WITHDRAWAL 10 OTHER 96 (SPECIFY) UNSURE 98	→512

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
511	What is the main reason that you think you will never use a method?	FERTILITY-RELATED REASONS INFREQUENT SEX 11 MENOPAUSAL/HYSTERECTOMY 12 SUBFECUND/INFECUND 13 WANTS MORE CHILDREN 14 OPPOSITION TO USE RESPONDENT OPPOSED 21 HUSBAND OPPOSED 22 OTHERS OPPOSED 23 RELIGIOUS PROHIBITION 24 LACK OF KNOWLEDGE KNOWS NO METHOD 31 KNOWS NO SOURCE 32 METHOD-RELATED REASONS HEALTH CONCERNS 41 FEAR OF SIDE EFFECTS 42 LACK OF ACCESS/TOO FAR 43 COST TOO MUCH 44 INCONVENIENT TO USE 45 INTERFERES WITH BODY'S NORMAL PROCESSES 46 OTHER 96 (SPECIFY) DON'T KNOW 98	
512	CHECK 221: HAS LIVING CHILDREN <input type="checkbox"/> NO LIVING CHILDREN <input type="checkbox"/> If you could go back to the time you did not have any children and could choose exactly the number in your whole life, of children to have in your whole life, how many would that be? If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NUMBER <input type="text"/> OTHER 96 (SPECIFY)	→514
513	How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter?	BOYS NUMBER <input type="text"/> OTHER 96 (SPECIFY) GIRLS NUMBER <input type="text"/> OTHER 96 (SPECIFY) EITHER NUMBER <input type="text"/> OTHER 96 (SPECIFY)	
514	Would you say that you approve or disapprove of couples using a method to avoid getting pregnant?	APPROVE 1 DISAPPROVE 2 NO OPINION 3	
515	Is it acceptable or not acceptable to you for information on family planning to be provided: On the radio? On the television?	NOT ACCEPT- ACCEPT- ABLE ABLE DK RADIO 1 2 8 TELEVISION 1 2 8	
516	In the last few months have you heard about family planning: On the radio? On the television? In a newspaper or magazine? From a poster? From leaflets or brochures?	YES NO RADIO 1 2 TELEVISION 1 2 NEWSPAPER OR MAGAZINE . 1 2 POSTER 1 2 LEAFLETS OR BROCHURES . 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP																				
516A	In the last few months have you heard the following programs on the radio: Jana Swastha Karyakram? Ghanti Heri Had Nilaun, the drama? Ghanti Heri Had Nilaun, the song? Shriman Shrimatile Pariwarbare Kurakani Gareko Chhoto Radio Natak?	<table style="width: 100%; border: none;"> <tr> <td></td> <td style="text-align: right;">YES</td> <td style="text-align: right;">NO</td> </tr> <tr> <td>JANA SWASTHA</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> <tr> <td>GHANTI HERI DRAMA</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> <tr> <td>GHANTI HERI SONG</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> <tr> <td>SHRIMAN SHRIMATILE</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> </table>		YES	NO	JANA SWASTHA	1	2	GHANTI HERI DRAMA	1	2	GHANTI HERI SONG	1	2	SHRIMAN SHRIMATILE	1	2						
	YES	NO																					
JANA SWASTHA	1	2																					
GHANTI HERI DRAMA	1	2																					
GHANTI HERI SONG	1	2																					
SHRIMAN SHRIMATILE	1	2																					
517	In the last few months have you discussed the practice of family planning with your friends, neighbours, or relatives?	<table style="width: 100%; border: none;"> <tr> <td>YES</td> <td style="text-align: right;">1</td> </tr> <tr> <td>NO</td> <td style="text-align: right;">2</td> </tr> </table>	YES	1	NO	2	→519																
YES	1																						
NO	2																						
518	With whom? Anyone else? RECORD ALL MENTIONED.	<table style="width: 100%; border: none;"> <tr> <td>HUSBAND</td> <td style="text-align: right;">A</td> </tr> <tr> <td>MOTHER</td> <td style="text-align: right;">B</td> </tr> <tr> <td>FATHER</td> <td style="text-align: right;">C</td> </tr> <tr> <td>SISTER(S)</td> <td style="text-align: right;">D</td> </tr> <tr> <td>BROTHER(S)</td> <td style="text-align: right;">E</td> </tr> <tr> <td>DAUGHTER</td> <td style="text-align: right;">F</td> </tr> <tr> <td>MOTHER-IN-LAW</td> <td style="text-align: right;">G</td> </tr> <tr> <td>FRIENDS/NEIGHBOURS</td> <td style="text-align: right;">H</td> </tr> <tr> <td>OTHER _____</td> <td style="text-align: right;">X</td> </tr> <tr> <td></td> <td style="text-align: center;">(SPECIFY)</td> </tr> </table>	HUSBAND	A	MOTHER	B	FATHER	C	SISTER(S)	D	BROTHER(S)	E	DAUGHTER	F	MOTHER-IN-LAW	G	FRIENDS/NEIGHBOURS	H	OTHER _____	X		(SPECIFY)	
HUSBAND	A																						
MOTHER	B																						
FATHER	C																						
SISTER(S)	D																						
BROTHER(S)	E																						
DAUGHTER	F																						
MOTHER-IN-LAW	G																						
FRIENDS/NEIGHBOURS	H																						
OTHER _____	X																						
	(SPECIFY)																						
519	CHECK 120: CURRENTLY MARRIED <input type="checkbox"/> WIDOWED <input type="checkbox"/> DIVORCED <input type="checkbox"/> SEPARATED <input type="checkbox"/>		→601																				
520	Spouses do not always agree on everything. Now I want to ask you about your husband's views on family planning. Do you think that your husband approves or disapproves of couples using a method to avoid pregnancy?	<table style="width: 100%; border: none;"> <tr> <td>APPROVES</td> <td style="text-align: right;">1</td> </tr> <tr> <td>DISAPPROVES</td> <td style="text-align: right;">2</td> </tr> <tr> <td>DON'T KNOW</td> <td style="text-align: right;">8</td> </tr> </table>	APPROVES	1	DISAPPROVES	2	DON'T KNOW	8															
APPROVES	1																						
DISAPPROVES	2																						
DON'T KNOW	8																						
521	How often have you talked to your husband about family planning in the past year?	<table style="width: 100%; border: none;"> <tr> <td>NEVER</td> <td style="text-align: right;">1</td> </tr> <tr> <td>ONCE OR TWICE</td> <td style="text-align: right;">2</td> </tr> <tr> <td>MORE OFTEN</td> <td style="text-align: right;">3</td> </tr> </table>	NEVER	1	ONCE OR TWICE	2	MORE OFTEN	3															
NEVER	1																						
ONCE OR TWICE	2																						
MORE OFTEN	3																						
522	Do you think your husband wants the same number of children that you want, or does he want more or fewer than you want?	<table style="width: 100%; border: none;"> <tr> <td>SAME NUMBER</td> <td style="text-align: right;">1</td> </tr> <tr> <td>MORE CHILDREN</td> <td style="text-align: right;">2</td> </tr> <tr> <td>FEWER CHILDREN</td> <td style="text-align: right;">3</td> </tr> <tr> <td>DON'T KNOW</td> <td style="text-align: right;">8</td> </tr> </table>	SAME NUMBER	1	MORE CHILDREN	2	FEWER CHILDREN	3	DON'T KNOW	8													
SAME NUMBER	1																						
MORE CHILDREN	2																						
FEWER CHILDREN	3																						
DON'T KNOW	8																						

SECTION 6. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	CHECK 120: CURRENTLY MARRIED <input type="checkbox"/> WIDOWED DIVORCED SEPARATED <input type="checkbox"/>		→603
602	How old was your husband on his last birthday?	AGE <input type="text"/> <input type="text"/>	
603	Did your (last) husband ever attend school?	YES 1 NO 2	→605
604	What was the highest grade he completed?	GRADE <input type="text"/> <input type="text"/> DON'T KNOW 98	
605	What (is/was) your (last) husband's occupation? That is, what kind of work (does/did) he mainly do?	_____ <input type="text"/> <input type="text"/> _____ _____	
606	CHECK 605: WORKS (WORKED) IN AGRICULTURE <input type="checkbox"/> DOES (DID) NOT WORK IN AGRICULTURE <input type="checkbox"/>		→608
607	(Does/did) your husband work mainly on his own land or on family land, or (does/did) he rent land or does he work on someone else's land?	OWN LAND 1 FAMILY LAND 2 RENTED LAND 3 SOMEONE ELSE'S LAND 4	
608	Aside from your own housework, are you currently working?	YES 1 NO 2	→611
609	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES 1 NO 2	→611
610	Have you done any work in the last 12 months?	YES 1 NO 2	→701
611	What is your occupation, that is what kind of work do you mainly do?	_____ <input type="text"/> <input type="text"/> _____ _____	
612	CHECK 611: WORKS IN AGRICULTURE <input type="checkbox"/> DOES NOT WORK IN AGRICULTURE <input type="checkbox"/>		→614
613	Do you work mainly on your own land or on family land, or do you rent land or work on someone else's land?	OWN LAND 1 FAMILY LAND 2 RENTED LAND 3 SOMEONE ELSE'S LAND 4	
614	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER 1 FOR SOMEONE ELSE 2 SELF-EMPLOYED 3	
615	Do you usually work throughout the year, or do you work seasonally/part of the year, or only once in a while?	THROUGHOUT THE YEAR 1 SEASONALLY/PART OF THE YEAR ... 2 ONCE IN A WHILE 3	→617 →618

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
616	During the last 12 months, how many months did you work?	NUMBER OF MONTHS <input type="text"/>	
617	During the last 12 months (in the months you worked,) how many days a week did you usually work?	NUMBER OF DAYS <input type="text"/>	→619
618	During the last 12 months, approximately how many days did you work?	NUMBER OF DAYS <input type="text"/>	
619	Do you earn cash for your work? PROBE: Do you make money for working?	YES 1 NO 2	→622
620	How much do you usually earn for this work? PROBE: Is this by the day, by the week, or by the month?	PER HOUR 1 <input type="text"/> PER DAY 2 <input type="text"/> PER WEEK 3 <input type="text"/> PER MONTH 4 <input type="text"/> PER YEAR 5 <input type="text"/> OTHER _____ 999996 (SPECIFY)	
621	CHECK 120: CURRENTLY MARRIED <input type="checkbox"/> Who mainly decides how the money you earn will be used: you, your husband, you and your husband jointly, or someone else? WIDOWED DIVORCED SEPARATED <input type="checkbox"/> Who mainly decides how the money you earn will be used: you, someone else, or you and someone else jointly?	RESPONDENT DECIDES 1 HUSBAND DECIDES 2 JOINTLY WITH HUSBAND 3 SOMEONE ELSE DECIDES 4 JOINTLY WITH SOMEONE ELSE 5	
622	Do you usually work at home or away from home?	HOME 1 AWAY 2	
623	CHECK 222 AND 223: HAS A CHILD LIVING AT HOME WHO IS AGE 5 OR LESS? YES <input type="checkbox"/> NO <input type="checkbox"/>		→701
624	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working?	RESPONDENT 01 HUSBAND 02 OLDER FEMALE CHILD 03 OLDER MALE CHILD 04 OTHER RELATIVES 05 NEIGHBOURS 06 FRIENDS 07 SERVANTS/HIRED HELP 08 CHILD IS IN SCHOOL 09 INSTITUTIONAL CHILD CARE 10 HAS NOT WORKED SINCE LAST BIRTH 95 OTHER _____ 96 (SPECIFY)	

SECTION 7. AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Have you ever heard of an illness called AIDS?	YES 1 NO 2	→711
702	From which sources of information have you learned most about AIDS? Any other sources? RECORD ALL MENTIONED.	RADIO A TELEVISION B NEWSPAPERS/MAGAZINES C PAMPHLETS/POSTERS D HEALTH WORKERS E TEMPLES/MOSQUES F SCHOOLS/TEACHERS G COMMUNITY MEETINGS H FRIENDS/RELATIVES I WORK PLACE J OTHER _____ X (SPECIFY)	
703	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES 1 NO 2 DON'T KNOW 8	→ 707
704	What can a person do? Any other ways? RECORD ALL MENTIONED.	SAFE SEX A ABSTAIN FROM SEX B USE CONDOMS C HAVE ONLY ONE SEX PARTNER D AVOID SEX WITH PROSTITUTES E AVOID SEX WITH HOMOSEXUALS F AVOID BLOOD TRANSFUSIONS G AVOID INJECTIONS H AVOID KISSING I AVOID MOSQUITO BITES J SEEK PROTECTION FROM TRADITIONAL HEALER K OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW Z	
705	CHECK 704: MENTIONED SAFE SEX <input type="checkbox"/> DID NOT MENTION SAFE SEX <input type="checkbox"/>		→707
706	What does "safe sex" mean to you?	ABSTAIN FROM SEX B USE CONDOMS C HAVE ONLY ONE SEX PARTNER D AVOID SEX WITH PROSTITUTES E AVOID SEX WITH HOMOSEXUALS F OTHER _____ X (SPECIFY) DON'T KNOW Z	
707	Is it possible for a healthy-looking person to have the AIDS virus?	YES 1 NO 2 DON'T KNOW 8	
708	Do you think that persons with AIDS almost never die from the disease, sometimes die, or almost always die from the disease?	ALMOST NEVER 1 SOMETIMES 2 ALMOST ALWAYS 3 DON'T KNOW 8	
709	Do you think your chances of getting AIDS are small, moderate, great, or that you have no risk at all?	SMALL 1 MODERATE 2 GREAT 3 NO RISK AT ALL 4 HAS AIDS 5 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
710	<p>Has your knowledge of AIDS influenced or changed your decisions about having sex or your sexual behavior?</p> <p>IF YES, PROBE: In what way?</p> <p>RECORD ALL MENTIONED.</p>	<p>STOPPED ALL SEX B</p> <p>STARTED USING CONDOMS C</p> <p>RESTRICTED SEX TO ONE PARTNER D</p> <p>REDUCED NUMBER OF PARTNERS E</p> <p>OTHER X</p> <p>(SPECIFY)</p> <p>NO CHANGE IN SEXUAL BEHAVIOR . Y</p> <p>DON'T KNOW Z</p>	
711	<p>CHECK 120:</p> <p>CURRENTLY MARRIED <input type="checkbox"/></p> <p>WIDOWED <input type="checkbox"/></p> <p>DIVORCED <input type="checkbox"/></p> <p>SEPARATED <input type="checkbox"/></p>		→801
712	<p>Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family planning issues.</p> <p>When was the last time you had sexual intercourse?</p>	<p>NEVER 000</p> <p>DAYS AGO 1 <input type="text"/></p> <p>WEEKS AGO 2 <input type="text"/></p> <p>MONTHS AGO 3 <input type="text"/></p> <p>YEARS AGO 4 <input type="text"/></p> <p>BEFORE LAST BIRTH 996</p>	→801
713	<p>CHECK 301 AND 302:</p> <p>KNOWS CONDOM <input type="checkbox"/></p> <p>DOES NOT KNOW CONDOM <input type="checkbox"/></p> <p>The last time you had sex, was a condom used?</p> <p>Some men use a rubber sheath on their penis during sexual intercourse. The last time you had sex, was a condom used?</p>	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p>	
714	<p>Do you know of a place where you can get condoms?</p>	<p>YES 1</p> <p>NO 2</p>	→716
715	<p>Where is that?</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTRE, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>(NAME OF PLACE)</p>	<p>PUBLIC SECTOR</p> <p>HOSPITAL/DISTRICT CLINIC ... 11</p> <p>PRIMARY HEALTH CENTRE 12</p> <p>FAMILY PLANNING CLINIC 13</p> <p>HEALTH POST 14</p> <p>SUB-HEALTH POST 15</p> <p>MOBILE CLINIC 17</p> <p>OTHER PUBLIC 16</p> <p>(SPECIFY)</p> <p>PRIVATE SECTOR</p> <p>HOSPITAL 21</p> <p>CLINIC/NURSING HOME 22</p> <p>PHARMACY 23</p> <p>CHW 24</p> <p>FPAN 25</p> <p>OTHER PRIVATE 26</p> <p>(SPECIFY)</p> <p>OTHER SOURCE</p> <p>FCHV 31</p> <p>SHOP 32</p> <p>FRIEND/RELATIVE 33</p> <p>OTHER 36</p> <p>(SPECIFY)</p>	
716	<p>How old were you when you first had sexual intercourse?</p>	<p>AGE <input type="text"/></p> <p>FIRST TIME WHEN MARRIED 95</p> <p>FIRST TIME AT GAUNA 96</p>	
717	<p>PRESENCE OF OTHERS AT THIS POINT.</p>	<p>CHILDREN UNDER 10 1</p> <p>HUSBAND 1</p> <p>OTHER MALES 1</p> <p>OTHER FEMALES 1</p> <p>YES NO</p> <p>1 2</p> <p>1 2</p> <p>1 2</p> <p>1 2</p>	

804	What was the name given to your next oldest brother	[7]	[8]	[9]	[10]	[11]	[12]
805	Is (NAME) male or female?	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2
806	Is (NAME) still alive?	YES 1 NO 2 GO TO 808 ← DK 8 GO TO [8] ←	YES 1 NO 2 GO TO 808 ← DK 8 GO TO [9] ←	YES 1 NO 2 GO TO 808 ← DK 8 GO TO [10] ←	YES 1 NO 2 GO TO 808 ← DK 8 GO TO [11] ←	YES 1 NO 2 GO TO 808 ← DK 8 GO TO [12] ←	YES 1 NO 2 GO TO 808 ← DK 8 GO TO [13] ←
807	How old is (NAME)?	<input type="text"/> <input type="text"/> GO TO [8]	<input type="text"/> <input type="text"/> GO TO [9]	<input type="text"/> <input type="text"/> GO TO [10]	<input type="text"/> <input type="text"/> GO TO [11]	<input type="text"/> <input type="text"/> GO TO [12]	<input type="text"/> <input type="text"/> GO TO [13]
808	In what year did (NAME) die?	<input type="text"/> <input type="text"/> GO TO 810 ← DK 58	<input type="text"/> <input type="text"/> GO TO 810 ← DK 58	<input type="text"/> <input type="text"/> GO TO 810 ← DK 58	<input type="text"/> <input type="text"/> GO TO 810 ← DK 58	<input type="text"/> <input type="text"/> GO TO 810 ← DK 58	<input type="text"/> <input type="text"/> GO TO 810 ← DK 58
809	How many years ago did (NAME) die?	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
810	How old was (NAME) when he/she died?	<input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [8]	<input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [9]	<input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [10]	<input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [11]	<input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [12]	<input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [13]
811	Was (NAME) pregnant when she died?	YES 1 GO TO 814 ← NO 2	YES 1 GO TO 814 ← NO 2	YES 1 GO TO 814 ← NO 2	YES 1 GO TO 814 ← NO 2	YES 1 GO TO 814 ← NO 2	YES 1 GO TO 814 ← NO 2
812	Did (NAME) die during childbirth?	YES 1 GO TO 815 ← NO 2	YES 1 GO TO 815 ← NO 2	YES 1 GO TO 815 ← NO 2	YES 1 GO TO 815 ← NO 2	YES 1 GO TO 815 ← NO 2	YES 1 GO TO 815 ← NO 2
813	Did (NAME) die within two months after the end of a pregnancy or childbirth?	YES 1 NO 2 GO TO 815 ←	YES 1 NO 2 GO TO 815 ←	YES 1 NO 2 GO TO 815 ←	YES 1 NO 2 GO TO 815 ←	YES 1 NO 2 GO TO 815 ←	YES 1 NO 2 GO TO 815 ←
814	Was her death due to complications of pregnancy or childbirth?	YES 1 NO 2	YES 1 NO 2	YES 1 NO 2	YES 1 NO 2	YES 1 NO 2	YES 1 NO 2
815	How many children did (NAME) give birth to during her lifetime?	<input type="text"/> <input type="text"/> GO TO [8]	<input type="text"/> <input type="text"/> GO TO [9]	<input type="text"/> <input type="text"/> GO TO [10]	<input type="text"/> <input type="text"/> GO TO [11]	<input type="text"/> <input type="text"/> GO TO [12]	<input type="text"/> <input type="text"/> GO TO [13]
IF NO MORE BROTHERS OR SISTERS, GO TO 816							
816	RECORD THE TIME.	HOUR MINUTES				<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	

SECTION 9. HEIGHT AND WEIGHT

901	CHECK 233: ONE OR MORE BIRTHS SINCE BAISAKH 2049 <input type="checkbox"/>	NO BIRTHS SINCE BAISAKH 2049 <input type="checkbox"/>	_____ → END
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IN 902 (COLUMNS 2 AND 3) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE BAISAKH 2049 AND STILL ALIVE. IN 903 AND 904 RECORD THE NAME (ALL COLUMNS) AND BIRTH DATE (COLUMNS 2 AND 3) FOR THE RESPONDENT AND FOR ALL LIVING CHILDREN BORN SINCE BAISAKH 2049. IN 906 AND 908 RECORD HEIGHT AND WEIGHT OF THE RESPONDENT AND THE LIVING CHILDREN. (NOTE: ALL RESPONDENTS WITH ONE OR MORE BIRTHS SINCE BAISAKH 2049 SHOULD BE WEIGHED AND MEASURED EVEN IF ALL OF THE CHILDREN HAVE DIED. IF THERE ARE MORE THAN 2 LIVING CHILDREN SINCE BAISAKH 2049, USE ADDITIONAL QUESTIONNAIRES).

		RESPONDENT (1)	YOUNGEST LIVING CHILD (2)	NEXT-TO-YOUNGEST LIVING CHILD (3)
902	LINE NO. FROM Q214		<input type="text"/>	<input type="text"/>
903	NAME FROM Q218 FOR CHILDREN	(NAME)	(NAME)	(NAME)
904	DATE OF BIRTH FROM Q220, AND ASK FOR DAY OF BIRTH		DAY <input type="text"/> <input type="text"/> MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/>	DAY <input type="text"/> <input type="text"/> MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/>
905	BCG SCAR ON TOP OF SHOULDER		SCAR SEEN 1 NO SCAR 2	SCAR SEEN 1 NO SCAR 2
906	HEIGHT (In centimetres)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
907	WAS LENGTH/HEIGHT OF CHILD MEASURED LYING DOWN OR STANDING UP?		LYING 1 STANDING 2	LYING 1 STANDING 2
908	WEIGHT (In kilograms)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
909	DATE WEIGHED AND MEASURED	DAY <input type="text"/> <input type="text"/> MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/>	DAY <input type="text"/> <input type="text"/> MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/>	DAY <input type="text"/> <input type="text"/> MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/>
910	RESULT	MEASURED 1 NOT PRESENT 3 REFUSED 4 OTHER 6 (SPECIFY)	MEASURED 1 CHILD SICK 2 CHILD NOT PRESENT 3 CHILD REFUSED 4 MOTHER REFUSED 5 OTHER 6 (SPECIFY)	MEASURED 1 CHILD SICK 2 CHILD NOT PRESENT 3 CHILD REFUSED 4 MOTHER REFUSED 5 OTHER 6 (SPECIFY)
911	NAME OF MEASURER:	<input type="text"/>	NAME OF ASSISTANT:	<input type="text"/>

INTERVIEWER'S OBSERVATIONS
To be filled in after completing interview

Comments
about Respondent

Comments on
Specific Questions

Any Other
Comments

SUPERVISOR'S OBSERVATIONS

Name of
Supervisor

Date: _____

EDITOR'S OBSERVATIONS

Name of
Editor

Date: _____