

# Nepal Demographic and Health Survey 2011

## Preliminary Report

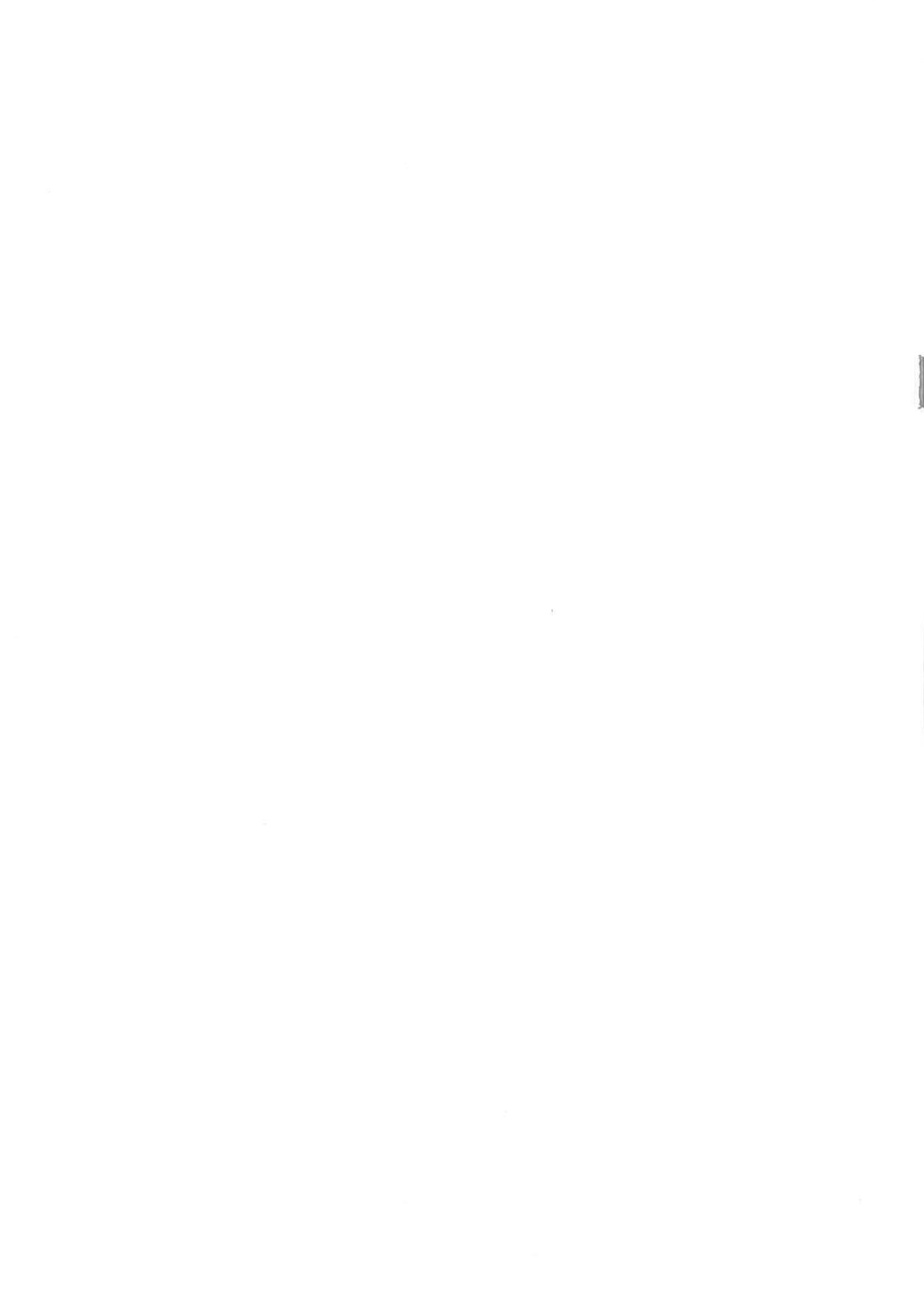
Population Division  
Ministry of Health and Population  
Ramshah Path  
Kathmandu, Nepal

New ERA  
Rudramati Marga, Kalo Pul  
Kathmandu, Nepal

MEASURE DHS  
ICF Macro  
Calverton, Maryland, U.S.A.

U.S. Agency for International Development  
U.S. Embassy, Maharajgunj  
Kathmandu, Nepal





**NEPAL  
DEMOGRAPHIC AND HEALTH SURVEY  
2011**

**PRELIMINARY REPORT**

**Population Division  
Ministry of Health and Population  
Ramshah Path, Kathmandu  
Nepal**

**New ERA  
Rudramati Marga, Kalo Pul  
Kathmandu, Nepal**

**MEASURE DHS  
ICF Macro  
Calverton, Maryland, U.S.A.**

**U.S. Agency for International Development  
U.S. Embassy, Maharajgunj  
Kathmandu, Nepal**

**August 2011**



The 2011 Nepal Demographic and Health Survey (2011 NDHS) is part of the worldwide MEASURE DHS project which is funded by the United States Agency for International Development (USAID). The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID.

Additional information about the 2011 NDHS may be obtained from New ERA Ltd., P.O. Box 722, Kathmandu, Nepal; Telephone: (977-1) 4413603; Internet: [www.newera.com.np](http://www.newera.com.np). Additional information about the DHS project may be obtained from ICF Macro, 11785 Beltsville Drive, Calverton, MD 20705 USA; Telephone: 301-572-0200, Fax: 301-572-0999, E-mail: [reports@macrointernational.com](mailto:reports@macrointernational.com), Internet: [www.measuredhs.com](http://www.measuredhs.com).

# CONTENTS

CONTENTS .....	i
TABLES AND FIGURES .....	iii
FOREWORD .....	v
INTRODUCTION .....	1
SURVEY IMPLEMENTATION.....	3
A. Sample Design.....	3
B. Questionnaires.....	4
C. Training of Field Staff.....	4
D. Fieldwork .....	5
E. Data Processing.....	5
PRELIMINARY FINDINGS .....	7
A. Response Rates.....	7
B. Characteristics of Respondents.....	8
C. Fertility .....	9
D. Fertility Preferences .....	10
E. Family Planning .....	11
F. Maternal Care .....	13
G. Child Health .....	14
H. Nutrition .....	19
I. HIV/AIDS .....	24
J. Domestic Violence .....	26
REFERENCES .....	28



## TABLES AND FIGURES

Table 1	Results of the household and individual interviews.....	7
Table 2	Background characteristics of respondents.....	8
Table 3	Current fertility .....	9
Table 4	Fertility preferences by number of living children .....	10
Table 5	Current use of contraception by background characteristics .....	11
Table 6	Trend in current use of modern contraceptive methods.....	12
Table 7	Maternal care indicators.....	14
Table 8	Vaccinations by background characteristics .....	15
Table 9	Treatment for acute respiratory infection, fever, and diarrhea.....	17
Table 10	Early childhood mortality rates.....	18
Table 11	Breastfeeding status by age.....	19
Table 12	Nutritional status of children .....	20
Table 13	Anemia among children and women .....	22
Table 14	Presence of adequately iodized salt in household .....	23
Table 15	Knowledge of AIDS .....	24
Table 16	Knowledge of HIV prevention methods .....	25
Table 17	Multiple sexual partners in the past 12 months: Men .....	26
Table 18	Experience of physical violence .....	27
Figure 1	Trends in Total Fertility Rate 1984-2010 .....	10
Figure 2	Current use of any modern method of contraception.....	12
Figure 3	Immunization coverage of children 12-23 months (1996-2011) .....	16
Figure 4	Trends in early childhood mortality rates for the period 0-4 years preceding the survey, Nepal 1996-2010.....	19
Figure 5	Trends in Nutritional Status of Children under Five years .....	21



## FOREWORD

The Nepal Demographic and Health Survey (NDHS) 2011 is conducted as a periodic update of the demographic and health situation in Nepal. This is the fourth comprehensive national level population and health survey conducted in Nepal as part of the global Demographic and Health Surveys (DHS) program.

The 2011 NDHS was implemented by New ERA under the aegis of the Ministry of Health and Population, Government of Nepal. Technical support was provided by ICF Macro and financial support was provided by the United States Agency for International Development (USAID), Nepal.

The purpose of this study is to generate recent and reliable information on fertility, family planning, infant and child mortality, maternal and child health, nutrition, domestic violence, and knowledge of HIV and AIDS, which allows monitoring progress through time and addressing these issues. The study was initiated in January 2010 and data collection was carried out between January 2011 and June 2011.

Information provided in this report will help to assess the current health- and population-related policies and programs. It will also be useful to formulate new population and health policies and programs. This is the preliminary report of 2011 NDHS and the final report containing more detailed findings will be published in early 2012.

On behalf of the Ministry of Health and Population, we would like to extend our appreciation to all development partners for their input to the survey, to ICF Macro for providing technical support, to USAID Nepal for providing financial support, to New ERA for implementing the survey, and most important, to the respondents who provided the information on which this report is based. It is now time for program managers and policy makers to use the information to improve the lives of the people in this country.

Padam Raj Bhatta  
Joint Secretary  
Chief, Population Division  
Ministry of Health and Population



## INTRODUCTION

The 2011 Nepal Demographic and Health Survey (NDHS) is the fourth nationally representative comprehensive survey conducted as part of the worldwide Demographic and Health Surveys (DHS) project in the country. It was conducted under the aegis of the Ministry of Health and Population (MOHP). The survey was implemented by New ERA, a private research firm in Nepal. ICF Macro provided technical assistance through its MEASURE DHS project. Funding for the survey came from the United States Agency for International Development (USAID) through its mission in Nepal.

The principal objective of the 2011 NDHS is to provide current and reliable data on fertility and family planning, child mortality, maternal and adult mortality, children's nutritional status, the utilization of maternal and child health services, domestic violence, and knowledge of HIV/AIDS. The 2011 NDHS also provides population-based information on the prevalence of anemia among women age 15-49 and children age 6-59 months. Information from the survey is essential for informed policy decisions, planning, and monitoring and evaluation of programs on health in general and reproductive health in particular at both the national and district levels.

A long-term objective of the survey is to strengthen the technical capacity of local organizations to plan, conduct, process, and analyze data from complex national population and health surveys. Moreover, the 2011 NDHS is comparable to similar surveys conducted in other developing countries and therefore affords a national and international comparison. The 2011 NDHS also adds to the vast and growing international database on demographic and health-related variables.

The 2011 NDHS collected demographic and health information from a nationally representative sample of 10,826 households, which yielded completed interviews with 12,674 women age 15-49 in all selected households and with 4,121 men age 15-49 in every second household.

This report presents preliminary findings from the 2011 NDHS on a number of key topics of interest to program managers and policy makers. These preliminary results are intended to facilitate an early evaluation of existing programs and assist in designing new strategies for improving population and health programs in Nepal. A more detailed final report will be published in early 2012. Although the figures in this preliminary report are not expected to differ much from the findings to be presented in the final report, the results shown here should be considered provisional and interpreted with caution.



## SURVEY IMPLEMENTATION

### A. Sample Design

The primary focus of the 2011 NDHS was to provide estimates of key 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 for the 13 eco-development regions (stratums).

#### *Sampling Frame*

Nepal is administratively divided into 75 districts, which are further divided into smaller administrative units known as Village Development Committees (VDCs) and Municipalities. The VDCs and municipalities are further divided into wards. The larger wards in the urban areas are further divided into sub-wards. An enumeration area (EA) is defined as a ward in the rural areas and a sub-ward in the urban areas. Each EA is totally classified as urban or rural. As the upcoming population census was scheduled for June 2011, the 2011 NDHS used the list of EAs with population and household information developed by the Central Bureau of Statistics of Nepal for the 2001 Population Census. The long gap between the 2001 Census and the fielding of the 2011 NDHS necessitated an updating of the 2001 sampling frame to take into account not only population growth, but also mass internal and external migration due the 10-year political conflict in the country. To obtain an updated list, a partial updating of the 2001 Census frame was carried out by having a quick count of dwelling units in EAs five times larger than the sample required for each of the 13 domains. The results of the quick count survey served as the actual sample frame for the 2011 NDHS sample design.

#### *Domains*

The country is broadly divided into three horizontal ecological belts, namely, Mountain, Hill, and *Terai*. Vertically the country is divided into five development regions. The cross section of these will provide 15 eco-development regions, which are referred to as sub-regions or domains for the 2011 NDHS. Due to the small population size in the mountain regions, the western, mid-western, and far-western mountain regions are combined into one domain yielding a total of 13 domains. In order to provide an adequate sample to calculate most of the key indicators with an acceptable precision, each domain needs a minimum of about 600 households.

Stratification is achieved by separating each of the 13 domains into urban and rural areas. The 2011 NDHS used the same urban-rural stratification as in the census frame. In total, 25 sampling strata were created. The western/mid-western/far-western mountain regions do not have any urban areas.

The number of wards and sub-wards in each of the 13 domains are not allocated proportional to their population due to the need to provide estimates with acceptable levels of statistical precision for each domain, and for urban and rural domains of the country as a whole. The vast majority of the population in Nepal resides in the rural areas. In order to provide for national urban estimates, urban areas of the country were over sampled.

#### *Sample Selection*

Samples were selected independently in every stratum, through a two-stage selection process. In the first stage, EAs were selected using a probability proportional-to-size. In order to achieve the target sample size in each domain, the ratio of urban EAs over rural EAs in each domain was roughly 1 to 2, resulting in 93 urban and 196 rural EAs, for a total of 289 EAs.

A complete household listing and mapping was carried out in all selected clusters. In the second stage, 35 households in each urban EA and 40 households in each rural EA were randomly selected.

Due to the non-proportional allocation of the sample to the different domains and to over sampling of urban areas in each domain, sampling weights are required for any analysis using 2011 NDHS data to ensure the actual representativeness of the sample at the national level as well as domain levels. Since the 2011 NDHS sample is a two-stage stratified cluster sample, sampling weights were calculated based on sampling probabilities separately for each sampling stage taking into account the non-proportionality in the allocation process for domains and urban-rural strata.

## **B. Questionnaires**

Three questionnaires were administered in the 2011 NDHS: the Household Questionnaire, the Woman's Questionnaire, and the Man's Questionnaire. These questionnaires were adapted from the standard DHS6 core questionnaires to reflect the population and health issues relevant to Nepal at a series of meetings with various stakeholders from government ministries and agencies, non-governmental organizations, and international donors. The final draft of each questionnaire was discussed at a questionnaire design workshop organized by the Ministry of Health and Population on April 22, 2010 in Kathmandu. These questionnaires were then translated from English into the three main local languages—Nepali, Maithali, and Bhojpuri and back translated into English. These questionnaires were finalized after the pretest, which was held from September 30 to November 4, 2010, with a one-week break in October 2010 for *Dasain* vacation.

The Household Questionnaire was used to list all the usual members and visitors in the selected households. Some basic information was collected on the characteristics of each person listed, including age, sex, education, and relationship to the head of the household. For children under age 18, survival status of the parents was determined. The Household Questionnaire was used to identify women and men who were eligible for the individual interview and women who were eligible for interview on domestic violence. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor of the house, ownership of various durable goods, and ownership of mosquito nets. The result of the salt test for iodine, height and weight measurements, and anemia testing were also recorded in the Household Questionnaire.

The Woman's Questionnaire was used to collect information from women age 15-49. These women were asked questions on the following topics:

- Background characteristics (education, residential history, media exposure, etc.)
- Pregnancy history and childhood mortality
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Marriage and sexual activity
- Woman's work and husband's background characteristics
- Awareness and behavior regarding AIDS and other sexually transmitted infections (STIs)
- Domestic violence

The Man's Questionnaire was administered to all men age 15-49 living in half the households sampled for the female interview. The Man's Questionnaire collected much of the same information found in the Woman's Questionnaire but was shorter because it did not contain a detailed reproductive history or questions on maternal and child health, nutrition, or domestic violence.

## **C. Training of Field Staff**

A stringent recruitment process was carried out, in which candidates had to go through a written examination, computer aptitude test, and an oral interview to be qualified for the training. A total of 96 persons were trained to serve as fieldwork supervisors, interviewers, quality control staff, and reserves. The main training was held in Kathmandu from December 15, 2010 – January 16, 2011.

It was the first time that data collection for the Nepal DHS was carried out using personal computer (PC) tablet. The training had two components: training on paper-based questionnaires; and, training on the use of PC tablets. The New ERA research team led the three-week training on the paper-based questionnaires and biomarkers while ICF Macro staff led the two-week training on the use of PC tablets.

The training included theoretical and practical sessions, presentations, practical demonstrations, and practice interviewing in small groups, as well as several days of field practice. The participants were also trained on measuring height and weight of women and children, and conducting anemia testing. Special classes on several topics were organized during the training, including Nepal's Health Delivery System, family planning, maternal health, abortion, child health, nutrition, and women's empowerment and domestic violence. These classes were led by experts from the different divisions of the Ministry of Health and Population.

#### **D. Fieldwork**

Data collection was carried out by 16 data collection teams. Each team consisted of three female interviewers, one male interviewer, and a male supervisor. Teams were deployed around Kathmandu on January 23, 2011 for their first clusters to enable intense supervision and technical backstopping. Each team completed one cluster each and electronically sent the data to the central office. A review session was organized to share the experiences of the teams. Survey managers provided the necessary feedback, which included upgrading the computer programs in the PC tablets.

Field teams traveled to their respective designated clusters on February 2, 2011 and the fieldwork was completed on June 14, 2011. Fieldwork supervision was done by six quality control teams, each consisting of one male and one female member. Additionally, two field coordinators monitored the overall data quality. Close contact between New ERA central office and the teams was maintained through field visits by New ERA senior staff, members of the steering committee, staff of the Ministry of Health and Population and USAID/Nepal. Regular communication was maintained through cell phones.

Two review sessions were held to share field issues and refill supplies. The first was held after one month of field work, on March 3-5, 2011 and the second was held on April 21, 2011. These sessions were helpful in updating progress, providing feedback to the teams based on field check tables and field observations, discussing data inconsistencies, and problems faced by the teams.

#### **E. Data Processing**

The 2011 NDHS used the ASUS Eee T101MT tablets with data entry programs developed in CSPro. The CDMA wireless technology using the Internet File Streaming System (IFSS) was used to transfer data from the field to the central office in Kathmandu. The IFSS package was developed by ICF Macro and tested for the first time in Nepal.

The data were sent to the central office at New ERA by the teams once they checked and closed each EA file. This was mostly done before the team left the EA. In the central office, the data was edited by a senior data supervisor who had been specially trained for this task. The concurrent processing of the data was an advantage because field check tables to monitor various data quality parameters could be generated almost instantly and sent to the teams to improve their performance. The data entry and editing phase of the survey was completed by the end of June 2011.



## PRELIMINARY FINDINGS

### A. Response Rates

Table 1 shows household and individual response rates for the 2011 NDHS. A total of 11,353 households were selected for the sample, of which 10,888 were found to be occupied during data collection. Of these existing households, 10,826 were successfully interviewed, giving a household response rate of 99 percent.

In these households, 12,918 women were identified as eligible for the individual interview. Interviews were completed with 12,674 women, yielding a response rate of 98 percent. Of the 4,323 eligible men identified in the selected sub-sample of households, 4,121 or 95 percent were successfully interviewed. Response rates were higher in rural than in urban areas, with the rural-urban difference in response rates more marked among men than among women. The preliminary tabulations in the next section summarize the main demographic and health findings from interviews with these eligible women and men.

Throughout this report, numbers in the tables reflect weighted numbers unless indicated otherwise. To ensure statistical reliability, percentages based on fewer than 25 unweighted cases are not shown in the tables, and percentages based on 25-49 unweighted cases are shown within parentheses.

<b>Table 1. Results of the household and individual interviews</b>			
Number of households, number of interviews, and response rates, according to residence (unweighted), Nepal 2011			
Result	Residence		Total
	Urban	Rural	
<b>Household interviews</b>			
Households selected	3,331	8,022	11,353
Households occupied	3,182	7,706	10,888
Households interviewed	3,148	7,678	10,826
Household response rate <sup>1</sup>	98.9	99.6	99.4
<b>Interviews with women age 15-49</b>			
Number of eligible women	3,822	9,096	12,918
Number of eligible women interviewed	3,701	8,973	12,674
Eligible women response rate <sup>2</sup>	96.8	98.6	98.1
<b>Interviews with men age 15-49</b>			
Number of eligible men	1,451	2,872	4,323
Number of eligible men interviewed	1,351	2,770	4,121
Eligible men response rate <sup>2</sup>	93.1	96.4	95.3
<sup>1</sup> Households interviewed/households occupied			
<sup>2</sup> Respondents interviewed/eligible respondents			

## B. Characteristics of Respondents

The distribution of women and men age 15-49 by background characteristics is shown in Table 2. More than half of women (56 percent) and men (54 percent) are below age 30, reflecting the young age structure of the Nepalese population.

Background characteristic	Weighted percent	Women Weighted number	Unweighted number	Weighted percent	Men Weighted number	Unweighted number
<b>Age</b>						
15-19	21.7	2,753	2,790	23.7	978	1,009
20-24	18.1	2,297	2,281	16.6	685	693
25-29	16.6	2,101	2,129	14.1	581	567
30-34	13.7	1,734	1,697	12.1	499	492
35-39	12.3	1,557	1,561	13.1	542	533
40-44	10.1	1,285	1,266	10.6	438	458
45-49	7.5	947	950	9.7	399	369
<b>Religion</b>						
Hindu	84.2	10,672	10,829	84.2	3,472	3,486
Buddhist	8.8	1,112	1,058	8.6	354	352
Muslim	3.7	470	331	3.1	128	107
Kirat	1.5	195	215	2.1	86	92
Christian	1.7	220	236	1.9	77	80
Other	0.0	5	5	0.1	5	4
<b>Ethnic group</b>						
Hill Brahmin	14.2	1,805	1,798	14.5	597	618
Hill Chhetri	19.2	2,436	3,199	18.9	780	1,000
Terai Brahmin/Chhetri	1.2	156	169	1.3	54	55
Other Terai caste	7.9	1,003	730	9.0	372	303
Hill Dalit	9.6	1,214	1,402	8.6	352	381
Terai Dalit	4.4	559	306	3.9	163	96
Newar	4.3	541	532	4.8	196	180
Hill Janajati	24.9	3,154	2,986	23.5	968	906
Terai Janajati	10.4	1,313	1,198	12.1	497	463
Muslim	3.7	468	327	3.1	127	106
Other	0.2	25	27	0.3	14	13
<b>Marital status</b>						
Never married	21.4	2,708	2,837	34.8	1,433	1,444
Married	75.8	9,607	9,459	63.7	2,624	2,625
Living together	0.0	1	1	0.1	3	3
Divorced/separated	0.8	100	109	0.9	39	32
Widowed	2.0	258	268	0.5	23	17
<b>Residence</b>						
Urban	14.4	1,819	3,701	17.4	717	1,351
Rural	85.6	10,855	8,973	82.6	3,404	2,770
<b>Ecological zone</b>						
Mountain	6.4	805	2,033	5.9	245	618
Hill	40.2	5,090	4,974	40.2	1,658	1,582
Terai	53.5	6,779	5,667	53.8	2,218	1,921
<b>Education</b>						
No education	39.8	5,045	4,876	13.8	567	498
Primary	17.4	2,209	2,149	19.7	814	815
Some secondary	24.4	3,088	3,172	34.9	1,437	1,431
SLC and above	18.4	2,331	2,476	31.6	1,303	1,377
Total 15-49	100.0	12,674	12,674	100.0	4,121	4,121

Note: Education categories refer to the highest level of education completed. Total includes 1 woman with missing information on education not shown separately.  
SLC = School Leaving Certificate

The vast majority of respondents are Hindu (84 percent), 9 percent are Buddhist, and 4 percent of women and 3 percent of men are Muslim.

About one in four respondents belong to the Hill *Janajati* ethnic group, while nearly one in five respondents belong to the Hill *Chhetri* ethnic group. About 14 percent are Hill Brahmin and 10 percent of women are Terai Janajati and Hill *Dalit* each, while 12 percent of men are Terai Janajati. About four percent of the respondents belong to Newars and Terai Dalit ethnic group each.

About three in four women (76 percent) and over three in five men (64 percent) are currently married. Twenty-one percent of women in the sample have never been married compared with 35 percent of men. This is because men tend to marry later in life than women. Women are four times more likely than men to be widowed.

The large majority (more than 80 percent) of respondents live in rural areas. More than one in two respondents live in the Terai, two in five live in the Hill, and about 6 percent live in the Mountain.

Women are disadvantaged in terms of educational attainment. This is observed at all levels of education, with the female-male difference especially obvious among those with no education and those with SLC or higher levels of education.

### C. Fertility

All female respondents were asked about their reproductive histories in the 2011 NDHS. Each woman was first asked to report on the number of sons and daughters living with her, the number living elsewhere, the number who had died, and the number of pregnancies that did not result in a live birth. For each pregnancy ending in a live birth, the mother was asked to report on the child's name, sex, age (if alive) or age at death (if deceased) and whether the child was living with her. She was also asked to report her pregnancy outcome and the year of pregnancy termination if she ever had a pregnancy that did not end in a live birth. These data are used to calculate two of the most widely used measures of current fertility, the total fertility rate (TFR) and its component, age-specific fertility rates. The TFR, which is the sum of the age-specific fertility rates, is interpreted as the number of children the average woman would bear in her lifetime if she experienced the currently observed age-specific fertility rates throughout her reproductive years.

According to the results of the 2011 NDHS, the TFR calculated for the three years preceding the survey is 2.6 births per woman age 15-49 (Table 3). Urban-rural differentials in Nepal are obvious with rural women (2.8 births) having an average of over one child more than urban women (1.6 births).

The overall age pattern of fertility as reflected in the age-specific fertility rates (ASFR) indicates that childbearing begins early. Fertility is low among adolescents and increases to a peak of 187 births per 1,000 among women age 20-24 and then decreases thereafter.

The TFR from the 2011 NDHS can be compared with the TFR estimated from the earlier DHS surveys in the country. A comparison of the three-year rate shows that fertility has declined over the last two decades from 5.1 children per woman during the period 1984-1986 (Ministry of Health, 1993) to 2.6 during the period 2008-2010 (Figure 1). The 2011 NDHS data show that fertility among rural and urban women has declined by half a child each from the levels reported in the 2006 NDHS.

**Table 3. Current fertility**

Age-specific and total fertility rate, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Nepal 2011

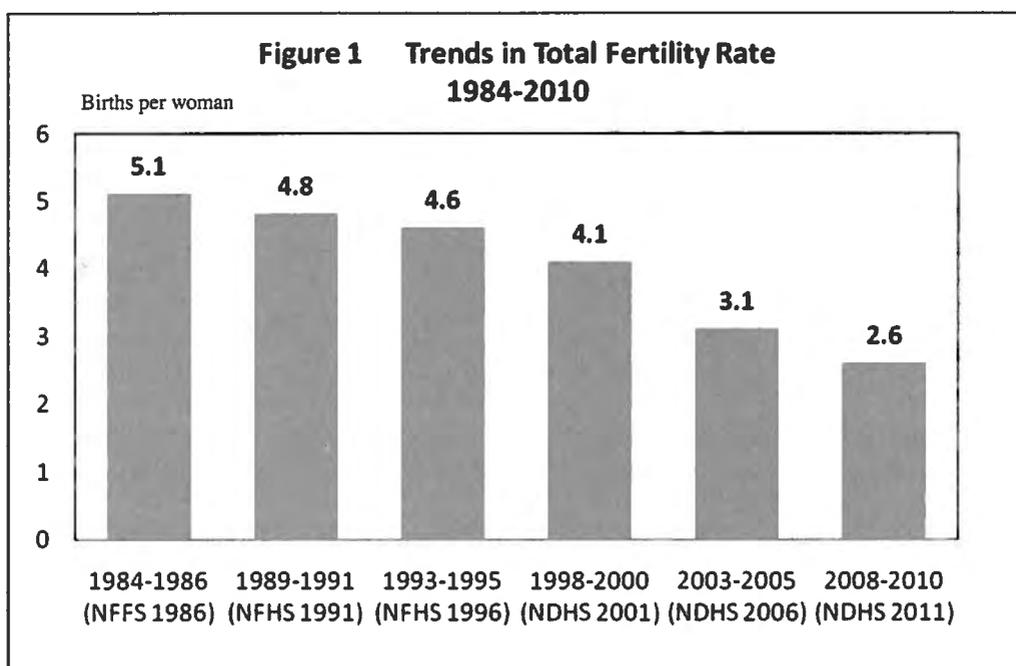
Age group	Residence		Total
	Urban	Rural	
15-19	42	87	81
20-24	135	197	187
25-29	82	134	126
30-34	38	78	71
35-39	16	39	36
40-44	0	16	14
45-49	2	5	5
TFR (15-49)	1.6	2.8	2.6
GFR	60	102	96
CBR	16.6	25.5	24.3

Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview.

TFR: Total fertility rate expressed per woman

GFR: General fertility rate expressed per 1,000 women age 15-44

CBR: Crude birth rate expressed per 1,000 population



#### D. Fertility Preferences

Several questions were asked in the survey concerning a woman's fertility preferences. These questions included: a) whether the respondent wanted another child and b) if so, when she would like to have the next child. The answers to these questions allow an estimation of the potential demand for family planning services either to limit or to space births.

Table 4 indicates that 87 percent of married women say that they either want to delay the birth of their next child or want no more children (including those sterilized). This is similar to that reported in the 2006 NDHS. Fertility preferences are closely related to the number of living children a woman has. In general, as the number of living children increases, the desire to want another child decreases. For example, 95 percent of currently married women with 5 living children say they want to have no more children or have been sterilized, compared with 5 percent of women with no children.

**Table 4. Fertility preferences by number of living children**  
Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Nepal 2011

Desire for children	Number of living children <sup>1</sup>						Total	
	0	1	2	3	4	5		6+
Have another soon <sup>2</sup>	48.7	14.3	3.4	2.2	0.7	0.2	0.7	8.4
Have another later <sup>3</sup>	39.0	44.8	5.1	2.0	0.6	0.7	0.0	14.0
Have another, undecided when	1.9	2.2	0.8	0.5	0.0	0.5	0.5	1.0
Undecided	3.0	5.2	1.7	0.8	0.6	0.3	0.0	2.0
Want no more	2.7	31.0	65.7	50.8	56.3	64.1	73.0	49.7
Sterilized <sup>4</sup>	1.8	1.5	22.3	41.7	39.4	31.2	20.7	23.0
Declared infecund	3.0	1.0	1.1	2.0	2.4	3.1	5.1	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	802	1,878	2,759	1,996	1,155	531	487	9,608

<sup>1</sup> The number of living children includes current pregnancy. For pregnant women, the desire for children refers to a subsequent child, not the child she is currently expecting.  
<sup>2</sup> Wants next birth within 2 years  
<sup>3</sup> Wants to delay next birth for 2 or more years  
<sup>4</sup> Includes both female and male sterilization

## E. Family Planning

Information about knowledge and use of contraceptive methods was collected from female and male respondents by asking them to mention any ways or methods by which a couple can delay or avoid a pregnancy. The interviewer described each method and then asked if the respondent knew it. Women were asked if they (or their partner) were currently using a method. For analytical purposes, contraceptive methods are grouped into two types in the table: modern and traditional. Modern methods include female and male sterilization, pill, IUD, injectables, implants, and condom. Traditional methods include rhythm method, withdrawal, and folk methods.

One in two currently married women age 15-49 is using a method of contraception. The majority of users (43 percent) rely on a modern method and 7 percent use traditional methods. Female sterilization (15 percent) is the most commonly used modern method of family planning followed by injectables (9 percent).

Contraceptive use varies markedly by residence (Table 5 and Figure 2). For example, use of modern methods among urban women is 18 percent higher than among rural women. Use of modern contraceptive methods is highest in the Terai (45 percent). There has been a 20 percent increase in the use of modern contraception in the Mountain zone in the last five years, with male sterilization (17 percent) being the most popular method.

**Table 5. Current use of contraception by background characteristics**

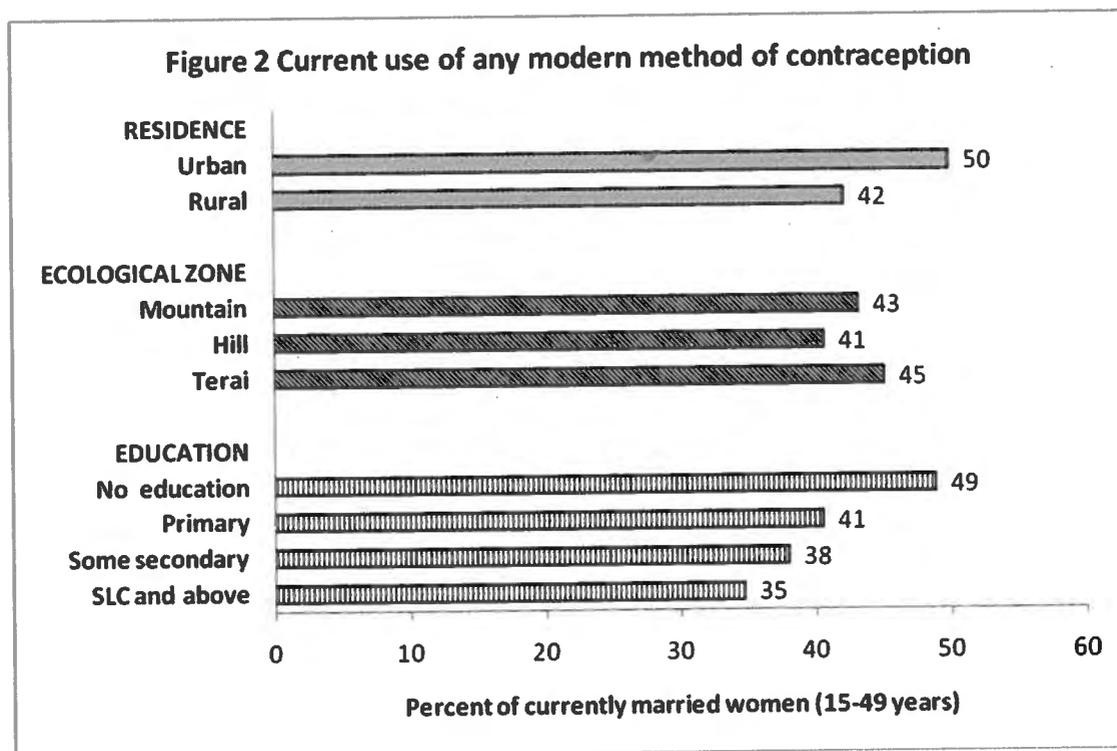
Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Nepal 2011

Background characteristic	Modern method										Traditional method				Total	Number of women	
	Any method	Any modern method	Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom	Other modern	Any traditional method	Rhythm	Withdrawal	Other			Not currently using
<b>Age</b>																	
15-19	17.6	14.4	0.0	0.0	3.0	0.0	4.9	0.1	6.5	0.0	3.1	0.9	2.2	0.0	82.4	100.0	792
20-24	29.5	23.8	3.6	0.8	3.7	1.2	8.5	0.7	5.2	0.0	5.8	0.9	4.9	0.0	70.5	100.0	1,761
25-29	46.3	39.8	11.8	4.0	5.4	1.8	9.9	1.2	5.7	0.0	6.5	0.7	5.7	0.0	53.7	100.0	1,914
30-34	59.6	52.2	18.7	9.5	5.5	1.3	11.1	1.6	4.5	0.0	7.4	0.8	6.5	0.0	40.4	100.0	1,659
35-39	67.4	59.9	23.8	13.2	4.5	1.9	10.9	2.1	3.5	0.0	7.5	1.4	6.1	0.1	32.6	100.0	1,461
40-44	68.1	59.9	27.1	15.6	3.0	1.2	9.5	1.1	2.3	0.0	8.2	1.8	6.3	0.1	31.9	100.0	1,190
45-49	53.7	48.0	22.9	15.1	1.7	0.6	5.7	0.7	1.3	0.1	5.8	2.1	3.5	0.1	46.3	100.0	832
<b>Residence</b>																	
Urban	59.6	49.8	13.5	6.8	6.1	1.9	10.4	1.7	9.4	0.1	9.8	1.7	7.9	0.1	40.4	100.0	1,261
Rural	48.2	42.1	15.4	8.0	3.8	1.2	9.0	1.1	3.6	0.0	6.0	1.1	5.0	0.0	51.8	100.0	8,346
<b>Ecological zone</b>																	
Mountain	48.3	43.1	3.0	17.1	3.0	2.4	12.3	2.4	3.0	0.0	5.3	1.5	3.8	0.0	51.7	100.0	630
Hill	48.2	40.6	7.1	10.6	4.1	1.2	10.6	1.8	5.0	0.0	7.6	1.3	6.2	0.1	51.8	100.0	3,784
Terai	51.0	45.0	22.5	4.7	4.3	1.2	7.8	0.6	4.0	0.0	5.9	1.0	4.9	0.0	49.0	100.0	5,193
<b>Education</b>																	
No education	52.8	48.8	22.5	9.3	3.3	1.1	9.4	1.3	1.9	0.0	3.9	1.1	2.8	0.0	47.2	100.0	4,580
Primary	47.0	40.5	11.8	9.1	4.0	1.3	10.0	1.5	2.9	0.0	6.6	0.8	5.6	0.1	53.0	100.0	1,844
Some secondary	46.1	37.9	8.4	5.4	6.3	1.4	9.3	0.7	6.4	0.0	8.2	1.1	7.1	0.0	53.9	100.0	1,833
SLC and above	47.7	34.6	4.0	4.5	4.5	1.7	7.2	0.8	11.9	0.0	13.1	1.8	11.3	0.0	52.3	100.0	1,350
<b>Number of living children</b>																	
0	12.2	9.0	0.0	1.3	1.3	0.0	0.6	0.0	5.7	0.0	3.3	0.4	2.9	0.0	87.8	100.0	1,075
1-2	46.8	38.8	8.7	5.7	5.3	1.6	10.1	0.9	6.3	0.0	8.0	1.1	6.9	0.0	53.2	100.0	4,442
3-4	65.4	60.0	28.9	12.7	3.7	1.0	9.7	1.7	2.1	0.0	5.5	1.3	4.1	0.1	34.6	100.0	3,091
5+	54.1	47.4	17.8	9.0	3.1	2.0	12.8	1.8	1.1	0.0	6.7	1.8	4.7	0.2	45.9	100.0	999
<b>Total</b>	<b>49.7</b>	<b>43.2</b>	<b>15.2</b>	<b>7.8</b>	<b>4.1</b>	<b>1.3</b>	<b>9.2</b>	<b>1.2</b>	<b>4.3</b>	<b>0.0</b>	<b>6.5</b>	<b>1.1</b>	<b>5.4</b>	<b>0.0</b>	<b>50.3</b>	<b>100.0</b>	<b>9,608</b>

Note: If more than one method is used, only the most effective method is considered in this tabulation.  
SLC = School Leaving Certificate

Use of modern methods of contraception is highest among women with no education with female sterilization being the most popular method (23 percent). On the other hand, temporary modern methods like condoms, pills, and IUD are more popular among educated women. Women with no education are less likely to use any traditional methods compared with those with SLC and higher level of education, with use ranging from 4 percent among women with no education to 13 percent among women with SLC and higher education. A similar pattern was also observed in the 2006 NDHS.

Use of modern contraception increases with the number of living children, from 9 percent among women with no children to 60 percent among women with 3-4 children, and then falls slightly to 47 percent among women with 5 or more children.



### Trend in Contraceptive Use

Data from the four Demographic and Health surveys conducted in Nepal over the past 15 years show that current use of modern contraception has increased from 26 percent in 1996 to 44 percent in 2006 and then declined slightly in 2011. There is a shift in the use of modern methods. For example, use of implants and IUDs has increased in the last five years. This may be a reflection of the recent shift in emphasis in the family planning program in Nepal encouraging the use of long-term temporary methods. The use of male sterilization has gradually increased with greater involvement of men in family planning. At the same time there has been a decrease in the use of female sterilization.

**Table 6. Trend in current use of modern contraceptive methods**

Percentage of currently married women who are currently using modern contraceptive methods, Nepal 1996-2011

Methods	1996 NFHS <sup>1</sup>	2001 NDHS <sup>2</sup>	2006 NDHS <sup>3</sup>	2011 NDHS
<b>Any modern method</b>	26.0 <sup>a</sup>	35.4 <sup>a</sup>	44.2	43.2
Female sterilization	12.1	15.0	18.0	15.2
Male sterilization	5.4	6.3	6.3	7.8
Pill	1.4	1.6	3.5	4.1
Injectables	4.5	8.4	10.1	9.2
Condom	1.9	2.9	4.8	4.3
Implants	0.4	0.6	0.8	1.2
IUD	0.3	0.4	0.7	1.3
Number	7,982	8,342	8,257	9,608

Sources: <sup>1</sup>Pradhan et. al., 1997; <sup>2</sup>MOH, New ERA and ORC Macro, 2002; <sup>3</sup>MOHP, New ERA and Macro International Inc., 2007  
<sup>a</sup>Includes users of vaginal methods

## **F. Maternal Care**

Proper care during pregnancy and delivery are important for the health of both the mother and the baby. In the 2011 NDHS, women who had given birth in the five years preceding the survey were asked a number of questions about maternal health care. For the last live birth in that period, mothers were asked whether they had obtained antenatal care during the pregnancy and whether they had received tetanus toxoid injections or iron supplements during pregnancy. For each birth in the same period, the mothers were also asked what type of assistance they received at the time of delivery and where the delivery took place. Similarly, they were asked about postnatal care, and whether they received vitamin A capsules and iron supplements postpartum. Table 7 presents information on some key maternal care indicators.

### ***Antenatal Care***

Antenatal care from a trained provider is important in order to monitor the risks associated with pregnancy and delivery for the mother and her child. According to the 2011 NDHS, 58 percent of women who gave birth in the 5 years preceding the survey received antenatal care at least once for the last live birth from a health professional, that is, a doctor, or nurse/midwife. This is an increase of 33 percent compared with that reported in the 2006 NDHS, when the percentage of women receiving antenatal care from a doctor, or nurse/midwife was 44 percent (MOHP, New ERA and Macro International Inc., 2007).

Eighty-eight percent of women in urban areas and 55 percent of women in rural areas received antenatal care at least once during their pregnancy from a skilled provider. There has been a marked improvement in antenatal care from health professionals in the rural areas than in the urban areas with increase by 46 percent and 4 percent, respectively.

Antenatal care for the last live birth in the five years before the survey is lower in the Mountain (52 percent) and Hill (53 percent) zones compared with the Terai zone (63 percent).

Education impacts use of antenatal care from health professionals, with use ranging from 42 percent among women with no education to 89 percent among those with SLC and higher levels of education.

### ***Tetanus Toxoid***

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, an important cause of infant deaths.

Table 7 indicates that 82 percent of women had their last live birth protected against neonatal tetanus. This is an improvement compared with the level reported in the 2006 NDHS (78 percent). The urban-rural difference is large, with 91 percent of urban women having their last live birth protected against neonatal tetanus compared with 81 percent of rural women. The likelihood of having the last live birth protected against neonatal tetanus increases with the mother's educational attainment, from 73 percent among women with no education to 97 percent among women with SLC or higher levels of education.

### ***Delivery Care***

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. Although 58 percent of mothers received antenatal care from a doctor or nurse/midwife for their most recent birth, only 36 percent of babies are delivered by a doctor or nurse/midwife, and 28 percent are delivered at a health facility indicating that Nepal has a long way to go to meet the Millennium Development Goal target of 60 percent births attended by a skilled provider (Table 7). However, it is encouraging to note that the proportion of babies attended by skilled provider over the last five years has nearly doubled, from 19 percent in 2006 to 36 percent, while the proportion of babies delivered in a health facility has increased from 18 percent in 2006 to 28 percent (MOHP, New ERA and Macro International Inc., 2007).

Women who give birth at a younger age (<20 years) are more likely to receive assistance from health professionals during delivery and also more likely to have delivery at a health facility than women who give birth at an older age.

Women's utilization of delivery services varies markedly by place of residence. Delivery by health professionals is more than two times higher in urban areas (73 percent) than in rural areas (32 percent). Deliveries in the Terai zone are most likely to be assisted by a health professional. A similar pattern is seen for delivery in a health facility, which ranges from 17 percent in the Mountain zone to 31 percent in the Terai.

**Table 7. Maternal care indicators**

Among women age 15-49 who had a live birth in the five years preceding the survey, percentage who received antenatal care from a skilled provider for the last live birth and percentage whose last live birth was protected against neonatal tetanus, and among all live births in the five years before the survey, percentage delivered by a skilled provider and percentage delivered in a health facility, by background characteristics, Nepal 2011

Background characteristic	Percentage with antenatal care from a skilled provider <sup>1</sup>	Percentage whose last live birth was protected against neonatal tetanus <sup>2</sup>	Number of women	Percentage delivered by a skilled provider	Percentage delivered in a health facility	Number of births
<b>Mother's age at birth</b>						
<20	63.5	82.7	739	42.1	35.2	1,101
20-34	59.8	84.4	3,085	35.9	27.3	3,910
35-49	31.5	59.0	325	19.8	16.1	380
<b>Residence</b>						
Urban	87.9	91.2	418	72.7	54.6	503
Rural	54.9	81.1	3,730	32.3	25.4	4,888
<b>Ecological zone</b>						
Mountain	52.1	70.7	306	18.9	16.8	428
Hill	53.2	73.6	1,669	30.4	26.9	2,130
Terai	63.0	90.2	2,174	42.8	30.7	2,833
<b>Mother's education</b>						
No education	42.0	73.2	1,822	19.4	15.9	2,550
Primary	56.0	80.8	835	31.9	25.1	1,079
Some secondary	72.4	91.3	866	53.4	42.3	1,039
SLC and above	89.0	96.8	627	76.0	55.2	723
<b>Total</b>	<b>58.3</b>	<b>82.1</b>	<b>4,148</b>	<b>36.0</b>	<b>28.1</b>	<b>5,391</b>

<sup>1</sup> Skilled provider includes doctor, nurse or midwife<sup>2</sup> Includes mothers with two injections during the pregnancy of her last live birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last live birth), or four or more injections (the last within ten years of the last live birth), or five or more injections at any time prior to the last live birth  
SLC = School Leaving Certificate

Delivery by health professionals increases significantly with education from 19 percent of births to women with no education to 76 percent of births to women with SLC or higher level of education.

## G. Child Health

The 2011 NDHS obtained information on a number of key child health indicators, including childhood mortality rates, immunization of young children, and treatment practices when a child is ill.

### *Vaccination of Children*

According to the World Health Organization, a child is considered fully immunized if he or she has received a BCG vaccination against tuberculosis; three doses of the DPT vaccine to prevent diphtheria, pertussis, and tetanus; at least three doses of the polio vaccine; and one dose of the measles vaccine. These vaccinations should be received during the first year of life. The 2011 NDHS collected information on the coverage of these vaccinations for all children under age five. As Nepal is going through the transitional phase from implementation of tetravalent to a pentavalent vaccination scheme, care was taken to capture both these schemes.

Information on vaccination coverage was obtained in two ways—from health cards and from mothers' verbal reports. All mothers were asked to show the interviewer the vaccination cards on which the

child(ren)'s immunization status was recorded. If the card was available, the interviewer copied the dates on which each vaccination was received. If a vaccination was not recorded on the health card, the mother was asked to recall whether that particular vaccination had been given. If the mother was not able to present a health card for her child, she was asked to recall whether the child had received BCG, polio, DPT, and measles. If she indicated that the child had received the polio or DPT vaccines, she was asked about the number of doses of each that the child had received.

Table 8 presents information on vaccination coverage for children 12-23 months, who should have been fully immunized against the major preventable childhood illnesses. Nearly nine in ten children (87 percent) were fully immunized and 96 percent of the children received BCG, DPT 1, and polio 1. The proportion of children receiving the third dose of DPT and polio is slightly lower (91 percent and 92 percent, respectively), as is the proportion receiving the measles vaccination (88 percent).

Table 8. Vaccinations by background characteristics												
Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card, by background characteristics, Nepal 2011												
Background characteristic	BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations <sup>1</sup>	No vaccinations	Percentage with a vaccination card	Number of children
<b>Sex</b>												
Male	96.2	96.1	94.3	91.4	96.4	94.9	92.3	89.1	87.5	2.8	37.6	501
Female	96.2	96.6	94.7	91.3	96.7	94.8	92.0	86.3	85.7	3.0	30.2	499
<b>Residence</b>												
Urban	96.9	98.9	94.4	93.6	99.7	96.1	95.9	91.2	88.7	0.0	38.7	97
Rural	96.1	96.1	94.5	91.1	96.2	94.7	91.8	87.4	86.4	3.2	33.4	903
<b>Ecological zone</b>												
Mountain	93.7	93.7	90.4	90.4	94.3	91.1	91.1	90.9	88.2	4.3	25.9	75
Hill	96.3	96.5	95.4	93.4	96.3	95.7	93.5	90.4	89.5	3.2	35.1	402
Terai	96.4	96.6	94.4	89.9	97.0	94.7	91.3	85.3	84.1	2.5	34.1	523
<b>Mother's education</b>												
No education	94.3	94.0	90.5	85.8	94.3	91.2	86.9	79.5	78.0	4.5	26.7	452
Primary	98.0	98.0	97.8	95.1	98.0	97.8	96.4	96.3	94.5	1.9	31.8	200
Some secondary	97.5	98.6	98.3	96.2	98.7	98.5	96.3	94.0	94.0	1.3	43.4	211
SLC and above	97.9	98.3	97.1	96.7	98.3	97.1	97.1	92.8	92.0	1.7	45.9	137
<b>Total</b>	<b>96.2</b>	<b>96.4</b>	<b>94.5</b>	<b>91.4</b>	<b>96.5</b>	<b>94.8</b>	<b>92.2</b>	<b>87.7</b>	<b>86.6</b>	<b>2.9</b>	<b>33.9</b>	<b>1,000</b>

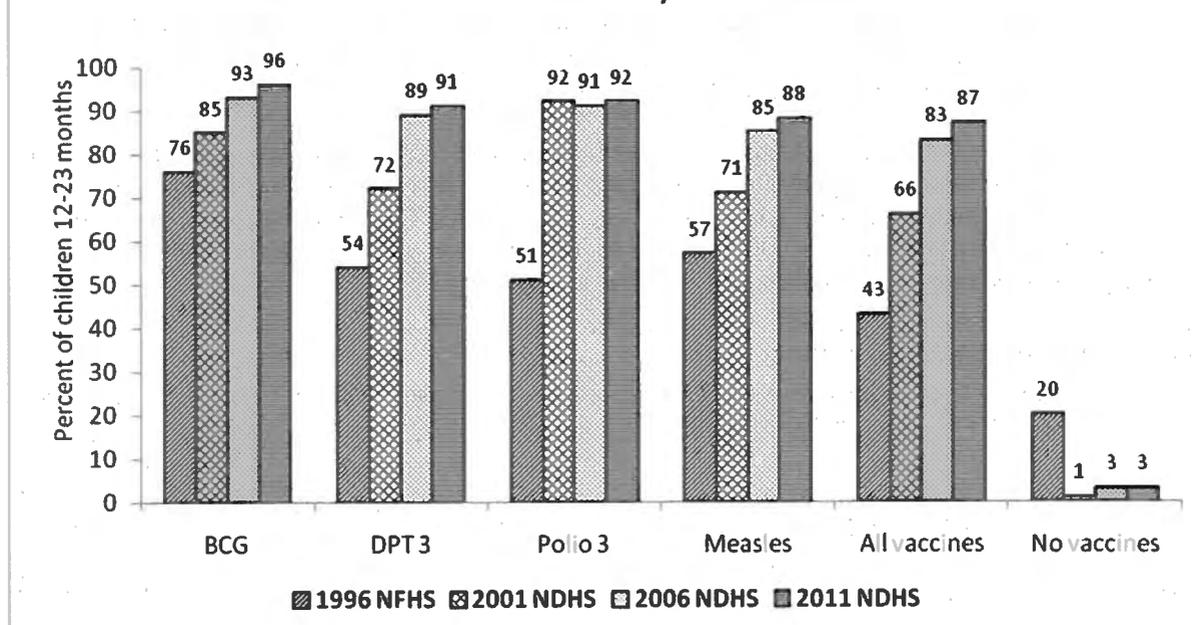
<sup>1</sup> DPT vaccinations include DPT/HEP B as well as DPT/HEP B/Hib vaccinations  
<sup>2</sup> BCG, measles and three doses each of DPT and polio vaccine excluding polio vaccine given at birth  
SLC = School Leaving Certificate

There are only slight variations in children fully immunized by gender, residence, and ecological zones. Children in the Terai are less likely to be fully immunized than children in the other zones (84 percent compared with 88-89 percent).

As expected, full immunization coverage varies by mother's education, ranging from 78 percent among children of mothers with no education to at least 92 percent among children whose mothers are educated.

Immunization coverage of children age 12-23 months has increased from 83 percent in 2006 to 87 percent in 2010 (Figure 3). However, the proportion of children who have not received any vaccinations at all has remained unchanged (3 percent) in the last five years.

**Figure 3 Immunization coverage of children 12-23 months (1996 - 2011)**



### **Childhood Illnesses**

Acute respiratory illness (ARI) and dehydration from severe diarrhea are major causes of childhood mortality. Prompt medical attention for children experiencing symptoms of these illnesses is, therefore, crucial in reducing child deaths. To obtain information on how childhood illnesses are treated, for each child under five years, mothers were asked if the child had experienced cough with short, rapid breathing (symptoms of ARI), fever, and diarrhea in the two weeks before the survey.

Data from the 2011 NDHS show that 5 percent of children under five years had symptoms of ARI, 19 percent had fever, and 14 percent had diarrhea in the two weeks preceding the survey (data not shown).

Table 9 shows that half of the children with symptoms of ARI and 42 percent of children with fever were taken to a health facility or provider for treatment. Children age 12-23 months, children living in urban areas, children in the Terai, and children of educated mothers are more likely than other children to be treated for their illness.

In the 2011 NDHS, mothers were asked whether children under five had diarrhea in the two weeks preceding the survey. For children with diarrhea, mothers were asked what had been done to treat the diarrhea. The administration of oral rehydration therapy (ORT) is a simple means of counteracting the effect of dehydration. In the 2011 NDHS, ORT includes a solution either prepared by mixing water with the powder in a commercially prepared oral rehydration packet (ORS), or homemade fluid, or by increasing the amount of fluids given to children with diarrhea.

**Table 9. Treatment for acute respiratory infection, fever, and diarrhea**

Among children under age five who had symptoms of acute respiratory infection (ARI) or had fever in the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, and among children under age five who had diarrhea during the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given a fluid made from oral rehydration salt (ORS) packets, percentage given oral rehydration therapy (ORT), and percentage given zinc by background characteristics, Nepal 2011

Background characteristic	Children with symptoms of ARI <sup>1</sup>		Children with fever		Children with diarrhea				
	Percent- age for whom advice or treatment was sought from a health facility/ provider <sup>2</sup>	Number with ARI	Percent- age for whom advice or treatment was sought from a health facility/ provider <sup>2</sup>	Number with fever	Percent- age for whom advice or treatment was sought from a health facility/ provider <sup>2</sup>	Percent age given fluid from ORS packet	Percentage given ORT <sup>3</sup>	Percentage given zinc	Number with diarrhea
<b>Age in months</b>									
<6	*	21	34.2	91	32.6	5.8	5.8	1.8	68
6-11	(47.2)	37	45.9	146	41.6	35.2	39.5	5.7	118
12-23	59.2	79	46.2	242	40.2	48.2	55.8	6.3	239
24-35	(55.2)	41	39.4	195	39.2	39.9	43.9	8.1	144
36-47	(40.6)	40	40.1	166	31.8	39.9	51.8	8.6	90
48-59	*	20	40.8	119	(34.4)	(45.5)	(48.7)	(3.0)	52
<b>Sex</b>									
Male	46.9	122	42.5	543	40.9	42.8	49.9	7.4	412
Female	52.2	116	41.1	417	34.0	34.0	38.0	4.5	299
<b>Residence</b>									
Urban	69.0	24	55.6	91	43.2	44.2	48.7	5.0	65
Rural	47.3	215	40.5	869	37.5	38.5	44.5	6.3	646
<b>Ecological zone</b>									
Mountain	(45.6)	13	43.0	59	35.5	35.2	40.4	6.5	54
Hill	47.1	105	37.5	345	38.6	40.3	47.6	7.1	258
Terai	52.0	120	44.5	557	38.0	38.7	43.7	5.5	400
<b>Mother's education</b>									
No education	45.2	106	33.4	407	33.9	39.3	44.8	3.0	347
Primary	46.8	51	43.4	190	37.4	30.9	39.6	10.2	144
Some secondary	56.5	52	53.7	233	49.8	46.5	48.8	9.7	147
SLC and above	(57.6)	29	45.3	129	35.4	38.9	47.8	5.9	74
<b>Total</b>	<b>49.5</b>	<b>238</b>	<b>41.9</b>	<b>960</b>	<b>38.0</b>	<b>39.0</b>	<b>44.9</b>	<b>6.2</b>	<b>711</b>

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

<sup>1</sup> Symptoms of ARI (cough accompanied by short, rapid breathing which was chest-related and/or by difficult breathing which was chest-related) is considered a proxy for pneumonia

<sup>2</sup> Excludes pharmacy, shop, and traditional practitioner

<sup>3</sup> ORT includes fluid prepared from oral rehydration salt (ORS) packets, and recommended home fluids (RHF)

SLC = School Leaving Certificate

Table 9 shows treatment practices for children who had diarrhea in the two weeks preceding the survey. Nearly two in five children (38 percent) with diarrhea were taken to a facility or provider, and 39 percent of children were given a solution prepared from an ORS packet, commonly known as *Jeevan Jal*, *Nava Jeevan*, and *Orestal*. Overall, 45 percent of children were given ORT. Six percent of children were given zinc during diarrhea in the two weeks preceding the survey.

Diarrhea treatment practices vary by background characteristics. Children under six months are slightly less likely to be treated for diarrhea than older children. This is probably due to older children being more susceptible to food contamination than very young children, who are more likely to be breastfed. Urban children are more likely than rural children to get treatment from a facility or provider. Treatment from a health facility or provider is slightly lower in the Mountain (36 percent) compared with other ecological zones (38-39 percent). Mothers with some secondary education are most likely to take their children with diarrhea to a health facility or provider (50 percent), whereas mothers with no education are least likely to take their children to a health facility or provider (34 percent).

## Infant and Child Mortality

Information on infant and child mortality is important for the improvement of child survival programs and for identifying those segments of the child population that are most vulnerable. Caution should be exercised in interpreting mortality information, however, since its reliability depends on the quality of information collected in the birth history section of the Woman's Questionnaire. Because women are generally reluctant to talk about their dead children, it is subject to a greater degree of misreporting. Mortality data are also generally subject to large sampling errors. The issue of data quality will be examined in greater depth in the NDHS final report.

Neonatal, postneonatal, infant, child, and under-five mortality rates are shown in Table 10 for cohorts of children born in three consecutive five-year periods before the survey. Under-five mortality for the most recent period (0-4 years before the survey or 2006-2010) is 54 deaths per 1,000 live births. This means that one in 19 children born in Nepal dies before their fifth birthday. Eighty-five percent of deaths among children under five occur during the first year of life: infant mortality is 46 deaths per 1,000 live births. During infancy, the risk of neonatal deaths and postneonatal deaths is 33 and 13 deaths per 1,000 live births, respectively.

**Table 10. Early childhood mortality rates**

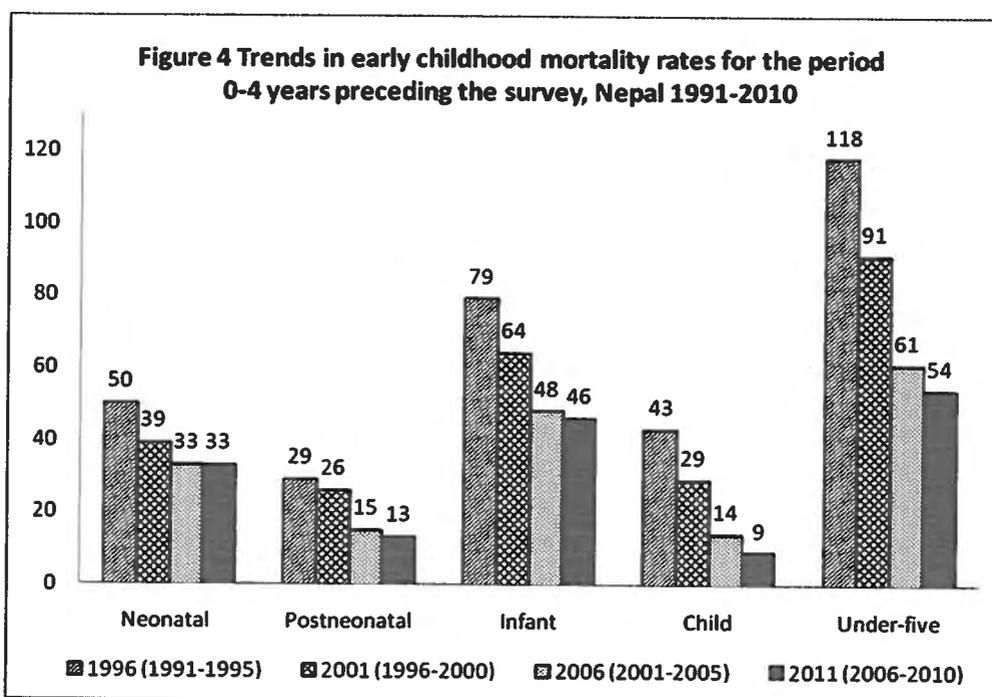
Neonatal, post-neonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, Nepal 2011

Years preceding the survey	Approximate calendar year	Neonatal mortality (NN)	Postneonatal mortality (PNN) <sup>1</sup>	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
0-4	2006-2010	33	13	46	9	54
5-9	2001-2005	37	23	60	10	70
10-14	1996-2000	45	25	70	19	87

<sup>1</sup> Computed as the difference between the infant and neonatal mortality rates

Data from the 2011 NDHS indicate that there has been a slight decrease in childhood mortality. For example, infant mortality declines from 70 deaths per 1,000 live births in the 10-14 years preceding the survey to 60 deaths in the 5-9 year period preceding the survey and to 46 deaths in the most recent five-year period. A similar trend is seen for the other mortality indicators.

However, comparison of mortality data from the four past Nepal DHS surveys indicates that while mortality has been declining in the past (Figure 4), there has been a slow pace in the most recent years. For example, infant mortality declined from 79 per 1,000 live births during the period 1991-1995 (Pradhan et al., 1997) to 64 per 1,000 live births during the period 1996-2000 (MOH, New ERA and ORC Macro, 2002), and 48 per 1,000 live births during the period 2001-2005 (MOHP, New ERA and Macro International Inc.), to 46 per 1,000 live births in the most recent five year period (2006-2010).



## H. Nutrition

### Breastfeeding

Breast milk is the optimal source of nutrients for infants. Exclusive breastfeeding is recommended during the first six months of a child's life because it limits exposure to diseases as well as provides all of the nutrients that a baby requires.

Table 11 shows that 88 percent of children less than two months of age are exclusively breastfed, but this percentage drops sharply at subsequent ages. Overall, 70 percent of children under six months are exclusively breastfed. This is a remarkable improvement since 2006, when only 53 percent of children of the same age were exclusively breastfed.

**Table 11. Breastfeeding status by age**

Percent distribution of youngest children under two years who are living with their mother, by breastfeeding status and the percentage currently breastfeeding; and the percentage of all children under two years using a bottle with a nipple, according to age in months, Nepal 2011

Age in months	Percent distribution of youngest children under two living with their mother by breastfeeding status							Total	Percentage currently breastfeeding	Number of youngest children under two years	Percentage using a bottle with a nipple	Number of all children under two years
	Not breast-feeding	Exclusively breastfed	Breastfeeding and consuming plain water only	Breastfeeding and consuming non-milk liquids <sup>1</sup>	Breastfeeding and consuming other milk	Breastfeeding and complementary foods						
0-1	1.8	87.7	4.8	0.0	5.4	0.3	100.0	98.2	131	5.3	131	
2-3	0.0	73.7	12.4	0.0	10.9	2.9	100.0	100.0	203	3.2	204	
4-5	0.6	53.3	12.1	1.1	10.5	22.6	100.0	99.4	195	8.7	195	
6-8	0.5	14.1	15.3	0.0	5.0	65.2	100.0	99.5	267	5.5	268	
9-11	2.7	2.1	3.7	0.3	0.5	90.6	100.0	97.3	221	8.0	224	
12-17	6.8	0.3	0.3	0.0	0.4	92.3	100.0	93.2	516	6.6	532	
18-23	5.7	0.0	0.0	0.0	0.0	94.3	100.0	94.3	435	5.1	468	
0-3	0.7	79.2	9.4	0.0	8.8	1.9	100.0	99.3	335	4.1	336	
0-5	0.7	69.6	10.4	0.4	9.4	9.5	100.0	99.3	530	5.8	531	
6-9	1.0	11.5	13.0	0.0	4.1	70.4	100.0	99.0	351	6.0	352	
12-15	7.5	0.5	0.2	0.0	0.6	91.2	100.0	92.5	325	7.3	338	
12-23	6.3	0.2	0.1	0.0	0.2	93.2	100.0	93.7	952	5.9	1,000	
20-23	7.4	0.0	0.0	0.0	0.0	92.6	100.0	92.6	272	3.9	297	

Note: Breastfeeding status refers to a "24-hour" period (yesterday and last night). Children who are classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, non-milk liquids, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus children who receive breast milk and non-milk liquids and who do not receive other milk and who do not receive complementary foods are classified in the non-milk liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

<sup>1</sup> Non-milk liquids include juice, juice drinks, clear broth or other liquids

Although bottle-feeding is not common in Nepal, there has been a slight rise in the practice from 4 percent in 2006 to 6 percent in 2011 among children 0-5 months. Bottle feeding peaks at 9 percent among children 4-5 months old.

### Nutritional Status of Children

Under nutrition places children at an increased risk of morbidity and mortality and is also associated with impaired mental development. Anthropometry provides one of the most important indicators of children's nutritional status. Height and weight measurements were obtained for all children born in the five years before the survey in the sub-sample of households selected for the male survey. The height and weight data are used to compute three summary indices of nutritional status: height-for-age; weight-for-height; and weight-for-age. These three indices are expressed as standard deviation units from the median for the international reference population recommended by the World Health Organization. Children who fall more than two standard deviations (-2 SD) below the reference median are regarded as undernourished, while those who fall more than three standard deviations (-3 SD) below the reference median are considered severely undernourished.

Table 12. Nutritional status of children

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Nepal 2011

Background characteristic	Height-for-age			Weight-for-height				Weight-for-age				Number of children
	Percentage below -3 SD	Percentage below -2 SD <sup>1</sup>	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD <sup>1</sup>	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD <sup>2</sup>	Percentage above +2SD	Mean Z-Score (SD)	
<b>Age in months</b>												
<6	7.5	19.4	-0.8	5.3	11.8	5.7	-0.5	7.3	18.2	0.1	-1.0	227
6-8	4.3	17.7	-0.7	3.0	16.7	1.2	-0.7	5.3	18.5	2.0	-1.0	135
9-11	4.1	13.6	-1.0	6.4	24.7	3.5	-1.1	4.3	26.8	0.0	-1.3	110
12-17	13.2	28.6	-1.4	3.7	14.2	0.4	-0.9	6.1	24.9	0.0	-1.3	266
18-23	16.2	42.2	-1.7	4.5	19.4	0.6	-0.9	10.3	37.0	0.0	-1.5	221
24-35	20.2	51.7	-2.0	1.2	7.4	1.5	-0.5	7.9	30.5	0.3	-1.5	500
36-47	22.9	53.0	-2.1	1.1	7.2	0.5	-0.5	8.6	30.4	0.1	-1.6	524
48-59	16.6	43.4	-1.8	2.1	7.8	0.7	-0.6	7.9	32.0	0.4	-1.5	492
<b>Sex</b>												
Male	16.7	41.4	-1.7	3.4	12.0	1.3	-0.7	8.2	29.6	0.3	-1.5	1,268
Female	15.7	39.5	-1.6	1.8	9.7	1.5	-0.6	7.2	28.0	0.3	-1.4	1,207
<b>Residence</b>												
Urban	6.2	26.7	-1.2	2.7	8.2	1.8	-0.5	4.0	16.5	0.6	-1.0	216
Rural	17.2	41.8	-1.7	2.6	11.2	1.4	-0.7	8.1	30.0	0.3	-1.5	2,259
<b>Ecological zone</b>												
Mountain	22.2	52.9	-2.1	3.2	10.9	0.5	-0.7	9.9	35.9	0.2	-1.7	195
Hill	16.7	42.1	-1.7	1.7	10.6	1.6	-0.6	7.1	26.6	0.3	-1.4	989
Terai	14.9	37.4	-1.6	3.2	11.2	1.4	-0.7	7.8	29.5	0.3	-1.4	1,291
<b>Mother's education</b>												
No education	22.2	47.6	-2.0	3.1	13.3	0.6	-0.8	11.6	38.4	0.0	-1.7	1,148
Primary	13.6	41.4	-1.7	3.2	11.5	1.2	-0.6	6.5	26.2	0.0	-1.4	469
Some secondary	9.7	31.9	-1.4	0.8	5.3	3.6	-0.4	2.4	18.5	1.2	-1.1	465
SLC and above	7.7	25.2	-1.0	2.2	9.7	1.5	-0.4	2.8	13.9	0.2	-0.9	320
<b>Mother's interview status</b>												
Interviewed	16.0	40.3	-1.7	2.5	10.9	1.4	-0.7	7.6	28.6	0.3	-1.4	2,379
Not interviewed but in household	(26.9)	(37.4)	(-1.6)	(7.1)	(11.9)	(0.0)	(-0.8)	(6.3)	(43.4)	(0.0)	(-1.5)	35
Not interviewed, and not in the household <sup>4</sup>	19.8	46.7	-1.9	0.0	6.8	0.9	-0.3	8.2	26.2	1.7	-1.3	58
<b>Total</b>	16.2	40.5	-1.7	2.6	10.9	1.4	-0.7	7.7	28.8	0.3	-1.4	2,475

Note: Table is based on children who stayed the night before the interview in the household. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used 1977 NCHS/CDC/WHO Reference. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight. Figures in parentheses are based on 25-49 unweighted cases.

<sup>1</sup> Recumbent length is measured for children under age 2; standing height is measured for all other children.

<sup>2</sup> Includes children who are below -3 standard deviations (SD) from the WHO Growth Standards population median

<sup>3</sup> For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

<sup>4</sup> Includes children whose mothers are deceased

SLC = School Leaving Certificate

Total includes 4 children with missing information on mother's education and mother's interview status not shown separately.

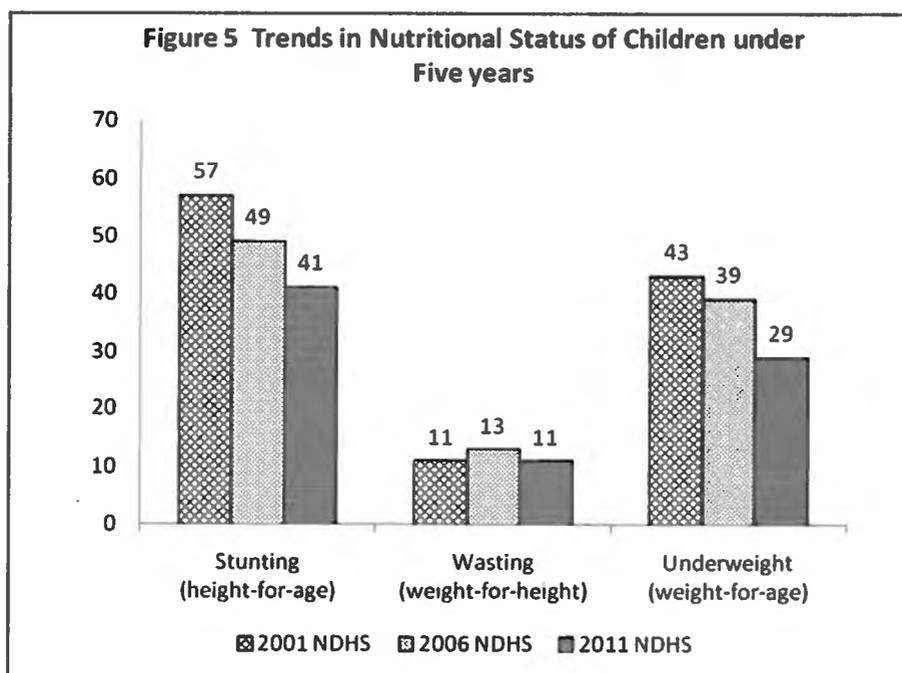
Children whose height-for-age is below minus two standard deviations from the median of the reference population are considered stunted or short for their age. Stunting is the outcome of failure to receive adequate nutrition over an extended period and is also affected by recurrent or chronic illness. Forty-one percent of children under five are short for their age, and 16 percent are severely stunted.

Children whose weight-for-height is below minus two standard deviations from the median of the reference population are considered wasted or thin. Wasting represents the failure to receive adequate nutrition in the period immediately before the survey, and typically is the result of recent illness episodes, especially diarrhea, or of a rapid deterioration in food supplies. In Nepal, 11 percent of children are wasted and 3 percent are severely wasted.

Children whose weight-for-age is below minus two standard deviations from the median of the reference population are considered underweight. The measure reflects the effects of both acute and chronic undernutrition. Nearly three in ten children (29 percent) are underweight and 8 percent are severely underweight.

Table 12 shows that nutritional status among children deteriorates after age 9-11 months, when most children (91 percent) are given complementary foods as seen in Table 11. Especially striking are differences by place of residence and mother’s education. For example, in terms of all three measures, rural children are much more likely to be nutritionally disadvantaged than urban children. About half of children in the Mountain are stunted and more than one-third are underweight. Children whose mothers have no education are more likely to be stunted, wasted, or underweight than children whose mothers have attended school.

In general, the nutritional status of children in Nepal has improved over the last decade (Figure 5). Fifty-seven percent of children were stunted in 2001 compared with 41 percent in 2011 and 43 percent of children were underweight in 2001 compared with 29 percent in 2011. However, the proportion of children who are wasted declined only slightly from 13 percent in 2006 to 11 percent in 2011.



Note: The data are based on the WHO Child Growth Standards.

## Anemia

Anemia has been a major problem in Nepal, especially among young children and pregnant women. Causes of anemia are malaria, —which is endemic in some parts of the country, —as well as dietary deficiencies and parasitic infections.

Anemia is characterized by decreased concentration of hemoglobin in the blood. In the 2011 NDHS, to measure the level of hemoglobin, capillary blood was taken in the field from a finger using sterile, one-time use lancets that allowed a relatively painless puncture. The concentration of hemoglobin in the blood was measured using the HemoCue system. Selected interviewers were trained to conduct this procedure. Each respondent and her parent or guardian, in the case of an unmarried minor, was asked for their consent to participate in the anemia testing. Levels of anemia were classified as severe, moderate, or mild according to criteria developed by the World Health Organization (DeMaeyer et.al., 1989).

Table 13 presents anemia levels for children age 6-59 months and for women age 15-49. Overall, 46 percent of Nepalese children ages 6-59 months are anemic. The majority of children who suffer from anemia are classified as having mild or moderate anemia (27 and 19 percent, respectively) while less than 1 percent are severely anemic. Anemia is less common among women; 35 percent show evidence of anemia, and the majority is mildly anemic (29 percent). Anemia among both children and women is especially prevalent in rural areas, where nearly half of the children (47 percent) and more than one-third of women (36 percent) have some degree of anemia. Across zones, children and women who live in the Terai are most likely to be anemic than those in other zones. Overall, there has been hardly any improvement in the anemia status of children and women in Nepal 2006.

Table 13. Anemia among children and women						
Percentage of children age 6-59 months and women age 15-49 years classified as having anemia, by background characteristics, Nepal 2011						
<b>CHILDREN</b>						
<i>Anemia status by hemoglobin level</i>						
Background characteristic	Any anemia (<11.0 g/dl)	Mild anemia (10.0-10.9 g/dl)	Moderate anemia (7.0-9.9 g/dl)	Severe anemia (<7.0 g/dl)	Number of children	
<b>Residence</b>						
Urban	41.2	22.7	18.1	0.4	188	
Rural	46.7	27.7	18.5	0.5	2,011	
<b>Ecological zone</b>						
Mountain	47.7	26.0	21.2	0.5	179	
Hill	41.0	24.2	16.4	0.3	902	
Terai	50.2	29.9	19.7	0.6	1,118	
<b>Total</b>	<b>46.2</b>	<b>27.2</b>	<b>18.5</b>	<b>0.5</b>	<b>2,198</b>	
<b>WOMEN</b>						
<i>Anemia status by hemoglobin level</i>						
Background characteristic	Any anemia	Mild anemia	Moderate anemia	Severe anemia	Number of women	
	Not pregnant <12.0 g/dl	10.0-11.9 g/dl	7.0-9.9 g/dl	<7.0 g/dl		
	Pregnant <11.0 g/dl	10.0-10.9 g/dl	7.0-9.9 g/dl	<7.0 g/dl		
<b>Age</b>						
15-19	38.6	32.5	5.7	0.4	1,339	
20-24	36.8	30.6	6.0	0.2	1,134	
25-29	35.1	28.8	5.9	0.3	976	
30-39	32.4	26.1	6.0	0.3	1,510	
40-49	31.1	26.2	4.7	0.2	1,123	
<b>Residence</b>						
Urban	27.8	22.7	4.9	0.2	810	
Rural	35.8	29.7	5.8	0.3	5,271	
<b>Ecological zone</b>						
Mountain	26.7	21.1	5.2	0.3	403	
Hill	26.5	22.3	3.8	0.4	2,423	
Terai	41.9	34.6	7.1	0.2	3,255	
<b>Total</b>	<b>34.8</b>	<b>28.8</b>	<b>5.7</b>	<b>0.3</b>	<b>6,081</b>	
Note: Table is based on children and women who stayed in the household the night before the interview. Prevalence of anemia, based on hemoglobin levels, is adjusted for altitude (for children and women) and smoking (for women) using CDC formulas (CDC, 1998). Women and children with <7.0 g/dl of hemoglobin have severe anemia, women and children with 7.0-9.9 g/dl have moderate anemia, and non-pregnant women with 10.0-11.9 g/dl and children and pregnant women with 10.0-10.9 g/dl have mild anemia.						

## Iodized Salt

Iodine deficiency disorders (IDD) is a public health problem in Nepal and government programs have been geared towards promoting universal salt iodization (USI) since 1998 under a five year Plan of Action for Control of IDD (1998-2003) in collaboration with UNICEF and JICA (MOHP, MI and New ERA, 2005).

The fortification of salt with iodine is the most common method of preventing IDD. Fortified salt that contains 15 parts per million (ppm) or more iodine at the consumption level is considered as adequately iodized to prevent IDD. Previous national surveys in Nepal have indicated that nearly 95 percent of the households in Nepal use salt with some iodine (MOHP, MI and New ERA, 2005). The NDHS used MBI Kits that provide an estimate of the iodine content in salt in one of three levels: 0 ppm, <15 ppm, and  $\geq 15$  ppm to record the adequacy of iodine content in the salt, which allows the information to be compared over time.

Table 14 presents the findings on salt test carried out at the household level. Four in five households in Nepal use adequately iodized salt. Urban households are more likely to use adequately iodized salt than rural households (94 percent and 78 percent, respectively). Households in the Mountain are slightly less likely to consume adequately iodized salt compared with those in the Hill and Terai zones (73 percent versus 80-81 percent).

There has been a marked improvement in households using adequately iodized salt since 2006, when only 58 percent of households consumed adequately iodized salt in Nepal (MOHP, MI and New ERA, 2005).

Background characteristic	Among all household, the percentage			Among households with tested salt:	
	With salt tested	Without salt	Number of households	Percentage with adequately iodized salt <sup>1</sup>	Number of households
<b>Residence</b>					
Urban	99.1	0.9	1,546	94.4	1,532
Rural	99.3	0.7	9,280	77.7	9,215
<b>Ecological zone</b>					
Mountain	99.3	0.7	761	72.6	756
Hill	99.5	0.5	4,563	79.7	4,538
Terai	99.1	0.9	5,502	81.4	5,453
<b>Total</b>	<b>99.3</b>	<b>0.7</b>	<b>10,826</b>	<b>80.0</b>	<b>10,747</b>

<sup>1</sup> Salt with 15 PPM iodine or more

## I. HIV/AIDS

The 2011 NDHS included a series of questions that addressed women's and men's awareness about the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). These questions sought information on respondents' source of knowledge, knowledge of ways to avoid the disease, and knowledge and use of condoms for the prevention of sexually transmitted diseases (STDs).

### Heard of HIV/AIDS

Table 15 shows that awareness of HIV/AIDS is much higher among men than women (97 compared with 86 percent). The level of knowledge of AIDS has increased since 2006 (92 percent for men and 73 percent for women).

Background characteristic	Women		Men	
	Have heard of AIDS	Number of women	Have heard of AIDS	Number of men
<b>Age</b>				
15-24	89.0	5,050	98.1	1,663
..15-19	88.7	2,753	97.0	978
..20-24	89.3	2,297	99.7	685
25-29	86.8	2,101	98.0	581
30-39	85.9	3,291	96.4	1,041
40-49	80.6	2,232	94.1	836
<b>Marital status</b>				
Never married	91.7	2,708	97.8	1,433
..Ever had sex	*	18	99.4	352
..Never had sex	91.7	2,691	97.3	1,081
Married/living together	85.0	9,608	96.4	2,626
Divorced/separated/widowed	81.8	358	(92.3)	62
<b>Residence</b>				
Urban	94.7	1,819	99.1	717
Rural	85.0	10,855	96.4	3,404
<b>Ecological zone</b>				
Mountain	85.9	805	97.0	245
Hill	93.9	5,090	97.4	1,658
Terai	80.7	6,779	96.4	2,218
<b>Education</b>				
No education	71.3	5,045	84.8	567
Primary	89.8	2,209	95.3	814
Some secondary	98.3	3,088	99.6	1,437
SLC and above	99.9	2,331	100.0	1,303
Total 15-49	86.3	12,674	96.8	4,121

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.  
SLC = School Leaving Certificate

Knowledge of AIDS is higher among younger than among older respondents. Never-married women and men age 15-49 are slightly more likely to have heard about AIDS than ever-married women and men, with knowledge somewhat higher among currently married women than among those formerly married. Not surprisingly, knowledge of AIDS is much higher among urban than rural respondents, with the urban-rural difference being greater among women than men. Knowledge of AIDS is also higher among women in the Hill zone, with no obvious difference among men by ecological zones. Education has a positive impact on AIDS knowledge among all respondents. For example, nearly all women and men with some secondary education and higher have heard of AIDS compared with 71 percent of women and 85 percent of men with no education.

## Knowledge of HIV/AIDS Prevention

HIV/AIDS prevention programs that target the general population promote monogamy and condom use as the primary ways of avoiding HIV infection among sexually active men and women, who make up the majority of all adults in virtually every population. To ascertain whether programs have effectively communicated these messages, the 2011 NDHS respondents were asked specific questions about whether it is possible to reduce the chance of getting the AIDS virus by having just one uninfected sexual partner and using a condom at every sexual encounter.

Table 16 shows that men are generally much more aware of the various prevention methods than women. While women are more aware that the chances of getting the AIDS virus can be reduced by limiting sex to one uninfected partner who has no other partners (79 percent), men are aware of both programmatically promoted messages of using condoms and limiting sexual intercourse to one uninfected partner (89 percent).

**Table 16. Knowledge of HIV prevention methods**

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, and by having one sex partner who is not infected and has no other partners, by background characteristics, Nepal 2011

Background characteristic	Percentage of women who say HIV can be prevented by:				Percentage of men who say HIV can be prevented by:			
	Using condoms <sup>1</sup>	Limiting sexual intercourse to one uninfected partner <sup>2</sup>	Using condoms and limiting sexual intercourse to one uninfected partner <sup>2</sup>	Number of women	Using condoms <sup>1</sup>	Limiting sexual intercourse to one uninfected partner <sup>2</sup>	Using condoms and limiting sexual intercourse to one uninfected partner <sup>2</sup>	Number of men
<b>Age</b>								
15-24	78.9	83.6	76.6	5,050	91.7	91.5	87.0	1,663
..15-19	78.2	83.7	76.0	2,753	90.1	91.3	85.9	978
..20-24	79.8	83.4	77.2	2,297	94.0	91.7	88.5	685
25-29	76.3	80.3	73.4	2,101	89.9	92.0	85.6	581
30-39	74.0	77.7	70.3	3,291	88.7	87.2	83.7	1,041
40-49	62.0	68.0	57.5	2,232	85.1	85.0	79.0	836
<b>Marital status</b>								
Never married	82.6	87.4	80.8	2,708	91.5	91.6	87.3	1,433
..Ever had sex	*	*	*	18	94.0	92.9	88.6	352
..Never had sex	82.5	87.3	80.7	2,691	90.7	91.2	86.9	1,081
Married/living together	72.2	76.7	68.7	9,608	88.7	88.4	83.4	2,626
Divorced/separated/widowed	64.6	70.2	59.4	358	(65.4)	(65.4)	(55.5)	62
<b>Residence</b>								
Urban	84.8	88.0	81.5	1,819	89.9	91.1	84.5	717
Rural	72.5	77.2	69.3	10,855	89.3	88.8	84.3	3,404
<b>Ecological zone</b>								
Mountain	72.1	78.5	68.8	805	90.8	93.6	88.4	245
Hill	80.9	85.7	77.3	5,090	91.4	89.9	85.6	1,658
Teral	69.5	73.6	66.7	6,779	87.7	88.1	83.0	2,218
<b>Education</b>								
No education	54.4	59.8	50.1	5,045	70.3	71.3	63.4	567
Primary	77.8	80.7	73.5	2,209	85.1	81.8	76.2	814
Some secondary	89.3	94.4	87.2	3,088	92.9	93.9	89.0	1,437
SLC and above	93.9	97.4	92.6	2,331	96.4	96.4	93.4	1,303
<b>Total 15-49</b>	<b>74.2</b>	<b>78.8</b>	<b>71.1</b>	<b>12,674</b>	<b>89.4</b>	<b>89.2</b>	<b>84.3</b>	<b>4,121</b>

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

<sup>1</sup> Using condoms every time they have sexual intercourse

<sup>2</sup> Partner who has no other partners

SLC = School Leaving Certificate

As Table 16 shows, younger women and men are generally more knowledgeable of the various modes of prevention than older women and men. Knowledge of HIV prevention methods is highest among never-married women and lowest among those who were formerly married.

Variability in knowledge of HIV prevention methods is more pronounced among women than among men. Among women, levels of knowledge of preventive methods are higher in urban than in rural areas. There is considerable variability across ecological zones in knowledge of prevention methods. Among women, knowledge is highest in the Hill zone (77 percent), while among men, knowledge is highest in the Mountain zones (88 percent). Women and men with higher levels of education are more likely than those with little or no education to be aware of various preventive methods.

Potentially risky sexual activities relate to men and women, who have multiple sexual partners, and the failure to use condoms particularly if they have more than one sexual partner. As it is not common for women in Nepal to have multiple sexual partners this assessment is done only for men.

Table 17 presents information collected from men who had ever had intercourse, on the number of sexual partners they had had during the 12 months period before the survey and over their lifetime and condom use at last sex among men reporting more than one sexual partner in the past 12 months.

**Table 17. Multiple sexual partners in the past 12 months: Men**

Among all men age 15-49, the percentage who had sexual intercourse with more than one sexual partner in the past 12 months; among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse; and the mean number of sexual partners during their lifetime for men who ever had sexual intercourse, by background characteristics, Nepal 2011

Background characteristic	All men		Among men who had 2+ partners in the past 12 months:		Among men who ever had sexual intercourse:	
	Percentage who had 2+ partners in the past 12 months	Number of men	Percent- age who reported using a condom during last sexual inter- course	Number of men	Mean number of sexual partners in lifetime <sup>1</sup>	Number of men
<b>Age</b>						
15-24	3.8	1,663	45.1	63	2.6	666
..15-19	1.5	978	*	14	2.1	202
..20-24	7.0	685	(43.2)	48	2.8	463
25-29	5.8	581	(12.7)	33	2.7	528
30-39	3.3	1,041	(21.4)	35	2.6	1,016
40-49	2.9	836	*	25	2.3	827
<b>Marital status</b>						
Never married	3.0	1,433	(60.2)	43	3.2	352
Married/living together	4.0	2,626	10.4	106	2.4	2,626
Divorced/separated/widowed	(10.3)	62	*	6	(5.5)	59
<b>Residence</b>						
Urban	4.3	717	33.6	31	2.1	496
Rural	3.7	3,404	24.7	125	2.6	2,540
<b>Ecological zone</b>						
Mountain	2.7	245	*	7	2.4	194
Hill	3.4	1,658	34.5	56	2.3	1,224
Terai	4.2	2,218	21.8	93	2.7	1,618
<b>Education</b>						
No education	4.2	567	*	24	2.0	537
Primary	2.5	814	*	20	2.3	701
Some secondary	3.9	1,437	38.0	57	3.1	922
SLC and above	4.2	1,303	32.7	54	2.4	877
<b>Total 15-49</b>	<b>3.8</b>	<b>4,121</b>	<b>26.5</b>	<b>155</b>	<b>2.5</b>	<b>3,037</b>

An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.  
<sup>1</sup> Means are calculated excluding respondents who gave non-numeric responses  
 SLC = School Leaving Certificate

Four percent of all men 15-49 years had more than one sexual partner in the past 12 months. Men age 20-24 are more likely to have had more than one sexual partner in the past 12 months than men in other age groups.

Among men who had more than one sexual partner in the past 12 months, 27 percent reported using a condom during the last sexual intercourse. Young men, those who are never married, those living in urban areas and those who live in the Hill zone are more likely to report using condom during the last sexual intercourse.

Men reported an average of 2.5 lifetime sexual partners. The mean number of sexual partners is higher among never-married men (3.2), those living in the Terai (2.7), and those having some secondary education (3.1).

## J. Domestic Violence

The Nepal Maternal Mortality and Morbidity Study 2008/2009 indicated that suicide, not child birth complications, was the single leading cause of maternal death among women (15-49 years) (Pradhan, A. et al. 2010). This led to the need to further explore this area of women's situation in Nepal. Information on women facing different types of domestic violence was collected for the first time in the 2011 Nepal DHS.

For ethical reasons, only one woman per household, in the sub-sample of households selected for the male survey, was selected to be interviewed with the domestic violence module. A high level of confidentiality was ensured while administering the domestic violence module.

Table 18 shows that one in three (34 percent) women age 15-49 years have ever experienced physical violence since age 15 years and nine percent of these women reported experiencing physical violence within the past 12 months. Among women who experienced physical violence in the past 12 months, less than two percent reported that the physical violence often occurred, while seven percent experienced physical violence only sometimes.

Women age (40-49) and those with more than 5 or more living children are more likely to have ever faced physical violence. Currently married women are the victims of more recent physical violence compared with single women, indicating some degree of intimate partner violence.

Rural women are more likely to have ever experienced physical violence than urban women (35 percent compared with 29 percent, respectively). Women in the Terai are more likely to experience physical violence than women in the other zones.

The proportion of women who have ever experienced physical violence is highest among women with no education (51 percent). As women attain higher levels of education their chances of experiencing physical violence declines; 15 percent of women with SLC and higher levels of education had ever experienced physical violence.

Table 18. Experience of physical violence					
Percentage of women age 15-49 who ever experienced violence since age 12 and percentage who have experienced violence during the 12 months preceding the survey, by background characteristics, Nepal 2011					
Background characteristic	Percentage who ever experienced physical violence since age 15				Number of women
	Ever <sup>1</sup>	In the past 12 months: Often	In the past 12 months: Sometimes	In the past 12 months: Any	
<b>Age</b>					
15-19	13.6	1.4	4.2	5.7	989
20-24	25.3	2.4	8.2	10.6	827
25-29	37.4	2.4	8.3	10.7	649
30-39	45.8	1.8	8.7	10.5	989
40-49	49.6	1.9	7.5	9.4	759
<b>Marital status</b>					
Never married	8.9	0.5	2.3	2.7	977
Married/living together	40.6	2.4	9.0	11.4	3,094
Divorced/separated/widowed	51.1	1.4	3.8	5.3	141
<b>Number of living children</b>					
0	13.6	1.1	3.6	4.7	1,347
1-2	35.7	1.9	8.4	10.3	1,473
3-4	47.3	3.1	9.0	12.2	1,059
5+	61.9	1.7	11.7	13.4	334
<b>Residence</b>					
Urban	29.4	1.5	7.3	8.8	1,085
Rural	35.1	2.1	7.3	9.4	3,128
<b>Region</b>					
Mountain	28.7	0.6	5.4	6.0	442
Hill	25.8	1.4	6.3	7.7	2,048
Terai	44.2	2.9	8.9	11.8	1,723
<b>Education</b>					
No education	51.3	3.2	10.3	13.4	1,658
Primary	29.5	2.1	8.3	10.4	697
Some secondary	23.0	1.3	5.1	6.4	1,034
SLC and above	14.9	0.1	3.2	3.2	824
<b>Total</b>	<b>33.6</b>	<b>1.9</b>	<b>7.3</b>	<b>9.2</b>	<b>4,213</b>

<sup>1</sup> Includes in the past 12 months

## REFERENCES

Centers for Disease Control and Prevention (CDC). 1998. Recommendations to prevent and control iron deficiency in the United States. *Morbidity and Mortality Weekly Report* 47(RR-3):1-29.

DeMaeyer, E.M., Dallman, P., Gurney, J.M., Hallberg, L., Sood, S.K., and Srikantia, S.G. 1989. *Preventing and controlling iron deficiency anemia through primary health care: A guide for health administrators and program managers*. Geneva: World Health Organization.

Ministry of Health. 1987. *Nepal Fertility and Family Planning Survey Report 1986*. Nepal Family Planning and MCH Project, Planning, Research and Evaluation Section, Kathmandu, Nepal.

Ministry of Health. 1993. *Nepal Fertility, Family Planning and Health Survey 1991*. Main Report, Family Planning and Maternal and Child Health Division Planning Research, and Evaluation Section, Kathmandu, Nepal.

Ministry of Health [Nepal], New ERA and ORC Macro. 2002. *Nepal Demographic and Health Survey 2001*. Calverton, Maryland, USA: Family Health Division, Ministry of Health; New ERA; and ORC Macro.

Ministry of Health and Population (MOHP), MI, and New ERA. 2005. *Nepal Iodine Deficiency Disorders Status Survey 2005*. Kathmandu, Nepal: Ministry of Health and Population, Child Health Division, The Micronutrient Initiative, and New ERA.

Ministry of Health and Population (MOHP) [Nepal], New ERA and Macro International Inc., 2007. *Nepal Demographic and Health Survey 2006*. Kathmandu, Nepal: Ministry of health and Population, New ERA, and Macro International Inc., Calverton, Maryland, USA.

Pradhan, Ajit, Ram Hari Aryal, Gokarna Regmi, Bharat Ban, and Pavalavalli Govindasamy. 1997. *Nepal Family Health Survey 1996*. Kathmandu, Nepal and Calverton, Maryland: Ministry of Health [Nepal], New ERA, and Macro International Inc.

Pradhan, Ajit. et. al. 2010. *Nepal Maternal Mortality and Morbidity Study 2008/2009*. Family Health Division, Department of Health Services, Ministry of Health and Population, Government of Nepal, Kathmandu, Nepal.

