BHUTAN

Monitoring the situation of children and women

Bhutan Multiple Indicator Survey
2010

National Statistics Bureau

unicef — United Nations Children's Fund

UNFPA — United Nations Population Fund

MICS

Bhutan Multiple Indicator Survey, 2010

NSB

The Bhutan Multiple Indicator Survey (BMIS) was carried out in 2010 by the National Statistics Bureau (NSB). Financial and technical support was provided by the United Nations Children's Fund (UNICEF) and the United Nations Population Fund (UNFPA).

The BMIS is a customized version of the Multiple Indicator Cluster Survey (MICS), which is an international household survey programme developed by UNICEF with add-ons of the Demographic and Health Survey (DHS) to suit the Bhutanese context . It was conducted as part of the fourth global round of MICS surveys (MICS4). The BMIS provides up-to-date information on the situation of children and women and measures key indicators to monitor progress towards the Millennium Development Goals (MDGs) and other internationally agreed-upon commitments. Additional information on the global MICS project may be obtained from www.childinfo.org.

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Bhutan Multiple Indicator Survey, 2010

National Statistics Bureau

Royal Government of Bhutan

UNICEF

United Nations Children's Fund

UNFPA

United Nations Population Fund

May, 2011

Summary Table of Findings

Bhutan Multiple Indicator Survey (BMIS) and Millennium Development Goals (MDG) Indicators, Bhutan, 2010

Topic	MICS Indicator Number	MDG Indicator Number	Indicator	Value
CHILD MORTALITY				
Child mortality	1.1	4.1	Under-five mortality rate	69 per thousand
	1.2	4.2	Infant mortality rate	47 per thousand
NUTRITION				
Nutritional status	2.1a 2.1b	1.8	Underweight prevalence Moderate and Severe (- 2 SD) Severe (- 3 SD)	 12.7 percent 3.2 percent
	2.2a 2.2b		Stunting prevalence Moderate and Severe (- 2 SD) Severe (- 3 SD)	 33.5 percent 13.3 percent
	2.3a 2.3b		Wasting prevalence Moderate and Severe (- 2 SD) Severe (- 3 SD)	 5.9 percent 2.0 percent
Breastfeeding and infant feeding	2.4		Children ever breastfed	98.9 percent
	2.5		Early initiation of breastfeeding	59.0 percent
	2.6		Exclusive breastfeeding under 6 months	48.7 percent
	2.7		Continued breastfeeding at 1 year	92.7 percent
	2.8		Continued breastfeeding at 2 years	65.7 percent
	2.9		Predominant breastfeeding under 6 months	66.8 percent
	2.10		Duration of breastfeeding (Median)	24.2 months
	2.11		Bottle feeding	11.5 percent
	2.12		Introduction of solid, semi-solid or soft foods	66.7 percent
	2.13		Minimum meal frequency	62.6 percent
	2.14		Age-appropriate breastfeeding	66.0 percent
	2.15		Milk feeding frequency for non-breastfed children	36.3 percent
Low birth weight	2.18		Low-birthweight infants	9.9 percent
	2.19		Infants weighed at birth	72.2 percent
CHILD HEALTH				
Tetanus toxoid	3.7		Neonatal tetanus protection	73.0 percent
Care of illness	3.8		Oral rehydration therapy with continued feeding	61.6 percent
	3.9		Care seeking for suspected pneumonia	74.2 percent
	3.10		Antibiotic treatment of suspected pneumonia	48.7 percent
Solid fuel use	3.11		Solid fuels	39.5 percent
WATER AND SANITATION				
Water and sanitation	4.1	7.8	Use of improved drinking water sources	96.1 percent
	4.2		Water treatment	55.8 percent
	4.3	7.9	Use of improved sanitation facilities (not shared)	58.4 percent
	4.4		Safe disposal of child's faeces	57.5 percent
Handwashing	4.5		Place for handwashing (Water and soap are available)	80.9 percent
	4.6		Availability of soap	99.4 percent

Topic	MICS Indicator Number	MDG Indicator Number	Indicator	Value
REPRODUCTIVE HEALTH				
Contraception and unmet need	5.1	5.4	Adolescent fertility rate	59 per thousand
	5.2		Early childbearing	15.3 percent
	5.3	5.3	Contraceptive prevalence rate	65.6 percent
	5.4	5.6	Unmet need	11.7 percent
Maternal and newborn health	5.5a 5.5b	5.5	Antenatal care coverage At least once by skilled personnel At least four times by any provider	97.3 percent 77.3 percent
	5.6		Content of antenatal care	87.9 percent
	5.7	5.2	Skilled attendant at delivery	64.5 percent
	5.8		Institutional deliveries	63.1 percent
	5.9		Caesarean section	12.4 percent
CHILD DEVELOPMENT				
Child development	6.1		Support for learning	54.2 percent
	6.2		Father's support for learning	51.3 percent
	6.3		Learning materials: children's books	6.4 percent
	6.4		Learning materials: playthings	51.5 percent
	6.5		Inadequate care	14.2 percent
	6.6		Early child development index	71.5 percent
	6.7		Attendance to early childhood education	9.5 percent
EDUCATION				
Literacy and education	7.1	2.3	Literacy rate among young women	56.5 percent
	7.2		School readiness	1.4 percent
	7.3		Net intake rate in primary education	68.1 percent
	7.4	2.1	Primary school net attendance rate (adjusted)	91.9 percent
	7.5		Secondary school net attendance rate (adjusted)	55.0 percent
	7.6	2.2	Children reaching last grade of primary	93.6 percent
	7.7		Primary completion rate	90.1 percent
	7.8		Transition rate to secondary school	88.7 percent
	7.9		Gender parity index (primary school)	1.02 ratio
	7.10		Gender parity index (secondary school)	1.03 ratio
CHILD PROTECTION				
Birth registration	8.1		Birth registration	99.9 percent
Child labour	8.2		Child labour	18.4 percent
	8.3		School attendance among child labourers	86.5 percent
	8.4		Child labour among students	18.8 percent
Early marriage and polygamy	8.6		Marriage before age 15	6.7 percent
	8.7		Marriage before age 18	30.8 percent
	8.8		Young women age 15-19 currently married or in union	15.2 percent
	8.9		Polygamy	5.0 percent
	8.10a 8.10b		Spousal age difference Women age 15-19 Women age 20-24	11.9 percent 13.3 percent
Domestic violence	8.14		Attitudes towards domestic violence	68.4 percent

Topic	MICS Indicator Number	MDG Indicator Number	Indicator	Value
HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN				
HIV/AIDS knowledge and attitudes	9.1		Comprehensive knowledge about HIV prevention	17.5 percent
	9.2	6.3	Comprehensive knowledge about HIV prevention among young people	21.0 percent
	9.3		Knowledge of mother- to-child transmission of HIV	56.2 percent
	9.4		Accepting attitude towards people with HIV	27.9 percent
	9.5		Women who know where to be tested for HIV	54.5 percent
	9.6		Women who have been tested for HIV and know the results	9.8 percent
	9.7		Sexually active young women who have been tested for HIV and know the results	13.3 percent
	9.8		HIV counselling during antenatal care	53.9 percent
	9.9		HIV testing during antenatal care	46.9 percent
Sexual behaviour	9.10		Young women who have never had sex	96.4 percent
	9.11		Sex before age 15 among young women	3.7 percent
	9.13		Sex with multiple partners	0.3 percent
	9.14		Condom use during sex with multiple partners	20.5 percent
	9.15		Sex with non-regular partners	1.4 percent
	9.16	6.2	Condon use with non-regular partners	61.6 percent
Orphaned children	9.17		Children's living arrangements (Not living with biological parents)	7.4 percent
	9.18		Prevalence of children with at least one parent dead	5.4 percent

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AIDS	Acquired Immunodeficiency Syndrome
BMIS	Bhutan Multiple Indicator Survey
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CPS	Contraceptive Prevalence Survey
CRC	Convention on Rights of the Child
CSDP	Child Survival, Development and Protection
CSPro	Census and Survey Processing System
DHS	Demographic and Health Survey
DSO	Dzongkhag Statistical Officer
GNHC	Gross National Happiness Commission
HH	Households
HIV	Human Immunodeficiency Virus
IMR	Infant Mortality Rate
JMP	Joint Monitoring Programme
LAM	Lactational Amenorrhea Method
LPG	Liquefied Petroleum Gas
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Surveys
NSB	National Statistics Bureau
NGO	Non Governmental Organization
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy

PASW	Predictive Analytics Software
PHCB	Population and Housing Census of Bhutan
PSU	Primary Sampling Unit
RGoB	Royal Government of Bhutan
SAARC	South Asian Association for Regional Cooperation
SBA	Skilled Birth Attendant
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
UNAIDS	United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
U5MR	Under-five Mortality Rate
UN	United Nations
WFFC	World Fit For Children
WHO	World Health Organization

Acknowledgements

Executive Summary

The National statistics Bureau conducted the Bhutan Multiple Indicator Survey between March and August, 2010. The survey's main objective is to provide up-to-date information on the situation of children and women in Bhutan. The survey is also aimed at furnishing data required for monitoring progress towards the MDGs, the goals of A World Fit for Children and other international goals. It is hoped that the findings will serve as a basis for equity-based programming, as well as contribute towards the improvement of data and monitoring systems in Bhutan. It will also help to strengthen technical expertise in the design, implementation, and data analysis of similar surveys in future.

Sample Coverage

Of the 15,400 households selected for the sample, 14,917 were occupied. Of which, 14,676 households were successfully interviewed for a household response rate of 98.4 percent. Within those interviewed households, 16,823 of the eligible women (aged 15-49) were identified. Of them 14,018 were successfully interviewed, yielding a response rate of 83.3 percent. The household interviews identified 6,457 children under-five. The questionnaires were completed for 6,297 of them with a response rate of 97.5 percent.

Nutrition

Children's nutritional status is a reflection of their overall health. When children have access to an adequate food supply, are not exposed to re peated illness, and are well cared for, they reach their growth potential and are considered well nourished.

Overall, 71.4 percent of children under the age of five were weighed at birth and approximately 9.5 percent of infants were estimated to weigh less than 2500 grams at birth.

Anthropometric measurements were taken during fieldwork and almost one in eight children under five in Bhutan were moderately underweight (12.7%) and 3.2 percent were classified as severely underweight. More than one third of children (33.5%) were moderately stunted or too short for their age, out of which 13.3 percent were severely stunted. Wasting is a reflection of acute malnutrition and moderate wasting is estimated at 5.9 percent and severe wasting at 2 percent.

Nationally, 59 percent of infants were breastfed within one hour of birth and 92.9 percent of them within one day of birth.

Child Mortality

Infant mortality rate (IMR) is the probability of dying before the first birthday expressed per 1,000 live births. The under-five mortality rate (U5MR) is the probability of dying before the fifth birthday expressed per 1,000 live births.

The infant mortality rate was estimated at 47 per thousand and the under-five mortality rate at 69 per thousand using the North model. There is some difference between the probabilities of dying among males and females, with males having higher mortality rates. Infant and under-five mortality rates are lower in the Western and Central regions as compared to the Eastern region. As the education level as well as wealth index of the mother increases, the under-five mortality rate decreases

Child Health

In total, some 25.1 percent of under-five children had diarrhoea in the two weeks preceding the survey. The Oral Rehydration Therapy use rate was 85.4 percent nationally; the rate in urban areas was 86.6 percent and 84.9 percent in rural areas.

Nationally, 6.9 percent of under-five children were reported to have had the symptoms of pneumonia during the two weeks preceding the survey interview. Of them, 74.2 percent were taken to an appropriate health facility, while 0.2 percent were taken to traditional practitioners.

Water and Sanitation

96.1 percent of the surveyed population had access to improved drinking water sources; 99.6 percent in urban areas and 94.8 percent in rural areas.

Only 58.4 percent of the overall surveyed population lived in households with access to improved sanitation facilities. By area, it is 77.9 percent for urban households and 51 percent for rural households.

56.9 percent of surveyed households reported using an improved water source and proper means of excreta disposal. The urban population was almost twice as likely (77.7%) to use an improved source of drinking water and sanitation compared to the rural population (49%).

Reproductive Health

The current use of contraception was reported by 65.6 percent of women currently married or in union. The most popular method is injectables used by 28.9 percent of the married or women in union. 11.7 percent of women in Bhutan had an unmet need for contraception. The demand for contraception was less satisfactory among younger women.

Doctors provided antenatal care to 37.8 percent of urban women, compared with 17.9 percent of rural women. The nurses or midwifes provided the antenatal care to 57.3 percent of urban women and 48.1 percent of rural women.

93 percent of women who had a live birth in the two years preceding the survey had their blood test taken; 94.7 percent had their blood pressure measured and 89.1 percent had a urine specimen taken.

Around 32 percent of the births in the two years prior to the BMIS survey were delivered with the assistance of a nurse or midwife. Doctors assisted the delivery of 26.1 percent of births, while 1.8 percent of births were aided by traditional birth attendants (two years period prior to the survey interview).

Coverage of antenatal care by skilled personnel was relatively high in Bhutan with 97.3 percent of women receiving antenatal care at least once during the pregnancy. More than nine in ten mothers (94.1%) received antenatal care more than once and more than seven out of ten of the mothers received antenatal care at least four times (77.3%) during the last pregnancy during the two years preceding the survey.

Mothers from the poorest households and those with no education or primary education were less likely than the more advantaged mothers to receive ANC four or more times. For example, 64 percent of the women living in the poorest households reported four or more antenatal care visits, compared with 91.8 percent among those living in the richest households. Women less than 20 years of age, as well as women aged 35-49, were less likely to receive four or more antenatal care visits compared to women aged 20-34 years old

Child Development

In 18.9 percent of children under-five households, at least an adult member was engaged in an minimum of four activities that promoted learning and school readiness during the three days preceding the survey. The average number of activities that adults engaged with children was 1.9. Fathers' involvement in such activities was significantly higher at 51.3 percent. The average number of activities was 1.2. 14.6 percent of children aged 0-59 months who were living in households without their father.

The proportion of under-five children who had three or more children's books is 13 percent in urban areas, compared to 3.6 percent in rural areas.

Just 10.2 percent of children aged 0-59 months were left in the care of other children younger than 10 years old, while 6.3 percent were left alone during the week preceding the interview. Combining the two care indicators, 14.2 percent of children were left with inadequate care during the week preceding the survey.

Education

56.5 percent of women in the country between 15-24 years were found to be literate. There were major variations according to residential areas; 77.9 percent of women were literate in urban areas while it was 44.5 percent in rural areas.

For children of primary school-entry age (age six), 70.7 percent were attending grade 1. It was higher in rural areas (71.4%) than in urban areas (68.8%).

The net primary school attendance rate was 92.2 percent. Among the Dzongkhags, Bumtang had the highest net primary attendance rate (97.3%).

The gender parity index for primary school was 1.02, indicating there was no difference in the attendance of girls and boys in primary school.

Child Protection

According to the findings, 99.9 percent of under-five children in the surveyed households had a birth registration document (registered with civil authorities or in possession of a health card).

Nationally, child labour prevalence was found to be 18.4 percent. There was little male-female variation, with 17.6 percent of males and 19.1 percent of females involved in child labour. In rural areas, 22.2 percent of children and in urban areas, 8.7 percent were involved in child labour.

Student labourers refer to the children attending school who were involved in child labour activities at the time of the survey. Of the 84.7 percent of children (aged 5-14) who were attending schools, 18.8 percent were also engaged in child labour.

Among the surveyed households, 7.5 percent of women aged 20-49 were married before their 15th birthday, while 30.8 percent of women aged 20-49 were married before their 18th birthday.

68.4 percent of women believed that a man was justified in hitting or beating his wife if the woman was not respecting the "family norms" such as going out without telling a husband, neglecting a child, burning the food or refusing to have sex with him.

HIV

83.7 percent of the interviewed women aged 15-49 have heard of AIDS. However, only 51 percent of women knew the two main ways of preventing HIV transmission. 60.6 percent of women knew of having one faithful uninfected sex partner, 66.1 percent knew the importance of using a condom every time they had sex.

Overall, 80.5 percent of women knew that HIV can be transmitted from mother to child. 97 percent of women received antenatal care from a health care professional for the last pregnancy, but only 53.9 percent of them were provided with information about HIV prevention.

Overall, 17.5 percent of women aged 15-49 years old were found to have comprehensive knowledge of HIV. Both the education level and household wealth were positively correlated with the level of comprehensive knowledge. Comprehensive knowledge was also much more prevalent among younger women, unmarried women and women in urban areas. In the Western region 24.1 percent have comprehensive knowledge as compared to the Central and Eastern regions (14.0 and 8.7 % respectively).

I. Introduction

Background

This report is based on the Bhutan Multiple Indicator Survey (BMIS) conducted in 2010 by the National Statistics Bureau (NSB). The BMIS is the customized version of the UNICEF's Multiple Indicator Cluster Survey (MICS) with the addition of the Demographic and Health Survey (DHS) to suit the Bhutanese context. The survey provides valuable information on the situation of children and women in Bhutan, and was based, in large part, on the needs to monitor progress towards goals and targets emanating from recent international agreements: the Millennium Declaration, adopted by all 191 United Nations Member States in September 2000, and the Plan of Action of A World Fit For Children, adopted by 189 Member States at the United Nations Special Session on Children in May 2002. Both of these commitments build upon promises made by the international community at the 1990 World Summit for Children.

In signing these international agreements, governments committed themselves to improving conditions for their children and to monitoring the progress towards that end. UNICEF was assigned a supporting role in this task (see table below).

A Commitment to Action: National and International Reporting Responsibilities

The governments that signed the Millennium Declaration and the World Fit for Children Declaration and Plan of Action also committed themselves to monitoring progress towards the goals and objectives they contained:

"We will monitor regularly at the national level and, where appropriate, at the regional level and assess progress towards the goals and targets of the present Plan of Action at the national, regional and global levels. Accordingly, we will strengthen our national statistical capacity to collect, analyse and disaggregate data, including by sex, age and other relevant factors that may lead to disparities, and support a wide range of child-focused research. We will enhance international cooperation to support statistical capacity-building efforts and build community capacity for monitoring, assessment and planning." (**A World Fit for Children**, paragraph 60)

"…We will conduct periodic reviews at the national and sub-national levels of progress in order to address obstacles more effectively and accelerate actions.…" (**A World Fit for Children**, paragraph 61)

The Plan of Action (paragraph 61) also calls for the specific involvement of UNICEF in the preparation of periodic progress reports:

 "… As the world's lead agency for children, the United Nations Children's Fund is requested to continue to prepare and disseminate, in close collaboration with Governments, relevant funds, programmes and the specialized agencies of the United Nations system, and all other relevant actors, as appropriate, information on the progress made in the implementation of the Declaration and the Plan of Action."

Similarly, the **Millennium Declaration** (paragraph 31) calls for periodic reporting on progress:

"…We request the General Assembly to review on a regular basis the progress made in implementing the provisions of this Declaration, and ask the Secretary-General to issue periodic reports for consideration by the General Assembly and as a basis for further action."

Bhutan's development planning, which is based on the philosophy of Gross National Happiness (GNH), is aimed at achieving broad-based and sustainable growth, improving the quality of life, ensuring the conservation of the natural environment, preserving the country's rich culture and strengthening good governance. The government is in the process of adopting 72 GNH indicators derived from nine GNH domains. These indicators will measure Bhutan's genuine progress towards human development. These development objectives are pursued by the Royal Government to achieve a harmonious balance between material well-being and the spiritual, emotional and cultural needs of an individual and society.

Despite rapid economic growth and sustained development efforts, around one fourth of the country's people, mostly from the rural areas, still continue to live below the poverty line. To reduce the poverty level the government has adopted a two pronged strategy.

The first strategy is concerned with the continued use of conventional poverty reduction programmes/ initiatives implemented at the national level. It seeks to address the structural causes and factors contributing to poverty at the national level, using mainstream sectoral programmes through provisions of basic education, primary health care, nutrition and family planning, safe drinking water and sanitation and shelter. The second strategy is concerned with targeted poverty reduction programmes/ initiatives implemented at the local, community or regional levels. It involves working directly with vulnerable groups, as well as identifying and addressing the limitations faced at the individual household, community or local level.

The government has been making tremendous efforts towards protecting and upholding the rights and well-being of children and women through various social and economic programmes and by adopting several international legislations. In this regard, the National Commission for Women and Children was established in 2004 with the mandate to advocate for new legislations and to co-ordinate with NGOs and civil society organizations on the implementation of welfare and counselling services for women and children, especially related to violence, abuse and exploitation. It is within this framework that the BMIS 2010 was conducted.

Bhutan is a signatory to and ratified CEDAW in August 1981, and CRC in May 1990. Bhutan also signed the SAARC convention on Regional Arrangements for the promotion of welfare in South Asia and the SAARC Convention on preventing and combating trafficking in women and children for prostitution on January 5, 2002.

This final report presents the results of the indicators and topics covered in the survey. However, the results of maternal mortality module will be published separately in sectoral thematic reports.

Survey Objectives

The primary objectives of the Bhutan Multiple Indicator Survey 2010 are as follows:

- To provide strong evidence for equity-based programming and planning focused-based interventions.

- To provide up-to-date information for assessing the situation of children and women, including the identification of vulnerable groups and disparities in Bhutan.

- To furnish data for monitoring progress for MDGs and other related international goals and to allow regional and global comparisons.

- To strengthen the technical expertise in the design, implementation and analysis of such surveys.

II. Sample and Survey Methodology

Sample Design

The sample for the Bhutan Multiple Indicator Survey (BMIS) was designed to provide estimates for a large number of indicators on the situation of women and children, for urban and rural areas, for three regions and 20 Dzongkhags (districts).

The Western region includes Chhukha, Gasa, Haa, Paro, Punakha, Samtse and Thimphu Dzongkhag; the Eastern region includes Lhuentse, Monggar, Pemagatshel, Samdrup-Jongkhar, Trashigang and Trashiyangtse Dzongkhag and the Central region includes Bumthang, Dagana, Sarpang, Trongsa, Tsirang, Wangdue Phodrang and Zhemgang Dzongkhag. The urban and rural areas within each Dzongkhag were identified as the main sampling strata and the sample was selected in two stages.

Within each stratum, a specified number of Chiwogs in the rural areas and Blocks in the urban areas were selected systematically with probability proportional to size. After household listing was carried out within the selected enumeration areas, a systematic sample of 20 households was drawn in each sample enumeration area. The sample was stratified by Dzongkhag, urban and rural areas, and is not self-weighting. Sample weights were used for generating the results. A more detailed description of the sample design can be found in Appendix A.

Owing to a smaller base population in Gasa, only 200 households were taken for the survey compared to 800 households in other Dzongkhags; thus, the results pertaining to this Dzongkhag should be treated with caution.

Questionnaires

Three sets of questionnaires were used in the survey:

1) A household questionnaire to collect information on all de jure (usual residents) household members, the household, and the dwelling.
2) A women's questionnaire administered in each household to all women aged 15-49 years.
3) Under-five children questionnaire administered to mothers or caretakers in the household.

The Household Questionnaire included the following modules:
- Household Listing Form
- Education
- Water and Sanitation
- Household Characteristics
- Child Labour
- Disability[1]
- Handwashing

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[1] The BMIS was followed by a second stage disability assessment which will verify the disability data coming from the BMIS. A report showing the disability results from the second stage will be produced separately.

The Questionnaire for Individual Women was administered to all women aged 15-49 years living in the households, and included the following modules:

- Women's Background
- Child Mortality
- Desire for Last Birth
- Maternal and Newborn Health
- Contraception
- Unmet Needs
- Marriage/Union
- Attitudes towards and Experience of Domestic Violence
- Sexual Behaviour
- HIV/AIDS
- Maternal Mortality

The Questionnaire for Children Under-Five[2] was administered to their mothers or caretakers living in the household. The questionnaire was administered to mothers of under-five children; in cases where mothers were not present in the household, primary caretakers for the child were identified and interviewed. The questionnaire included the following modules:

- Age
- Birth Registration
- Early Childhood Development
- Breastfeeding
- Care of Illness
- Anthropometry

The questionnaires were based on the MICS4 model questionnaire[3] and customized to suit the local realities and needs. In order to include more indicators related to reproductive health and experience of domestic violence, some questions from the ICF Macro, Demographic Health Surveys (DHS) questionnaires were adopted into the BMIS questionnaire. The BMIS questionnaires were pre-tested in Chhukha, Paro, Samtse and Wangdue Dzongkhag in January 2010. Additional questions were added to the BMIS that are not part of the MICS4 model questionnaires and not part of DHS[4]. The questionnaires were modified based on the pre-test observations. The BMIS questionnaire is provided in Appendix G.

Besides interviews, the place for hand-washing was observed and the weights and heights of children under-five years were measured. Details and findings of these measurements are included in the respective sections of the report.

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[2] The terms "children under-five", "children aged 0-4 years", and "children aged 0-59 months" are used interchangeably in this report.

[3] The model MICS4 questionnaires can be found at www.childinfo.org

[4] Additional questions on non-formal education, post natal care, family planning, domestic violence and food security were added as was requested by different sectors/agencies in the country. The report on these additional topics will be included in the thematic analysis on education, gender and health which will be carried out subsequently.

Training and Fieldwork

Training for the listing operation of the selected Primary Sampling Units (PSU) for the Dzongkhag Statistical Officers (DSOs), supervisors and enumerators were conducted for a week in early March 2010. The actual field listing operation was implemented over a period of one month.

Training for the fieldwork was conducted for 14 days in April 2010. It included lectures on interviewing techniques and the contents of the questionnaires, and mock interviews between trainees to gain practice in asking questions. Towards the end of the training period, trainees spent one day practising interviews in Thimphu. The questionnaires were not translated from English to the local Bhutanese languages. However, since the interviewers would be asking the questions in local languages to respondents and not in English, in order to standardize how translations would be done, an effort was made to provide standard translations to all teams of Dzongkhag, Lhotshamkha and Sharchopkha.

Forty two teams were engaged in field enumeration. Each team consisted of one supervisor, two interviewers, one editor, one measurer and one driver. The actual fieldwork began in April 2010 and concluded in August 2010.

Data Processing

Data was entered using the CSPro software in 25 micro-computers and the entry was carried out by 25 operators and three supervisors. In order to ensure quality control, all questionnaires were double entered and internal consistency checks were performed. Procedures and standard programs developed under the global MICS4 programme and adapted to the Bhutan questionnaire were used throughout. Data entry began a month after the start of data collection and was completed in September 2010. Data was analysed using the Predictive Analytics Software (PASW), the version 18 of SPSS software, and the model syntax and tabulation plans developed by UNICEF were used for this purpose.

III. Sample Coverage and the Characteristics of Households and Respondents

Sample Coverage

Of the 15,400 households selected for the survey, 14,917 were found to be occupied. Of these, 14,676 were successfully interviewed with a household response rate of 98.4 percent. In the interviewed households, 16,823 women (aged 15-49 years) were identified. Of these, 14,018 were successfully interviewed, yielding a response rate of 83.3 percent within interviewed households. In addition, 6,457 children under age five were listed in the household questionnaire. Questionnaires were completed for 6,297 of these children, which corresponds to a response rate of 97.5 percent within the interviewed households. Overall response rates of 82.0 percent and 95.9 percent are calculated for the women's and under-five's interviews respectively (Table HH.1).

The response rate for women and children under-five is higher in urban areas when compared with rural areas, but the response rate for households is same for both areas. The response rate for women is low (83%) because some of the women could not be found in the household during the interview time. The response rate for young women is particularly low since some of them were away studying in boarding schools and some were outside the country, though by definition they still qualify as a member of the household. For MICS4 household membership was defined on a de jure basis. Gasa has a very low response rate for women (55.1%); the reason for this could be attributed to younger women studying in other Dzongkhags, while other women tend to yaks in remote places making it difficult to contact them during the survey time. The children's response rate is the highest in Pemagatshel (99.6%) and lowest in Gasa (85.2%).

Owing to smaller base population in Gasa, only 200 households were taken for the survey compared to 800 households in other Dzongkhags, because Gasa was shown in the sampling frame as containing a total of 727 households. Thus, the results pertaining to this Dzongkhag should be treated with caution.

TABLE HH.1: RESULTS OF HOUSEHOLD, WOMEN'S AND UNDER-FIVE INTERVIEWS

Numbers of households, women and children under 5 by results of the household, women's and under-five's interviews, and household, women's and under-five's response rates, Bhutan, 2010

	Region			Residence		Dzongkhag																				Total
	Western	Central	Eastern	Urban	Rural	Bumthang	Chukha	Dagana	Gasa	Haa	Lhuntse	Mongar	Paro	Pemagatshel	Punakha	Samdrup jongkhar	Samtse	Sarpang	Thimphu	Trashigang	Trashiyangtse	Trongsa	Tsirang	Wangdi	Zhemgang	
Number of Households																										
Households Sampled	5000	5600	4800	3320	12080	800	800	800	200	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	15400
Households Occupied	4872	5407	4638	3192	11725	776	765	769	189	785	775	775	784	776	787	758	791	779	771	766	788	772	780	758	773	14917
Households Interviewed	4806	5327	4543	3142	11534	769	749	748	180	764	761	772	778	755	782	739	790	765	763	755	761	768	769	741	767	14676
Household response rate	98.6	98.5	98.0	98.4	98.4	99.1	97.9	97.3	95.2	97.3	98.2	99.6	99.2	97.3	99.4	97.5	99.9	98.2	99.0	98.6	96.6	99.5	98.6	97.8	99.2	98.4
Number of Women																										
Women Eligible	5861	6310	4652	3872	12951	990	959	843	234	866	779	896	952	809	956	837	910	939	984	701	630	865	918	834	921	16823
Women Interviewed	5041	5181	3796	3487	10531	808	869	700	129	739	633	734	795	583	793	645	802	836	914	606	595	692	793	654	698	14018
Women response rate	86.0	82.1	81.6	90.1	81.3	81.6	90.6	83.0	55.1	85.3	81.3	81.9	83.5	72.1	82.9	77.1	88.1	89.0	92.9	86.4	94.4	80.0	86.4	78.4	75.8	83.3
Women's overall response rate	84.8	80.9	79.9	88.6	80.0	80.9	88.7	80.8	52.5	83.1	79.8	81.6	82.9	70.1	82.4	75.1	88.0	87.4	91.9	85.2	91.2	79.6	85.2	76.7	75.2	82.0
Number of Children Under 5																										
Children under 5 Eligible	2114	2445	1898	1396	5061	426	333	338	81	317	265	387	343	277	351	371	373	311	316	306	292	336	308	317	409	6457
Children under 5 Mother/ Caretaker Interviewed	2055	2374	1868	1367	4930	415	330	326	69	313	264	379	328	276	343	360	360	307	312	300	289	321	296	307	402	6297
Child response rate	97.2	97.1	98.4	97.9	97.4	97.4	99.1	96.4	85.2	98.7	99.6	97.9	95.6	99.6	97.7	97.0	96.5	98.7	98.7	98.0	99.0	95.5	96.1	96.8	98.3	97.5
Children's overall response rate	95.9	95.7	96.4	96.4	95.8	96.5	97.0	93.8	81.1	96.1	97.8	97.6	94.9	96.9	97.1	94.6	96.4	96.9	97.7	96.6	95.6	95.0	94.7	94.7	97.5	95.9

Characteristics of Households

The weighted age and sex distribution of surveyed population is provided in Table HH.2. The distribution is also used to produce the population pyramid in Figure HH.1. From 14,676 successfully interviewed households there were 67,320 people, of which, 33,375 were males, and 33,944 were females.

TABLE HH.2: HOUSEHOLD AGE DISTRIBUTION BY SEX

Percentage distribution of the household population by five-year age groups and dependency age groups, and number of children aged 0-17 years, by sex, Bhutan, 2010

	Males		Females		Total	
	Number	Percent	Number	Percent	Number	Percent
Age						
0-4	3329	10.0	3185	9.4	6514	9.7
5-9	3736	11.2	3650	10.8	7386	11.0
10-14	3707	11.1	4181	12.3	7887	11.7
15-19	3349	10.0	3181	9.4	6530	9.7
20-24	2785	8.3	3187	9.4	5972	8.9
25-29	2752	8.2	3065	9.0	5817	8.6
30-34	2483	7.4	2512	7.4	4995	7.4
35-39	2037	6.1	2068	6.1	4105	6.1
40-44	1815	5.4	1729	5.1	3545	5.3
45-49	1571	4.7	1280	3.8	2850	4.2
50-54	1510	4.5	1873	5.5	3383	5.0
55-59	1275	3.8	1223	3.6	2498	3.7
60-64	964	2.9	908	2.7	1872	2.8
65-69	791	2.4	636	1.9	1427	2.1
70-74	594	1.8	567	1.7	1161	1.7
75-79	369	1.1	358	1.1	727	1.1
80-84	222	.7	201	.6	423	.6
85+	85	.3	135	.4	220	.3
Missing/DK	3	*	5	*	8	*
Dependency age groups						
0-4	10771	32.3	11016	32.5	21787	32.4
15-64	20541	61.5	21027	61.9	41568	61.7
65+	2060	6.2	1897	5.6	3957	5.9
Missing/DK	3	*	5	*	8	*
Children and adult populations						
Children age 0-17	12847	38.5	12923	38.1	25770	38.3
Adults 18+	20525	61.5	21016	61.9	41542	61.7
Missing/DK	3	*	5	*	8	*
Total	**33375**	**100.0**	**33944**	**100.0**	**67320**	**100.0**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases.

Table HH.2 shows the age and sex distribution of the surveyed population. The findings revealed that the percentage of population aged 0-4 years is 9.7 percent (10% male and 9.4% female) while the percentage of population aged 0-14 years is 32.4 percent (32.3% male and 32.5% female) and the percentage of population 65 years and older is 5.9 percent. The percentage of children 0-17 years is 38.3 percent. The total dependency ratio is found to be 61.7 percent (61.5% male and 61.9% female) which is an increase of 1.1 percent from the PHBC 2005 (60.6%). However, the average household size remains the same (4.6 persons).

Figure HH.1: Population pyramid, Bhutan 2010.
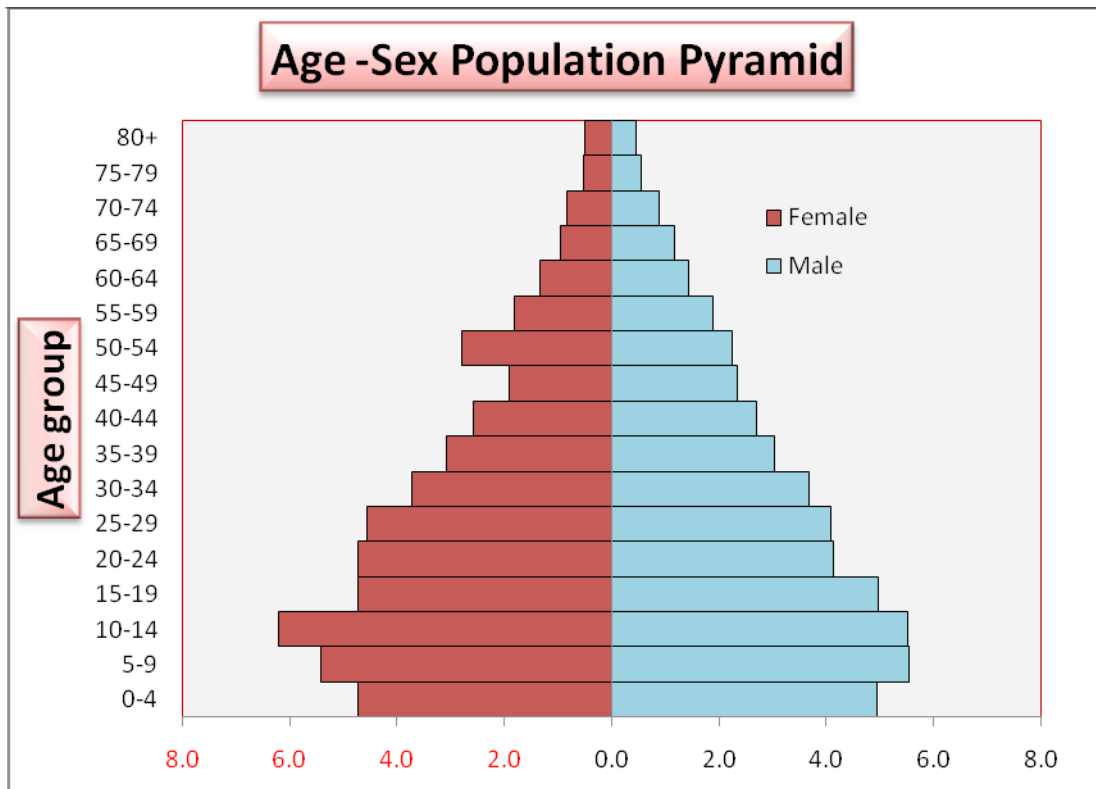
Data quality tables indicate that a disproportionally large number of women were reported to be aged 50 and a disproportionally large number of women were reported to be 14. This unexpected age pattern is likely to be caused by age heaping (on age 50 among female respondents), as well as the possibility that some interviewers may have tried to avoid conducting interviewing with all women by recording the ages of women outside of the eligibility age range i.e. 15-49 years.

Table HH.3 - HH.5 provide basic information on the households, female respondents aged 15-49 years, and children under-five by un-weighted as well as weighted numbers. Information on the basic characteristics of households, women and children under-five interviewed in the survey is essential for the interpretation of survey findings. It can also provide an indication of the representativeness of the survey.

Table HH.3 provides basic background information on the households: the sex of the household head, region, residence, number of household members and the education of household head. These background characteristics are used in subsequent tables in this report; the figures in the table are also intended to show the number of observations by major categories of analysis in the report.

TABLE HH.3: HOUSEHOLD COMPOSITION

Percentage distribution of households by selected characteristics, Bhutan, 2010

	Weighted Percent	Number of households	
		weighted	unweighted
Sex of household head			
Male	72.0	10568	9727
Female	28.0	4108	4949
Dzongkhag			
Bumthang	2.2	320	769
Chukha	10.1	1478	749
Dagana	3.7	548	748
Gasa	.7	102	180
Haa	2.0	297	764
Lhuntse	2.5	364	761
Mongar	6.6	965	772
Paro	5.4	790	778
Pemagatshel	3.8	564	755
Punakha	3.5	515	782
Samdrup jongkhar	5.6	827	739
Samtse	11.2	1641	790
Sarpang	6.1	895	765
Thimphu	13.2	1932	763
Trashigang	8.5	1245	755
Trashiyangtse	3.0	444	761
Trongsa	2.1	315	768
Tsirang	3.2	473	769
Wangdue	4.3	624	741
Zhemgang	2.3	338	767
Region			
Western	46.0	6755	4806
Central	23.9	3512	5327
Eastern	30.0	4409	4543
Residence			
Urban	29.4	4320	3142
Rural	70.6	10356	11534
Number of household members			
1	6.1	900	887
2	10.8	1586	1656
3	14.3	2094	2025
4	20.1	2943	2771
5	18.9	2773	2721
6	13.6	1999	1998
7	7.7	1133	1223
8+	8.5	1248	1395
Education of household head			
None	63.1	9265	10077
Primary	14.5	2134	1898
Secondary +	22.3	3275	2698
Missing/DK	*	2	3
Total	**100.0**	**14676**	**14676**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases.

Percentage distribution of households by selected characteristics, Bhutan, 2010			
	Weighted Percent	**Number of households**	
		weighted	unweighted
At least one child age 0-4 years	35.8	14676	14676
At least one child age 0-17 years	75.0	14676	14676
At least one woman age 15-49 years	81.9	14676	14676
Mean household size	4.6	14676	14676

The weighted and unweighted numbers of households are equal, since sample weights were normalized (See Appendix A). The table HH.3 also shows the proportions of households with at least one child under 18, at least one child under-five, and at least one eligible woman aged 15-49. The table also shows the weighted average household size estimated by the survey.

Characteristics of Female Respondents 15-49 Years of Age and Children Under-five

Tables HH.4 and HH.5 provide information on the background characteristics of female respondents aged 15-49 years and of children under age five. In both tables, the total numbers of weighted and unweighted observations are equal, since sample weights have been normalized (standardized). In addition to providing useful information on the background characteristics of women and children, the tables are also intended to show the numbers of observations in each background category. These categories are used in the subsequent tabulations of this report.

TABLE HH.4: WOMEN'S BACKGROUND CHARACTERISTICS			
Percentage distribution of women age 15-49 years by background characteristics, Bhutan, 2010			
	Weighted percent	Number of women	
		Weighted	Unweighted
Dzongkhag			
Bumthang	2.4	337	808
Chukha	11.1	1550	869
Dagana	3.6	509	700
Gasa	.8	107	129
Haa	2.0	282	739
Lhuntse	2.2	307	633
Mongar	6.6	926	734
Paro	5.7	799	795
Pemagatshel	3.5	489	583
Punakha	3.6	506	793
Samdrup jongkhar	5.5	775	645
Samtse	11.1	1562	802
Sarpang	6.6	924	836
Thimphu	14.7	2054	914
Trashigang	6.7	940	606
Trashiyangtse	2.1	301	595
Trongsa	2.1	294	692
Tsirang	3.3	463	793
Wangdue	4.0	562	654
Zhemgang	2.4	331	698
Region			
Western	48.9	6861	5041
Central	24.4	3420	5181
Eastern	26.7	3736	3796
Residence			
Urban	31.7	4448	3487
Rural	68.3	9570	10531

Percentage distribution of women age 15-49 years by background characteristics, Bhutan, 2010

	Weighted percent	Number of women	
		Weighted	Unweighted
Age			
15-19	14.6	2052	1974
20-24	17.9	2502	2435
25-29	19.4	2721	2651
30-34	15.8	2219	2261
35-39	13.2	1856	1872
40-44	11.1	1561	1651
45-49	7.9	1106	1174
Marital/Union status			
Currently married/in union	71.5	10029	10051
Widowed	1.6	218	223
Divorced	4.2	583	708
Separated	.8	108	110
Never married/in union	22.0	3079	2925
Missing	*	0	1
Motherhood status			
Ever gave birth	72.3	10132	10356
Never gave birth	27.7	3886	3662
Births in last two years			
Had a birth in last two years	16.9	2368	2465
Had no birth in last two years	83.1	11650	11553
Education			
None	61.2	8585	8903
Primary	12.0	1687	1716
Secondary +	26.7	3746	3399
Wealth index quintiles			
Poorest	17.3	2419	2617
Second	18.1	2533	2907
Middle	19.0	2659	2955
Fourth	21.7	3040	2876
Richest	24.0	3367	2663
Total	**100.0**	**14018**	**14018**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases.

Table HH.4 includes information on the distribution of women according to Dzongkhag, region, residence, age, marital status, motherhood status, births in last two years, education [5] and wealth index quintiles [6].

Of the total women respondents aged 15-49 years, 68.3 percent lived in a rural area and 31.7 percent in an urban area. The largest segment of individual women respondents (19.4%) were in the age group of 25-29 years, followed by those in the 20-24 age group (17.9%) and the 30-34 age group (15.8%). The smallest segment of individual women respondents were found in the 40-44 age group (11.1%), and the 45-49 year-olds (7.9%). A large portion of the women respondents aged 15-49 were married (71.5%), while 6.5 percent were formerly married and 22 percent were never married. Slightly more than 70 percent of women aged 15-49 had given birth at least once in their lifetime. In the case of education, 61.2 percent of women aged 15-49 had never been to school, while 12 percent had primary schooling. Another 26.7 percent had completed their secondary and higher education.

In terms of wealth index, it was found that 17.3 percent belonged to the poorest, while 24 percent to the richest quintile.

Some background characteristics of under-five children are presented in Table HH.5. This includes the distribution of children by several attributes: Dzongkhag, region, residences, age, mother's education and wealth.

Regarding the surveyed under-five children (Table HH.5), 70.8 percent lived in rural areas, while 29.2 percent resided in urban areas. By age-groups, 9.6 percent were younger than six months, 9.9 percent were 6-11 months old, 19.6 percent were 12-23 months old, 21.2 percent were 24-35 months old, 20.3 percent were 36-47 months old, and 19.4 percent were 48-59 months old. 66.8 percent of mothers of children under-five years of age had never received any formal education. In terms of the wealth index status of the household, children under-five are spread quite evenly across all quintiles with 20.6 living in the poorest quintile.

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[5] Unless otherwise stated, "education" refers to educational level attended by the respondent throughout this report when it is used as a background variable.

[6] Principal components analysis was performed by using information on the ownership of consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to the household's wealth to assign weights (factor scores) to each of the household assets. Each household was then assigned a wealth score based on these weights and the assets owned by that household. The survey household population was then ranked according to the wealth score of the household they are living in, and was finally divided into 5 equal parts (quintiles) from lowest (poorest) to highest (richest). The assets used in these calculations were as follows: source of drinking water, type of sanitation facility, persons per sleeping room, type of floor, type of roof, type of wall, type of cooking fuel, household member assets (watch, mobile phone, bike, motor cycle/scooter, car/truck, computer, bow, camera, VCR/VCD/DVD player, sersho gho/kira), ownership of bank account . The wealth index is assumed to capture the underlying long-term wealth through information on the household assets, and is intended to produce a ranking of households by wealth, from poorest to richest. The wealth index does not provide information on absolute poverty, current income or expenditure levels. The wealth scores calculated are applicable for only the particular data set they are based on. Further information on the construction of the wealth index can be found in Rutstein and Johnson, 2004, Filmer and Pritchett, 2001, and Gwatkin et. Al., 2000.

TABLE HH.5: CHILDREN'S BACKGROUND CHARACTERISTICS

Percent distribution of children under five years of age by background characteristics, Bhutan, 2010

	Weighted percent	Number of children	
		Weighted	Unweighted
Sex			
Male	51.1	3216	3236
Female	48.9	3081	3061
Dzongkhag			
Bumthang	2.7	171	415
Chukha	10.3	648	330
Dagana	3.8	237	326
Gasa	.7	43	69
Haa	1.9	121	313
Lhuntse	2.0	124	264
Mongar	7.4	466	379
Paro	5.4	337	328
Pemagatshel	3.4	214	276
Punakha	3.5	218	343
Samdrup jongkhar	6.5	410	360
Samtse	12.0	755	360
Sarpang	5.6	350	307
Thimphu	12.7	801	312
Trashigang	7.6	479	300
Trashiyangtse	2.7	169	289
Trongsa	2.1	133	321
Tsirang	3.0	186	296
Wangdue	4.1	261	307
Zhemgang	2.8	175	402
Region			
Western	46.4	2922	2055
Central	24.0	1513	2374
Eastern	29.6	1862	1868
Residence			
Urban	29.2	1841	1367
Rural	70.8	4456	4930
Age			
0-5	9.6	603	608
6-11	9.9	626	640
12-23	19.6	1234	1288
24-35	21.2	1337	1339
36-47	20.3	1275	1278
48-59	19.4	1222	1144
Mother's education			
None	66.8	4207	4244
Primary	12.4	781	834
Secondary	20.8	1309	1219
Wealth index quintiles			
Poorest	20.6	1294	1373
Second	18.4	1159	1359
Middle	19.0	1197	1302
Fourth	22.8	1438	1299
Richest	19.2	1208	964
Total	**100.0**	**6297**	**6297**

Orphanhood

Children who are orphaned or living in vulnerable households may be at increased risk of neglect or exploitation. Monitoring the variations in different outcomes for orphans and vulnerable children and comparing them to their peers gives us a measure of how well communities and governments are responding to their needs.

The frequency of children living with neither parent, mother only, and father only is presented in Table HH.6. About 79 percent of children aged 0-17 years in Bhutan live with their parents, while 11 percent live with their mother only, and 2.4 percent live with their father only. Almost one in thirteen children (7.4%) is living with neither parent and 5.4 percent of the children have at least one parent dead. The proportion of children not living with a biological parent is higher among girls (8.9%) compared to boys (6%) and increases significantly with the age of the child and with household wealth. It is also significantly higher in urban areas (10.1%) compared to rural areas (6.3%). In contrast, the rate of children having one or both parent dead is higher in rural areas and decreases with household wealth.

TABLE HH.6: CHILDREN'S LIVING ARRANGEMENTS AND ORPHANHOOD

Percent distribution of children age 0-17 years according to living arrangements, percentage of children age 0-17 years in households not living with a biological parent and percentage of children who have one or both parents dead, Bhutan, 2010

	Living with both parents	Living with neither parent				Living with mother only		Living with father only		Impossible to determine	Total	Not living with a biological parent [1]	One or both parents dead [2]	Number of children age 0-17 years
		Only father alive	Only mother alive	Both are alive	Both are dead	Father alive	Father dead	Mother alive	Mother dead					
Sex														
Male	80.4	.4	.4	4.9	.3	8.4	2.6	1.2	1.2	.3	100.0	6.0	4.9	12847
Female	77.5	.6	.9	7.0	.3	8.2	2.8	1.2	1.2	.2	100.0	8.9	5.9	12923
Dzongkhag														
Bumthang	67.6	1.0	.8	7.3	.4	16.8	4.5	.7	.6	.3	100.0	9.5	7.3	619
Chukha	80.0	.3	1.1	6.7	.3	5.0	3.1	2.3	1.2	.1	100.0	8.3	5.9	2631
Dagana	81.0	.6	.7	8.3	.3	5.3	2.5	.8	.5	.0	100.0	9.9	4.5	993
Gasa	76.5	.5	.0	5.0	1.2	6.9	7.1	.7	2.0	.0	100.0	6.7	10.8	175
Haa	77.8	.3	.7	7.7	.3	8.7	1.3	1.8	1.1	.2	100.0	9.1	3.8	500
Lhuntse	76.6	.6	.9	3.1	.2	12.0	4.6	.9	1.0	.2	100.0	4.8	7.2	585
Mongar	73.2	1.1	.7	4.4	.6	12.8	4.7	.8	1.6	.1	100.0	6.7	8.6	1843
Paro	73.1	.5	.5	8.0	.7	13.9	1.7	1.0	.4	.2	100.0	9.7	3.8	1397
Pemagatshel	81.8	.1	.4	3.0	.5	8.4	3.0	.9	1.2	.7	100.0	4.1	5.3	942
Punakha	69.9	.5	.7	6.2	.5	14.6	3.7	2.1	1.7	.1	100.0	7.9	7.1	996
Samdrup jongkhar	84.8	.5	.8	5.1	.1	4.8	2.2	.3	1.0	.3	100.0	6.5	4.6	1667
Samtse	83.9	.7	.7	6.5	.3	3.6	1.7	.8	1.3	.5	100.0	8.2	4.8	2878
Sarpang	77.5	.3	.8	8.5	.0	7.7	2.3	1.3	1.3	.1	100.0	9.8	4.8	1518
Thimphu	82.4	.2	.8	6.7	.3	6.8	1.4	1.1	.2	.1	100.0	8.0	3.0	3216
Trashigang	81.0	.6	.5	3.6	.2	8.0	1.9	.9	3.2	.2	100.0	4.8	6.4	2086
Trashiyangtse	79.4	.6	.2	3.9	.1	10.0	3.3	.9	1.4	.1	100.0	4.8	5.8	654
Trongsa	72.2	1.1	.4	6.5	.1	14.1	3.6	1.1	.7	.1	100.0	8.1	6.0	581
Tsirang	81.2	.1	.1	7.1	.1	6.7	2.2	1.1	1.2	.1	100.0	7.4	3.7	797
Wangdue	70.8	.5	.1	5.1	.5	14.2	4.3	2.7	1.2	.5	100.0	6.3	6.8	1030
Zhemgang	82.5	.2	.4	2.8	.3	5.5	5.6	1.0	.7	1.2	100.0	3.6	7.1	664

Contd. TABLE HH.6: CHILDREN'S LIVING ARRANGEMENTS AND ORPHANHOOD

Percent distribution of children age 0-17 years according to living arrangements, percentage of children age 0-17 years in households not living with a biological parent and percentage of children who have one or both parents dead, Bhutan, 2010

	Living with both parents	Living with neither parent				Living with mother only		Living with father only		Impossible to determine	Total	Not living with a biological parent [1]	One or both parents dead [2]	Number of children age 0-17 years
		Only father alive	Only mother alive	Both are alive	Both are dead	Father alive	Father dead	Mother alive	Mother dead					
Region														
Western	79.8	.4	.8	6.8	.4	7.2	2.2	1.4	.9	.2	100.0	8.3	4.7	11792
Central	76.5	.5	.5	6.8	.2	9.5	3.3	1.3	.9	.3	100.0	8.1	5.6	6202
Eastern	79.6	.6	.6	4.0	.3	9.0	3.1	.8	1.8	.2	100.0	5.6	6.4	7776
Residence														
Urban	80.2	.5	1.0	8.3	.3	5.5	1.7	1.7	.7	.1	100.0	10.1	4.2	7410
Rural	78.4	.5	.5	5.0	.3	9.4	3.1	1.0	1.4	.3	100.0	6.3	5.9	18361
Age														
0-4 years	84.1	.2	.1	1.5	.1	11.7	1.3	.6	.4	.2	100.0	1.8	2.1	6514
5-9 years	80.9	.3	.6	5.4	.2	8.6	2.1	1.2	.7	.1	100.0	6.5	3.9	7386
10-14 years	76.7	.8	.8	8.2	.5	6.3	3.4	1.6	1.6	.1	100.0	10.3	7.1	7887
15-17 years	71.5	.9	1.4	9.9	.6	6.2	4.9	1.5	2.4	.7	100.0	12.8	10.3	3983
Wealth index quintiles														
Poorest	82.0	.4	.4	3.0	.3	7.9	3.5	1.0	1.3	.3	100.0	4.1	5.8	5220
Second	77.3	.6	.2	3.9	.3	10.4	4.1	.9	2.1	.2	100.0	5.0	7.3	4901
Middle	75.1	.6	.7	6.0	.3	11.2	3.1	1.2	1.4	.2	100.0	7.6	6.1	5028
Fourth	81.1	.5	1.0	6.7	.4	6.4	2.0	1.3	.6	.1	100.0	8.6	4.5	5495
Richest	78.9	.4	1.0	10.1	.3	5.8	1.1	1.5	.6	.3	100.0	11.8	3.5	5127
Total	**79.0**	**.5**	**.7**	**6.0**	**.3**	**8.3**	**2.7**	**1.2**	**1.2**	**.2**	**100.0**	**7.4**	**5.4**	**25770**

[1] MICS indicator 9.17

[2] MICS indicator 9.18

IV. Child Mortality

One of the Millennium Development Goals (MDGs) is the reduction of infant and under-five mortality. Specifically, the MDG 4 calls for the reduction in under-five mortality by two-thirds between 1990 and 2015. Monitoring progress towards this goal is an important but difficult objective. Measuring childhood mortality may seem easy, but attempts at using direct questions, such as "Has anyone in this household died in the last year?" give inaccurate results. Using direct measures of child mortality from birth histories is time consuming, more expensive, and requires greater attention to training and supervision. Alternatively, indirect methods developed to measure child mortality produce robust estimates that are comparable with the ones obtained from other sources. Indirect methods minimize the pitfalls of memory lapses, inexact or misinterpreted definitions, and poor interviewing technique.

Infant mortality rate (IMR) is the probability of dying before the first birthday expressed per 1,000 live births. Under-five mortality rate (U5MR) is the probability of dying before the fifth birthday expressed per 1,000 live births. In MICS surveys, infant and under-five mortality rates are calculated based on an indirect estimation technique known as the Brass method (United Nations, 1983; 1990a; 1990b). The data used in the estimation are: the mean number of children ever born for five year age groups of women from the age of 15 to 49, and the proportion of these children who are dead, also classified for five-year age groups of women (Table CM.1). The technique converts these data into probabilities of dying by taking into account of both the mortality risks to which children are exposed and their length of exposure of children to the risk of dying. The North model[7] life table was used to estimate child mortality.

The differences exist in definitions between the surveys and the registration systems and in the methodology of data collection. In all mentioned surveys, information about birth and child deaths were obtained from mothers. In contrast, the registration system requires that either a health worker or a family member take care to register the event of births and deaths.

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[7] Previous mortality estimates for Bhutan, for example those coming from the 2005 census have been based on the North model. The Inter-agency Group for Child Mortality (IGME) has also supported the use of the North model for mortality calculations based on the relationship between adult and child mortality in Bhutan.However, there is also evidence to suggest that the West model may be an appropriate choice for Bhutan; the West model is used by all neighboring countries of Bhutan. The appropriate choice of model requires in-depth further analytical work but for consistency purposes with previous estimates the North model has been used
in the BMIS.

TABLE CM.1: CHILDREN EVER BORN, CHILDREN SURVIVING AND PROPORTION DEAD

Mean and total numbers of children ever born, children surviving and proportion dead by age of women, Bhutan, 2010

	Mean number of children ever born	Total number of children ever born	Mean number children surviving	Total number of children surviving	Proportion dead	Number of women
Sex						
Male	1.119	15686	1.005	14094	0.102	14018
Female	1.064	14919	0.97	13595	0.089	14018
Region						
Western	1.876	12868	1.724	11829	0.081	6861
Central	2.283	7807	2.09	7148	0.084	3420
Eastern	2.658	9930	2.332	8712	0.123	3736
Residence						
Urban	1.656	7367	1.568	6975	0.053	4448
Rural	2.428	23238	2.164	20714	0.109	9570
Mother's education						
None	2.879	24716	2.568	22047	0.108	8585
Primary	1.814	3061	1.714	2891	0.056	1687
Secondary+	0.755	2829	0.734	2751	0.028	3746
Wealth index quintiles						
Poorest	2.822	6825	2.45	5926	0.132	2419
Second	2.587	6553	2.279	5772	0.119	2533
Middle	2.347	6239	2.112	5615	0.1	2659
Fourth/Richest[1]	1.715	10,988	1.619	10,376	0.056	6,407
Total	**2.183**	**30605**	**1.975**	**27689**	**0.095**	**14018**

[1] Fourth and richest quintile are clubbed together

*By Dzongkhag is not shown because the number of unweighted observations are lower than 50

Table CM.2 provides estimates of child mortality. The infant mortality rate is estimated at 47 deaths per thousand, while the probability of dying under age 5 (U5MR) is around 69 deaths per thousand. These estimates have been calculated by averaging mortality estimates obtained from women aged 25-29 and 30-34. There is some difference between the probabilities of dying among males and females with males having higher mortality rates. Infant and under-five mortality rates are lower in the Western and Central regions as compared to the Eastern region. There are also significant differences in mortality in terms of educational levels and wealth. As the education level, as well as wealth index of the mother increases, the under-five mortality rate decreases. Differentials in under-five mortality rates by selected background characteristics are shown in Figure CM.1.

TABLE CM.2: CHILD MORTALITY		
Infant and under-five mortality rates, North Model, Bhutan, 2010		
	Infant Mortality Rate [1]	Under-five Mortality Rate [2]
Male	54	79
Female	40	58
Region		
Western	42	61
Central	42	61
Eastern	57	87
Residence		
Urban	31	41
Rural	54	81
Mother's education		
None	51	77
Primary	42	61
Secondary+	24	31
Wealth index quintiles		
Poorest	68	106
Second	58	88
Middle	50	74
Fourth/Richest	28	39
Total	**47**	**69**

[1] MICS indicator 1.2; MDG indicator 4.2

[2]MICS indicator 1.1; MDG indicator 4.1

*By Dzongkhag is not shown because the number of unweighted observations are lower than 50

*The reference period is 2006, North Model was assumed to approximate the age pattern of mortality in Bhutan.

A child born to the poorest family from rural areas and with uneducated mother has the highest chance of dying by the age of five compared to a child born to a rich educated family in urban area.

Figure CM1: Under-five mortality rate by background characteristics, Bhutan 2010.
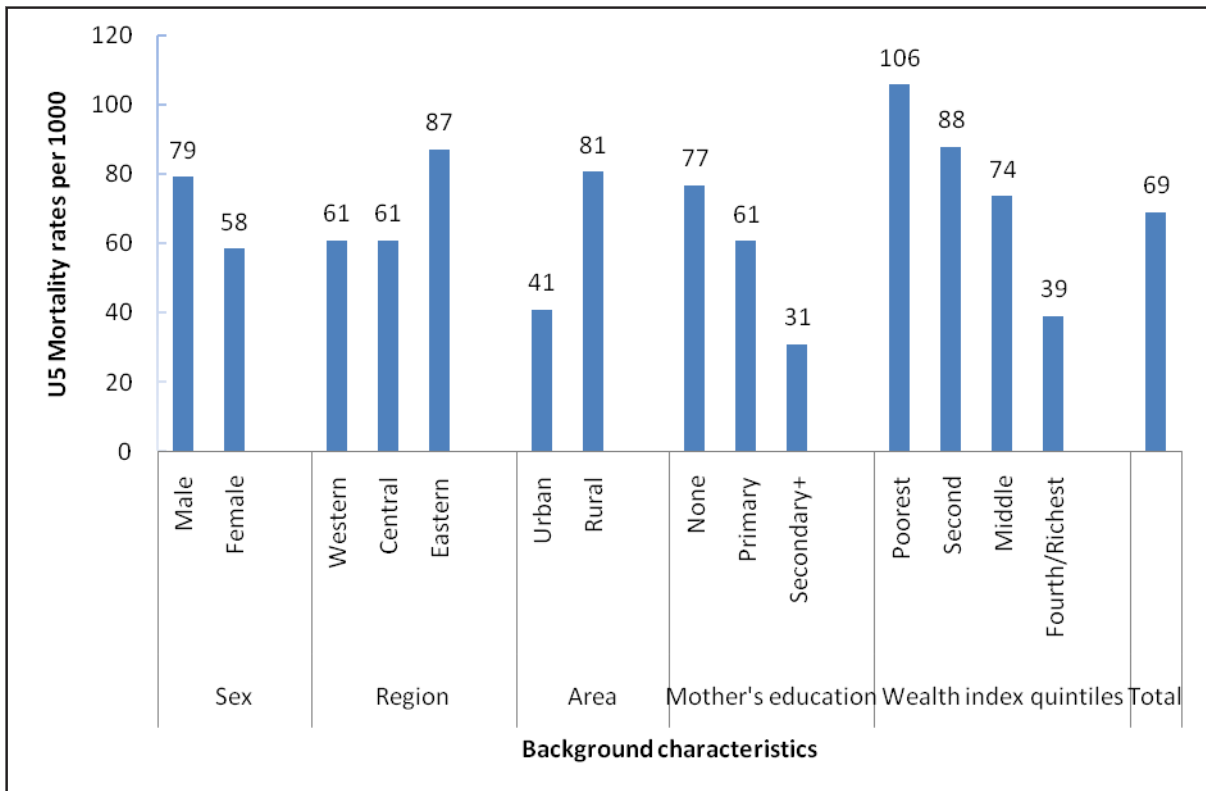
V. Nutrition

Nutritional Status

Children's nutritional status is a reflection of their overall health. When children have access to an adequate food supply, are not exposed to repeated illness, and are well cared for, they reach their growth potential and are considered well nourished.

Malnutrition is associated with more than half of all child deaths worldwide. Undernourished children are more likely to die from common childhood ailments, and for those who survive, have recurring sicknesses and faltering growth. Three-quarters of the children who die from causes related to malnutrition were only mildly or moderately malnourished – showing no outward sign of their vulnerability. The Millennium Development target is to reduce by half the proportion of people who suffer from hunger between 1990 and 2015. A reduction in the prevalence of malnutrition will also assist in the goal to reduce child mortality.

In a well-nourished population, there is a reference distribution of height and weight for children under age five. Under-nourishment in a population can be gauged by comparing children to a reference population. The reference population used in this report is based on new WHO growth standards[8]. Each of the three nutritional status indicators can be expressed in standard deviation units (z-scores) from the median of the reference population.

Weight-for-age is a measure of both acute and chronic malnutrition. Children whose weight-for-age is more than two standard deviations below the median of the reference population are considered moderately or severely underweigh, while those whose weight-for-age is more than three standard deviations below the median are classified as severely underweight.

Height-for-age is a measure of linear growth. Children whose height-for-age is more than two standard deviations below the median of the reference population are considered short for their age and are classified as moderately or severely stunted. Those whose height-for-age is more than three standard deviations below the median are classified as severely stunted. Stunting is a reflection of chronic malnutrition as a result of failure to receive adequate nutrition over a long period and recurrent or chronic illness.

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[8] http://www.who.int/childgrowth/standards/second_set/technical_report_2.pdf

Finally, children whose weight-for-height is more than two standard deviations below the median of the reference population are classified as moderately or severely wasted, while those who fall more than three standard deviations below the median are classified as severely wasted. Wasting is a reflection of acute malnutrition usually the result of a recent nutritional deficiency. The indicator may exhibit significant seasonal shifts associated with changes in the availability of food or disease prevalence.

In BMIS, weights and heights of all children under-five years of age were measured using anthropometric equipment recommended by UNICEF (www.childinfo.org). Findings in this section are based on the results of these measurements.

Table NU.1 shows percentages of children classified into each of these categories, based on the anthropometric measurements that were taken during fieldwork. Additionally, the table includes the percentage of children who are overweight, which takes into account those children whose weight for height is above two standard deviations from the median of the reference population, and mean z-scores for all three anthropometric indicators.

TABLE NU.1: NUTRITIONAL STATUS OF CHILDREN

Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height, Bhutan, 2010

	Weight for age: % below -2 sd [1]	Weight for age: % below -3 sd [2]	Weight for age: Mean Z-Score (SD)	Weight for age: Number of children	Height for age: % below -2 sd [3]	Height for age: % below -3 sd [4]	Height for age: Mean Z-Score (SD)	Height for age: Number of children	Weight for height: % below -2 sd [5]	Weight for height: % below -3 sd [6]	Weight for height: % above +2 sd	Weight for height: Mean Z-Score (SD)	Weight for height: Number of children
Sex													
Male	13.3	3.4	-.8	3085	33.4	13.6	-1.4	2928	6.2	2.2	7.5	.0	2954
Female	12.0	3.0	-.8	2986	33.6	13.1	-1.4	2878	5.5	1.9	7.6	.0	2909
Residence													
Urban	10.5	3.2	-.7	1800	28.0	14.0	-1.2	1713	6.5	2.3	10.0	.1	1713
Rural	13.6	3.2	-.9	4271	35.8	13.1	-1.5	4093	5.6	1.9	6.6	-.0	4150
Dzongkhag													
Bumthang	9.1	2.7	-.6	165	21.5	6.0	-1.0	156	3.3	2.0	3.3	-.0	157
Chukha	14.1	3.3	-.9	625	27.4	6.4	-1.0	617	10.9	2.2	2.4	-.4	615
Dagana	12.4	2.1	-.8	231	29.0	10.3	-1.2	225	5.5	1.7	5.1	-.1	227
Gasa	3.6	1.5	-.4	37	31.8	12.1	-1.2	37	3.2	0.0	5.5	.4	38
Haa	9.8	1.4	-.8	118	30.6	10.7	-1.4	118	3.3	.4	4.8	-.0	116
Lhuntse	17.7	6.1	-1.0	123	58.9	41.5	-2.4	112	4.3	.9	30.9	1.0	118
Mongar	12.0	3.7	-.8	462	39.7	13.9	-1.5	453	5.5	2.0	5.6	.1	449
Paro	7.5	1.6	-.5	320	30.1	9.9	-1.2	301	6.9	2.1	9.2	.2	301
Pemagatshel	19.8	6.6	-1.1	196	44.9	19.1	-1.8	158	2.6	.2	17.7	.6	167
Punakha	11.4	2.0	-.7	203	20.7	6.2	-.9	193	4.7	2.2	3.3	-.1	197
Samdrup jongkhar	11.0	2.0	-.9	404	37.4	12.4	-1.5	400	3.4	2.1	4.7	-.1	403
Samtse	13.1	2.0	-.9	730	28.4	7.5	-1.2	712	4.7	1.5	2.3	-.3	709
Sarpang	10.9	1.0	-.7	347	23.2	6.4	-1.2	328	4.4	1.8	5.0	.0	329
Thimphu	11.9	4.7	-.8	785	37.8	23.2	-1.7	722	6.2	2.9	15.5	.3	718
Trashigang	17.7	6.0	-.8	454	47.2	27.0	-1.9	424	8.8	2.9	15.6	.4	452
Trashiyangtse	13.6	1.2	-.8	164	40.3	15.8	-1.4	155	4.8	2.8	7.8	.1	161
Trongsa	10.3	2.9	-.6	130	27.2	9.5	-1.1	129	2.6	.7	1.9	-.0	130
Tsirang	12.9	3.3	-.9	178	28.4	7.2	-1.3	175	5.3	2.3	3.1	-.2	181
Wangdue	11.0	1.3	-.7	237	28.7	8.2	-1.3	231	3.7	1.8	2.7	-.0	237
Zhemgang	15.9	6.1	-.8	165	42.8	18.6	-1.7	158	8.8	3.3	11.4	.2	156

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C0ntd. TABLE NU.1: NUTRITIONAL STATUS OF CHILDREN

Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height, Bhutan, 2010

	Weight for age: % below -2 sd [1]	Weight for age: % below -3 sd [2]	Weight for age: Mean Z-Score (SD)	Weight for age: Number of children	Height for age: % below -2 sd [3]	Height for age: % below -3 sd [4]	Height for age: Mean Z-Score (SD)	Height for age: Number of children	Weight for height: % below -2 sd [5]	Weight for height: % below -3 sd [6]	Weight for height: % above +2 sd	Weight for height: Mean Z-Score (SD)	Weight for height: Number of children
Region													
Western	12.0	3.0	-.8	2817	30.5	11.8	-1.3	2700	6.7	2.1	6.9	-.1	2694
Central	11.7	2.5	-.7	1452	28.1	9.0	-1.2	1404	4.8	1.9	4.6	-.0	1418
Eastern	14.6	4.2	-.9	1802	42.8	19.3	-1.7	1702	5.5	2.1	11.0	.2	1751
Age													
0-5	10.7	3.5	-.2	587	21.0	9.5	-.3	525	15.1	8.4	13.6	-.1	497
6-11	8.6	2.4	-.3	615	16.7	9.3	-.5	589	10.0	3.3	10.0	-.0	570
12-23	11.4	3.4	-.8	1202	35.9	14.6	-1.5	1139	6.2	2.0	8.3	.0	1158
24-35	13.8	2.8	-.9	1294	37.4	16.1	-1.7	1226	3.3	1.1	6.8	.1	1254
36-47	15.4	3.7	-1.0	1221	40.3	14.1	-1.7	1196	4.9	1.1	6.7	-.0	1214
48-59	13.1	3.1	-1.0	1153	34.3	12.1	-1.6	1131	3.3	.7	4.8	.0	1169
Mother's education													
None	14.4	3.7	-.9	4044	37.4	14.7	-1.5	3886	6.1	2.2	7.0	-.0	3937
Primary	11.2	1.9	-.8	750	30.5	9.1	-1.3	726	4.6	1.4	6.3	-.1	730
Secondary	8.1	2.3	-.4	1277	22.7	11.4	-1.0	1193	5.9	2.0	10.3	.2	1196
Wealth index quintiles													
Poorest	16.1	4.2	-1.0	1232	41.4	14.9	-1.7	1196	5.1	1.8	6.2	-.1	1217
Second	16.1	3.4	-1.0	1106	39.9	14.9	-1.6	1039	6.6	1.9	7.1	.0	1066
Middle	14.0	3.1	-.8	1150	38.4	15.6	-1.5	1107	6.4	2.6	8.4	.1	1121
Fourth	10.3	3.1	-.7	1411	27.6	10.8	-1.2	1354	5.7	1.9	6.3	-.0	1350
Richest	7.3	2.1	-.4	1171	21.4	10.9	-1.0	1110	5.6	2.1	10.2	.2	1110
Total	**12.7**	**3.2**	**-.8**	**6071**	**33.5**	**13.3**	**-1.4**	**5805**	**5.9**	**2.0**	**7.6**	**.0**	**5863**

[1] MICS indicator 2.1a and MDG indicator 1.8
[2] MICS indicator 2.1b
[3] MICS indicator 2.2a, [4] MICS indicator 2.2b
[5] MICS indicator 2.3a, [6] MICS indicator 2.3b

Children with incomplete birth dates (month and year) and children whose measurements are outside a plausible range are excluded from Table NU.1. Children are excluded from one or more of the anthropometric indicators when their weight and height have not been measured, which ever is applicable. For example, if a child has been weighed but his/her height has not been measured, the child is included in underweight calculations, but not in the calculations for stunting and wasting. Percentages of children by age and reasons for exclusion are shown in the data quality tables DQ.6 and DQ.7. Overall 98 percent of children had both their weight and height measured (Table DQ.6). Table DQ.7 shows that due to incomplete dates of birth, implausible measurements, and missing weight and/or height, 4.1 percent of children have been excluded from calculations of the weight-for-age indicator, while the figures are 8.4 for the height-for-age indicator, and 8.4 for the weight-for-height indicator.

Almost one in eight children under age five in Bhutan are moderately underweight (12.7%) and 3.2 percent are classified as severely underweight (Table NU.1). More than one -third of children (33.5%) are moderately stunted or too short for their age, out of which 13.3 percent are severely stunted.

Figure NU.1: Percent of children underweight, stunted and wasted by age groups, Bhutan 2010
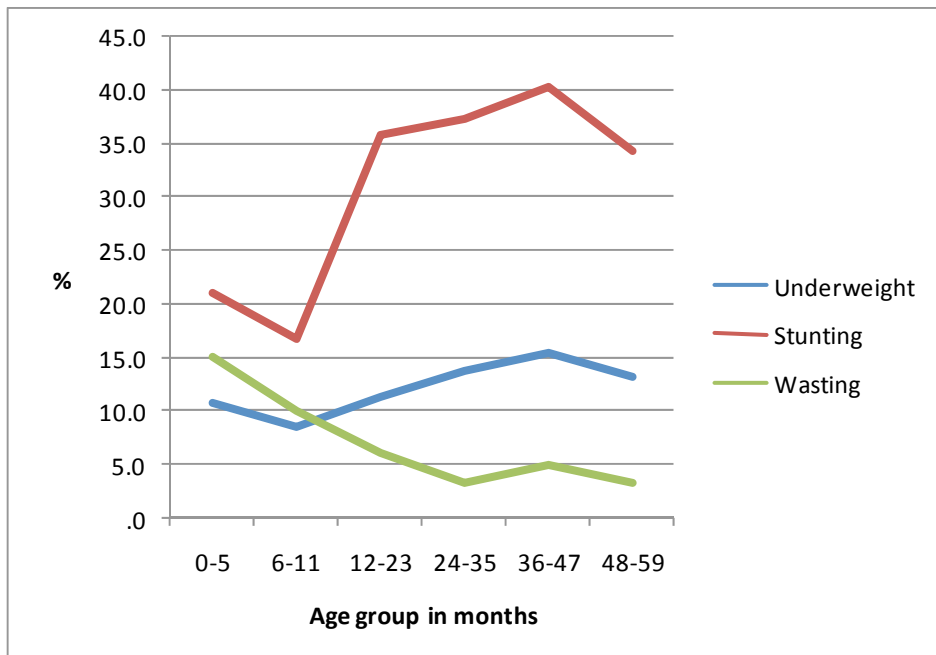
Children in the Eastern region have the highest prevalence of stunting (42.8%) and are classified as critical, which requires targeted programme intervention. In contrast, the percentage of children with wasting is the highest in Western region (6.7%). Children whose mothers are uneducated and are from the poorest family had highest prevalence of stunting at 37.4 percent and 41.4 percent respectively, compared to educated mothers (22.7%) and from the richest family (21.4%). The age pattern shows a big jump in stunting and a smaller jump in underweight among children aged 12-23 months (Figure NU.1). This corresponds to the age at which many children cease to be breastfed and are exposed to contamination in water, food, and the environment in general. The higher level of underweight and stunting remain also among older age groups. The largest percentage of over-weight children is in the richest quintile (10.2%), in urban areas (10%) and in the Eastern region (11%).

Breastfeeding and Infant and Young Child Feeding

Breastfeeding for the first few years of life protects children from infection, provides an ideal source of nutrients and is economical and safe. However, many mothers stop breastfeeding too soon and there are often pressures to switch to an infant formula, which can contribute to growth faltering and micronutrient malnutrition and is unsafe if clean water is not readily available.

WHO/UNICEF have the following feeding recommendations:

- Exclusive breastfeeding for the first six months
- Continued breastfeeding for two years or more
- Safe, appropriate and adequate complementary foods beginning at 6 months
- Frequency of complementary feeding: two times per day for 6-8 month olds; three times per day for 9-11 month olds

It is also recommended that breastfeeding be initiated within one hour of birth.

The indicators related to recommended child feeding practices are as follows:
Early initiation of breastfeeding (within one hour of birth)

- Exclusive breastfeeding rate (< six months)
- Predominant breastfeeding (< six months)
- Continued breastfeeding rate (at one year and at two years)
- Duration of breastfeeding
- Age-appropriate breastfeeding (0-23 months)
- Introduction of solid, semi-solid and soft foods (6-8 months)
- Minimum meal frequency (6-23 months)
- Milk feeding frequency for non-breastfeeding children (6-23 months)
- Bottle feeding (0-23 months)

TABLE NU.2: INITIAL BREASTFEEDING

Percentage of last-born children in the 2 years preceding the survey who were ever breastfed, percentage who were breastfed within one hour of birth and within one day of birth, and percentage who received a prelacteal feed, Bhutan, 2010

	Percentage ever breastfed [1]	Percentage who were first breastfed: Within one hour of birth [2]	Percentage who were first breastfed: Within one day of birth	Percentage who received a prelacteal feed	Number of last-born children in the two years preceding the survey
Dzongkhag					
Bumthang	95.0	37.5	80.1	15.4	69
Chukha	100.0	38.1	94.7	10.1	223
Dagana	99.3	43.9	91.2	8.4	100
Gasa	(97.6)	(63.8)	(90.7)	(10.2)	28
Haa	97.8	78.0	97.8	5.0	43
Lhuntse	95.5	89.3	89.3	2.6	47
Mongar	98.6	65.9	93.4	4.3	186
Paro	99.0	41.6	91.9	2.8	146
Pemagatshel	96.9	77.4	93.9	3.0	94
Punakha	99.1	64.2	94.3	9.8	100
Samdrup jongkhar	98.8	46.7	93.0	5.3	163
Samtse	100.0	52.1	89.9	17.2	221
Sarpang	99.1	66.9	95.1	6.8	132
Thimphu	100.0	70.5	97.3	4.8	298
Trashigang	97.4	51.6	92.4	8.1	161
Trashiyangtse	97.9	81.9	91.5	10.9	60
Trongsa	99.3	54.9	90.1	11.7	50
Tsirang	100.0	71.4	94.7	4.1	62
Wangdue	100.0	67.5	87.3	21.3	103
Zhemgang	99.5	81.0	95.1	1.9	82
Region					
Western	99.6	55.4	94.0	8.9	1059
Central	99.0	61.2	90.9	10.0	598
Eastern	97.9	62.7	92.7	5.7	711
Residence					
Urban	99.3	61.3	93.5	8.3	690
Rural	98.8	58.1	92.6	8.2	1678
Months since last birth					
0-11 months	98.9	58.8	93.1	6.7	1168
12-23 months	99.0	59.3	92.6	9.7	1200
Assistance at delivery					
Skilled attendant	99.4	60.5	93.3	8.5	1528
Traditional birth attendant / Village health worker / Relative / Friend	98.0	57.3	92.0	7.8	754
Other/Missing	99.2	49.5	91.5	6.7	86

Percentage of last-born children in the 2 years preceding the survey who were ever breastfed, percentage who were breastfed within one hour of birth and within one day of birth, and percentage who received a prelacteal feed, Bhutan, 2010

	Percentage ever breastfed [1]	Percentage who were first breastfed: Within one hour of birth [2]	Percentage who were first breastfed: Within one day of birth	Percentage who received a prelacteal feed	Number of last-born children in the two years preceding the survey
Place of delivery					
Public sector health facility	99.6	60.0	93.5	8.2	1492
Private sector health facility	100.0	35.6	100.0	0.0	3
Home	97.9	57.8	91.7	8.1	865
Other/Missing	90.6	27.4	90.6	16.2	8
Mother's education					
None	98.9	56.8	92.5	7.7	1484
Primary	98.3	58.6	92.4	7.5	302
Secondary +	99.3	65.0	94.0	9.8	582
Wealth index quintiles					
Poorest	97.6	55.2	91.0	8.2	471
Second	98.8	57.9	91.7	8.8	448
Middle	99.7	61.4	94.3	7.3	475
Fourth	99.1	58.2	93.3	7.0	518
Richest	99.5	62.6	94.0	9.8	455
Total	**98.9**	**59.0**	**92.9**	**8.2**	**2368**

[1] MICS indicator 2.4
[2] MICS indicator 2.5

* Two unweighted cases for Birth Delivered in private health facility not shown and seven unweighted cases with missing place of delivery not shown

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Table NU.2 provides the proportion of children born in the last two years who were ever breastfed, those who were first breastfed within one hour and one day of birth, and those who received a pre-lacteal feed. Although a very important step in management of lactation and establishment of a physical and emotional relationship between the baby and the mother, 59 percent of babies are breastfed for the first time within one hour of birth, while 92.9 percent of newborns in Bhutan start breastfeeding within one day of birth.

From the Table NU.2 above and figure NU.2 below it is clear that there is little change in the early initiation of breast feeding between background characteristics. Whether the delivery took place in the health facility or at home, attended by a skilled professional or non-skill, in urban or rural area, in the east or west, in poor or hard to reach households, the difference doesn't go beyond 7 percent at the most. The widest range is between the educational levels of mothers (8.2% between none and secondary education) and Dzongkhag, with Bhumthang the lowest (37.5%) and Lhuentse the highest percent (89.3%) of breastfed children within one hour of birth. It is worth mentioning that the high percent of children who were breastfed within one day, with the highest percentage in Thimphu (97.3%) and Haa (97.8%) and lowest in Bumthang at 87.1 percent.   The highest percent of pre-lacteal feed (feeding a baby prior to giving breastmilk/Colostrum) was observed in Wangdue (21.3%) and Samtse (17.2%) and lowest in Lhuentse (2.6%) and Zhemgang (1.9%). This finding needs further study.

It is assumed that the higher the proportion of mothers' are being attended by skilled birth attendants (SBA) during delivery the more likely babies are to be breastfed within one hour. However, the percentage difference for this indicator between SBA (60.5%) and traditional birth attendant (57.3%) is only 3.2 percent.

Figure NU.2: Initial breastfeeding (within one hour and one day of birth), Bhutan 2010.

Chart data:

Category	Within one hour of birth	Within one day of birth
Western	55.4	94.0
Central	61.2	90.9
Eastern	62.7	92.7
Urban	61.3	93.5
Rural	58.1	92.6
Public sector health facility	60.0	93.5
Private sector health facility	35.6	100.0
Home	57.8	91.7
Other/Missing	27.4	90.6
None	56.8	92.5
Primary	58.6	92.4
Secondary +	65.0	94.0
Poorest	55.2	91.0
Second	57.9	91.7
Middle	61.4	94.3
Fourth	58.2	93.3
Richest	62.6	94.0
Total	59.0	92.9

■ Percentage who were first breastfed: Within one day of birth
■ Percentage who were first breastfed: Within one hour of birth

Percentage of living children according to breastfeeding status at selected age groups, Bhutan, 2010

	Children 0-5 months			Children 12-15 months		Children 20-23 months	
	Percent exclusively breastfed [1]	Percent predomi-nantly breastfed [2]	Number of children	Percent breastfed (Continued breastfeeding at 1 year) [3]	Number of children	Percent breast-fed (Continued breastfeeding at 2 years) [4]	Number of children
Sex							
Male	47.3	67.1	297	93.0	187	68.1	196
Female	50.0	66.6	306	92.5	225	63.2	192
Region							
Western	55.1	67.9	304	94.7	182	61.6	167
Central	43.4	67.5	140	89.2	100	67.1	114
Eastern	41.2	64.2	159	92.5	130	70.5	107
Residence							
Urban	57.4	73.1	195	90.8	125	58.7	126
Rural	44.5	63.8	408	93.5	287	69.0	261
Mother's education							
None	44.4	66.4	352	94.5	277	70.2	244
Primary	47.1	62.0	62	87.7	43	63.6	58
Secondary	57.3	69.2	188	89.8	92	54.2	85
Wealth index quintiles							
Poorest	36.1	64.4	115	96.1	82	77.2	65
Second	50.3	67.2	91	91.7	82	70.4	81
Middle	42.8	61.3	128	92.3	78	68.4	69
Fourth	47.1	67.2	129	96.3	79	58.2	103
Richest	65.0	73.5	139	87.7	90	57.6	70
Total	**48.7**	**66.8**	**603**	**92.7**	**411**	**65.7**	**387**

[1] MICS indicator 2.6
[2] MICS indicator 2.9
[3] MICS indicator 2.7
[4] MICS indicator 2.8

* By Dzongkhag is not shown because the number of unweighted observation are lower than 50

In Table NU.3, breastfeeding status is based on the reports of mothers/caretakers of children's consumption of food and fluids in the 24 hours prior to the interview. Exclusively breastfed refers to infants who received only breast milk (and vitamins, mineral supplements, or medicine). The table shows exclusive breastfeeding of infants during the first six months of life, as well as continued breastfeeding of children at 12-15 and 20-23 months of age.

48.7 percent of children aged less than six months are exclusively breastfed. By age 12-15 months, 92.7 percent of children are still being breastfed and by age 20-23 months, 65.7 percent are still breastfed. Exclusive breastfeeding has a strong correlation with education of the mother and the wealth index. The most prominent difference, however, is in relationship to the wealth index where the children living in the households falling in the poorest quintile are less likely to be exclusively breastfed (36.1%) than their peers from the richest quintile (65%). While children from the Eastern region are less likely to be exclusively or predominantly breastfed, they are more likely to continue to be breastfed at two years of age than children from the Western and Central regions.

Table NU.4 shows the median duration of breastfeeding by selected background characteristics. Among children under age three, the median duration is 24.2 months for any breastfeeding, 2.4 months for exclusive breastfeeding and 4.1 months for predominant breastfeeding. The median duration for exclusive breastfeeding is found higher in urban areas compared to rural and it is positively correlated with mothers' education. Corresponding to the findings in Table NU.3, the median duration of exclusive breastfeeding among children from the Eastern region is found to be lower than in other regions, while median duration of any breastfeeding is higher. The median duration of exclusive breastfeeding (0.7 month) is found lowest within the poorest wealth quintile.

TABLE NU.4: DURATION OF BREASTFEEDING

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, Bhutan,2010

	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding [1]	Exclusive breastfeeding	Predominant breastfeeding	
Sex				
Male	24.3	2.2	4.2	1922
Female	24.1	2.5	4.0	1878
Dzongkhag				
Bumthang	20.0	2.2	3.4	106
Chukha	24.4	2.9	4.7	370
Dagana	29.8	.9	4.9	152
Gasa	(21.1)	(0.0)	(15.0)	28
Haa	21.4	2.2	2.5	71
Lhuntse	22.8	.5	4.6	79
Monggar	25.8	2.2	3.0	274
Paro	20.9	4.1	4.8	220
Pemagatshel	27.6	4.4	10.3	139
Punakha	23.1	1.2	1.8	141
Samdrup Jongkhar	27.4	.7	4.3	249
Samtse	21.9	2.3	3.7	399
Sarpang	26.3	2.9	4.2	209
Thimphu	22.6	3.4	4.2	515
Trashigang	25.9	1.4	6.2	273
Trashiyangtse	21.7	1.0	2.7	105
Trongsa	27.9	.7	2.2	80
Tsirang	31.1	1.6	5.0	116
Wangdue	22.9	2.5	3.0	155
Zhemgang	26.7	1.5	4.4	119
Region				
Weatern	22.4	2.9	4.1	1744
Central	25.6	2.0	3.9	936
Eastern	25.8	1.7	4.2	1119
Residence				
Urban	22.5	3.0	4.2	1130
Rural	25.5	2.0	4.0	2670
Mother's education				
None	25.5	2.0	4.1	2476
Primary	23.3	2.3	4.2	457
Secondary+	21.8	3.0	4.0	867
Wealth index quintile				
Poorest	28.1	.7	4.5	753
Second	27.1	2.5	4.1	692
Middle	24.5	2.0	3.8	755
Fourth	22.1	2.3	4.3	862
Richest	22.0	3.4	3.9	738
Median	24.2	2.4	4.1	3800
Mean for all children (0-35 months)	24.8	3.2	5.5	3800

[1] MICS indicator 2.10

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

The adequacy of infant feeding in children under 24 months is provided in Table NU.5. Different criteria of adequate feeding are used depending on the age of the child. For infants aged 0-5 months, exclusive breastfeeding is considered as adequate feeding, while infants aged 6-23 months are considered to be adequately fed if they are receiving breast milk and solid, semi-solid or soft food. Thus 48.7 percent of 0-5 month infants are adequately breastfed through exclusive breastfeeding. The percentage of children 6-23 months old appropriately breastfed is higher in the Central region than in other regions. The correlation to the mothers' education, wealth and urban-rural is quite the opposite as for children 0-5 months old. Thus, the percentage appropriately breastfed 6-23 months old decreases with the mothers' education and with wealth, and is lower in urban areas.

TABLE NU.5: AGE-APPROPRIATE BREASTFEEDING						
Percentage of children age 0-23 months who were appropriately breastfed during the previous day, Bhutan, 2010						
	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Percent exclusively breastfed [1]	Number of children	Percent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Percent appropriately breastfed [2]	Number of children
Sex						
Male	47.3	297	71.8	953	66.0	1250
Female	50.0	306	71.4	907	66.0	1213
Region						
Western	55.1	304	70.4	828	66.3	1132
Central	43.4	140	75.2	482	68.1	622
Eastern	41.2	159	70.1	550	63.6	709
Residence						
Urban	57.4	195	66.2	562	63.9	757
Rural	44.5	408	73.9	1298	66.9	1706
Mother's education						
None	44.4	352	73.8	1179	67.1	1531
Primary	47.1	62	69.5	244	64.9	306
Secondary	57.3	188	66.6	438	63.8	626
Wealth index quintiles						
Poorest	36.1	115	76.5	359	66.7	474
Second	50.3	91	73.1	368	68.6	459
Middle	42.8	128	68.0	365	61.4	493
Fourth	47.1	129	72.2	410	66.2	539
Richest	65.0	139	67.9	359	67.1	497
Total	**48.7**	**603**	**71.6**	**1860**	**66.0**	**2463**

[1] MICS indicator 2.6
[2] MICS indicator 2.14

* By Dzongkhag is not shown because the number of unweighted observation are lower than 50

Adequate complementary feeding of children from six months to two years of age is particularly important for growth and development and the prevention of under-nutrition. Continued breastfeeding beyond six months should be accompanied by consumption of nutritionally adequate, safe and appropriate complementary foods that help meet nutritional requirements when breastmilk is no longer sufficient. This requires that for breastfed children, two or more meals of solid, semi-solid or soft foods are needed if they are six to eight months old, and three or more meals if they are 9-23 months of age. For children 6-23 months and older who are not breastfed, four or more meals of solid, semi-solid or soft foods or milk feeds are needed. Overall, 66.7 percent of infants aged 6-8 months received solid, semi-solid, or soft foods with higher levels among boys (69.7%) than girls (63.4%). (Table NU.6).

TABLE NU.6: INTRODUCTION OF SOLID, SEMI-SOLID OR SOFT FOOD

Percentage of infants age 6-8 months who received solid, semi-solid or soft foods during the previous day, Bhutan, 2010

	All	
	Percent receiving solid, semi-solid or soft foods[1]	Number of children age 6-8 months
Sex		
Male	69.7	180
Female	63.4	163
Residence		
Urban	66.7	100
Rural	66.7	243
Total	**66.7**	**343**

[1] MICS indicator 2.12

* Rest of the background characteristics are not shown because the number of unweighted observations are lower than 50

Table NU.7 presents the proportion of children aged 6-23 months who received solid, semi-solid or soft foods the minimum number of times or more during the previous day, according to breastfeeding status. (See the note in Table NU.7 for a definition of minimum number of times for different age groups). Overall, more than half of the children aged 6-23 months (62.6%) were receiving solid, semi-solid and soft foods the minimum number of times. A similar proportion of females (63.1%) were enjoying the minimum meal frequency compared to males (62.1%).

Among currently breastfeeding children aged 6-23 months, more than half of them (64%) were receiving solid, semi-solid and soft foods the minimum number of times. Among non-breastfeeding children, more than half of the children (53.6%) were receiving solid, semi-solid and soft foods or milk feeds four times or more.

TABLE NU.7: MINIMUM MEAL FREQUENCY

Percentage of children age 6-23 months who received solid, semi-solid, or soft foods (and milk feeds for non-breastfeeding children) the minimum number of times or more during the previous day, according to breastfeeding status, Bhutan, 2010

	Currently breastfeeding		Currently not breastfeeding			All	
	Percent receiving solid, semi-solid and soft foods the minimum number of times	Number of children age 6-23 months	Percent receiving at least 2 milk feeds [1]	Percent receiving solid, semi-solid and soft foods or milk feeds 4 times or more	Number of children age 6-23 months	Percent with minimum meal fre-quency [2]	Num-ber of children age 6-23 months
Sex							
Male	63.1	825	38.3	55.4	128	62.1	953
Female	64.9	785	34.2	51.7	122	63.1	907
Age							
6-8 months	61.9	343	39.6	39.6	6	61.6	349
9-11 months	56.3	274	91.4	91.4	3	56.7	278
12-17 months	63.7	561	54.6	62.2	63	63.5	624
18-23 months	70.9	431	28.8	50.3	179	64.9	610
Region							
Western	64.1	708	41.5	56.3	120	62.9	828
Central	64.8	417	35.7	60.1	65	64.2	482
Eastern	63.2	485	27.3	41.9	65	60.7	550
Residence							
Urban	61.7	474	40.2	56.4	88	60.8	562
Rural	65.0	1136	34.2	52.0	162	63.3	1298
Mother's education							
None	63.2	1038	25.9	43.7	141	60.9	1179
Primary	63.0	210	22.1	37.5	34	59.5	244
Secondary	66.7	361	61.7	79.0	76	68.8	438
Wealth index quintiles							
Poorest	61.4	329	21.5	48.4	29	60.3	359
Second	63.3	325	30.3	54.8	43	62.3	368
Middle	65.5	309	29.1	47.5	56	62.7	365
Fourth	65.5	347	29.0	38.5	63	61.4	410
Richest	64.2	299	62.5	76.9	59	66.3	359
Total	**64.0**	**1610**	**36.3**	**53.6**	**251**	**62.6**	**1860**

[1] MICS indicator 2.15
[2] MICS indicator 2.13

* By Dzongkhag is not shown because the number of unweighted observation are lower than 50

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The continued practice of bottle-feeding is a concern because of the possible contamination due to unsafe water and lack of hygiene in preparation. Table NU.8 shows that bottle-feeding is still prevalent in Bhutan. 11.5 percent of children aged 0-23 months are fed using a bottle with a nipple. The prevalence of bottle-feeding is higher in the Western region (14.8%) among children 0-23 months when compared with the Central (9.9%) and Eastern (7.8%). The practice of bottle-feeding is higher among highly educated mothers, in richer households and in urban areas.

Percentage of children age 0-23 months who were fed with a bottle with a nipple during the previous day, Bhutan,2010

	Percentage of children age 0-23 months fed with a bottle with a nipple [1]	Number of children age 0-23 months:
Sex		
Male	10.9	1250
Female	12.2	1213
Age		
0-5 months	6.4	603
6-11 months	16.5	626
12-23 months	11.5	1234
Dzongkhag		
Bumthang	20.2	72
Chukha	14.2	248
Dagana	5.2	108
Gasa	(6.0)	20
Haa	21.7	44
Lhuntse	11.8	47
Mongar	5.5	179
Paro	14.0	152
Pemagatshel	8.6	87
Punakha	12.6	102
Samdrup jongkhar	6.7	160
Samtse	10.7	234
Sarpang	14.1	142
Thimphu	18.7	332
Trashigang	10.9	164
Trashiyangtse	5.0	72
Trongsa	10.8	53
Tsirang	1.1	68
Wangdue	11.0	102
Zhemgang	4.7	76
Region		
Western	14.8	1132
Central	9.9	622
Eastern	7.8	709
Residence		
Urban	18.4	757
Rural	8.5	1706
Mother's education		
None	7.4	1531
Primary	12.3	306
Secondary	21.3	626
Wealth index quintiles		
Poorest	4.7	474
Second	4.0	459
Middle	7.1	493
Fourth	17.2	539
Richest	23.2	497
Total	**11.5**	**2463**

[1] MICS indicator 2.11

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Low Birth Weight

Weight at birth is a good indicator not only of a mother's health and nutritional status but also the newborn's chances for survival, growth, long-term health and psychosocial development. Low birth weight (less than 2,500 grams) carries a range of grave health risks for children. Babies who were undernourished in the womb face a greatly increased risk of dying during their early months and years.

Those who survive have impaired immune function and increased risk of disease; they are likely to remain undernourished, with reduced muscle strength, throughout their lives, and suffer a higher incidence of diabetes and heart disease in later life. Children born underweight also tend to have a lower IQ and cognitive disabilities, affecting their performance in school and their job opportunities as adults.

In the developing world, low birth weight stems primarily from the mother's poor health and nutrition. Three factors are most impact: the mother's poor nutritional status before conception, short stature (due mostly to under nutrition and infections during her childhood), and poor nutrition during the pregnancy. Inadequate weight gain during pregnancy is particularly important since it accounts for a large proportion of foetal growth retardation. Moreover, diseases such as diarrhoea and malaria, which are common in many developing countries, can significantly impair foetal growth if the mother becomes infected while pregnant.

In the industrialized world, cigarette smoking during pregnancy is the leading cause of low birth weight. In developed and developing countries alike, teenagers who give birth when their own bodies have yet to finish growing run the risk of bearing underweight babies.

One of the major challenges in measuring the incidence of low birth weight is that more than half of infants in the developing world are not weighed. In the past, most estimates of low birth weight for developing countries were based on data compiled from health facilities. However, these estimates are biased for most developing countries because the majority of newborns are not delivered in facilities, and those who are represent only a selected sample of all births.

Because many infants may not be weighed at birth and those who are weighed may be a biased sample of all births, the reported birth weights usually cannot be used to estimate the prevalence of low birth weight among all children. Therefore, the percentage of births weighing below 2,500 grams is estimated from two items in the questionnaire: the mother's assessment of the child's size at birth (i.e., very small, smaller than average, average, larger than average, very large) and the mother's recall of the child's weight or the weight as recorded on a health card if the child was weighed at birth[9].

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[9] For a detailed description of the methodology, see Boerma, Weinstein, Rutstein and Sommerfelt, 1996.

TABLE NU.9: LOW BIRTH WEIGHT INFANTS

Percentage of last-born children in the 2 years preceding the survey that are estimated to have weighed below 2500 grams at birth and percentage of live births weighed at birth, Bhutan, 2010

	Percent of live births:		Number of live births in the last 2 years
	Below 2500 grams [1]	Weighed at birth [2]	
Dzongkhag			
Bumthang	11.4	73.4	69
Chukha	14.4	74.3	223
Dagana	8.4	62.6	100
Gasa	(10.3)	(63.7)	28
Haa	(7.4)	(90.5)	43
Lhuntse	(10.1)	(70.1)	47
Mongar	11.0	70.0	186
Paro	10.5	98.1	146
Pemagatshel	9.3	72.7	94
Punakha	9.1	88.0	100
Samdrup jongkhar	7.6	44.9	163
Samtse	11.7	65.1	221
Sarpang	7.7	73.7	132
Thimphu	8.2	99.4	298
Trashigang	9.0	47.0	161
Trashiyangtse	10.5	59.1	60
Trongsa	7.8	67.4	50
Tsirang	10.2	91.3	62
Wangdue	10.0	60.5	103
Zhemgang	8.1	44.6	82
Region			
Western	10.7	84.4	1059
Central	9.0	66.8	598
Eastern	9.4	58.5	711

Contd. TABLE NU.9: LOW BIRTH WEIGHT INFANTS			
Percentage of last-born children in the 2 years preceding the survey that are estimated to have weighed below 2500 grams at birth and percentage of live births weighed at birth, Bhutan, 2010			
	Percent of live births:		Number of live births in the last 2 years
	Below 2500 grams [1]	Weighed at birth [2]	
Residence			
Urban	8.5	93.8	690
Rural	10.4	63.3	1678
Education			
None	10.2	62.4	1484
Primary	10.3	73.5	302
Secondary +	8.7	96.3	582
Wealth index quintiles			
Poorest	12.2	43.9	471
Second	10.5	56.3	448
Middle	9.5	73.6	475
Fourth	9.8	88.2	518
Richest	7.3	97.3	455
Total	**9.9**	**72.2**	**2368**

[1] MICS indicator 2.18

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

In total, 72.2 percent of births were weighed at birth and approximately 9.9 percent of infants are estimated to weigh less than 2,500 grams at birth (Table NU.9). While there were little differences regarding low birth weight by region, there was some variation by Dzongkhag with lowest levels in Samdrup Jongkhar (7.6%) and highest levels in Chukha (14.4%) (Figure NU.3). The percentage of low birth weight does not vary much by urban and rural areas or by a mother's education. However, the percentage of low birth weight is significantly higher among newborns in the poorest quintile (12.2%) compared to the richest quintile (7.3%).

Figure.NU.3: Percent of children weight below 2500 grams by Dzongkhag, Bhutan 2010.
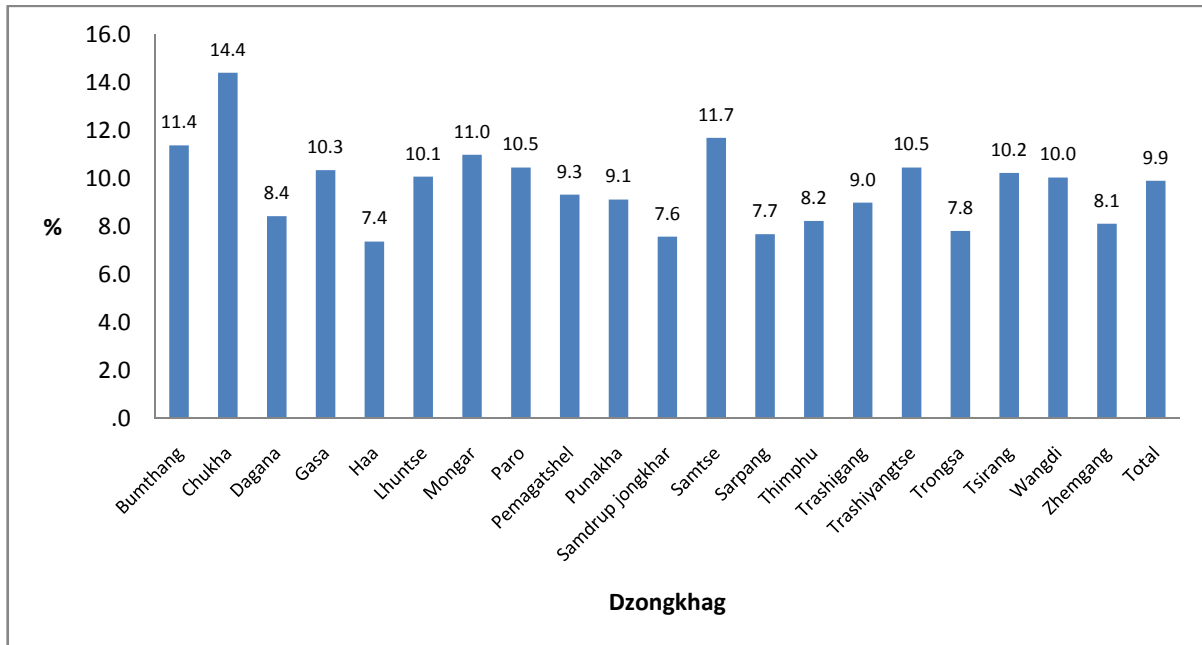
IV. Child Health

Neonatal Tetanus Protection

One of the MDGs is to reduce by three quarters the maternal mortality ratio, with one strategy to eliminate maternal tetanus. In addition, another goal is to reduce the incidence of neonatal tetanus to less than one case of neonatal tetanus per 1,000 live births in every district. A World Fit for Children goal is to eliminate maternal and neonatal tetanus by 2005.

Prevention of maternal and neonatal tetanus is to assure all pregnant women receive at least two doses of tetanus toxoid vaccine. However, if women have not received two doses of the vaccine during the pregnancy, they (and their newborn) are also considered to be protected if the following conditions are met:

• Received at least two doses of tetanus toxoid vaccine, the last within the prior three years;
• Received at least three doses, the last within the prior five years;
• Received at least five doses, the last within 10 years;
• Received at least five doses during lifetime.

Table CH.1 shows the protection status from tetanus of women who have had a live birth within the last two years. Figure CH.2 shows the protection of women against neonatal tetanus by major back-ground characteristics. Nationally, 73 percent of women had received sufficient protection against tetanus. There is little difference between urban and rural areas for the percentage of women who were protected against tetanus. 80.1 percent of women with secondary+ education were protected from tetanus compared to 71.3 percent of women with no formal education, and 68.2 percent of women with primary education. While regional differences are not very large. There are variations between Dzongkhag for tetanus protection coverage with approximately a 39 percentage point defer-ence between the best performing Dzongkhag and the worst performing Dzongkhag

TABLE CH.1: NEONATAL TETANUS PROTECTION

Percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus,Bhutan, 2010

	Percentage of women who received at least 2 doses during last pregnancy	Percentage of women who did not receive two or more doses during last pregnancy but received:				Protected against tetanus [1]	Number of women with a live birth in the last 2 years
		2 doses, the last within prior 3 years	3 doses, the last within prior 5 years	4 doses, the last within prior 10 years	5 or more doses during lifetime		
Residence							
Urban	51.7	22.6	.0	.1	.1	74.5	690
Rural	48.5	23.6	.2	.1	.1	72.4	1678
Dzongkhag							
Bumthang	43.7	29.3	.0	.0	.7	73.7	69
Chukha	45.6	15.0	.0	.0	.0	60.6	223
Dagana	40.7	18.6	.0	.0	.0	59.2	100
Gasa	(32.8)	(19.6)	(.0)	(.0)	(.0)	(52.4)	28
Haa	74.8	7.2	.0	.0	.0	82.0	43
Lhuntse	60.9	25.5	.0	.0	.0	86.4	47
Mongar	49.0	27.0	.7	.3	.0	77.0	186
Paro	58.1	10.9	.0	.0	.0	68.9	146
Pemagatshel	52.3	30.0	.8	.7	.0	83.8	94
Punakha	44.8	8.2	.0	.0	.0	53.0	100
Samdrup jongkhar	42.6	38.9	.0	.0	.0	81.6	163
Samtse	53.5	31.6	.0	.0	.0	85.1	221
Sarpang	50.3	41.2	.0	.0	.7	92.2	132
Thimphu	55.3	16.0	.0	.0	.0	71.3	298
Trashigang	40.5	15.5	.0	.0	.0	56.0	161
Trashiyangtse	52.1	27.1	.0	.0	.7	80.0	60
Trongsa	41.7	31.4	1.0	.0	.0	74.1	50
Tsirang	63.2	3.8	.0	.0	.0	67.0	62
Wangdue	48.3	30.3	.0	.0	.0	78.6	103
Zhemgang	39.7	37.6	.5	1.5	.0	79.2	82
Region							
Western	52.5	17.3	.0	.0	.0	69.8	1059
Central	46.8	29.0	.1	.2	.2	76.3	598
Eastern	47.1	27.4	.3	.2	.1	75.0	711
Education							
None	44.2	26.7	.1	.2	.1	71.3	1484
Primary	49.2	18.5	.2	.0	.1	68.2	302
Secondary +	62.9	17.2	.0	.0	.0	80.1	582
Wealth index quintiles							
Poorest	43.1	27.6	.0	.1	.2	71.1	471
Second	50.5	20.0	.4	.0	.0	70.9	448
Middle	48.3	21.3	.2	.1	.2	70.0	475
Fourth	49.6	25.8	.1	.2	.0	75.7	518
Richest	55.9	21.4	.0	.0	.0	77.2	455
Total	**49.4**	**23.3**	**.1**	**.1**	**.1**	**73.0**	**2368**

[1] MICS indicator 3.7

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Figure.CH.1: Neonatal tetanus protection (women with a live birth in the previous 24 months), Bhutan 2010.

Category	Protected against tetanus
Western	69.8
Central	76.3
Eastern	75.0
Urban	74.5
Rural	72.4
None	71.3
Primary	68.2
Secondary +	80.1
Poorest	71.1
Second	70.9
Middle	70.0
Fourth	75.7
Richest	77.2
Total	73.0
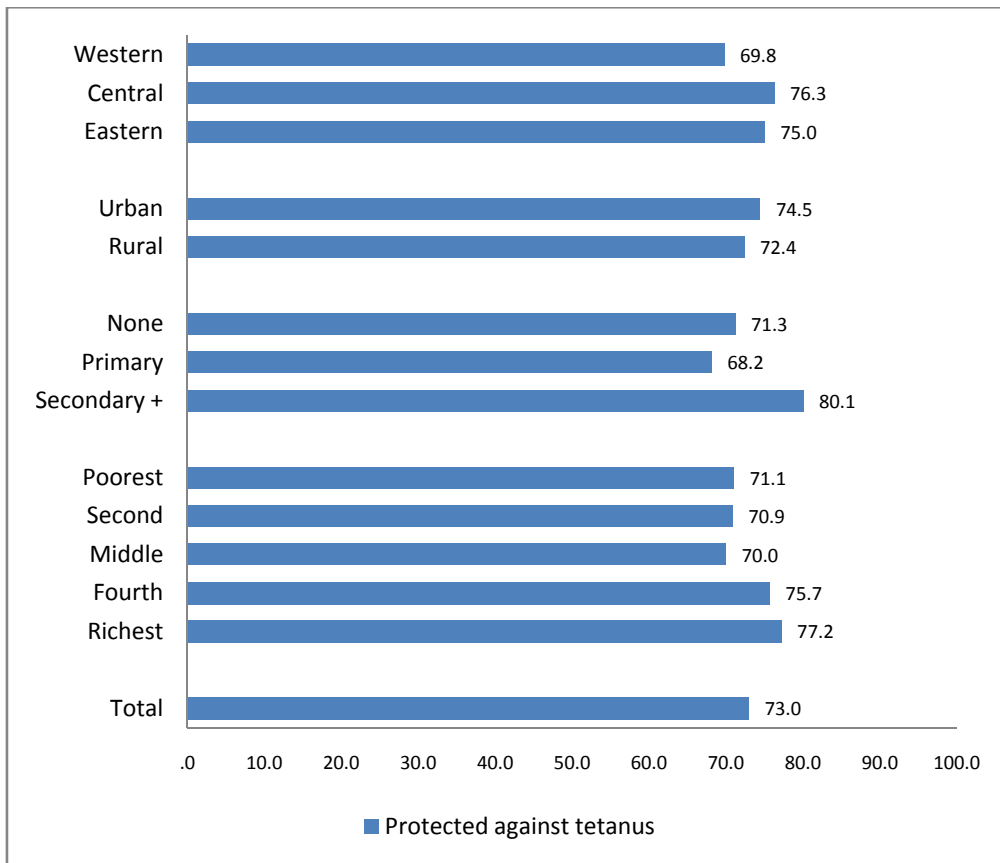
Oral Rehydration Treatment

Diarrhoea is the second leading cause of death among children under-five worldwide. Most diarrhoea-related deaths in children are due to dehydration from loss of large quantities of water and electrolytes from the body in liquid stools. Management of diarrhoea – either through oral rehydration salts (ORS) or a recommended home fluid (RHF) - can prevent many of these deaths. Preventing dehydration and malnutrition by increasing fluid intake and continuing to feed the child are also important strategies for managing diarrhoea.

The goals are to: 1) reduce by one half death due to diarrhoea among children under-five by 2010 compared to 2000 (A World Fit for Children); and 2) reduce by two thirds the mortality rate among children under-five by 2015 compared to 1990 (Millennium Development Goals). In addition, the World Fit for Children calls for a reduction in the incidence of diarrhoea by 25 percent.

The indicators are:

- Prevalence of diarrhoea
- Oral rehydration therapy (ORT)
- Home management of diarrhoea
- ORT with continued feeding

In the BMIS questionnaire, mothers (or caretakers) were asked to report whether their child had had diarrhoea in the two weeks prior to the survey. If so, the mother was asked a series of questions about what the child had to drink and eat during the episode and whether this was more or less than the child usually ate and drank.

Overall, 25.1 percent of under-five children had diarrhoea in the two weeks preceding the survey (Table CH.1). Diarrhoea prevalence was similar in all regions, but with some variations at Dzongkhag levels, with the highest prevalence in Wangdue (36.3%) and the lowest prevalence in Pemagatshel (15.7%). The peak of diarrhoea prevalence occurs in the weaning period, among children aged 12-23 months. Less diarrhoea prevalence is found among children in the richest quintile (18.8%) and children of mothers with secondary or higher education (19.7%).

TABLE CH.2: ORAL REHYDRATION SOLUTIONS AND RECOMMENDED HOMEMADE FLUIDS

Percentage of children age 0-59 months with diarrhoea in the last two weeks, and treatment with oral rehydration solutions and recommended homemade fluids, Bhutan, 2010

	Had diar-rhoea in last two weeks	Number of children age 0-59 months	ORS (Fluid from ORS packet or pre-packaged ORS fluid)	Children with diarrhoea who received:				ORS or any recom-mended homemade fluid	Number of children aged 0-59 months with diar-rhoea
				Recommended homemade fluids					
				Rice water/ rice porridge	Whey (Da-chu)	Weak tea (Phekha) with salt	Any recom-mended homemade fluid		
Sex									
Male	26.4	3216	60.6	31.8	15.8	36.1	58.0	81.1	850
Female	23.8	3081	61.3	34.5	14.1	34.1	57.4	79.8	732
Dzongkhag									
Bumthang	17.2	171	52.7	20.5	19.0	30.1	50.2	75.8	30
Chukha	30.0	648	46.9	33.2	14.9	29.4	49.3	70.9	194
Dagana	24.5	237	62.9	30.6	2.8	20.5	40.0	86.9	58
Gasa	21.4	43	*	*	*	*	*	*	9
Haa	23.0	121	59.8	49.4	9.7	18.9	61.5	78.2	28
Lhuntse	30.4	124	84.7	46.5	48.8	72.1	83.7	90.7	38
Mongar	25.2	466	63.3	34.8	23.1	43.2	65.5	80.0	117
Paro	25.7	337	57.1	33.4	12.0	14.1	46.1	76.3	86
Pemagatshel	15.7	214	(54.4)	(36.8)	(11.6)	(40.2)	(60.3)	(80.9)	34
Punakha	27.6	218	53.3	29.5	19.6	40.6	59.0	77.8	60
Samdrup jongkhar	20.2	410	54.6	19.5	13.9	27.4	50.8	87.0	83
Samtse	24.7	755	48.6	21.4	10.7	20.1	40.4	67.3	186
Sarpang	20.5	350	63.2	47.1	6.9	22.7	51.1	79.4	72
Thimphu	25.2	801	73.4	36.0	5.9	54.6	72.8	89.6	201
Trashigang	26.5	479	71.7	40.0	10.9	33.1	63.0	85.7	127
Trashiyangtse	25.6	169	56.4	35.8	16.6	35.5	62.1	80.9	43
Trongsa	23.4	133	53.0	38.0	44.8	49.2	74.0	83.4	31
Tsirang	21.2	186	67.7	40.3	14.3	23.1	52.0	77.7	39
Wangdue	36.3	261	75.7	29.6	26.2	41.9	66.0	89.9	95
Zhemgang	28.7	175	67.2	32.5	23.5	69.3	80.8	91.9	50
Residence									
Urban	25.3	1841	64.3	33.5	8.3	39.2	60.1	82.8	467
Rural	25.0	4456	59.5	32.9	17.8	33.5	56.7	79.5	1115
Region									
Western	26.2	2922	56.5	31.4	11.3	32.5	54.1	76.4	766
Central	24.7	1513	65.6	34.6	18.2	36.3	59.0	84.8	375
Eastern	23.7	1862	64.6	34.7	18.6	38.8	62.8	84.0	442
Age									
0-11	29.8	1229	47.9	21.1	3.7	17.4	32.9	62.4	366
12-23	36.2	1234	63.6	32.9	15.7	36.5	59.5	84.8	447
24-35	24.3	1337	66.0	43.1	18.3	48.0	72.7	89.6	325
36-47	20.2	1275	71.1	36.7	21.0	37.9	68.1	87.9	258
48-59	15.2	1222	57.1	34.3	21.5	40.6	61.7	79.5	186

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Percentage of children age 0-59 months with diarrhoea in the last two weeks, and treatment with oral rehydration solutions and recommended homemade fluids, Bhutan, 2010

	Had diarrhoea in last two weeks	Number of children age 0-59 months	ORS (Fluid from ORS packet or pre-packaged ORS fluid)	Children with diarrhoea who received:				ORS or any recommended homemade fluid	Number of children aged 0-59 months with diarrhoea
				Recommended homemade fluids					
				Rice water/ rice porridge	Whey (Dachu)	Weak tea (Phekha) with salt	Any recommended homemade fluid		
Mother's education									
None	26.5	4207	62.3	31.9	15.9	37.8	58.7	81.4	1114
Primary	26.9	781	60.6	33.9	18.5	32.3	56.7	80.9	210
Secondary	19.7	1309	55.3	37.2	8.1	25.9	54.4	76.2	257
Wealth index quintiles									
Poorest	26.3	1294	60.1	34.7	19.1	37.5	61.7	80.6	341
Second	25.0	1159	61.8	31.8	21.4	35.1	59.4	82.6	290
Middle	28.0	1197	59.9	31.0	16.1	39.3	56.4	80.5	336
Fourth	27.0	1438	64.6	32.6	9.6	35.9	57.7	82.4	389
Richest	18.8	1208	56.0	36.0	8.2	24.1	51.6	74.3	227
Total	**25.1**	**6297**	**60.9**	**33.1**	**15.0**	**35.2**	**57.7**	**80.5**	**1582**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Table CH.2 also shows the percentage of children receiving various types of recommended liquids during the episode of diarrhoea. Since mothers were able to name more than one type of liquid, the percentages do not necessarily add to 100. About 60.9 percent received fluids from ORS packets or pre-packaged ORS fluids and 57.7 percent received recommended homemade fluids. Children of mothers with secondary education and children from the richest quintile are slightly less likely to receive oral rehydration treatment than other children. Approximately eight out of ten children with diarrhoea received one or more of the recommended home treatments (i.e., were treated with ORS or any recommended homemade fluid), while around two out of every ten children did not receive any treatment. Figure CH.2 shows differences in the treatment of diarrhoea by background characteristics as partly discussed above.

Figure CH.2: Oral rehydration solution (percentage of under-five children with diarrhoea who received ORS or any recommended homemade fluids), Bhutan 2010.

Category	ORS or any recommended homemade fluid
Western	76.4
Central	84.8
Eastern	84.0
Urban	82.8
Rural	79.5
None	81.4
Primary	80.9
Secondary	76.2
Poorest	80.6
Second	82.6
Middle	80.5
Fourth	82.4
Richest	74.3
Total	80.5

■ ORS or any recommended homemade fluid
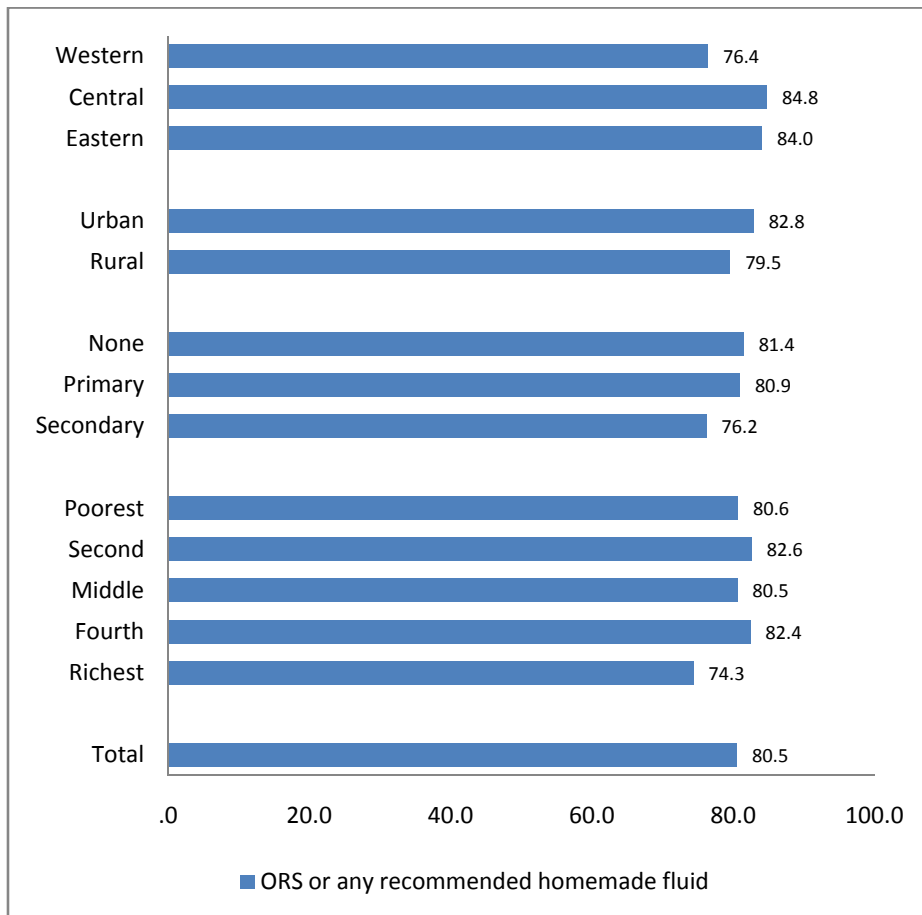
More than one third (39.4 %) of under five children with diarrhoea drank more than usual and for children of mothers with secondary education it was more than half (51.4%) and among children from the richest quintile (50.8%). 70.8 percent ate somewhat less, same or more (continued feeding), but 29.2 percent ate much less or ate almost none.

TABLE CH.3: FEEDING PRACTICES DURING DIARRHOEA

Percentage distribution of children age 0-59 months with diarrhoea in the last two weeks by amount of liquids and food given during episode of diarrhoea, Bhutan, 2010

	Had diarrhoea in last two weeks	Number of children age 0-59 months	Drinking practices during diarrhoea:							Eating practices during diarrhoea:								Number of children aged 0-59 months with diarrhoea
			Given much less to drink	Given somewhat less to drink	Given about the same to drink	Given more to drink	Given nothing to drink	Miss-ing/DK	Total	Given much less to eat	Given somewhat less to eat	Given about the same to eat	Given more to eat	Stopped food	Had never been given food	Miss-ing/DK	Total	
Sex																		
Male	26.4	3216	11.1	15.7	32.8	39.0	1.2	.3	100.0	18.0	34.9	26.1	9.8	6.3	4.8	.1	100.0	850
Female	23.8	3081	10.8	18.6	28.8	39.9	1.7	.1	100.0	18.4	33.1	28.3	9.4	5.6	5.2	.0	100.0	732
Dzongkhag																		
Bumthang	17.2	171	2.0	12.9	29.3	53.8	2.0	.0	100.0	5.4	32.2	29.1	21.5	6.3	5.6	.0	100.0	30
Chukha	30.0	648	12.8	20.5	29.1	35.8	1.8	.0	100.0	22.2	37.8	22.5	9.9	0.0	7.5	.0	100.0	194
Dagana	24.5	237	4.8	14.7	49.6	30.9	.0	.0	100.0	12.2	21.9	48.5	12.6	1.3	3.5	.0	100.0	58
Gasa	21.4	43	8.2	27.6	5.5	48.8	9.9	.0	100.0	*	*	*	*	*	*	*	*	9
Haa	23.0	121	1.1	11.8	32.5	53.2	1.5	.0	100.0	20.5	33.6	27.6	13.3	0.0	5.0	.0	100.0	28
Lhuntse	30.4	124	29.6	28.6	24.0	11.7	4.5	1.6	100.0	24.1	33.9	26.7	13.7	0.0	1.6	.0	100.0	38
Mongar	25.2	466	19.6	17.4	28.7	31.8	1.1	1.3	100.0	38.8	38.2	13.7	0.0	6.8	2.4	.0	100.0	117
Paro	25.7	337	4.0	15.9	25.3	54.7	.0	.0	100.0	7.3	50.5	26.9	7.3	4.3	3.8	.0	100.0	86
Pemagatshel	15.7	214	4.0	2.9	56.5	31.3	5.3	.0	100.0	(13.2)	(34.1)	(42.5)	(3.4)	(1.8)	(4.9)	(.0)	(100.0)	34
Punakha	27.6	218	.0	8.1	28.6	60.2	3.1	.0	100.0	1.4	30.3	28.6	18.8	17.5	3.4	.0	100.0	60
Samdrup jongkhar	20.2	410	4.5	12.5	49.4	31.9	1.7	.0	100.0	8.2	32.8	49.4	6.2	1.6	1.8	.0	100.0	83
Samtse	24.7	755	6.7	27.3	33.5	32.5	.0	.0	100.0	17.7	30.4	35.5	11.1	3.1	2.2	.0	100.0	186
Sarpang	20.5	350	9.6	4.0	49.6	35.1	1.7	.0	100.0	26.1	29.5	22.3	3.4	11.4	7.3	.0	100.0	72
Thimphu	25.2	801	20.2	6.3	13.2	59.0	1.3	.0	100.0	25.3	24.0	15.5	15.7	14.5	5.1	.0	100.0	201
Trashigang	26.5	479	20.2	15.8	22.4	40.5	1.1	.0	100.0	21.5	36.5	16.9	7.9	6.1	11.0	.0	100.0	127
Trashiyangtse	25.6	169	4.2	36.0	34.7	25.1	0.0	.0	100.0	5.5	53.7	30.4	6.7	0.0	3.7	.0	100.0	43
Trongsa	23.4	133	9.4	24.7	34.8	29.6	1.5	.0	100.0	18.2	33.0	36.7	9.5	1.2	1.5	.0	100.0	31
Tsirang	21.2	186	11.8	11.1	34.4	36.9	3.9	1.9	100.0	24.0	27.3	29.1	5.6	0.0	12.0	1.9	100.0	39
Wangdue	36.3	261	3.9	22.7	32.3	39.4	1.8	.0	100.0	8.4	39.3	28.4	9.7	10.6	3.5	.0	100.0	95
Zhemgang	28.7	175	4.9	29.9	43.7	21.5	.0	.0	100.0	3.3	40.1	39.4	7.3	6.8	3.1	.0	100.0	50

Contd. TABLE CH.3: FEEDING PRACTICES DURING DIARRHOEA

Percentage distribution of children age 0-59 months with diarrhoea in the last two weeks by amount of liquids and food given during episode of diarrhoea, Bhutan, 2010

	Had diarrhoea in last two weeks	Number of children age 0-59 months	Drinking practices during diarrhoea:							Eating practices during diarrhoea:								Number of children aged 0-59 months with diarrhoea
			Given much less to drink	Given somewhat less to drink	Given about the same to drink	Given more to drink	Given nothing to drink	Missing/DK	Total	Given much less to eat	Given somewhat less to eat	Given about the same to eat	Given more to eat	Stopped food	Had never been given food	Missing/DK	Total	
Region																		
Western	26.2	2922	10.8	16.7	25.4	46.0	1.2	.0	100.0	18.3	32.8	24.9	12.3	6.8	4.9	0.0	100.0	766
Central	24.7	1513	6.4	17.0	40.0	34.9	1.5	.2	100.0	13.9	32.5	32.6	9.1	6.6	5.1	.2	100.0	375
Eastern	23.7	1862	15.1	17.7	33.1	31.9	1.7	.5	100.0	21.7	37.5	26.3	5.5	4.0	5.0	0.0	100.0	442
Residence																		
Urban	25.3	1841	11.1	10.5	26.9	49.8	1.6	.1	100.0	17.8	28.5	26.9	13.1	9.3	4.3	0.0	100.0	467
Rural	25.0	4456	10.9	19.8	32.7	35.1	1.4	.2	100.0	18.4	36.4	27.2	8.2	4.5	5.2	.1	100.0	1115
Age																		
0-11	29.8	1229	9.8	12.9	43.1	31.6	2.7	.0	100.0	10.8	24.8	30.9	7.1	7.4	18.8	.2	100.0	366
12-23	36.2	1234	10.3	16.8	27.8	44.1	.9	.0	100.0	19.0	36.7	24.2	10.2	8.2	1.7	0.0	100.0	447
24-35	24.3	1337	15.3	16.6	25.4	41.5	.3	.9	100.0	21.8	42.1	23.6	10.2	2.2	.1	0.0	100.0	325
36-47	20.2	1275	11.9	18.1	27.2	42.4	.5	.0	100.0	25.2	30.0	26.1	12.5	5.6	.6	0.0	100.0	258
48-59	15.2	1222	5.9	25.1	29.6	35.9	3.5	.0	100.0	15.0	37.6	34.2	8.3	4.9	.2	0.0	100.0	186
Mother's education																		
None	26.5	4207	11.7	19.3	31.1	35.9	1.7	.3	100.0	20.1	35.9	24.4	8.7	5.6	5.1	.1	100.0	1114
Primary	26.9	781	9.6	14.9	30.8	43.4	1.2	.0	100.0	10.8	33.0	33.9	10.7	8.2	3.4	0.0	100.0	210
Secondary	19.7	1309	8.8	9.1	30.5	51.4	.2	.0	100.0	15.9	26.8	33.2	12.9	5.7	5.4	0.0	100.0	257
Wealth index quintiles																		
Poorest	26.3	1294	12.4	22.9	34.7	28.6	1.2	.2	100.0	20.4	36.9	28.2	6.3	3.2	4.8	.2	100.0	341
Second	25.0	1159	15.5	22.6	29.1	31.9	1.0	.0	100.0	19.1	40.7	26.5	5.8	4.6	3.3	0.0	100.0	290
Middle	28.0	1197	8.4	16.3	34.9	37.6	2.3	.5	100.0	12.9	33.6	25.5	13.7	7.8	6.5	0.0	100.0	336
Fourth	27.0	1438	9.2	12.2	27.8	49.4	1.3	.2	100.0	20.6	30.1	25.4	11.6	8.6	3.7	0.0	100.0	389
Richest	18.8	1208	9.8	10.8	27.3	50.8	1.2	.0	100.0	17.7	28.8	31.5	10.0	4.7	7.4	0.0	100.0	227
Total	**25.1**	**6297**	**11.0**	**17.0**	**31.0**	**39.4**	**1.4**	**.2**	**100.0**	**18.2**	**34.1**	**27.1**	**9.6**	**6.0**	**5.0**	**.0**	**100.0**	**1582**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

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Table CH.4 provides the proportion of children aged 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding, and the percentage of children with diarrhoea who received other treatments. Overall, 73.6 percent of children with diarrhoea received ORS or increased fluids, and 85.4 percent received ORT (ORS or recommended homemade fluids or increased fluids). Combining the information in Table CH.3 with those in Table CH.2 on oral rehydration therapy, it is observed that 61.6 percent of children received ORT and, at the same time feeding was continued, as is the recommendation.

There are significant differences in the home management of diarrhoea by background characteristics. In the Western region, 58.9 percent received ORT and continued feeding, while it is higher for the Central (66.7%) and Eastern (61.9%) regions. Seven out of ten 0-11 month old children with diarrhoea in the last two weeks received oral rehydration therapy while in the other age groups more than eight out of ten with diarrhoea in the last two weeks received it. About 10 percent of children with diarrhoea are not given any treatment or drug, with more than double that figure (23.1%) for 0-11 month old children.

Figure CH.3: Oral rehydration therapy (percentage of under-five children with diarrhoea who received ORT), Bhutan 2010.

64
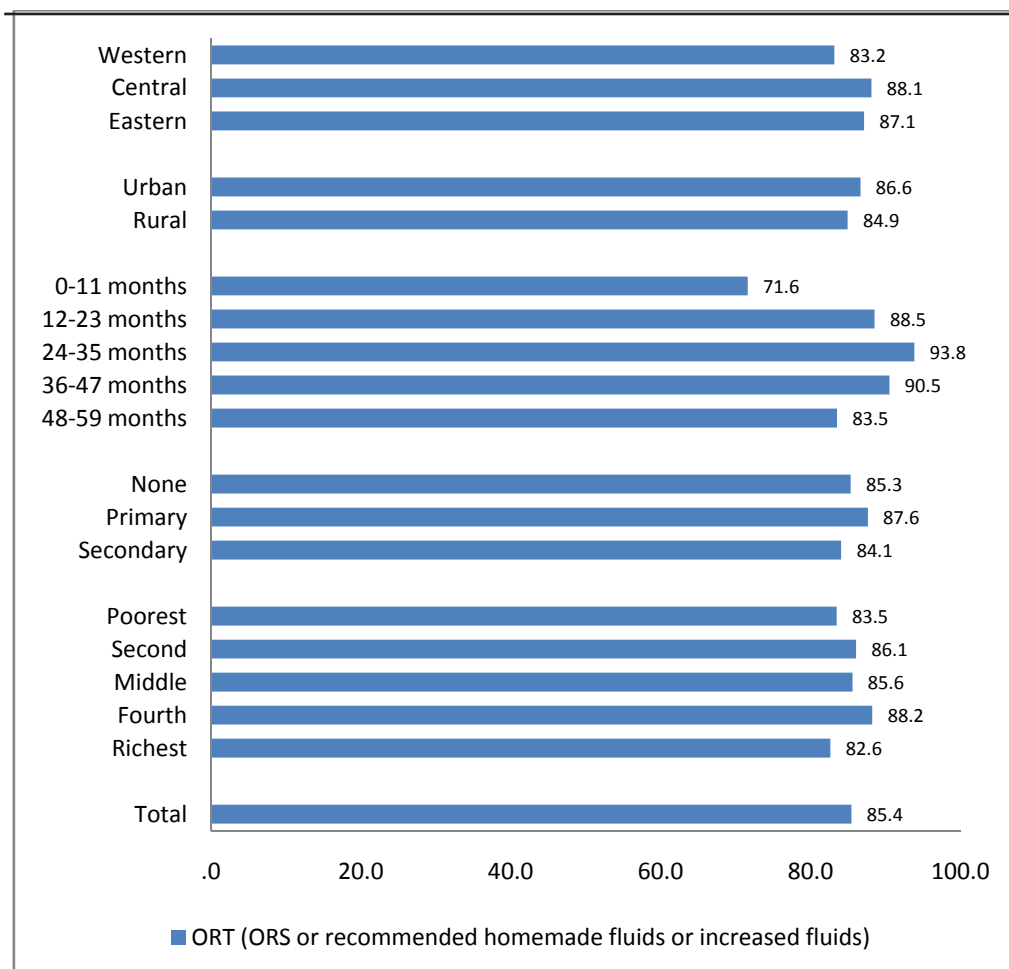
TABLE CH.4: ORAL REHYDRATION THERAPY WITH CONTINUED FEEDING AND OTHER TREATMENTS

Percentage of children age 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding, and percentage of children with diarrhoea who received other treatments, Bhutan, 2010

	Children with diarrhoea who received:			Other treatment:											Not given any treatment or drug	Number of children aged 0-59 months with diarrhoea
	ORS or increased fluids	ORT (ORS or recommended homemade fluids or increased fluids)	ORT with continued feeding [1]	Pill or syrup: Antibiotic	Pill or syrup: Antimotility	Pill or syrup: Zinc	Pill or syrup: Other	Pill or syrup: Unknown	Injection: Antibiotic	Injection: Non-antibiotic	Injection: Unknown	Intravenous	Home remedy/ Herbal medicine	Other		
Sex																
Male	73.3	86.7	63.0	14.3	.3	.4	.3	7.2	1.7	.0	.8	.0	3.6	11.6	9.6	850
Female	74.0	83.9	60.0	13.9	.9	1.3	.6	7.6	1.2	.0	.6	.0	3.5	12.1	12.0	732
Dzongkhag																
Bumthang	73.2	88.0	71.5	6.9	.0	.0	.0	2.9	.0	.0	.0	.0	2.0	8.9	12.0	30
Chukha	58.8	77.9	57.9	27.5	.0	.0	.0	4.0	2.7	.0	.0	.0	5.3	19.6	12.1	194
Dagana	78.3	93.1	77.0	16.1	.0	1.4	.0	31.3	.0	.0	.0	.0	2.2	2.7	5.7	58
Gasa	65.2	81.2	47.6	8.9	.0	.0	.0	.0	.0	.0	.0	.0	0.0	3.8	18.8	9
Haa	72.8	79.0	62.5	11.7	.0	.0	.0	6.4	2.5	.0	.0	.0	4.9	7.5	15.6	28
Lhuntse	85.9	90.7	73.3	23.9	2.9	.0	.0	1.1	1.2	.0	.0	.0	0.0	1.6	7.7	38
Mongar	68.9	81.2	43.6	0.0	1.2	1.4	.0	9.6	2.1	.0	1.6	.0	4.0	4.3	17.8	117
Paro	79.2	87.2	75.1	25.4	1.4	.0	1.5	3.7	1.4	.0	.0	.0	1.0	9.6	9.6	86
Pemagatshel	66.3	80.9	70.4	11.2	1.5	.0	.0	2.2	6.1	.0	.0	.0	9.5	16.3	16.3	34
Punakha	80.6	88.0	69.1	35.8	.0	.0	.0	.9	1.9	.0	.0	.0	7.8	15.4	8.6	60
Samdrup jongkhar	69.3	92.8	81.2	6.5	.0	.0	.0	.9	.0	.0	1.8	.0	1.7	37.0	6.1	83
Samtse	63.6	75.0	55.9	1.1	.0	3.6	.0	11.9	.0	.0	.0	.0	4.1	20.9	15.4	186
Sarpang	71.5	81.3	47.9	5.4	5.5	.0	.0	8.1	.0	.0	.0	.0	3.7	5.6	18.0	72
Thimphu	88.7	93.3	52.7	25.2	.0	1.9	1.7	6.9	.9	.0	1.9	.0	5.5	9.1	4.1	201
Trashigang	83.2	91.2	55.2	0.0	.0	.0	.0	1.2	5.0	.0	1.3	.0	1.3	2.9	8.4	127
Trashiyang-tse	63.9	82.2	78.0	15.8	.0	.0	.0	0.0	.0	.0	1.3	.0	0.0	4.6	16.7	43
Trongsa	64.2	85.8	67.0	1.5	.0	.0	.0	26.1	.0	.0	3.2	.0	1.7	8.1	9.8	31
Tsirang	74.3	84.2	53.8	7.9	.0	.0	3.3	25.2	.0	.0	.0	.0	7.8	3.6	10.9	39
Wangdue	83.6	90.6	71.1	19.4	.0	.0	1.5	9.2	.0	.0	.8	.0	.7	4.6	6.3	95
Zhemgang	73.6	91.9	80.7	14.6	1.0	.0	.0	3.0	3.0	.0	.0	.0	1.0	15.9	8.1	50

Percentage of children age 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding, and percentage of children with diarrhoea who received other treatments, Bhutan, 2010

	Children with diarrhoea who received:			Other treatment:											Not given any treatment or drug	Number of children aged 0-59 months with diarrhoea
	ORS or increased fluids	ORT (ORS or recommended homemade fluids or increased fluids)	ORT with continued feeding [1]	Pill or syrup: Antibiotic	Pill or syrup: Antimotility	Pill or syrup: Zinc	Pill or syrup: Other	Pill or syrup: Unknown	Injection: Antibiotic	Injection: Non-antibiotic	Injection: Unknown	Intravenous	Home remedy/ Herbal medicine	Other		
Region																
Western	72.4	83.2	58.9	20.1	.2	1.4	.6	6.4	1.3	.0	.5	.0	4.7	15.8	10.4	766
Central	75.7	88.1	66.7	11.9	1.2	.2	.7	14.2	.4	.0	.5	.0	2.5	6.6	9.9	375
Eastern	73.8	87.1	61.9	5.7	.7	.4	.0	3.3	2.6	.0	1.3	.0	2.5	9.5	11.8	442
Residence																
Urban	78.8	86.6	60.0	19.7	.8	1.8	.7	8.1	1.1	.0	1.2	.0	3.6	10.1	10.7	467
Rural	71.4	84.9	62.3	11.8	.5	.4	.4	7.1	1.6	.0	.5	.0	3.5	12.6	10.7	1115
Age																
0-11	60.7	71.6	48.9	6.6	1.2	.9	1.1	6.6	1.4	.0	1.3	.0	1.3	9.4	23.1	366
12-23	76.4	88.5	63.1	17.5	.5	1.3	.3	6.9	1.8	.0	1.2	.0	4.2	13.0	8.2	447
24-35	81.5	93.8	70.9	15.5	.0	.7	.0	5.3	1.2	.0	.1	.0	3.6	13.6	5.4	325
36-47	80.2	90.5	61.6	16.3	.6	.7	.0	8.7	1.4	.0	.0	.0	5.8	12.5	3.4	258
48-59	69.0	83.5	66.8	15.3	.3	.0	1.1	12.0	1.1	.0	.4	.0	3.2	10.0	11.7	186
Mother's education																
None	72.3	85.3	59.3	13.7	.6	.8	.2	7.5	1.6	.0	.4	.0	4.2	12.2	10.6	1114
Primary	77.3	87.6	71.2	11.2	.2	.0	2.3	6.6	1.1	.0	0.0	.0	2.6	9.5	7.6	210
Secondary	76.1	84.1	63.7	18.5	.7	1.5	.0	7.7	1.2	.0	2.8	.0	1.5	12.4	13.7	257
Wealth index quintiles																
Poorest	69.1	83.5	60.9	8.2	.7	.7	.4	11.2	.8	.0	.5	.0	4.5	12.7	12.3	341
Second	72.0	86.1	64.6	13.5	.0	.6	.0	6.8	2.0	.0	.8	.0	3.0	8.9	10.7	290
Middle	70.5	85.6	61.5	12.7	.5	.7	1.6	5.2	2.2	.0	.0	.0	5.4	10.6	11.0	336
Fourth	78.9	88.2	60.8	18.0	.8	.6	.2	8.1	.3	.0	.9	.0	1.9	12.2	7.5	389
Richest	78.0	82.6	60.4	19.3	.8	1.7	.0	4.5	2.6	.0	1.7	.0	2.9	15.6	13.2	227
Total	**73.6**	**85.4**	**61.6**	**14.1**	**.6**	**.8**	**.5**	**7.4**	**1.5**	**.0**	**.7**	**.0**	**3.6**	**11.9**	**10.7**	**1582**

[1] MICS indicator 3.8
* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

Care Seeking and Antibiotic Treatment of Pneumonia

Pneumonia is the leading cause of death in children and the use of antibiotics in under-fives with suspected pneumonia is a key intervention. A World Fit for Children goal is to reduce by one-third the deaths due to acute respiratory infections.

Children with suspected pneumonia are those who had an illness with a cough, accompanied by rapid or difficult breathing and whose symptoms were NOT due to a problem in the chest and a blocked nose.

The indicators are:

- Prevalence of suspected pneumonia
- Care seeking for suspected pneumonia
- Antibiotic treatment for suspected pneumonia
- Knowledge of the danger signs of pneumonia

TABLE CH.5: CARE SEEKING FOR SUSPECTED PNEUMONIA AND ANTIBIOTIC USE DURING SUSPECTED PNEUMONIA

Percentage of children age 0-59 months with suspected pneumonia in the last two weeks who were taken to a health provider and percentage of children who were given antibiotics, Bhutan, 2010

	Had suspected pneumonia in the last two weeks	Number of children age 0-59 months	Children with suspected pneumonia who were taken to:												Percentage of children with suspected pneumonia who received antibiotics in the last two weeks [2]	Number of children age 0-59 months with suspected pneumonia in the last two weeks
			Public sector: Hospital	Public sector: Basic health unit	Public sector: Satellite clinic	Public sector: Village health worker	Public sector: Outreach clinic	Private physician	Private pharmacy	Relative / Friend	Shop	Traditional practitioner	Other	Any appropriate provider [1]		
Sex																
Male	7.9	3216	36.6	37.6	.0	1.1	.8	.6	.0	2.7	.8	.3	.0	76.1	49.8	253
Female	5.9	3081	29.2	40.4	.0	2.5	.0	.0	.2	1.8	.0	.0	1.2	71.5	47.3	182
Region																
Western	6.6	2922	43.2	25.4	.0	1.0	.0	.8	.2	4.6	1.1	.4	.0	70.4	55.6	194
Central	6.3	1513	29.6	50.7	.0	1.1	2.1	.0	.0	.3	.0	.0	.0	80.7	50.1	95
Eastern	7.9	1862	23.3	48.7	.0	3.0	.0	.0	.0	.6	.0	.0	1.4	75.0	38.9	147
Residence																
Urban	4.4	1841	61.3	12.8	.0	.8	.0	.0	.0	5.1	2.5	.0	.0	74.1	58.4	81
Rural	7.9	4456	27.2	44.7	.0	1.9	.6	.4	.1	1.7	.0	.2	.6	74.2	46.5	354
Age																
0-11	5.3	1229	31.2	37.8	.0	.0	3.1	.0	.6	.0	.0	.0	.0	72.2	50.3	65
12-23	6.5	1234	28.0	45.3	.0	3.9	.0	.0	.0	1.1	.0	.0	.0	76.6	61.6	80
24-35	7.0	1337	32.8	39.9	.0	1.2	.0	.0	.0	2.9	.0	.8	.0	71.9	44.7	93
36-47	7.8	1275	42.8	33.3	.0	2.7	.0	1.5	.0	.0	.0	.0	.0	80.3	54.5	100
48-59	7.9	1222	30.8	38.5	.0	.5	.0	.0	.0	6.7	2.1	.0	2.2	69.3	35.0	97
Mother's education																
None	7.7	4207	28.4	44.4	.0	2.2	.6	.0	.0	1.6	.0	.2	.7	75.0	41.9	323
Primary	7.7	781	40.1	20.6	.0	.4	.0	.0	.0	1.4	3.4	.0	.0	61.1	69.6	60
Secondary	4.0	1309	57.6	25.0	.0	.0	.0	2.8	.8	7.9	.0	.0	.0	84.3	66.9	52
Wealth index quintiles																
Poorest	10.1	1294	15.6	43.9	.0	4.4	.0	.0	.0	3.1	.0	.0	1.6	63.6	40.6	131
Second	7.7	1159	28.7	49.6	.0	1.1	2.3	.0	.0	.8	.0	.0	.0	80.6	46.8	89
Middle	6.0	1197	29.5	49.1	.0	.0	.0	.0	.0	1.6	.0	1.0	.0	77.6	61.5	72
Fourth	6.9	1438	52.1	25.0	.0	.0	.0	.0	.0	4.1	2.1	.0	.0	76.5	44.6	99
Richest	3.6	1208	61.4	15.7	.0	1.4	.0	3.4	.9	.0	.0	.0	.0	81.8	65.6	44
Total	**6.9**	**6297**	**33.5**	**38.8**	**.0**	**1.7**	**.5**	**.3**	**.1**	**2.3**	**.5**	**.2**	**.5**	**74.2**	**48.7**	**435**

[1] MICS indicator 3.9
[2] MICS indicator 3.10

* By Dzongkhag is not shown because the number of unweighted observation are lower than 50

Table CH.5 presents the prevalence of suspected pneumonia and, if care was sought outside the home, the site of care. 6.9 percent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Of these children, 74.2 percent were taken to an appropriate provider, with the vast majority being taken to a public sector hospital (33.5%) or a public sector Basic Health Unit (38.8%).

Table CH.5 also presents the use of antibiotics for the treatment of suspected pneumonia in under-fives by sex, age, region, residence, and socio-economic factors. In Bhutan, 48.7 percent of under-five children with suspected pneumonia had received antibiotics during the two weeks prior to the survey. The percentage was higher in urban areas (58.4%), while the percentage declines to only 38.9 percent in the Eastern region. The table also shows that antibiotic treatment of suspected pneumonia is very low among the poorest households (40.6%), among children whose mothers/caretakers have no education (41.9%), and among children 48-59 months old (35%).

Solid Fuel Use

More than three billion people around the world rely on solid fuels (biomass and coal) for their basic energy needs, including cooking and heating. Cooking and heating with solid fuels leads to high levels of indoor smoke, a complex mix of health-damaging pollutants. The main problem with the use of solid fuels is products of incomplete combustion, including CO, polyaromatic hydrocarbons, SO_2, and other toxic elements. Use of solid fuels increases the risks of acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, and possibly tuberculosis, low birth weight, cataracts, and asthma. The primary indicator is the proportion of the population using solid fuels as the primary source of domestic energy for cooking.

TABLE CH.6: SOLID FUEL USE

Percentage disribution of household members according to type of cooking fuel used by the household, and percentage of household members living in households using solid fuels for cooking, Bhutan, 2010

	Percentage of household members in households using:									Solid fuels for cooking [1]	Number of household members
	Electricity	Liquefied Petroleum Gas (LPG)	Kerosene	Coal	Wood	Straw/ Shrubs/ Grass	No food cooked in household	Other	Total		
Dzongkhag											
Bumthang	22.7	32.1	.0	.0	45.2	.0	.0	.0	100.0	45.2	1605
Chukha	23.4	37.8	.0	.2	38.6	.0	.0	.0	100.0	38.7	6863
Dagana	10.6	11.1	.1	.1	77.8	.2	.0	.0	100.0	78.2	2541
Gasa	37.9	5.0	.0	.2	56.9	.0	.0	.0	100.0	57.1	484
Haa	44.4	39.6	.6	.0	15.3	.0	.1	.0	100.0	15.3	1312
Lhuntse	49.8	3.1	.1	.1	46.9	.0	.0	.0	100.0	46.9	1564
Mongar	28.7	14.4	.1	.6	56.3	.0	.0	.0	100.0	56.8	4741
Paro	48.6	45.8	.2	.0	5.5	.0	.0	.0	100.0	5.5	3776
Pemagatshel	18.7	15.7	.1	.3	65.2	.0	.0	.0	100.0	65.5	2627
Punakha	73.8	13.8	.0	.0	12.4	.0	.0	.0	100.0	12.4	2549
Samdrup jongkhar	34.3	12.7	.1	.2	52.7	.0	.0	.0	100.0	52.9	3892
Samtse	25.5	12.8	.4	.3	61.0	.1	.0	.0	100.0	61.3	7530
Sarpang	29.1	35.9	1.0	.0	34.0	.0	.0	0.0	100.0	34.0	4127
Thimphu	47.1	52.1	.0	.0	.6	.0	.0	.2	100.0	.6	8372
Trashigang	65.6	2.5	.0	.0	31.9	.0	.0	.0	100.0	31.9	5266
Trashiyangtse	48.9	11.5	.0	.4	39.2	.0	.0	.0	100.0	39.5	1711
Trongsa	23.6	21.8	.1	.3	54.2	.0	.0	.0	100.0	54.5	1510
Tsirang	6.3	15.4	.0	1.4	76.9	.0	.0	.0	100.0	78.3	2208
Wangdue	52.0	16.7	.1	.4	30.4	.4	.0	.0	100.0	31.2	2841
Zhemgang	29.1	7.0	.1	.5	63.3	.0	.0	.0	100.0	63.7	1800
Region											
Western	38.7	34.1	.2	.1	26.8	.0	.0	.0	100.0	27.0	30887
Central	26.1	21.3	.3	.3	51.9	.1	.0	.0	100.0	52.3	16631
Eastern	41.7	9.9	.1	.3	48.1	.0	.0	.0	100.0	48.3	19801

Percentage disribution of household members according to type of cooking fuel used by the household, and percentage of household members living in households using solid fuels for cooking, Bhutan, 2010

	Percentage of household members in households using:									Solid fuels for cooking [1]	Number of household members
	Electricity	Liquefied Petroleum Gas (LPG)	Kerosene	Coal	Wood	Straw/ Shrubs/ Grass	No food cooked in household	Other	Total		
Residence											
Urban	44.5	52.9	.4	.1	2.1	0.0	0.0	0.0	100.0	2.2	18500
Rural	33.4	12.8	.1	.3	53.3	.0	.0	.0	100.0	53.6	48820
Education of household head											
None	35.2	13.8	.1	.3	50.6	.0	.0	.0	100.0	50.9	44415
Primary	40.4	25.0	.3	.0	34.2	.0	.0	.1	100.0	34.3	10129
Secondary +	37.9	57.9	.3	.0	3.8	.0	.0	.0	100.0	3.8	12763
Missing/DK	*	*	*	*	*	*	*	*	*	*	13
Wealth index quintiles											
Poorest	.1	0.0	.0	.2	99.7	.0	.0	.0	100.0	99.9	13461
Second	27.7	2.2	.1	.6	69.4	.0	.0	.0	100.0	70.0	13468
Middle	62.4	14.2	.4	.3	22.5	.1	.0	.1	100.0	22.8	13466
Fourth	61.2	34.1	.4	.0	4.4	.0	.0	.0	100.0	4.4	13462
Richest	30.9	68.7	.0	.0	.3	.0	.0	.0	100.0	.3	13462
Total	**36.5**	**23.9**	**.2**	**.2**	**39.3**	**.0**	**.0**	**.0**	**100.0**	**39.5**	**67320**

[1] MICS indicator 3.11

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

In more than a third of the household population (39.5%) of Bhutan, the main source of fuel for cooking is solid fuels. Use of solid fuels is very low among the household population in urban areas (2.2%), but very high in rural areas, where more than half of the household population (53.6%) are using solid fuels. Differentials with respect to household wealth and the educational level of the household head are also significant. The findings show that use of solid fuels is very uncommon among household population in the Western region, and among the richest. The table also clearly shows that the overall percentage is high due to high level of use of wood for cooking purposes.

Solid fuel use alone is a poor proxy for indoor air pollution, since the concentration of the pollutants is different when the same fuel is burnt in different stoves or fires. Use of closed stoves with chimneys minimizes indoor pollution, while open stoves or a fire with no chimney or hood means that there is no protection from the harmful effects of solid fuels. Solid fuel use by place of cooking is depicted in Table CH.7. The table shows that of household members using solid fuels for cooking 36.7 percent cook in a separate building, 34.2 percent in a separate room used as kitchen, and 25.3 percent cook elsewhere in the house.

TABLE CH.7: SOLID FUEL USE BY PLACE OF COOKING

Percentage distribution of household members in households using solid fuels by place of cooking, Bhutan, 2010

	Place of cooking:						Number of house-hold members in households using solid fuels for cooking
	In a separate room used as kitchen	Elsewhere in the house	In a separate building	Outdoors	Other	Total	
Dzongkhag							
Bumthang	31.0	68.1	.4	.5	.0	100.0	725
Chukha	44.7	22.2	32.1	.5	.5	100.0	2659
Dagana	22.4	17.9	57.0	2.5	.2	100.0	1986
Gasa	44.9	55.1	0.0	.0	.0	100.0	277
Haa	16.8	69.2	13.4	.0	.6	100.0	201
Lhuntse	21.9	45.7	31.3	1.1	0.0	100.0	734
Mongar	29.3	14.6	40.8	15.1	.2	100.0	2695
Paro	65.9	18.3	10.9	4.3	.7	100.0	206
Pemagatshel	37.7	21.4	40.5	.5	.0	100.0	1721
Punakha	47.4	25.7	24.2	2.2	.6	100.0	316
Samdrup jongkhar	32.6	38.0	29.0	.3	.0	100.0	2058
Samtse	51.3	14.2	26.9	7.4	.2	100.0	4617
Sarpang	10.5	19.7	69.8	.0	.0	100.0	1401
Thimphu	(81.5)	(.0)	(.0)	(18.5)	(.0)	(100.0)	50
Trashigang	12.0	43.1	44.2	.7	.0	100.0	1682
Trashiyangtse	38.7	21.3	39.2	.9	.0	100.0	677
Trongsa	35.4	47.9	14.7	1.6	.5	100.0	823
Tsirang	8.3	16.9	74.0	.7	.0	100.0	1728
Wangdue	73.4	16.1	5.5	.0	5.0	100.0	885
Zhemgang	35.7	32.9	30.8	.5	.1	100.0	1147
Region							
Western	48.5	19.9	26.7	4.6	.3	100.0	8325
Central	26.6	26.8	45.0	1.0	.6	100.0	8696
Eastern	28.6	28.7	37.9	4.7	.1	100.0	9567
Residence							
Urban	45.3	27.5	25.7	1.5	.0	100.0	399
Rural	34.0	25.3	36.9	3.5	.3	100.0	26190
Education of household head							
None	33.9	27.0	35.1	3.6	.4	100.0	22621
Primary	36.5	13.6	47.1	2.6	.2	100.0	3475
Secondary +	30.5	30.2	38.7	.6	.0	100.0	486
Missing/DK	*	*	*	*	*	*	*
Wealth index quintiles							
Poorest	30.0	32.8	33.1	3.8	.4	100.0	13450
Second	36.8	19.5	40.2	3.2	.3	100.0	9429
Middle	39.8	13.4	43.5	3.1	.2	100.0	3077
Fourth	56.7	10.5	32.4	.5	.0	100.0	589
Richest	51.9	48.1	.0	.0	.0	100.0	44
Total	**34.2**	**25.3**	**36.7**	**3.4**	**.3**	**100.0**	**26589**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

VII. Water and Sanitation

Safe drinking water is a basic necessity for good health. Unsafe drinking water can be a significant carrier of diseases such as trachoma, cholera, typhoid, and schistosomiasis. Drinking water can also be tainted with chemical, physical and radiological contaminants with harmful effects on human health. In addition to its association with disease, access to drinking water may be particularly important for women and children, especially in rural areas, who bear the primary responsibility for carrying water, often for long distances.

The MDG goal is to reduce by half, between 1990 and 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. The World Fit for Children goal calls for a reduction in the proportion of households without access to hygienic sanitation facilities and affordable and safe drinking water by at least one-third.

The list of indicators used in MICS is as follows:

Water

- Use of improved drinking water sources
- Use of adequate water treatment method
- Time to source of drinking water
- Person collecting drinking water

Sanitation

- Use of improved sanitation facilities
- Sanitary disposal of child's faeces

For more details on water and sanitation and to access some reference documents, please visit the UNICEF childinfo website http://www.childinfo.org/wes.html.

Use of Improved Water Sources

The distribution of the population by source of drinking water is shown in Table WS.1 and Figure WS.1. The population using improved sources of drinking water are those using any of the following types of supply: piped water (into dwelling, compound, yard or plot, public tap/standpipe), tube well/borehole, protected well, protected spring, and rainwater collection. Bottled water is considered as an improved water source only if the household is using an improved water source for other purposes, such as hand-washing and cooking.

TABLE WS.1: USE OF IMPROVED WATER SOURCES

Percent distribution of household population according to main source of drinking water and percentage of household population using improved drinking water sources, Bhutan, 2010

| | Main source of drinking water | | | | | | | | | | | | | | Total | Percentage using improved sources of drinking water [1] | Number of household members |
| | Improved sources | | | | | | | | Unimproved sources | | | | | | | | |
Dzongkhag	Piped into dwelling	Piped into compound	Piped to neighbor	Public outdoor tap	Protected well	Spring	Rainwater collection	Bottled water	Unprotected well	Unprotected spring	Tanker-truck	Cart with samll tank/drum	Surface water(river,stream,dam,lake,pond,canal,irrigation channel)	Other			
Bumthang	28.1	55.5	2.6	9.1	.1	4.1	.0	.0	.0	.2	.0	.0	.2	.0	100.0	99.6	1605
Chukha	39.1	39.9	13.4	.5	.0	.8	.0	.0	.0	3.2	.0	.0	3.1	.0	100.0	93.7	6863
Dagana	6.0	74.3	4.3	7.1	.4	2.0	.0	.0	.4	.8	.0	.0	4.4	.4	100.0	94.1	2541
Gasa	7.0	23.2	3.3	26.4	6.0	4.1	.0	.0	.5	9.0	.0	.0	20.5	.0	100.0	70.0	484
Haa	55.4	41.4	.6	2.1	.1	.5	.0	.0	.0	.0	.0	.0	0.0	.0	100.0	100.0	1312
Lhuntse	4.9	65.0	4.7	23.4	.0	0.0	.0	.0	.4	.0	.0	.0	1.5	.0	100.0	98.1	1564
Mongar	18.0	74.7	2.4	1.3	.0	2.4	.3	.0	.1	.8	.0	.0	.1	.0	100.0	99.0	4741
Paro	35.7	49.7	6.9	2.0	1.6	.5	.0	.0	.1	.6	.3	.4	2.1	.0	100.0	96.4	3776
Pemagatshel	7.2	67.6	12.1	6.3	1.8	1.2	.1	.0	.0	.4	.0	.0	3.3	.0	100.0	96.2	2627
Punakha	20.9	50.0	4.9	14.6	.3	.3	.1	.0	.5	2.6	.0	.0	5.5	.3	100.0	91.0	2549
Samdrup jongkhar	16.1	72.0	8.8	0.0	.0	.4	.0	.0	.0	1.2	.0	.0	.8	.6	100.0	97.3	3892
Samtse	20.4	65.3	4.7	4.0	.1	.9	.0	.0	1.2	2.2	.0	.0	1.0	.2	100.0	95.4	7530
Sarpang	30.1	46.7	14.3	4.4	.0	1.2	.0	.0	.1	1.3	.0	.1	1.8	.1	100.0	96.7	4127
Thimphu	72.4	26.3	.9	.3	.0	.0	.0	.2	.0	.0	.0	.0	0.0	.0	100.0	100.0	8372
Trashigang	8.6	70.7	4.0	9.9	2.5	2.8	.0	.0	.4	.5	.0	.0	.6	.0	100.0	98.6	5266
Trashiyangtse	13.4	76.8	5.8	.5	.0	.9	.0	.0	.5	1.3	.0	.0	.8	.0	100.0	97.4	1711
Trongsa	17.1	42.8	4.8	29.3	.3	.5	.0	.0	.1	1.3	.0	.0	3.7	.1	100.0	94.8	1510
Tsirang	10.9	80.4	4.2	.2	.0	.0	.0	.0	.1	1.7	.0	.0	2.0	.1	100.0	95.8	2208
Wangdue	17.3	41.9	6.8	22.4	.1	1.6	.0	.0	.3	1.3	.0	.0	8.4	.0	100.0	90.0	2841
Zhemgang	10.1	41.1	21.0	18.6	.1	.2	.0	.0	.0	1.2	.0	.0	7.8	.0	100.0	91.0	1800

Contd. TABLE WS.1: USE OF IMPROVED WATER SOURCES

Percent distribution of household population according to main source of drinking water and percentage of household population using improved drinking water sources, Bhutan, 2010

	Main source of drinking water														Total	Percentage using improved sources of drinking water [1]	Number of household members
	Improved sources								Unimproved sources								
	Piped into dwelling	Piped into compound	Piped to neighbor	Public outdoor tap	Protected well	Spring	Rainwater collection	Bottled water	Unprotected well	Unprotected spring	Tanker-truck	Cart with samll tank/drum	Surface water(river,stream, dam, lake,pond,canal,irrigation channel)	Other			
Region																	
Western	41.8	44.2	5.7	3.1	.3	.6	.0	.1	.3	1.7	.0	.0	2.0	.1	100.0	95.8	30887
Central	18.2	54.5	8.9	11.6	.1	1.3	.0	.0	.2	1.2	.0	.0	4.0	.1	100.0	94.5	16631
Eastern	12.3	71.6	5.8	5.7	.9	1.7	.1	.0	.2	.7	.0	.0	1.0	.1	100.0	98.0	19801
Residence																	
Urban	69.9	23.1	3.1	3.1	.0	.3	.0	.1	0.0	.1	.0	.0	.2	.0	100.0	99.6	18500
Rural	11.1	66.8	7.8	7.0	.6	1.4	.0	.0	.4	1.7	.0	.0	2.9	.1	100.0	94.8	48820
Education of household head																	
None	13.5	65.0	7.7	7.4	.7	1.2	.0	.0	.4	1.4	.0	.0	2.6	.1	100.0	95.4	44415
Primary	31.2	51.4	6.4	4.7	.1	1.3	.0	.0	.0	2.1	.1	.0	2.7	.0	100.0	95.0	10129
Secondary +	72.3	22.1	2.6	2.1	.0	.4	.0	.1	.0	.2	.0	.0	.2	.1	100.0	99.5	12763
Missing/DK	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Wealth index quintiles																	
Poorest	.1	72.1	8.8	8.2	.7	1.8	.1	.0	.8	2.8	.0	.0	4.3	.3	100.0	91.8	13461
Second	1.8	74.1	8.2	7.9	.8	1.6	.0	.0	.2	2.2	.0	.1	2.9	.1	100.0	94.6	13468
Middle	4.7	73.7	8.4	7.7	.4	1.4	.0	.0	.3	1.0	.0	.0	2.4	.1	100.0	96.2	13466
Fourth	39.8	46.1	6.6	5.2	.3	.5	.0	.0	.0	.4	.0	.1	1.0	.0	100.0	98.4	13462
Richest	90.0	8.0	.7	.7	.1	.1	.0	.1	.0	.0	.1	.0	.2	.0	100.0	99.8	13462
Total	**27.3**	**54.8**	**6.5**	**6.0**	**.5**	**1.1**	**.0**	**.0**	**.3**	**1.3**	**.0**	**.0**	**2.2**	**.1**	**100.0**	**96.1**	**67320**

[1] MICS indicator 4.1; MDG indicator 7.8

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

Overall, 96.1 percent of the population is using an improved source of drinking water – 99.6 percent in urban areas and 94.8 percent in rural areas. There are only small regional differences with 94.5 percent of the population in Central region getting its drinking water from an improved source compared to 95.8 percent in the Western region and 98 percent in the Eastern region.

The source of drinking water for the population varies by region (Table WS.1). In the Western and Eastern regions, 91.7 and 89.7 percent respectively uses drinking water that is piped into their dwelling, yard or neighbour's place. In contrast, only about 81.6 percent of those residing in Central region have piped water. In Gasa Dzongkhag more than two out of ten household members use surface water as the source of drinking water, therefore, the use of improved drinking water sources at 70 percent is much lower compared to the other Dzongkhags.

Figure WS.1: Percentage of household population using improved source of drinking water by Dzongkhag, Bhutan 2010.
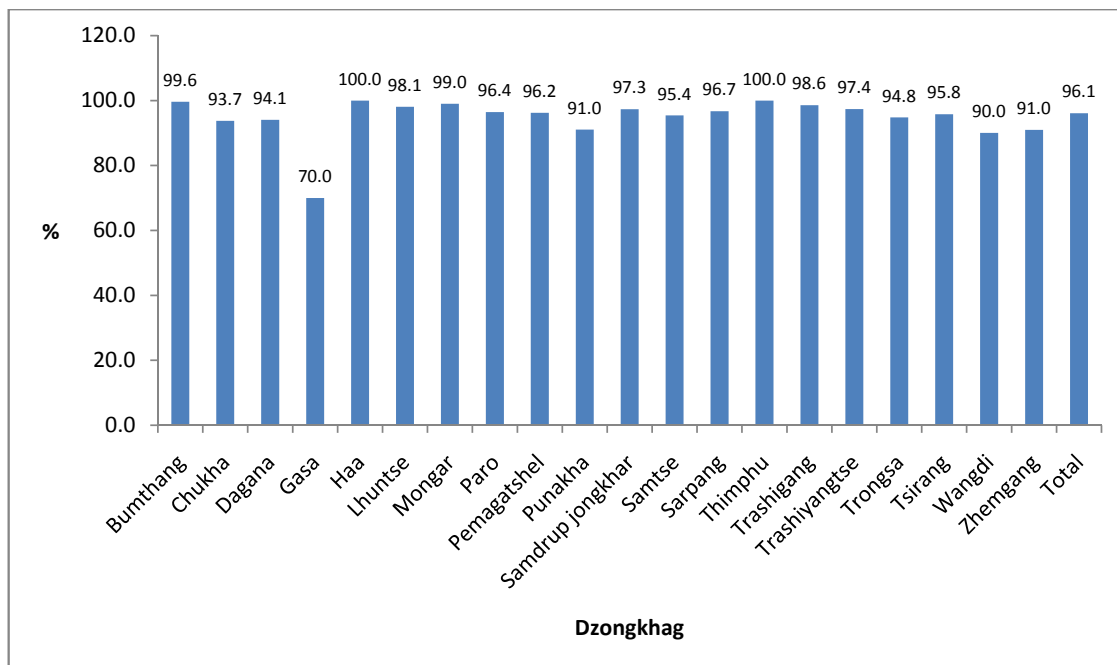
Use of in-house water treatment is presented in Table WS.2. Households were asked of ways they may be treating water at home to make it safer to drink – boiling, adding bleach or chlorine, using a water filter, and using solar disinfection were considered as proper treatment of drinking water. The table shows water treatment by all households and the percentage of household members living in households using unimproved water sources but using appropriate water treatment methods.

About 56 percent of the household population used a proper method to treat their drinking water. Calculated by area, 54.7 percent of rural and 98.6 percent of urban household members properly treated the water. Disparities exist between the educational levels of the household head and between the wealth quintiles. It is more likely for a household to treat the water properly in the wealthier households, and in those with household head with primary, secondary education or above. Most of the households (74.8%) boil the drinking water as it is a cost effective way of treatment.

TABLE WS.2: HOUSEHOLD WATER TREATMENT

Percentage of household population by drinking water treatment method used in the household, and for household members living in households where an unimproved drinking water source is used, the percentage who are using an appropriate treatment method, Bhutan, 2010

	Water treatment method used in the household									Number of household members	Percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method [1]	Number of household members in households using unimproved drinking water sources
	None	Boil	Add bleach / chlorine	Strain through a cloth	Use water filter	Solar disinfection	Let it stand and settle	Other	Don't know			
Dzongkhag												
Bumthang	17.8	73.5	.9	1.1	20.3	.0	12.6	.0	.0	1605	100.0	6
Chukha	6.8	81.8	.4	1.2	34.9	.1	13.1	.0	.0	6863	70.6	430
Dagana	9.7	89.2	.0	.0	12.6	.0	2.4	.0	.0	2541	85.7	150
Gasa	23.4	53.7	.0	5.5	3.4	.0	30.8	.0	.0	484	30.6	145
Haa	4.0	94.0	.0	1.0	29.1	.0	7.2	.0	.0	1312	*	.
Lhuntse	51.7	40.3	.0	1.9	8.4	.0	15.9	.0	.0	1564	16.6	30
Mongar	33.2	63.6	.4	1.0	15.6	.0	3.2	.0	.0	4741	(22.9)	46
Paro	7.9	71.7	.2	.7	28.1	.2	22.7	.0	.0	3776	58.1	135
Pemagatshel	29.1	63.6	.6	4.5	9.4	1.5	24.3	.0	.0	2627	74.2	99
Punakha	23.7	58.2	.0	1.9	25.3	.1	13.5	.0	.0	2549	34.6	228
Samdrup jongkhar	32.5	60.7	.4	2.8	13.9	.0	5.2	.0	.0	3892	31.1	104
Samtse	11.1	85.5	.0	1.2	17.2	.0	3.0	.0	.0	7530	70.1	345
Sarpang	11.5	83.7	.1	7.5	16.0	.0	.4	.0	.0	4127	80.1	136
Thimphu	1.8	95.2	.3	1.1	60.1	.0	1.1	.0	.0	8372	*	.
Trashigang	20.5	67.5	.0	.7	9.5	.0	18.4	.0	.0	5266	(57.3)	76
Trashiyangtse	33.2	63.4	.1	.7	11.9	.0	2.8	.0	.0	1711	66.3	45
Trongsa	29.3	45.3	.1	2.5	18.1	.2	36.7	.0	.0	1510	32.7	79
Tsirang	5.5	93.5	.0	.2	9.2	.0	.6	.0	.0	2208	86.1	93
Wangdue	9.9	66.3	.1	1.3	14.2	.1	32.1	.0	.0	2841	51.0	283
Zhemgang	55.5	42.6	.0	.8	11.6	.0	2.0	.0	.0	1800	7.6	163

Contd. TABLE WS.2: HOUSEHOLD WATER TREATMENT

Percentage of household population by drinking water treatment method used in the household, and for household members living in households where an unimproved drinking water source is used, the percentage who are using an appropriate treatment method, Bhutan, 2010

	Water treatment method used in the household									Number of household members	Percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method [1]	Number of household members in households using unimproved drinking water sources
	None	Boil	Add bleach / chlorine	Strain through a cloth	Use water filter	Solar disinfection	Let it stand and settle	Other	Don't know			
Region												
Western	8.2	83.2	.2	1.2	35.0	.1	8.6	.0	.0	30887	58.2	1283
Central	17.1	74.0	.2	2.5	14.4	.0	10.8	.0	.0	16631	55.6	910
Eastern	30.6	62.2	.3	1.8	11.9	.2	11.4	.0	.0	19801	48.7	399
Residence												
Urban	2.6	90.2	.4	2.2	55.6	.0	3.3	.0	.0	18500	98.6	68
Rural	22.4	68.9	.1	1.5	10.9	.1	12.5	.0	.0	48820	54.7	2524
Education of household head												
None	22.9	67.9	.2	1.7	11.5	.1	12.7	.0	.0	44415	49.3	2022
Primary	9.2	84.2	.0	1.3	25.3	.1	7.3	.0	.0	10129	77.2	505
Secondary +	2.6	91.1	.4	2.1	62.1	.1	2.8	.0	.0	12763	92.3	65
Missing/DK	*	*	*	*	*	*	*	*	*	*	*	*
Wealth index quintiles												
Poorest	35.5	57.5	.0	.8	.7	.2	9.5	.0	.0	13461	49.5	1109
Second	26.6	64.8	.0	1.7	2.4	.1	14.9	.0	.0	13468	55.0	731
Middle	15.6	74.5	.1	1.2	9.0	.0	16.6	.0	.0	13466	57.5	506
Fourth	5.5	86.5	.3	2.3	30.9	.0	7.1	.0	.0	13462	81.2	215
Richest	1.7	90.6	.6	2.5	72.7	.2	1.8	.0	.0	13462	(100.0)	30
Total	**17.0**	**74.8**	**.2**	**1.7**	**23.2**	**.1**	**10.0**	**.0**	**.0**	**67320**	**55.8**	**2592**

[1] MICS indicator 4.2

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

The amount of time it takes to obtain water is presented in Table WS.3 and the person who usually collected the water in Table WS.4. Note that these results refer to one roundtrip from home to drinking water source. Information on the number of trips made in one day was not collected.

Table WS.3 shows that for 93 percent of households, the drinking water source is on the premises. For 5.1 percent of all households, it takes less than 30 minutes to get to the water source and bring water, while 1.9 percent of households spend 30 minutes or more for this purpose. In rural areas more households spend time in collecting water compared to those in urban areas. For users of improved drinking water sources, a higher 1.2 percent of households in the Eastern region spend 30 minutes or more for getting water compared to the Central and Western regions (0.9 and 0.3% respectively). However, for users of unimproved drinking water sources, a lower 0.6 percent in the Eastern region spend 30 minutes or more for getting water compared to the Central and Western regions (1.5 and 1.4% respectively). Thus, in the Eastern region it is easier to find unimproved drinking water sources close by, and more difficult to find improved drinking water sources close by compared to the other regions.

TABLE WS.3: TIME TO SOURCE OF DRINKING WATER

Percent distribution of household population according to time to go to source of drinking water, get water and return, for users of improved and unimproved drinking water sources, Bhutan, 2010

	Time to source of drinking water								Total	Number of household members
	Users of improved drinking water sources				Users of unimproved drinking water sources					
	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK		
Dzongkhag										
Bumthang	88.2	7.8	3.4	.1	.0	.4	0.0	.0	100.0	1605
Chukha	92.7	1.0	.0	.0	.7	2.7	2.8	.0	100.0	6863
Dagana	87.8	6.0	.3	.0	.6	2.8	2.5	.0	100.0	2541
Gasa	55.3	11.2	1.6	1.8	1.7	19.5	8.9	.0	100.0	484
Haa	99.3	.3	.4	.0	.0	.0	0.0	.0	100.0	1312
Lhuntse	98.0	.0	.1	.0	1.2	.3	.4	.0	100.0	1564
Mongar	95.4	1.7	1.9	.0	.5	.1	.4	.0	100.0	4741
Paro	94.0	1.6	.8	.0	.7	1.8	1.1	.0	100.0	3776
Pemagatshel	90.7	5.1	.5	.0	.5	1.7	1.6	.0	100.0	2627
Punakha	86.2	4.9	.0	.0	2.7	5.4	.7	.1	100.0	2549
Samdrup jongkhar	97.3	.0	.1	.0	1.7	.4	.6	.0	100.0	3892
Samtse	93.4	1.5	.5	.0	1.7	.9	1.9	.0	100.0	7530
Sarpang	93.9	2.6	.2	.0	1.1	.7	1.6	.0	100.0	4127
Thimphu	99.9	.1	0.0	.0	.0	.0	0.0	.0	100.0	8372
Trashigang	86.2	9.9	2.5	.0	.1	1.2	.1	.0	100.0	5266
Trashiyangtse	97.2	.2	.0	.0	.6	.9	1.1	.0	100.0	1711
Trongsa	80.4	12.9	1.5	.0	1.1	2.3	1.8	.0	100.0	1510
Tsirang	95.6	.1	.0	.1	1.9	1.3	1.0	.0	100.0	2208
Wangdue	70.2	18.6	1.3	.0	2.3	6.3	.9	.4	100.0	2841
Zhemgang	88.8	1.2	.8	.1	3.0	3.4	2.6	.0	100.0	1800

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Contd. TABLE WS.3: TIME TO SOURCE OF DRINKING WATER

Percent distribution of household population according to time to go to source of drinking water, get water and return, for users of improved and unimproved drinking water sources, Bhutan, 2010

	Time to source of drinking water								Total	Number of household members
	Users of improved drinking water sources				Users of unimproved drinking water sources					
	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK		
Region										
Western	94.1	1.4	.3	.0	.9	1.8	1.4	.0	100.0	30887
Central	86.8	6.8	.9	.0	1.4	2.5	1.5	.1	100.0	16631
Eastern	93.1	3.7	1.2	0.0	.7	.8	.6	.0	100.0	19801
Residence										
Urban	97.9	1.5	.2	.0	.1	.1	.2	.0	100.0	18500
Rural	89.8	4.2	.9	.0	1.3	2.3	1.6	.0	100.0	48820
Education of household head										
None	90.4	4.1	1.0	.0	1.3	2.0	1.2	.0	100.0	44415
Primary	91.4	3.3	.2	.1	.9	1.9	2.2	.0	100.0	10129
Secondary +	98.1	1.2	.1	.0	.1	.2	.2	.0	100.0	12763
Missing/DK	*	*	*	*	*	*	*	*	*	13
Wealth index quintiles										
Poorest	85.7	4.9	1.1	.0	2.5	3.2	2.5	.1	100.0	13461
Second	88.6	4.6	1.3	.0	1.4	2.6	1.4	.0	100.0	13468
Middle	90.8	4.9	.5	.1	.7	1.7	1.3	.0	100.0	13466
Fourth	95.6	2.4	.4	.0	.2	.8	.6	.0	100.0	13462
Richest	99.4	.2	.2	.0	.0	.0	.2	.0	100.0	13462
Total	**92.0**	**3.4**	**.7**	**.0**	**1.0**	**1.7**	**1.2**	**.0**	**100.0**	**67320**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

TABLE WS.4: PERSON COLLECTING WATER

Percentage of households without drinking water on premises, and percent distribution of households without drinking water on premises according to the person usually collecting drinking water used in the household, Bhutan, 2010

	Percentage of households without drinking water on premises	Number of households	Person usually collecting drinking water							Number of households without drinking water on premises
			Adult woman (age 15+ years)	Adult man (age 15+ years)	Female child (under 15)	Male child (under 15)	DK	Missing	Total	
Dzongkhag										
Bumthang	11.9	320	72.1	19.6	3.1	1.7	3.5	.0	100.0	38
Chukha	5.6	1478	(57.0)	(37.3)	(5.6)	(.0)	(.0)	(.0)	(100.0)	83
Dagana	11.5	548	77.5	15.7	2.9	2.8	1.1	.0	100.0	63
Gasa	38.0	102	83.1	16.9	.0	.0	.0	.0	100.0	39
Haa	.6	297	*	*	*	*	*	*	*	2
Lhuntse	.7	364	*	*	*	*	*	*	*	2
Mongar	4.3	965	(65.3)	(32.1)	(2.7)	(.0)	(.0)	(.0)	(100.0)	42
Paro	5.3	790	(58.1)	(34.6)	(5.2)	(2.0)	(.0)	(.0)	(100.0)	42
Pemagatshel	8.9	564	88.9	11.1	0.0	0.0	(.0)	(.0)	(100.0)	50
Punakha	9.5	515	72.6	22.3	2.2	2.2	.8	0.0	100.0	49
Samdrup jongkhar	1.4	827	*	*	*	*	*	*	*	11
Samtse	4.6	1641	(62.8)	(24.8)	(2.7)	(7.0)	(2.6)	(0.0)	(100.0)	76
Sarpang	4.9	895	(59.8)	(39.4)	(0.8)	(.0)	(.0)	(0.0)	(100.0)	44
Thimphu	.1	1932	*	*	*	*	*	*	*	3
Trashigang	12.5	1245	79.1	17.8	3.1	.0	.0	.0	100.0	156
Trashiyangtse	2.2	444	*	*	*	*	*	*	*	10
Trongsa	17.2	315	82.6	11.8	3.4	2.2	.0	.0	100.0	54
Tsirang	2.1	473	*	*	*	*	*	*	*	10
Wangdue	28.4	624	86.6	7.9	2.7	1.9	.2	.6	100.0	177
Zhemgang	8.7	338	87.1	11.5	1.4	.0	.0	.0	100.0	29

Percentage of households without drinking water on premises, and percent distribution of households without drinking water on premises according to the person usually collecting drinking water used in the household, Bhutan, 2010

	Percentage of households without drinking water on premises	Number of households	Person usually collecting drinking water							Number of households without drinking water on premises
			Adult woman (age 15+ years)	Adult man (age 15+ years)	Female child (under 15)	Male child (under 15)	DK	Missing	Total	
Region										
Western	4.3	6755	65.1	27.9	3.5	2.6	.8	.0	100.0	293
Central	11.8	3512	79.5	15.4	2.5	1.7	.6	.3	100.0	416
Eastern	6.2	4409	77.7	20.1	2.2	.0	0.0	.0	100.0	271
Residence										
Urban	1.9	4320	63.6	23.5	4.3	5.6	1.6	1.4	100.0	81
Rural	8.7	10356	75.7	20.2	2.6	1.1	.4	.0	100.0	899
Education of household head										
None	8.3	9265	76.4	19.0	2.8	1.1	.5	.1	100.0	768
Primary	7.0	2134	71.8	23.5	2.2	2.2	.3	.0	100.0	149
Secondary +	1.9	3275	61.1	30.9	3.3	4.0	.7	.0	100.0	64
Missing/DK	*	2	*	*	*	*	*	*	*	*
Wealth index quintiles										
Poorest	11.7	2762	76.1	18.3	3.8	1.0	.8	.0	100.0	323
Second	9.6	2849	75.6	21.3	2.1	1.0	0.0	.0	100.0	273
Middle	8.3	2992	74.4	22.6	1.3	1.4	.3	.0	100.0	247
Fourth	3.9	3087	73.0	17.4	3.9	4.1	.7	.9	100.0	120
Richest	.5	2986	*	*	*	*	*	*	*	16
Total	**6.7**	**14676**	**74.7**	**20.4**	**2.7**	**1.5**	**.5**	**.1**	**100.0**	**980**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Table WS.4 shows that for the majority of households (74.7%), an adult female is usually the person collecting the water, when the source of drinking water is not on the premises. Adult men collect water in 20.4 percent of cases, while for the rest of the households, female or male children under age 15 collect water (4.2%).

Use of Improved Sanitation Facilities

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrhoeal diseases and polio. An improved sanitation facility is defined as one that hygienically separates human excreta from human contact and is not shared by more than one household. Improved sanitation can reduce diarrheal disease by more than a third, and can significantly lessen the adverse health impacts of other disorders responsible for death and disease among millions of children in developing countries. Improved sanitation facilities for excreta disposal include flush or pour flush to a piped sewer system, septic tank, or latrine; ventilated improved pit latrine, pit latrine with slab, and composting toilet.

Table WS.5 identifies the proportion of household members using each different type of sanitation facilities. In rural areas, the population is mostly using pit latrines without slabs (37.6%) or with slabs (22.1 %). In contrast, the most common facilities in urban areas are flush toilets with connection to a septic tank without soak pit (58.5 %) or with soak pit (15.7 %). 3.4 percent of the households were without any toilet facility at all. Most of these households are in the rural areas.

According to Population and Housing Census of Bhutan (PHCB), 2005, the improved sanitation coverage in Bhutan was 84.2 per cent. The WHO / UNICEF Joint Monitoring Programme (JMP), 2010 reports the improved sanitation coverage of Bhutan at 65 percent. The discrepancy between the PHCB and BMIS is due to the difference in usage of definition of improved sanitation coverage. BMIS has followed the definition of JMP, which segregates pit latrines with slab and without slab. It categorizes pit latrine without slab as un-improved sanitation facility, where as in PHCB, 2005 all pit latrines were counted as improved sanitation facility.

TABLE WS.5: TYPES OF SANITATION FACILITIES

Percent distribution of household population according to type of toilet facility used by the household, Bhutan, 2010

| | Type of toilet facility used by household | | | | | | | | | | | | | | Open defecation (no facility, bush, field) | Total | Number of household members |
| | Improved sanitation facility | | | | | | | | | Unimproved sanitation facility | | | | | | | |
	Flush toilet	Flush to septic tank(Without soak pit)	Flush to pit (latrine)	Flush to unknown place/not sure/DK where	Flush to septic tank (with soak pit)	Ventilated Improved Pit latrine (VIP)	Pit latrine with slab	Composing toilet	Flush to somewhere else	Pit latrine without slab /open pit	Long drop latrine	Bucket	Other	Missing	No facility,Bush, Field	Total	Number of household members
Dzongkhag																	
Bumthang	2.9	15.1	.9	.0	13.2	.0	58.7	.0	.0	6.2	1.2	.3	.0	.0	1.5	100.0	1605
Chukha	.5	54.5	8.7	.0	3.6	.2	18.5	.0	.3	8.4	.7	.0	.0	.0	4.6	100.0	6863
Dagana	2.8	14.7	.9	.0	11.0	.0	11.7	.0	.5	54.4	.5	.0	.0	.0	3.6	100.0	2541
Gasa	.5	9.2	.0	.0	1.4	.0	50.0	.0	.0	36.3	.0	.0	.0	.0	2.6	100.0	484
Haa	.0	32.1	2.2	.0	26.8	1.5	5.0	.0	.3	14.0	17.9	.0	.0	.0	.2	100.0	1312
Lhuntse	.9	7.7	2.4	.0	1.9	.4	26.4	.0	.6	55.6	1.2	.0	.0	.0	2.9	100.0	1564
Mongar	9.2	10.4	1.2	.0	5.6	.0	14.2	.0	.0	56.7	0.0	.0	.0	.1	2.5	100.0	4741
Paro	.1	47.2	.7	.0	7.6	.0	28.1	.4	.0	11.3	1.1	.0	.0	.0	3.4	100.0	3776
Pemagatshel	1.8	22.4	1.9	.0	1.6	.0	5.6	.0	.1	55.2	1.9	5.4	.0	.0	4.3	100.0	2627
Punakha	.1	28.7	2.5	.2	6.6	.0	26.5	.1	.4	29.9	.5	.0	.4	.0	4.2	100.0	2549
Samdrup jongkhar	6.0	30.9	10.6	.0	1.8	.8	13.4	.0	.0	31.0	.3	.0	.0	.0	5.3	100.0	3892
Samtse	.1	41.6	11.2	.0	3.6	.0	8.4	.4	.5	29.2	.5	.0	.3	.0	4.1	100.0	7530
Sarpang	1.1	46.9	8.4	.0	7.0	.9	1.0	.0	.4	30.6	1.0	.8	.0	.0	1.9	100.0	4127
Thimphu	19.5	42.7	4.0	.0	16.5	2.8	5.5	.0	.0	7.9	.1	.1	.4	.0	.5	100.0	8372
Trashigang	.1	7.3	1.5	.0	11.9	.0	33.8	.0	1.0	39.4	.0	.1	.2	.0	4.8	100.0	5266
Trashiyangtse	.0	14.3	21.2	.0	1.9	.0	32.1	.0	.0	24.8	.2	.0	.0	.0	5.4	100.0	1711
Trongsa	.8	14.9	9.7	.0	4.5	.0	28.8	.0	.3	35.6	.4	.0	.1	.0	5.0	100.0	1510
Tsirang	.1	19.6	41.7	.0	3.9	.0	1.9	.1	.1	28.7	.0	.0	.0	.1	3.7	100.0	2208
Wangdue	.2	28.6	.2	.0	4.2	.0	38.3	.0	.1	24.7	1.4	.0	.0	.0	2.4	100.0	2841
Zhemgang	.1	27.2	4.1	.0	1.1	.1	10.4	.4	.2	47.0	3.7	.0	.0	.0	5.8	100.0	1800

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Contd.TABLE WS.5: TYPES OF SANITATION FACILITIES

Percent distribution of household population according to type of toilet facility used by the household, Bhutan, 2010

| | Type of toilet facility used by household | | | | | | | | | | | | | | Open defecation (no facility, bush, field) | Total | Number of household members |
| | Improved sanitation facility | | | | | | | | | Unimproved sanitation facility | | | | | | | |
	Flush toilet	Flush to septic tank(Without soak pit)	Flush to pit (latrine)	Flush to unknown place/ not sure/DK where	Flush to septic tank (with soak pit)	Ventilated Improved Pit latrine (VIP)	Pit latrine with slab	Com-posing toilet	Flush to some-where else	Pit latrine without slab /open pit	Long drop latrine	Buck-et	Other	Missing	No facility,Bush, Field		
Region																	
Western	5.5	43.5	6.1	.0	8.8	.9	14.3	.2	.2	16.1	1.3	.0	.2	.0	3.0	100.0	30887
Central	1.1	27.1	9.2	.0	6.4	.2	18.2	.1	.2	32.9	1.1	.2	.0	.0	3.1	100.0	16631
Eastern	3.7	15.3	5.1	.0	5.4	.2	20.6	.0	.3	44.0	.4	.7	.0	.0	4.2	100.0	19801
Residence																	
Urban	11.2	58.5	3.7	.0	15.7	1.1	4.0	.0	.1	4.3	.2	.2	.1	.0	.8	100.0	18500
Rural	1.1	20.8	7.7	.0	4.0	.3	22.1	.1	.3	37.6	1.3	.3	.1	.0	4.4	100.0	48820
Education of household head																	
None	2.0	19.9	6.5	.0	4.8	.5	22.6	.1	.3	37.2	1.2	.3	.0	.0	4.4	100.0	44415
Primary	3.3	42.7	10.3	.0	8.3	.8	10.5	.0	.2	20.3	.8	.3	.2	.0	2.3	100.0	10129
Secondary +	10.7	61.1	3.8	.0	14.8	.4	3.3	.0	.2	4.5	.2	.1	.2	.0	.6	100.0	12763
Missing/DK	.0	30.9	.0	.0	.0	.0	49.2	.0	.0	19.9	.0	.0	.0	.0	.0	100.0	13
Wealth index quintiles																	
Poorest	.1	1.4	9.4	.0	.5	.0	21.3	.1	.3	58.4	.6	.0	.0	.0	7.8	100.0	13461
Second	.7	9.8	9.1	.0	1.0	.1	28.3	.2	.3	43.8	1.3	.4	.2	.0	4.7	100.0	13468
Middle	1.9	19.7	7.9	.0	4.8	.6	27.4	.1	.3	31.4	1.8	.6	.0	.0	3.3	100.0	13466
Fourth	3.0	54.8	5.8	.0	16.1	1.5	7.6	.0	.3	8.4	1.0	.3	.2	.0	.9	100.0	13462
Richest	13.6	70.0	.6	.0	13.8	.2	1.0	.0	.0	.4	.1	.2	.0	.0	.0	100.0	13462
Total	**3.9**	**31.2**	**6.6**	**.0**	**7.2**	**.5**	**17.1**	**.1**	**.3**	**28.5**	**1.0**	**.3**	**.1**	**.0**	**3.4**	**100.0**	**67320**

Access to safe drinking-water and to basic sanitation is measured by the proportion of population using an improved water source and improved sanitation facility. MDGs and WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation classify households as using an un-improved sanitation facility if they are using otherwise acceptable sanitation facilities, but sharing a facility between two or more households or using a public toilet facility.

As shown in Table WS.6, 58.4 percent of the household population is using an improved sanitation facility without sharing with other households. Use of a shared facility is not very common among households using an unimproved facility. Only 8.1 percent of households use an improved toilet facility that is shared with other households. Rural households are less likely than urban households to use a shared improved toilet facility (5% and 16.4%) respectively.

TABLE WS.6: USE AND SHARING OF SANITATION FACILITIES

Percent distribution of household population by use of private and public sanitation facilities and use of shared facilities, by users of improved and unimproved sanitation facilities, Bhutan, 2010

Dzongkhag	Improved sanitation facility: Not shared [1]	Improved sanitation facility: Public facility	Improved sanitation facility: 5 households or less	Improved sanitation facility: More than 5 households	Unimproved sanitation facility: Not shared	Unimproved sanitation facility: Public facility	Unimproved sanitation facility: 5 households or less	Unimproved sanitation facility: More than 5 households	Open defecation (no facility, bush, field)	Total	Number of household members
Bumthang	80.3	1.0	8.2	1.4	6.1	.0	1.2	.4	1.5	100.0	1605
Chukha	76.2	.1	6.6	2.9	8.3	.1	.8	.2	4.6	100.0	6863
Dagana	37.3	.3	3.5	.0	54.1	.3	.9	.0	3.6	100.0	2541
Gasa	57.6	1.6	.6	1.3	34.5	1.0	0.0	.8	2.6	100.0	484
Haa	60.0	.0	7.6	.0	30.6	.0	1.6	.0	.2	100.0	1312
Lhuntse	36.1	.4	3.1	.0	55.6	.4	1.4	.0	2.9	100.0	1564
Mongar	37.3	.6	2.7	.1	56.0	.3	.5	.0	2.5	100.0	4741
Paro	76.1	.1	6.9	1.0	11.6	.2	.6	.1	3.4	100.0	3776
Pemagatshel	31.4	.0	1.8	.0	62.3	.1	0.0	.0	4.3	100.0	2627
Punakha	53.8	.2	10.5	.2	24.6	.0	6.0	.5	4.2	100.0	2549
Samdrup jongkhar	52.0	.2	10.3	1.0	30.2	.2	.7	.1	5.3	100.0	3892
Samtse	53.7	.5	10.1	1.2	28.2	.0	2.0	.3	4.1	100.0	7530
Sarpang	57.8	.5	6.4	.6	31.9	.2	.6	.0	1.9	100.0	4127
Thimphu	75.1	.5	13.5	1.9	5.7	.0	2.6	.2	.5	100.0	8372
Trashigang	52.1	.3	1.8	.3	37.1	.2	3.4	.0	4.8	100.0	5266
Trashiyangtse	65.9	.3	3.0	.4	23.3	.8	.7	.2	5.4	100.0	1711
Trongsa	50.9	1.0	6.2	.6	33.8	.5	2.0	.1	5.0	100.0	1510
Tsirang	63.9	.2	3.0	.2	28.5	.0	.3	.2	3.7	100.0	2208
Wangdue	65.4	.1	5.0	.8	22.9	.2	3.0	.2	2.4	100.0	2841
Zhemgang	40.5	.1	2.5	.2	49.7	.4	.8	.0	5.8	100.0	1800

Contd. TABLE WS.6: USE AND SHARING OF SANITATION FACILITIES

Percent distribution of household population by use of private and public sanitation facilities and use of shared facilities, by users of improved and unimproved sanitation facilities, Bhutan, 2010

	Improved sanitation facility: Not shared [1]	Improved sanitation facility: Public facility	Improved sanitation facility: 5 households or less	Improved sanitation facility: More than 5 households	Unimproved sanitation facility: Not shared	Unimproved sanitation facility: Public facility	Unimproved sanitation facility: 5 households or less	Unimproved sanitation facility: More than 5 households	Open defecation (no facility, bush, field)	Total	Number of household members
Region											
Western	67.6	.3	9.7	1.6	15.6	.1	2.0	.2	3.0	100.0	30887
Central	56.5	.4	5.0	.5	32.9	.2	1.2	.1	3.1	100.0	16631
Eastern	45.7	.3	3.9	.3	43.9	.3	1.3	.0	4.2	100.0	19801
Residence											
Urban	77.9	.5	13.6	2.3	3.4	.1	1.3	.1	.8	100.0	18500
Rural	51.0	.3	4.2	.5	37.6	.2	1.7	.1	4.4	100.0	48820
Education of household head											
None	50.5	.3	4.9	.7	37.1	.2	1.8	.1	4.4	100.0	44415
Primary	62.3	.5	11.7	1.4	20.1	.1	1.2	.4	2.3	100.0	10129
Secondary +	82.7	.4	9.4	1.6	3.5	.2	1.3	.2	.6	100.0	12763
Missing/DK	49.2	.0	.0	30.9	19.9	.0	.0	.0	0.0	100.0	13
Wealth index quintiles											
Poorest	31.6	.1	1.0	.1	57.6	.2	1.6	.0	7.8	100.0	13461
Second	47.3	.2	1.6	.2	43.4	.3	2.1	.2	4.7	100.0	13468
Middle	50.6	.5	10.0	1.3	30.8	.2	2.9	.3	3.3	100.0	13466
Fourth	68.0	.7	17.4	2.7	8.5	.2	1.5	.1	.9	100.0	13462
Richest	94.5	.2	4.0	.6	.6	.0	.1	.0	.0	100.0	13462
Total	**58.4**	**.3**	**6.8**	**1.0**	**28.2**	**.2**	**1.6**	**.1**	**3.4**	**100.0**	**67320**

[1] MICS indicator 4.3; MDG indicator 7.9

TABLE WS.7: DISPOSAL OF CHILD'S FAECES

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, Bhutan, 2010

	Place of disposal of child's faeces								Percentage of children whose stools were disposed of safely [1]	Number of children age 0-2 years
	Child used toilet / latrine	Put / Rinsed into toilet or latrine	Put / Rinsed into drain or ditch	Thrown into garbage (solid waste)	Buried	Left in the open	Other	Total		
Type of sanitaton facility in dwelling										
Improved	20.5	44.6	26.4	4.3	.9	2.6	.9	100.0	65.0	2534
Unimproved	14.5	30.9	41.1	2.4	.6	8.7	1.8	100.0	45.4	1129
Open defacation	3.0	12.9	40.9	7.7	7.2	23.5	4.9	100.0	15.9	135
Dzongkhag										
Bumthang	10.5	29.5	52.7	5.8	.0	1.0	.5	100.0	40.0	106
Chukha	25.2	44.5	16.5	5.2	4.2	4.0	.5	100.0	69.7	370
Dagana	19.8	37.0	28.7	2.0	.0	12.5	.0	100.0	56.8	152
Gasa	(15.4)	(31.2)	(33.3)	(12.0)	(.0)	(8.1)	(.0)	(100.0)	(46.6)	28
Haa	25.4	42.5	18.9	10.6	.5	2.0	.0	100.0	68.0	71
Lhuntse	8.7	39.4	25.6	26.0	.0	.3	.0	100.0	48.1	79
Mongar	9.1	35.1	39.2	.4	2.1	12.6	1.6	100.0	44.2	274
Paro	13.5	48.7	29.4	2.1	.0	6.4	.0	100.0	62.1	220
Pemagatshel	11.4	53.8	24.4	4.2	.0	4.4	1.8	100.0	65.2	139
Punakha	16.1	32.0	43.4	3.2	.0	3.8	1.5	100.0	48.1	141
Samdrup jongkhar	9.8	30.9	39.1	2.6	2.3	10.9	4.6	100.0	40.7	249
Samtse	24.4	43.4	22.0	3.4	.8	2.5	3.3	100.0	67.8	399
Sarpang	29.1	43.1	18.9	1.2	.0	5.8	1.9	100.0	72.2	209
Thimphu	26.4	59.3	10.4	3.2	.5	.0	.3	100.0	85.6	515
Trashigang	13.3	18.5	49.6	3.1	1.7	13.0	.7	100.0	31.8	271
Trashiyangtse	11.1	22.7	60.6	3.4	.0	1.1	1.0	100.0	33.8	105
Trongsa	16.9	17.7	56.4	2.5	.0	4.9	1.6	100.0	34.6	80
Tsirang	4.7	42.2	44.9	4.5	.0	3.0	.7	100.0	46.9	116
Wangdue	18.1	26.9	45.8	6.7	.7	.7	1.1	100.0	45.0	155
Zhemgang	14.2	21.9	60.8	1.3	.0	1.1	.8	100.0	36.1	119

Contd. TABLE WS.7: DISPOSAL OF CHILD'S FAECES

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, Bhutan, 2010

	Place of disposal of child's faeces								Percentage of children whose stools were disposed of safely [1]	Number of children age 0-2 years
	Child used toilet / latrine	Put / Rinsed into toilet or latrine	Put / Rinsed into drain or ditch	Thrown into garbage (solid waste)	Buried	Left in the open	Other	Total		
Region										
Western	23.0	47.8	20.1	4.0	1.2	2.8	1.1	100.0	70.8	1744
Central	17.7	32.9	40.5	3.3	.1	4.5	1.0	100.0	50.6	936
Eastern	10.7	31.6	40.9	4.1	1.5	9.3	1.9	100.0	42.3	1118
Residence										
Urban	23.3	54.0	15.6	4.7	.5	1.3	.6	100.0	77.4	1130
Rural	15.9	33.2	37.9	3.5	1.3	6.7	1.6	100.0	49.0	2668
Mother's education										
None	17.2	35.3	34.8	3.1	1.3	6.7	1.7	100.0	52.5	2474
Primary	18.9	36.1	36.0	2.9	.0	4.7	1.3	100.0	55.0	457
Secondary	20.3	52.6	18.6	6.5	.9	.9	.2	100.0	72.9	867
Wealth index quintiles										
Poorest	11.2	28.6	42.1	3.5	2.2	9.4	3.2	100.0	39.7	753
Second	12.4	30.4	43.1	3.0	1.2	8.4	1.6	100.0	42.8	692
Middle	13.9	30.5	43.5	3.7	1.2	6.1	1.2	100.0	44.4	754
Fourth	26.0	44.8	22.7	3.5	.0	2.3	.6	100.0	70.8	862
Richest	25.4	61.5	6.7	5.5	.7	0.0	.0	100.0	87.0	738
Total	**18.1**	**39.4**	**31.3**	**3.8**	**1.0**	**5.1**	**1.3**	**100.0**	**57.5**	**3798**

[1] MICS indicator 4.4

* Figures in parenthesis indicates that the percentage is based on just 25 to 49 unweighted cases

Safe disposal of a child's faeces is disposing of the stool by the child using a toilet or by rinsing the stool into a toilet or latrine. Disposal of faeces of children 0-2 years of age is presented in Table WS.7 which shows that 57.5 percent of households safely disposed of children's faeces. The rural-urban variation was very significant: only 49 percent of rural households compared to 77.4 percent of urban households followed the safe procedures. Safe procedures were least common in the Eastern region (42.3 %) followed by the Central region (50.6 %) and the Western region with a high 70.8 percent. There was a strong positive correlation between the safe disposal of a child's faeces and both the education of mother and economic status of households.

In its 2008 report[10] the JMP developed a new way of presenting the access figures, by disaggregating and refining the data on drinking-water and sanitation and reflecting them in a "ladder" format. This ladder allows a disaggregated analysis of trends in a three rung ladder for drinking-water and a four-rung ladder for sanitation. For sanitation, this gives an understanding of the proportion of population with no sanitation facilities at all, of those reliant on technologies defined by JMP as "unimproved," of those sharing sanitation facilities of otherwise acceptable technology and those using "improved" sanitation facilities.

Table WS.8 presents the percentages of the household population by drinking water and sanitation ladders. The table also shows the percentage of household members using improved sources of drinking water and sanitary means of excreta disposal. About 56.9 percent of the surveyed household population reported using an improved water source and sanitary means of excreta disposal. The urban population was almost twice as likely (77.7 %) to use an improved source of drinking water and sanitary means of excreta disposal compared to the rural population (49 %).

 As expected, the use of improved sources of drinking water and improved sanitation facilities also strongly correlates with the education level of household head and wealth index of household. The richest quintile is more than three times more likely to use improved drinking water sources and improved sanitation facilities than the poorest quintile. The Western region is more likely to use improved sources of drinking water and improved sanitation facilities when compared to the Central and Eastern regions. There are great variations between the dzongkhags, with Pemagatsel and Lhuentse having the lowest, about 30 percent each, and Thimphu and Bumthang having the highest, above 75 percent.

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[10] WHO/UNICEF JMP (2008), MDG assessment report - http://www.wssinfo.org/download?id_ document=1279

TABLE WS.8: DRINKING WATER AND SANITATION LADDERS

Percentage of household population by drinking water and sanitation ladders, Bhutan, 2010

Dzongkhag	Improved drinking water [1]		Unimproved drinking water	Total	Percentage of household population using: Improved sanitation [2]	Unimproved sanitation			Total	Improved drinking water sources and improved sanitation	Number of households
	Piped into dwelling, plot or yard	Other improved				Shared improved facilities	Unimproved facilities	Open defecation			
Bumthang	83.7	15.9	.4	100.0	80.3	10.5	7.7	1.5	100.0	79.9	1605
Chukha	79.1	14.7	6.3	100.0	76.2	9.7	9.5	4.6	100.0	71.7	6863
Dagana	80.3	13.8	5.9	100.0	37.3	3.7	55.3	3.6	100.0	36.2	2541
Gasa	30.2	39.8	30.0	100.0	57.6	3.5	36.3	2.6	100.0	41.6	484
Haa	96.8	3.2	.0	100.0	60.0	7.6	32.2	.2	100.0	60.0	1312
Lhuntse	70.0	28.1	1.9	100.0	36.1	3.5	57.4	2.9	100.0	35.8	1564
Mongar	92.6	6.4	1.0	100.0	37.3	3.3	56.9	2.5	100.0	37.0	4741
Paro	85.4	11.0	3.6	100.0	76.1	8.1	12.4	3.4	100.0	74.5	3776
Pemagatshel	74.8	21.5	3.8	100.0	31.4	1.8	62.5	4.3	100.0	29.8	2627
Punakha	70.9	20.1	9.0	100.0	53.8	10.9	31.1	4.2	100.0	51.2	2549
Samdrup jongkhar	88.1	9.3	2.7	100.0	52.0	11.5	31.3	5.3	100.0	51.1	3892
Samtse	85.7	9.7	4.6	100.0	53.7	11.7	30.5	4.1	100.0	52.8	7530
Sarpang	76.8	19.9	3.3	100.0	57.8	7.5	32.8	1.9	100.0	56.5	4127
Thimphu	98.8	1.2	.0	100.0	75.1	15.9	8.4	.5	100.0	75.1	8372
Trashigang	79.3	19.3	1.4	100.0	52.1	2.4	40.7	4.8	100.0	51.6	5266
Trashiyangtse	90.2	7.2	2.6	100.0	65.9	3.7	25.0	5.4	100.0	64.4	1711
Trongsa	59.9	34.9	5.2	100.0	50.9	7.8	36.3	5.0	100.0	49.7	1510
Tsirang	91.4	4.4	4.2	100.0	63.9	3.4	29.0	3.7	100.0	62.8	2208
Wangdi	59.2	30.9	10.0	100.0	65.4	5.9	26.2	2.4	100.0	61.0	2841
Zhemgang	51.1	39.8	9.0	100.0	40.5	2.8	50.9	5.8	100.0	39.3	1800

Contd. TABLE WS.8: DRINKING WATER AND SANITATION LADDERS

Percentage of household population by drinking water and sanitation ladders, Bhutan, 2010

	Percentage of household population using:										Number of households
	Improved drinking water [1]		Unimproved drinking water	Total	Improved sanitation [2]	Unimproved sanitation			Total	Improved drinking water sources and improved sanitation	
	Piped into dwelling, plot or yard	Other improved				Shared improved facilities	Unimproved facilities	Open defecation			
Region											
Western	86.1	9.7	4.2	100.0	67.6	11.6	17.8	3.0	100.0	65.7	30887
Central	72.6	21.9	5.5	100.0	56.5	5.9	34.5	3.1	100.0	54.8	16631
Eastern	83.8	14.2	2.0	100.0	45.7	4.5	45.6	4.2	100.0	45.0	19801
Residence											
Urban	93.1	6.5	.4	100.0	77.9	16.3	5.0	.8	100.0	77.7	18500
Rural	78.0	16.9	5.2	100.0	51.0	5.0	39.6	4.4	100.0	49.0	48820
Education of household head											
None	78.5	17.0	4.6	100.0	50.5	5.9	39.1	4.4	100.0	48.9	44415
Primary	82.6	12.5	5.0	100.0	62.3	13.6	21.8	2.3	100.0	59.6	10129
Secondary +	94.5	5.0	.5	100.0	82.7	11.4	5.2	.6	100.0	82.5	12763
Missing/DK	50.8	49.2	.0	100.0	49.2	30.9	19.9	.0	100.0	49.2	13
Wealth index quintiles											
Poorest	72.2	19.6	8.2	100.0	31.6	1.2	59.4	7.8	100.0	30.0	13461
Second	75.9	18.6	5.4	100.0	47.3	2.0	46.0	4.7	100.0	45.2	13468
Middle	78.4	17.8	3.8	100.0	50.6	11.9	34.1	3.3	100.0	48.1	13466
Fourth	85.9	12.5	1.6	100.0	68.0	20.8	10.3	.9	100.0	67.0	13462
Richest	98.2	1.6	.2	100.0	94.5	4.7	.7	.0	100.0	94.3	13462
Total	**82.1**	**14.0**	**3.9**	**100.0**	**58.4**	**8.1**	**30.1**	**3.4**	**100.0**	**56.9**	**67320**

[1] MICS indicator 4.1; MDG indicator 7.8
[2] MICS indicator 4.3; MDG indicator 7.9

Handwashing

Handwashing with water and soap is the most cost effective health intervention to reduce both the incidence of diarrhoea and pneumonia in children under five. It is most effective when done using water and soap after visiting a toilet or cleaning a child, before eating or handling food and, before feeding a child. Monitoring correct hand washing behaviour at these critical times is challenging.

 A reliable alternative to observations or self-reported behaviour is assessing the likelihood that correct hand washing behaviour takes place by observing whether a household has a specific place where people most often wash their hands, and observing if water and soap (or other local cleansing materials) are present at a specific place for hand washing. Water and soap availability is higher for the Western region, higher level of education of the household head, wealthier households and urban areas.

In Bhutan, 97.6 percent of the households had a specific place for hand washing, while 1.9 percent households could not indicate a specific place where household members usually wash their hands and 0.1 percent of the households did not give a permission to see the place used for handwashing (Table WS.9). Of those households where place for handwashing was observed, more than two-thirds (80.9%) had both water and soap present at the designated place. In 8.7 percent of the households, only water was available at the designated place, while 8.2 percent of the households had soap but no water. The remaining 2.2 percent of households had neither water nor soap available at the designated place for hand washing. Interestingly, among the dzongkhags, Paro has the largest percent of observed households without both water and soap available.

TABLE WS.9: WATER AND SOAP AT PLACE FOR HANDWASHING

Percentage of households where place for handwashing was observed and percent distribution of households by availability of water and soap at place for handwashing,Bhutan, 2010

	Percentage of households where place for handwashing was observed	Percentage of households where place for handwashing was not observed				Number of house-holds	Percent distribution of households where place for handwashing was observed, where:						Number of households where place for handwashing was observed
		Not in dwelling/plot/yard	No permission to see	Other reasons	Total		Water and soap are available [1]	Water is available, soap is not available	Water is not available, soap is available	Water and soap are not available	Missing	Total	
Dzongkhag													
Bumthang	92.4	7.6	.0	.0	100.0	320	74.8	21.1	3.8	.4	.0	100.0	296
Chukha	98.8	.2	.0	1.0	100.0	1478	80.9	.3	18.6	.2	.0	100.0	1460
Dagana	99.1	.9	.0	.0	100.0	548	56.9	31.4	4.1	7.6	.0	100.0	543
Gasa	98.7	.8	.0	.5	100.0	102	78.8	3.2	17.2	.8	.0	100.0	101
Haa	86.5	13.5	.0	.0	100.0	297	99.3	0.0	.7	.0	.0	100.0	257
Lhuntse	99.5	.4	.1	.0	100.0	364	77.4	.3	21.4	.9	.0	100.0	362
Mongar	100.0	.0	.0	.0	100.0	965	74.0	18.0	5.7	2.2	.0	100.0	965
Paro	99.5	.5	.0	.0	100.0	790	50.5	27.5	9.5	12.4	.1	100.0	787
Pemagatshel	98.9	1.0	.0	.1	100.0	564	69.3	12.4	13.5	4.7	.0	100.0	558
Punakha	90.5	2.0	.1	7.3	100.0	515	83.4	1.4	14.9	.2	.0	100.0	466
Samdrup jongkhar	100.0	.0	.0	.0	100.0	827	65.5	21.7	5.6	7.2	.0	100.0	827
Samtse	99.4	.6	.0	.0	100.0	1641	89.8	2.3	5.5	2.4	.0	100.0	1632
Sarpang	98.4	.8	.3	.5	100.0	895	90.5	0.0	9.5	.0	.0	100.0	880
Thimphu	99.9	.1	.0	.0	100.0	1932	94.4	5.1	.5	.0	.0	100.0	1930
Trashigang	96.0	3.6	.4	.0	100.0	1245	81.5	12.9	4.5	1.1	.0	100.0	1196
Trashiyangtse	76.1	23.4	.0	.5	100.0	444	86.7	1.8	11.2	.3	.0	100.0	338
Trongsa	98.7	1.3	.0	.0	100.0	315	83.3	10.3	5.9	.4	.0	100.0	311
Tsirang	99.0	1.0	.0	.0	100.0	473	95.5	.5	3.7	.3	.0	100.0	469
Wangdi	98.8	1.1	.1	.0	100.0	624	82.6	.1	17.2	.1	.0	100.0	616
Zhemgang	99.2	.8	.0	.0	100.0	338	81.9	6.2	11.8	.1	.0	100.0	335

contd. TABLE WS.9: WATER AND SOAP AT PLACE FOR HANDWASHING

Percentage of households where place for handwashing was observed and percent distribution of households by availability of water and soap at place for handwashing, Bhutan, 2010

	Percentage of households where place for handwashing was observed	Percentage of households where place for handwashing was not observed				Number of households	Percent distribution of households where place for handwashing was observed, where:						Number of households where place for handwashing was observed
		Not in dwelling/plot/yard	No permission to see	Other reasons	Total		Water and soap are available [1]	Water is available, soap is not available	Water is not available, soap is available	Water and soap are not available	Missing	Total	
Region													
Western	98.2	1.0	.0	.8	100.0	6755	84.3	5.5	8.0	2.2	.0	100.0	6632
Central	98.2	1.5	.1	.1	100.0	3512	81.6	8.4	8.6	1.3	.0	100.0	3449
Eastern	96.3	3.5	.1	.1	100.0	4409	75.2	13.8	8.1	2.9	.0	100.0	4245
Residence													
Urban	99.3	.6	.1	.1	100.0	4320	88.2	4.2	6.7	.9	.0	100.0	4288
Rural	96.9	2.5	.1	.5	100.0	10356	77.8	10.6	8.9	2.7	.0	100.0	10039
Education of household head													
None	96.9	2.5	.1	.5	100.0	9265	77.7	10.7	8.9	2.7	.0	100.0	8977
Primary	98.7	1.0	.1	.2	100.0	2134	81.4	8.0	8.5	2.1	.0	100.0	2106
Secondary +	99.0	.7	.0	.3	100.0	3275	89.6	3.4	6.1	.8	.0	100.0	3241
Missing/DK	100.0	.0	.0	.0	100.0	2	100.0	.0	.0	.0	.0	100.0	2
Wealth index quintiles													
Poorest	97.1	2.5	.1	.3	100.0	2762	73.1	14.5	9.2	3.2	.0	100.0	2681
Second	96.1	3.2	.0	.6	100.0	2849	77.7	10.5	9.6	2.3	.0	100.0	2737
Middle	96.7	2.6	.2	.6	100.0	2992	77.6	10.6	8.8	3.0	.0	100.0	2892
Fourth	98.6	1.0	.0	.4	100.0	3087	83.7	6.6	7.6	2.1	.0	100.0	3044
Richest	99.5	.3	.0	.1	100.0	2986	91.5	2.0	6.1	.4	.0	100.0	2972
Total	**97.6**	**1.9**	**.1**	**.4**	**100.0**	**14676**	**80.9**	**8.7**	**8.2**	**2.2**	**.0**	**100.0**	**14327**

[1] MICS indicator 4.5

TABLE WS10: AVAILABILITY OF SOAP

Percent distribution of households by availability of soap in the dwelling, Bhutan, 2010

	Place for handwashing observed					Place for handwashing not observed			Percentage of households with soap anywhere in the dwelling [1]	Number of households
	Soap observed	Soap shown	No soap in household	Not able/Does not want to show soap	Missing	Soap shown	No soap in household	Not able/Does not want to show soap		
Dzongkhag										
Bumthang	72.6	19.9	.0	.0	.0	7.6	.0	.0	100.0	320
Chukha	98.2	.5	.0	.1	.0	1.1	.2	.0	99.8	1478
Dagana	60.5	38.7	.0	.0	.0	.9	.0	.0	100.0	548
Gasa	94.8	2.6	1.4	.0	.0	1.3	.0	.0	98.6	102
Haa	86.5	.0	.0	.0	.0	13.5	.0	.0	100.0	297
Lhuntse	98.3	.1	1.1	.0	.0	.3	.3	.0	98.7	364
Mongar	79.8	19.0	1.3	.0	.0	.0	.0	.0	98.7	965
Paro	59.7	39.6	.1	.0	.1	.5	.0	.0	99.8	790
Pemagatshel	82.0	13.4	3.6	.0	.0	1.1	.0	.0	96.4	564
Punakha	89.0	1.2	.3	.0	.0	9.1	.4	.0	99.3	515
Samdrup jongkhar	71.0	28.2	.7	.0	.0	0.0	.0	.0	99.3	827
Samtse	94.7	4.0	.8	.0	.0	.4	.1	.0	99.1	1641
Sarpang	98.4	.0	.0	.0	.0	1.5	.1	.0	99.8	895
Thimphu	94.8	5.1	.0	.0	.0	.1	.0	.0	100.0	1932
Trashigang	82.6	13.3	.1	.0	.0	3.9	.1	.0	99.7	1245
Trashiyangtse	74.6	1.2	.3	.0	.0	23.6	.2	.0	99.4	444
Trongsa	88.1	10.3	.3	.0	.0	1.3	.0	.0	99.7	315
Tsirang	98.2	.7	.1	.0	.0	1.0	.0	.0	99.9	473
Wangdue	98.6	.1	.1	.0	.0	1.0	.3	.0	99.6	624
Zhemgang	92.9	5.3	.8	.1	.0	.3	.5	.0	98.6	338

Contd. TABLE WS10: AVAILABILITY OF SOAP

Percent distribution of households by availability of soap in the dwelling, Bhutan, 2010

	Place for handwashing observed					Place for handwashing not observed			Percentage of households with soap anywhere in the dwelling [1]	Number of households
	Soap observed	Soap shown	No soap in household	Not able/Does not want to show soap	Missing	Soap shown	No soap in household	Not able/Does not want to show soap		
Region										
Western	90.6	7.3	.2	.0	.0	1.7	.1	.0	99.6	6755
Central	88.7	9.4	.1	.0	.0	1.6	.1	.0	99.7	3512
Eastern	80.2	15.1	1.0	.0	.0	3.6	.1	.0	98.9	4409
Residence										
Urban	94.2	5.0	.1	.0	.0	.7	.0	.0	99.9	4320
Rural	84.0	12.3	.6	.0	.0	2.9	.1	.0	99.2	10356
Education of household head										
None	83.9	12.3	.7	.0	.0	3.0	.1	.0	99.1	9265
Primary	88.7	9.9	.0	.0	.0	1.3	.0	.0	99.9	2134
Secondary +	94.7	4.2	.0	.0	.0	1.0	.0	.0	100.0	3275
Missing/DK	100.0	.0	.0	.0	.0	0.0	.0	.0	100.0	2
Wealth index quintiles										
Poorest	79.9	15.7	1.5	.0	.0	2.7	.2	.0	98.3	2762
Second	83.9	11.5	.8	.0	.0	3.7	.2	.0	99.0	2849
Middle	83.5	13.1	.1	.0	.0	3.3	.0	.0	99.9	2992
Fourth	90.0	8.5	.1	.0	.0	1.4	.0	.0	99.9	3087
Richest	97.1	2.4	.0	.0	.0	.4	.0	.0	100.0	2986
Total	**87.0**	**10.1**	**.5**	**.0**	**.0**	**2.3**	**.1**	**.0**	**99.4**	**14676**

[1] MICS indicator 4.6

VIII. Reproductive Health

Fertility

In MICS4, adolescent birth rates and total fertility rates are calculated by using information on the date of last birth of each woman and are based on the one-year period (1-12 months) preceding the survey. Rates are underestimated by a very small margin due to the absence of information on multiple births (twins, triplets etc) and on women having multiple deliveries during the one year period preceding the survey.

Table RH.1 shows adolescent birth rates and total fertility rate. The adolescent birth rate (age-specific fertility rate for women age 15-19) is defined as the number of births to women aged 15-19 years during the one year period preceding the survey, divided by the average number of women aged 15-19 (number of women-years lived between ages 15 through 19, inclusive) during the same period, expressed per 1,000 women. The total fertility rate (TFR) is calculated by summing the age-specific fertility rates calculated for each of the five-year age groups of women, from age 15 through to age 49. The TFR is expressed as average number of births per women. It denotes the average number of children to which a woman will have given birth by the end of her reproductive years if current fertility rates prevailed.

TABLE RH.1: ADOLESCENT BIRTH RATE AND TOTAL FERTILITY RATE, BHUTAN, 2010		
	Adolescent birth rate [1] (Age-specific fertility rate for women age 15-19)	Total Fertility Rate
Dzongkhag		
Bumthang	41	3.0
Chukha	29	1.9
Dagana	124	3.0
Gasa	332	4.0
Haa	53	2.2
Lhuentse	67	2.3
Mongar	138	3.3
Paro	42	2.9
Pemagatshel	163	4.0
Punakha	35	2.8
Samdrup Jongkhar	20	2.0
Samtse	63	2.6
Sarpang	37	2.5
Thimphu	34	2.2
Trashigang	86	2.9
Trashiyangtse	54	3.3
Trongsa	95	2.7
Tsirang	60	2.1
Wangdue	51	2.4
Zhemgang	150	4.1
Residence		
Urban	30	2.3
Rural	77	2.8
Mother's education		
None	113	2.9
Primary	70	2.5
Secondary+	29	3.0
Wealth index quintile		
Poorest	112	3.1
Second	95	2.8
Middle	97	3.0
Fourth	36	2.4
Richest	10	2.0
Total	**59**	**2.6**

[1]MICS indicator 5.1; MDG indicator 5.4

TABLE RH.2: EARLY CHILDBEARING

Percentage of women age 15-19 who have had a live birth or who are pregnant with the first child; percentage of women age 15-19 who have begun childbearing before age 15, and the percentage of women age 20-24 who have had a live birth before age 18, Bhutan, 2010

	Percentage of women age 15-19				Number of women age 15-19	Percentage of women age 20-24 who have had a live birth before age 18 [1]	Number of women age 20-24
	Have had a live birth	Are pregnant with first child	Have begun childbearing	Have had a live birth before age 15			
Dzongkhag							
Bumthang	6.4	7.9	14.3	.0	51	11.9	58
Chukha	6.5	1.6	8.1	.0	269	13.1	296
Dagana	20.9	.0	20.9	1.6	76	24.1	88
Gasa	*	*	*	*	9	(3.0)	23
Haa	2.6	1.1	3.8	.0	36	22.9	49
Lhuntse	17.3	4.0	21.3	.0	33	16.5	60
Mongar	18.9	1.0	19.9	.0	117	16.6	161
Paro	4.4	1.8	6.1	.0	135	6.5	151
Pemagatshel	21.6	.0	21.6	5.4	53	17.2	76
Punakha	7.5	3.1	10.6	.6	70	11.5	74
Samdrup jongkhar	4.9	5.6	10.5	1.4	99	24.3	136
Samtse	8.5	3.6	12.2	.7	251	18.7	274
Sarpang	7.2	.8	8.0	.0	141	18.6	173
Thimphu	2.9	.7	3.6	.5	357	8.8	407
Trashigang	9.7	3.7	13.4	.0	91	21.6	139
Trashiyangtse	5.7	5.7	11.4	.0	35	7.8	50
Trongsa	8.7	5.4	14.1	.0	35	18.7	47
Tsirang	8.9	4.5	13.4	.0	89	17.2	80
Wangdue	7.0	3.5	10.5	.0	64	14.4	99
Zhemgang	25.2	7.6	32.8	2.7	42	20.8	63
Region							
Western	5.7	1.9	7.6	.3	1126	12.3	1273
Central	11.1	3.3	14.4	.5	498	18.1	608
Eastern	12.8	3.1	16.0	1.0	428	18.7	622
Residence							
Urban	2.9	.8	3.7	.2	753	10.3	882
Rural	11.8	3.5	15.3	.7	1299	18.0	1620
Education							
None	20.3	4.8	25.1	1.4	548	24.0	1158
Primary	11.6	4.1	15.7	.9	304	22.7	340
Secondary +	2.4	1.0	3.4	.0	1201	2.7	1004
Wealth index quintiles							
Poorest	15.8	2.5	18.3	1.6	316	21.1	402
Second	17.0	4.2	21.2	.1	323	17.7	413
Middle	13.2	5.4	18.6	1.5	339	16.8	499
Fourth	4.6	1.4	6.0	.0	441	17.1	614
Richest	.8	.8	1.5	.0	633	6.3	574
Total	**8.5**	**2.5**	**11.0**	**.5**	**2052**	**15.3**	**2502**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

The results show great variation by all the background characteristics. The education of the mother and wealth displays the widest range. Adolescent birth rate reduces from 113 to 29 per 1,000 women if mother has none or only secondary education respectively. It also reduces from 112 for households in the poorest quintile to 10 in the richest quintile. Adolescent birth rate in Bhutan is 59. While the TFR in Bhutan is 2.6 per women; the women would have given birth to three or more children in the poorest households and two children in the richest households.

Sexual activity and childbearing early in life carry significant risks for young people all around the world. Table RH.2 presents some early childbearing indicators for women aged 15-19 and 20-24, while Table RH.3 presents the trends for early childbearing. As shown in Table RH.2, 8.5 percent of women aged 15-19 have already had a birth, 2.5 percent are pregnant with their first child, thus summing up to 11 percent having begun childbearing. 0.5 percent has already had a live birth before the age of 15. All the early childbearing results show positive correlation to women's education and household wealth. Differences are also presented by region and area.

Table RH.3 presents trends in early childbearing. Among women 20-24 years old, 15.3 percent have had a live birth before 18 years of age. Early child bearing decreases with wealth and education, thus it is almost 10 times more common among women 20-24 years old with no education (24%), compared with women with secondary plus (2.7%). Early child bearing is more common in rural areas (18%) and in the Eastern and Central regions (18.7% and 18.1%) respectively. The percentage of women with live birth before the age of 18 has remained relatively unchanged over the last 25 years.

TABLE RH.3: TRENDS IN EARLY CHILDBEARING

Percentage of women who have had a live birth by age 15 and 18, by age groups, Bhutan, 2010

Age	Urban				Rural				All			
	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women	Percentage of women with a live birth before age 15	Number of women	Percentage of women with a live birth before age 18	Number of women
Age												
15-19	.2	753	*	0	.7	1299	*	0	.5	2052	*	0
20-24	.6	882	10.3	882	1.5	1620	18.0	1620	1.2	2502	15.3	2502
25-29	1.4	983	11.1	983	2.3	1738	18.1	1738	1.9	2721	15.6	2721
30-34	1.8	722	16.6	722	2.3	1497	18.1	1497	2.2	2219	17.6	2219
35-39	2.6	536	13.1	536	2.0	1320	15.9	1320	2.2	1856	15.1	1856
40-44	2.4	380	17.4	380	1.4	1181	13.5	1181	1.7	1561	14.4	1561
45-49	2.4	192	10.5	192	.7	914	10.8	914	1.0	1106	10.8	1106
Total	**1.4**	**4448**	**12.9**	**3695**	**1.6**	**9570**	**16.3**	**8271**	**1.6**	**14018**	**15.2**	**11966**

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

When comparing the age group of 15-19 years to the older age groups, it is worth mentioning the declining trend in giving birth before the age of 15. In the age category of 15-19 the percentage of women who has given a birth before reaching age 15 was 0.5 percent whereas 35-39 age categories was 2.2 percent.

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Contraception

Appropriate family planning is important to the health of women and children by: 1) preventing pregnancies that are too early or too late; 2) extending the period between births; and 3) limiting the number of children. Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many is critical.

Current use of contraception was reported by 65.6 percent of women currently married or in union (Table RH.4). The most popular method is injectables, which are used by 28.9 percent of married women in Bhutan. The next most popular method as reported by currently married women or women in a union was male sterilization, which accounts for 12.6 percent of married women. Between 3.7 and 7.5 percent of women reported use of the IUD, oral pills, female sterilization and the male condom. Less than 0.1 percent use periodic abstinence, withdrawal, male sterilization, or the lactational amenorrhea method (LAM). In Bhutan, foam and jelly forms of contraceptives are not used at all.

Contraceptive prevalence among married women or union is highest in the Central region at 68.1 percent and almost as high in the Western region at 66.7 percent with a lower 61.8 percent in the Eastern region. Adolescents are far less likely to use contraception than older women. Only about 30.2 percent of women aged 15-19 currently use a method of contraception compared to 56.5 percent of 20-24 year olds and 70.9 percent of 40-44 year olds. As to be expected married/in union women with children are more likely to use contraception then women who have not had children.

Women's education level is negatively associated with contraceptive prevalence. The percentage of women using any method of contraception decreases from 67.5 percent among those with no education, to 66.2 percent among women with primary education, and to 57.7 percent among women with secondary or higher education. In addition to differences in prevalence, the method mix varies by education. Thus while injectables remain the most popular methods for all regardless of the level of education, the second most popular method is a male condom for women with secondary + education, the pill for women with primary education, and male sterilization for women with no education.

Among the poorest quintile, male sterilization is high (16.1%) compared to the richest quintile (8.2%), while female sterilization is the highest among the richest quintile (10.4%) compared to the poorest quintile (3.9%).

TABLE RH.4: USE OF CONTRACEPTION

Percentage of women age 15-49 years currently married or in union who are using (or whose partner is using) a contraceptive method, Bhutan, 2010

	Percent of women (currently married or inunion) who are using:																	Number of women currently married or in union
	Not using any method	Female sterilization	Male sterilization	IUD	Implants	Injectables	Oral Contraceptive Pill	Male condom	Female condom	Foam/jelly	Lactational amenorrhoea method (LAM)	Periodic abstinence/Rhythm	Withdrawal	Other	Any modern method	Any traditional method	Any method [1]	
Dzongkhag																		
Bumthang	39.5	4.4	7.7	2.3	.0	34.4	6.4	5.1	.1	.0	.0	.0	.0	.0	60.5	.0	60.5	222
Chukha	34.2	7.7	10.6	3.9	.0	25.5	7.1	10.2	.0	.0	.1	.3	.0	.4	65.0	.8	65.8	1039
Dagana	23.0	3.0	20.6	1.6	.0	33.6	11.5	6.4	.0	.0	.0	.0	.4	.0	76.6	.4	77.0	396
Gasa	32.7	2.1	10.8	2.8	.0	37.0	5.0	9.7	.0	.0	.0	.0	.0	.0	67.3	.0	67.3	86
Haa	22.7	14.5	11.4	3.4	.4	30.4	8.5	8.5	.0	.0	.0	.2	.0	.0	77.1	.2	77.3	201
Lhuntse	35.6	4.2	14.2	5.3	.0	33.9	4.8	1.9	.0	.0	.0	.0	.0	.0	64.4	.0	64.4	219
Mongar	36.4	5.0	8.1	6.2	.0	38.4	3.5	2.5	.0	.0	.0	.0	.0	.0	63.6	.0	63.6	697
Paro	32.7	11.7	10.1	6.2	.3	25.3	8.1	5.6	.0	.0	.1	.0	.0	.0	67.2	.1	67.3	504
Pemagatshel	44.3	3.3	12.7	1.6	.3	28.0	6.1	3.8	.0	.0	.0	.0	.0	.0	55.7	.0	55.7	373
Punakha	38.8	11.1	13.7	2.5	.2	20.2	7.2	5.8	.2	.0	.0	.0	.0	.4	60.8	.4	61.2	342
Samdrup jongkhar	37.6	5.7	12.3	1.7	.0	31.3	8.4	2.9	.0	.0	.0	.0	.0	.0	62.4	.0	62.4	638
Samtse	32.9	9.1	21.5	1.0	.0	21.8	10.3	3.2	.0	.0	.0	.2	.0	.0	66.9	.2	67.1	1143
Sarpang	32.6	5.0	11.7	4.7	.0	29.6	9.4	6.3	.0	.0	.0	.5	.2	.0	66.8	.6	67.4	651
Thimphu	33.4	11.4	7.1	7.3	.0	23.2	7.1	10.4	.0	.0	.0	.0	.0	.1	66.4	.1	66.6	1327
Trashigang	35.8	3.6	12.7	2.6	.0	38.2	6.0	1.1	.1	.0	.0	.0	.0	.0	64.2	.0	64.2	772
Trashiyangtse	46.8	6.1	10.5	5.0	.0	25.0	2.8	3.4	.0	.0	.0	.2	.0	.2	52.8	.5	53.2	219
Trongsa	31.6	5.5	13.4	3.6	.9	32.4	5.0	7.5	.0	.0	.0	.0	.0	.2	68.3	.2	68.4	209
Tsirang	27.2	3.7	13.8	2.4	.2	36.9	13.3	2.4	.0	.0	.0	.1	.0	.0	72.6	.1	72.8	333
Wangdue	34.8	8.2	20.4	2.0	.4	22.2	6.3	5.5	.0	.0	.0	.2	.0	.0	65.0	.2	65.2	394
Zhemgang	39.3	1.9	7.3	2.4	.0	41.2	5.4	2.2	.0	.0	.0	.0	.0	.2	60.4	.2	60.7	262
Region																		
Western	33.3	10.0	12.5	4.2	.1	23.9	8.0	7.6	.0	.0	.0	.1	.0	.2	66.4	.3	66.7	4642
Central	31.9	4.7	14.1	2.9	.2	32.0	8.7	5.2	.0	.0	.0	.2	.1	.0	67.7	.3	68.1	2468
Eastern	38.2	4.6	11.5	3.5	.0	34.1	5.6	2.4	.0	.0	.0	.0	.0	.0	61.8	.0	61.8	2919

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Contd. TABLE RH.4: USE OF CONTRACEPTION

Percentage of women age 15-49 years currently married or in union who are using (or whose partner is using) a contraceptive method, Bhutan, 2010

	Not using any method	Female sterilization	Male sterilization	IUD	Implants	Inject-ables	Oral Contraceptive Pill	Male con-dom	Female con-dom	Foam/jelly	Lactational amenor-rhoea method (LAM)	Periodic absti-nence/Rhythm	With-drawal	Other	Any modern method	Any tradi-tional method	Any method [1]	Number of women currently married or in union
Residence																		
Urban	36.0	10.1	7.3	5.1	.0	22.9	6.9	11.1	.1	.0	.0	.2	.0	.2	63.5	.4	64.0	2986
Rural	33.7	5.8	14.8	3.1	.1	31.4	7.7	3.1	.0	.0	.0	.1	.0	.1	66.1	.2	66.3	7043
Age																		
15-19	69.8	.0	.0	.2	.0	22.8	4.3	2.7	.2	.0	.0	.0	.0	.0	30.2	.0	30.2	312
20-24	43.5	1.2	1.0	1.8	.1	37.0	9.4	6.0	.0	.0	.1	.0	.1	.0	56.4	.1	56.5	1568
25-29	37.2	3.5	3.6	3.4	.1	33.8	9.6	8.6	.0	.0	.0	.2	.0	.1	62.5	.3	62.8	2257
30-34	26.5	9.5	9.5	5.4	.1	34.1	9.1	5.5	.1	.0	.0	.1	.0	.1	73.3	.2	73.5	1923
35-39	25.1	11.0	20.5	4.1	.1	26.4	6.8	5.8	.0	.0	.0	.0	.0	.1	74.8	.1	74.9	1650
40-44	29.1	11.2	26.8	4.8	.0	21.0	3.8	3.0	.0	.0	.0	.2	.0	.1	70.6	.3	70.9	1363
45-49	40.9	10.4	29.3	3.0	.0	11.1	3.3	1.5	.0	.0	.0	.3	.2	.0	58.7	.4	59.1	957
Number of living children																		
0	87.8	.3	1.6	.1	.0	1.1	2.5	6.5	.2	.0	.0	.0	.1	.0	12.1	.1	12.2	837
1	44.3	1.3	1.5	2.1	.1	35.1	7.0	8.3	.0	.0	.0	.1	.0	.1	55.4	.2	55.7	1868
2	27.2	7.8	8.4	4.6	.1	34.8	10.1	6.7	.0	.0	.0	.1	.0	.1	72.5	.2	72.8	2640
3	23.6	11.3	19.5	4.6	.1	29.3	7.2	4.2	.0	.0	.0	.0	.0	.2	76.1	.3	76.4	2199
4+	26.1	9.4	23.0	4.4	.0	26.9	7.0	3.0	.0	.0	.0	.2	.0	.0	73.6	.2	73.9	2485
Education																		
None	32.5	7.0	15.9	3.8	.1	30.6	7.0	2.9	.0	.0	.0	.1	.0	.0	67.3	.2	67.5	7087
Primary	33.8	8.7	8.2	3.2	.1	30.1	9.9	5.7	.0	.0	.0	.1	.0	.2	65.9	.3	66.2	1165
Secondary +	42.3	6.4	2.2	3.8	.0	21.1	7.9	15.9	.1	.0	.0	.1	.0	.2	57.3	.4	57.7	1778
Missing/DK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.	.	.	.
Wealth index quintiles																		
Poorest	31.0	3.9	16.1	2.0	.1	37.5	8.0	1.3	.0	.0	.0	.2	.0	.0	68.9	.2	69.0	1855
Second	34.4	4.3	16.2	2.8	.2	34.2	6.4	1.5	.0	.0	.0	.0	.0	.0	65.5	.1	65.6	1888
Middle	34.9	5.9	14.1	3.4	.1	30.2	7.5	3.6	.0	.0	.0	.1	.0	.2	64.7	.4	65.1	1937
Fourth	33.6	10.1	9.5	4.5	.1	27.6	8.4	6.0	.0	.0	.0	.0	.0	.1	66.2	.2	66.4	2189
Richest	37.7	10.4	8.2	5.3	.0	16.9	7.0	13.9	.1	.0	.1	.2	.0	.1	61.9	.4	62.3	2160
Total	**34.4**	**7.1**	**12.6**	**3.7**	**.1**	**28.9**	**7.5**	**5.5**	**.0**	**.0**	**.0**	**.1**	**.0**	**.1**	**65.4**	**.2**	**65.6**	**10029**

[1] MICS indicator 5.3; MDG indicator 5.3

Unmet Need

Unmet need for contraception refers to fecund women who are not using any method of contraception, but who wish to postpone the next birth (spacing) or who wish to stop childbearing altogether (limiting). Unmet need is identified in BMIS by using a set of questions eliciting current behaviours and preferences pertaining to contraceptive use, fecundity, and fertility preferences.

Table RH.5 shows the results of the survey on contraception, unmet need, and the demand for contraception satisfied.

Unmet need for spacing is defined as percentage of women who are not using a method of contraception AND

- are not pregnant and not postpartum amenorrheic[11] and are fecund[12] and say they want to wait two or more years for their next birth OR
- are not pregnant and not postpartum amenorrheic and are fecund and unsure whether they want another child OR
- are pregnant and say that pregnancy was mistimed: would have wanted to wait OR
- are postpartum amenorrheic and say that the birth was mistimed: would have wanted to wait

Unmet need for limiting is defined as percentage of women who are not using a method of contraception AND

- are not pregnant and not postpartum amenorrheic and are fecund and say they do not want any more children OR
- are pregnant and say they didn't want to have a child OR
- are postpartum amenorrheic and say that they didn't want the birth

Total unmet need for contraception is simply the sum of unmet need for spacing and unmet need for limiting. Slightly more than one out of ten women aged 15-49 has an unmet need for contraception. The needs of the women in the younger age groups are less fulfilled; particularly those in the age group 15-19 (27.4%) compared age group 45-49 (6.5%). The unmet need for contraception is slightly higher in the Eastern region when compared with the two other regions.
Of the unmet need for contraception, the need is slightly higher for limiting (6.9%) of children as opposed to spacing (4.7%).

[11] A women is postpartum amenorrheic if she had a birth in the last two years and is not currently pregnant, and her menstrual period has not returned since the birth of the last child
[12] A women is considered infecund if she is neither pregnant nor postpartum amenorrheic, and
(1a) has not had menstruation for at least six months, or (1b) never menstruated, or (1c) her last menstruation occurred before her last birth, or (1d) in menopause/has had hysterectomy OR
(2) She declares that she has had hysterectomy, or that she has never menstruated or that she is menopausal, or that she has been trying to get pregnant for two or more years without result in response to questions on why she thinks she is not physically able to get pregnant at the time of survey OR
(3) She declares she cannot get pregnant when asked about desire for future birth OR
(4) She has not had a birth in the preceding five years, is currently not using contraception and is currently married and was continuously married during the last five years preceding the survey

Using information on contraception and unmet need, the percentage of demand for contraception satisfied is also estimated from the BMIS data. Percentage of demand satisfied is defined as the proportion of women currently married or in a marital union who are currently using contraception, of the total demand for contraception. The total demand for contraception includes women who currently have an unmet need (for spacing or limiting), plus those who are currently using contraception. Nationally, the percentage of demand for contraception satisfied is 84.9. The demand for contraception satisfied is least for women aged 15-19 years old at 52.4 percent and for Pemagatshel Dzongkhag at 73.9 percent.

TABLE RH.5: UNMET NEED FOR CONTRACEPTION

Percentage of women aged 15-49 years currently married or in union with an unmet need for family planning and percentage of demand for contraception satisfied, Bhutan, 2010

Dzongkhag	Met need for contraception - For spacing	Met need for contraception - For limiting	Met need for contraception - Total	Unmet need for contraception - For spacing	Unmet need for contraception - For limiting	Unmet need for contraception - Total [1]	Number of women currently married or in union	Percentage of demand for contraception satisfied	Number of women currently married or in union with need for contraception
Bumthang	14.6	45.9	60.5	6.9	8.2	15.0	222	80.1	168
Chukha	11.2	54.8	65.8	3.6	6.0	9.6	1039	87.2	784
Dagana	14.3	62.6	77.0	4.3	3.1	7.4	396	91.2	334
Gasa	11.5	55.8	67.3	5.9	4.4	10.3	86	86.8	67
Haa	12.0	65.3	77.3	3.1	4.4	7.5	201	91.1	170
Lhuntse	16.7	47.6	64.4	6.2	5.4	11.7	219	84.7	167
Mongar	15.9	47.7	63.6	6.3	7.2	13.5	697	82.5	538
Paro	9.2	58.3	67.3	3.4	8.7	12.1	504	84.7	400
Pemagatshel	15.4	40.4	55.7	9.2	10.5	19.7	373	73.9	281
Punakha	7.1	54.1	61.2	3.1	12.6	15.6	342	79.7	263
Samdrup jongkhar	8.9	53.5	62.4	4.8	8.2	13.0	638	82.7	482
Samtse	9.6	57.6	67.1	6.1	7.7	13.8	1143	83.0	924
Sarpang	13.5	53.9	67.4	3.8	4.6	8.4	651	88.9	493
Thimphu	17.5	49.1	66.6	3.2	6.2	9.4	1327	87.7	1008
Trashigang	10.8	53.4	64.2	5.7	7.5	13.2	772	83.0	598
Trashiyangtse	6.6	46.6	53.2	4.5	7.8	12.3	219	81.2	144
Trongsa	12.2	56.2	68.4	4.9	5.2	10.1	209	87.2	164
Tsirang	12.7	60.0	72.8	4.0	3.8	7.8	333	90.3	269
Wangdue	10.6	54.6	65.2	3.5	7.7	11.2	394	85.4	301
Zhemgang	17.4	43.3	60.7	6.3	8.0	14.3	262	80.9	197

Contd. TABLE RH.5: UNMET NEED FOR CONTRACEPTION

Percentage of women aged 15-49 years currently married or in union with an unmet need for family planning and percentage of demand for contraception satisfied,Bhutan, 2010

	Met need for contraception - For spacing	Met need for contraception - For limiting	Met need for contraception - Total	Unmet need for contraception - For spacing	Unmet need for contraception - For limiting	Unmet need for contraception - Total [1]	Number of women currently married or in union	Percentage of demand for contraception satisfied	Number of women currently married or in union with need for contraception
Region									
Western	12.1	54.7	66.7	4.1	7.2	11.2	4642	85.6	3616
Central	13.5	54.6	68.1	4.5	5.5	10.0	2468	87.2	1926
Eastern	12.3	49.5	61.8	6.1	7.8	13.9	2919	81.6	2209
Residence									
Urban	15.0	49.0	64.0	4.1	6.3	10.4	2986	86.1	2220
Rural	11.5	54.9	66.3	5.0	7.2	12.2	7043	84.4	5532
Age									
15-19	20.6	9.6	30.2	22.4	5.0	27.4	312	52.4	180
20-24	33.1	23.4	56.5	11.9	4.7	16.6	1568	77.3	1147
25-29	20.4	42.4	62.8	6.8	7.4	14.2	2257	81.6	1738
30-34	7.9	65.7	73.5	2.0	8.3	10.3	1923	87.7	1612
35-39	2.9	72.1	74.9	1.3	7.7	9.0	1650	89.3	1384
40-44	.6	70.5	70.9	.5	6.6	7.1	1363	90.9	1064
45-49	.3	58.7	59.1	.1	6.4	6.5	957	90.1	628
Education									
None	9.8	57.8	67.5	3.5	7.1	10.6	7087	86.5	5531
Primary	12.6	53.6	66.2	5.3	7.8	13.1	1165	83.5	923
Secondary +	23.3	34.4	57.7	9.3	5.9	15.2	1778	79.1	1297
Wealth index quintiles									
Poorest	11.9	57.2	69.0	4.1	7.0	11.1	1855	86.2	1487
Second	10.4	55.3	65.6	5.6	6.9	12.5	1888	84.0	1474
Middle	12.7	52.5	65.1	5.8	7.4	13.1	1937	83.2	1516
Fourth	14.0	52.4	66.4	3.8	6.6	10.3	2189	86.5	1680
Richest	13.2	49.1	62.3	4.7	6.9	11.6	2160	84.3	1595
Total	**12.5**	**53.1**	**65.6**	**4.7**	**6.9**	**11.7**	**10029**	**84.9**	**7751**

[1] MICS indicator 5.4; MDG indicator 5.6

Antenatal Care

The antenatal period presents important opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well-being and that of their infants. Better understanding of foetal growth and development and its relationship to the mother's health has resulted in increased attention to the potential of antenatal care as an intervention to improve both maternal and newborn health.

For example, if the antenatal period is used to inform women and families about the danger signs and symptoms and about the risks of labour and delivery, it may provide the route for ensuring that pregnant women do, in practice, deliver with the assistance of a skilled health care provider. The antenatal period also provides an opportunity to supply information on birth spacing, which is recognized as an important factor in improving infant survival. Tetanus immunization during pregnancy can be lifesaving for both the mother and infant.

The prevention and treatment of malaria among pregnant women, management of anaemia during pregnancy and treatment of STIs can significantly improve foetal outcomes and improve maternal health. Adverse outcomes such as low birth weight can be reduced through a combination of interventions to improve women's nutritional status and prevent infections (e.g., malaria and STIs) during pregnancy. More recently, the potential of the antenatal period as an entry point for HIV prevention and care, in particular for the prevention of HIV transmission from mother to child, has led to renewed interest in access to and use of antenatal services.

WHO recommends a minimum of four antenatal visits based on a review of the effectiveness of different models of antenatal care. WHO guidelines are specific on the content on antenatal care visits, which include:

* Blood pressure measurement
* Urine testing for bateriuria and proteinuria
* Blood testing to detect syphilis and severe anemia
* Weight/height measurement (optional)

The type of personnel providing antenatal care to women aged 15-49 years who gave birth in the two years preceding is presented in Table RH.6. Coverage of antenatal care by skilled personnel is relatively high in Bhutan with 97.3 percent of women receiving antenatal care at least once during the pregnancy. With such high coverage of antenatal care in Bhutan there are few disparities between the background variables. The difference between urban and rural coverage is just 3 percent for example. However the lowest antenatal care coverage in the country appears to be in Pemagatshel at 84.8 percent.

TABLE RH.6: ANTENATAL CARE PROVIDER

Percent distribution of women aged 15-49 who gave birth in the two years preceding the survey by type of personnel providing antenatal care, Bhutan, 2010

Dzongkhag	Person providing antenatal care							Total	At least once by skilled personnel [1]	Number of women who gave birth in the preceding two years
	Doctor	Nurse / Midwife	HA/BHW	Asst. Clinical Officer(ACO)	Traditional birth attendant	Village health worker	Other/missing	No antenatal care received			
Bumthang	17.0	63.0	17.4	.0	.0	.0	.0	2.5	100	97.5	69
Chukha	27.2	65.8	5.0	.0	.0	.0	.0	2.0	100	98.0	223
Dagana	25.1	49.1	23.5	.0	.0	.0	.0	2.3	100	97.7	100
Gasa	(6.0)	(72.6)	(10.6)	(.0)	(.0)	(.0)	(.0)	(10.8)	(100.0)	(89.2)	28
Haa	36.4	40.2	21.0	.0	.0	.0	.0	2.4	100	97.6	43
Lhuntse	13.1	35.3	47.2	.0	.0	.0	.0	4.3	100	95.7	47
Mongar	20.6	30.8	47.9	.0	.0	.0	.0	.7	100	99.3	186
Paro	22.2	72.3	4.4	.0	.0	.0	.0	1.1	100	98.9	146
Pemagatshel	13.7	37.2	33.9	.0	.0	.0	2.1	13.0	100	84.8	94
Punakha	32.3	61.4	4.4	.0	.0	.4	.0	1.6	100	98.0	100
Samdrup jongkhar	21.6	51.6	24.5	.7	.0	.0	.0	1.6	100	98.4	163
Samtse	17.5	57.7	24.0	.0	.0	.0	.0	.8	100	99.2	221
Sarpang	9.3	70.2	20.4	.0	.0	.0	.0	0.0	100	100.0	132
Thimphu	42.0	55.8	.6	.0	.0	.0	.0	1.6	100	98.4	298
Trashigang	20.2	18.8	54.8	.8	.0	1.3	.0	4.1	100	94.7	161
Trashiyangtse	11.9	48.1	34.8	.0	.0	.0	.0	5.2	100	94.8	60
Trongsa	32.9	26.7	37.9	.0	.0	1.0	.0	1.4	100	97.6	50
Tsirang	4.2	58.3	35.1	1.7	.0	.0	.0	.7	100	99.3	62
Wangdue	41.9	28.6	28.8	.0	.0	.0	.0	.7	100	99.3	103
Zhemgang	13.5	49.1	29.2	.0	.6	.0	.0	7.6	100	91.9	82

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Percent distribution of women aged 15-49 who gave birth in the two years preceding the survey by type of personnel providing antenatal care, Bhutan, 2010

	Person providing antenatal care								Total	At least once by skilled personnel [1]	Number of women who gave birth in the preceding two years
	Doctor	Nurse / Midwife	HA/BHW	Asst. Clinical Officer(ACO)	Traditional birth attendant	Village health worker	Other/missing	No antenatal care received			
Region											
Western	28.9	60.9	8.4	.0	.0	.0	.0	1.7	100	98.2	1059
Central	20.4	51.0	26.2	.2	.1	.1	.0	2.0	100	97.8	598
Eastern	18.6	35.5	41.1	.3	.0	.3	.3	3.9	100	95.5	711
Residence											
Urban	37.8	57.3	3.8	.2	.1	.0	.2	.7	100	99.1	690
Rural	17.9	48.1	30.5	.1	.0	.2	.1	3.2	100	96.6	1678
Mother's age at birth											
Less than 20	19.5	48.7	27.2	.5	.0	.8	.0	3.3	100	96.0	269
20-34	24.1	51.9	21.7	.1	.0	.0	.1	2.0	100	97.9	1852
35-49	24.7	44.7	25.2	.0	.2	.0	.0	5.2	100	94.6	247
Education											
None	20.8	47.6	28.0	.2	.0	.2	.0	3.2	100	96.5	1484
Primary	19.0	59.2	20.3	.4	.0	.0	.3	.9	100	98.8	302
Secondary +	33.5	54.5	10.5	.0	.0	.0	.2	1.4	100	98.5	582
Wealth index quintiles											
Poorest	12.9	34.2	48.6	.0	.0	.0	.0	4.3	100	95.7	471
Second	16.6	44.1	34.0	.4	.0	.1	.2	4.7	100	95.0	448
Middle	21.3	56.6	19.6	.0	.0	.5	.0	2.0	100	97.5	475
Fourth	29.2	61.7	8.0	.3	.0	.0	.0	.8	100	99.2	518
Richest	38.0	55.9	4.9	.0	.1	.0	.3	.8	100	98.8	455
Total	**23.7**	**50.7**	**22.7**	**.1**	**.0**	**.1**	**.1**	**2.5**	**100**	**97.3**	**2368**

[1] MICS indicator 5.5a; MDG indicator 5.5

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

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UNICEF and WHO recommend a minimum of at least four antenatal care visits during pregnancy. Table RH.7 shows number of antenatal care visits during the last pregnancy during the two years preceding the survey, regardless of provider by selected characteristics. More than nine in ten mothers (94.1%) receive antenatal care more than once and more than seven out of ten of the mothers received antenatal care at least four times (77.3%). Mothers from the poorest households and those with no education or primary education are less likely than more advantaged mothers to receive ANC four or more times. For example, 64 percent of the women living in poorest households reported four or more antenatal care visits compared with 91.8 percent among those living in richest households. Women less than 20 years of age, as well as women aged 35-49, are less likely to receive four or more antenatal care visits compared to women 20-34 years old

TABLE RH.7: NUMBER OF ANTENATAL CARE VISITS

Percentage of women who had a live birth during the two years preceding the survey by number of antenatal care visits by any provider, Bhutan, 2010

	Percent of women who had:						Total	Number of women who gave birth in the preceding two years
	No antenetal care visits	One visit	Two visits	Three visits	4 or more visits [1]	Missing/DK		
Dzongkhag								
Bumthang	2.5	3.2	4.9	16.9	72.4	.0	100	69
Chukha	2.0	2.4	3.3	8.1	84.2	.0	100	223
Dagana	2.3	4.0	5.3	16.9	70.7	.8	100	100
Gasa	(10.8)	(7.0)	(7.7)	(8.3)	(55.6)	(10.6)	(100)	28
Haa	2.4	2.4	2.1	7.3	85.8	.0	100	43
Lhuntse	4.3	4.4	17.8	13.7	59.8	.0	100	47
Mongar	.7	3.0	8.4	9.1	78.1	.7	100	186
Paro	1.1	3.4	6.2	11.9	75.9	1.4	100	146
Pemagatshel	13.0	2.0	4.0	9.3	70.4	1.2	100	94
Punakha	1.6	2.2	6.2	12.9	77.1	.0	100	100
Samdrup jongkhar	1.6	3.3	6.9	17.3	70.1	.7	100	163
Samtse	.8	1.5	3.7	7.2	86.8	.0	100	221
Sarpang	.0	.3	.0	4.9	94.9	.0	100	132
Thimphu	1.6	2.3	3.7	8.2	83.6	.6	100	298
Trashigang	4.1	5.2	3.5	16.9	69.3	1.1	100	161
Trashiyangtse	5.2	0.0	8.6	14.7	70.5	.9	100	60
Trongsa	1.4	3.6	4.0	17.8	73.2	.0	100	50
Tsirang	.7	2.0	3.3	12.5	79.8	1.8	100	62
Wangdue	.7	2.5	8.9	14.2	72.6	1.1	100	103
Zhemgang	7.6	4.5	9.4	20.4	58.2	.0	100	82

Percentage of women who had a live birth during the two years preceding the survey by number of antenatal care visits by any provider, Bhutan, 2010

	Percent of women who had:						Total	Number of women who gave birth in the preceding two years
	No antenetal care visits	One visit	Two visits	Three visits	4 or more visits [1]	Missing/DK		
Region								
Western	1.7	2.4	4.2	8.9	82.1	.6	100	1059
Central	2.0	2.6	4.9	13.9	76.0	.5	100	598
Eastern	3.9	3.3	7.0	13.5	71.4	.8	100	711
Residence								
Urban	.7	2.2	2.6	6.7	87.1	.7	100	690
Rural	3.2	3.0	6.3	13.5	73.3	.7	100	1678
Mother's age at birth								
Less than 20	3.3	3.3	7.1	11.1	73.8	1.4	100	269
20-34	2.0	2.5	4.6	11.2	79.1	.6	100	1852
35-49	5.2	3.9	8.2	14.6	67.5	.5	100	247
Education								
None	3.2	3.4	5.9	12.8	73.8	.9	100	1484
Primary	.9	2.4	5.2	16.2	74.9	.4	100	302
Secondary +	1.4	1.3	3.6	5.9	87.7	.2	100	582
Wealth index quintile								
Poorest	4.3	4.2	9.8	17.2	64.0	.5	100	471
Second	4.7	3.5	7.2	14.7	68.8	1.1	100	448
Middle	2.0	2.1	3.8	13.5	77.8	.8	100	475
Fourth	.8	2.4	4.1	8.3	83.7	.7	100	518
Richest	.8	1.5	1.4	4.2	91.8	.3	100	455
Total	**2.5**	**2.7**	**5.3**	**11.5**	**77.3**	**.7**	**100**	**2368**

[1] MICS indicator 5.5b; MDG indicator 5.5

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

The types of services pregnant women received are shown in table RH.8. Among those women who have given birth to a child during the two years preceding the survey, 93 percent reported that a blood sample was taken during antenatal care visits, 94.7 percent reported that their blood pressure was checked, 89.1 percent that urine specimen was taken. Among the Dzongkhags, Gasa[13]– followed by Zhemgang, Pemagatshel and Samdrup jongkhar – had the least reported percentage of women who had their blood pressure measured, urine sample taken and blood sample taken as part of antenatal care. This percentage is also low among pregnant women less than 20 years old, with no education or belonging to the poorest quintiles. There is a difference between urban and rural women; in particular women living in rural areas are less likely to have a urine specimen taken.

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[13] Number of women who delivered in past two years is less than 50 unweighted cases, so result should be interpreted with caution

TABLE RH.8: CONTENT OF ANTENATAL CARE

Percentage of women age 15-49 years who had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care,Bhutan, 2010

	Percent of pregnant women who had:			Blood pressure measured, urine specimen and blood test taken [1]	Number of women who gave birth in two years preceding survey
	Blood pressure measured	Urine specimen taken	Blood test taken		
Dzongkhag					
Bumthang	94.5	93.6	94.5	92.0	69
Chukha	95.2	94.5	95.2	94.5	223
Dagana	92.7	92.6	94.6	90.7	100
Gasa	(89.2)	(78.3)	(78.2)	(72.2)	28
Haa	94.9	91.7	90.6	89.7	43
Lhuntse	95.1	83.1	91.9	83.1	47
Mongar	95.0	89.4	94.8	88.4	186
Paro	94.7	89.3	94.8	87.3	146
Pemagatshel	85.6	80.4	82.4	79.5	94
Punakha	96.2	94.5	96.5	93.3	100
Samdrup jongkhar	95.8	79.8	89.8	79.8	163
Samtse	98.5	83.7	93.4	82.3	221
Sarpang	98.7	94.7	96.2	93.7	132
Thimphu	96.7	96.7	98.4	96.7	298
Trashigang	89.5	84.0	88.8	80.2	161
Trashiyangtse	89.4	88.1	88.8	86.3	60
Trongsa	98.3	89.5	97.0	88.6	50
Tsirang	97.1	97.1	96.1	96.1	62
Wangdue	94.5	86.8	93.1	86.1	103
Zhemgang	89.5	77.7	79.7	73.8	82
Region					
Western	96.1	91.6	95.1	90.7	1059
Central	95.0	90.4	93.0	88.8	598
Eastern	92.2	84.3	90.0	82.9	711
Residence					
Urban	98.5	98.2	99.1	98.0	690
Rural	93.1	85.3	90.6	83.7	1678
Mother's age at birth					
Less than 20	95.1	85.2	88.7	83.3	269
20-34	95.0	89.9	93.9	88.7	1852
35-49	92.0	87.4	91.2	86.6	247
Education					
None	93.0	85.6	90.8	84.3	1484
Primary	96.8	91.7	96.0	90.6	302
Secondary +	97.9	96.6	97.3	95.5	582
Wealth index quintiles					
Poorest	91.0	76.3	84.7	74.5	471
Second	90.1	83.5	87.4	81.3	448
Middle	95.3	90.5	95.2	89.5	475
Fourth	97.9	96.3	98.2	95.4	518
Richest	98.8	98.1	99.1	97.9	455
Total	**94.7**	**89.1**	**93.0**	**87.9**	**2368**

[1] MICS indicator 5.6

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Assistance at Delivery

Three quarters of all maternal deaths occur during delivery and the immediate post-partum period. The single most critical intervention for safe motherhood is to ensure a competent health worker with midwifery skills is present at every birth, and transport is available to a referral facility for obstetric care in case of emergency. A World Fit for Children goal is to ensure that women have ready and affordable access to skilled attendance at delivery. The indicators are the proportion of births with a skilled attendant and proportion of institutional deliveries. The skilled attendant at delivery indicator is also used to track progress toward the Millennium Development target of reducing the maternal mortality ratio by three quarters between 1990 and 2015.

The BMIS included a number of questions to assess the proportion of births attended by a skilled attendant. A skilled attendant includes a doctor, nurse/midwife, basic health worker or assistant clinical officer.

About 64.5 percent of births occurring in the past two years preceding the BMIS survey were assisted at delivery by skilled personnel (Table RH.9). This percentage is highest in Western region at 78.7 percent and lowest in Eastern region at 49.2 percent. Women with secondary or higher education are more likely to have been delivered with the assistance of a skilled attendant than women with primary or no education. Women from the richest quintile are almost three times more likely to have been delivered by a skilled attendant than women from the poorest quintile. More women were assisted at birth by a skilled attendant in the urban areas (89.5%) comparing with their peers in the rural areas (54.3%). Among the Dzongkhags, Zhemgang had the least skilled attendance at delivery (37.7%).

About one in three of the births (32.1%) in the past two years preceding the survey were assisted at delivery by a midwife/nurse, while doctors assisted with the delivery of 26.1 percent of births. In the Western region, about 29.7 percent of births are delivered by doctors as compared to 23.8 and 22.5 in the Central and Eastern regions respectively. The main non-skilled support comes from relatives and friends, who assisted in the delivery of 29.9 percent of births. A high 54.1 percent of women from the poorest quintile are delivered with the assistance of a relative or friend. The proportion delivered by relatives or friends is much higher in the Eastern region (42.4%) compared to the Central region (37.9%) and the Western region (17%) in particular. More than one in ten (12.4%) of the births were delivered through C-section.

TABLE RH.9: ASSISTANCE DURING DELIVERY

Percent distribution of women age 15-49 who had a live birth in the two years preceding the survey by person assisting, at delivery and percentage of births delivered by C-section, Bhutan, 2010

	Person assisting at delivery									Total	Any skilled personnel	Percent delivered by C-section	Number of women who gave birth in preceding two years
	Doctor	Nurse / Midwife	HA/BHW	Asst. Clinical Officer (ACO)	Traditional birth attendant	Village health worker	Relative / Friend	Other/missing	No attendant				
Dzongkhag													
Bumthang	17.3	37.0	4.8	.0	6.6	.8	32.5	.0	.9	100.0	59.1	12.6	69
Chukha	38.3	30.5	.7	.0	.0	.0	26.2	4.4	.0	100.0	69.5	18.7	223
Dagana	17.6	34.5	7.7	.0	.0	.0	40.2	.0	.0	100.0	59.8	10.9	100
Gasa	(40.1)	(19.1)	(2.4)	(.0)	(.0)	(.0)	(29.6)	(8.7)	(.0)	(100.0)	(61.7)	(6.0)	28
Haa	37.7	39.0	8.6	.0	.0	.0	12.8	1.9	.0	100.0	85.3	22.1	43
Lhuntse	25.0	18.3	18.8	.0	1.0	2.3	34.6	.0	.0	100.0	62.0	12.4	47
Mongar	21.2	20.2	20.3	.0	.0	.7	35.1	1.7	.8	100.0	61.7	8.1	186
Paro	21.1	61.7	3.3	.0	.0	.0	14.0	.0	.0	100.0	86.0	15.2	146
Pemagatshel	20.5	17.7	4.6	.0	1.7	1.0	53.8	.8	.0	100.0	42.7	5.7	94
Punakha	26.2	50.4	1.7	.0	.0	.0	11.1	10.6	.0	100.0	78.3	10.7	100
Samdrup jongkhar	30.9	14.1	.7	.0	14.7	.0	36.2	3.6	.0	100.0	45.6	15.4	163
Samtse	8.2	49.4	5.3	.0	2.2	.0	27.9	5.3	1.7	100.0	62.9	11.4	221
Sarpang	37.8	20.7	3.9	.0	.0	.0	36.7	.9	.0	100.0	62.3	13.2	132
Thimphu	42.5	50.8	1.1	.0	.0	.0	5.0	.5	.0	100.0	94.4	16.0	298
Trashigang	17.9	8.9	12.5	.0	.0	.0	49.0	11.1	.5	100.0	39.3	10.1	161
Trashiyangtse	18.2	20.9	7.5	.0	.0	.0	51.7	1.7	.0	100.0	46.6	14.5	60
Trongsa	28.5	16.5	3.0	.0	.0	1.0	48.3	2.0	.7	100.0	48.0	7.5	50
Tsirang	18.5	31.6	20.3	2.7	.0	.0	26.8	0.0	.0	100.0	73.2	5.8	62
Wangdue	23.0	28.4	9.0	.0	5.9	.0	33.7	0.0	.0	100.0	60.3	12.0	103
Zhemgang	16.7	15.4	4.7	.9	0.0	.0	48.6	12.6	1.1	100.0	37.7	3.7	82
Region													
Western	29.7	46.4	2.6	.0	.5	.0	17.0	3.5	.3	100.0	78.7	15.0	1059
Central	23.8	26.3	7.3	.4	1.8	.2	37.9	2.1	.3	100.0	57.7	10.0	598
Eastern	22.5	15.8	10.8	.0	3.6	.5	42.4	4.0	.3	100.0	49.2	10.8	711

Contd. TABLE RH.9: ASSISTANCE DURING DELIVERY

Percent distribution of women age 15-49 who had a live birth in the two years preceding the survey by person assisting,at delivery and percentage of births delivered by C-section, Bhutan, 2010

	Person assisting at delivery										Any skilled personnel	Percent delivered by C-section	Number of women who gave birth in preceding two years
	Doctor	Nurse / Midwife	HA/BHW	Asst. Clinical Officer (ACO)	Traditional birth atten-dant	Village health worker	Relative / Friend	Other/missing	No attendant	Total			
Residence													
Urban	40.2	46.4	2.7	.1	.1	.1	8.2	2.1	.0	100.0	89.5	18.2	690
Rural	20.2	26.2	7.7	.1	2.4	.2	38.8	3.8	.5	100.0	54.3	10.1	1678
Mother's age at birth													
Less than 20	19.4	30.4	8.4	.0	1.3	.2	35.1	5.1	.0	100.0	58.2	8.2	269
20-34	27.0	33.7	5.5	.1	1.9	.2	28.5	2.8	.4	100.0	66.2	12.7	1852
35-49	26.0	22.5	9.7	.5	1.2	.2	34.7	5.2	.2	100.0	58.6	15.3	247
Place of delivery													
Public sector health facility	41.0	49.3	8.2	.2	.0	.0	1.1	.1	.0	100.0	98.7	19.7	1492
Private sector health facility	100.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	100.0	35.6	3
Home	.3	2.9	2.9	.0	4.7	.5	79.3	8.6	.8	100.0	6.0	0.0	865
Other	.0	.0	.0	.0	12.2	.0	66.1	16.5	5.1	100.0	.0	0.0	7
Missing/DK	.0	.0	.0	.0	0.0	.0	.0	0.0	100.0	100.0	.0	0.0	0
Education													
None	20.9	25.7	6.9	.1	2.6	.3	38.4	4.6	.5	100.0	53.6	10.7	1484
Primary	26.1	30.6	5.5	.2	.3	.0	34.2	3.1	.1	100.0	62.4	12.8	302
Secondary +	39.3	49.3	5.0	.0	.3	.0	6.0	.2	.0	100.0	93.6	16.8	582
Wealth index quintiles													
Poorest	10.2	15.2	8.8	.1	4.3	.4	54.1	6.1	.8	100.0	34.3	7.3	471
Second	15.6	18.2	9.3	.2	3.0	.4	48.4	4.3	.6	100.0	43.3	8.1	448
Middle	26.9	34.3	6.1	.0	1.5	.1	28.8	2.0	.3	100.0	67.3	12.3	475
Fourth	33.7	43.8	3.3	.1	.2	.0	16.2	2.6	.0	100.0	80.9	14.1	518
Richest	43.2	47.9	4.1	.0	.0	.0	3.4	1.4	.0	100.0	95.1	20.4	455
Total	**26.1**	**32.1**	**6.2**	**.1**	**1.8**	**.2**	**29.9**	**3.3**	**.3**	**100.0**	**64.5**	**12.4**	**2368**

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Place of Delivery

Increasing the proportion of births that are delivered in health facilities is an important factor in reducing the health risks to both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. Table RH.10 presents the percentage distribution of women aged 15-49, who had a live birth in the two years preceding the survey by place of delivery and the percentage of births delivered in a health facility, according to background characteristics.

63.1 percent of births in Bhutan are delivered in a health facility; 63 percent of deliveries occur in public sector facilities and 0.1 percent occurs in private sector facilities. More than one in three (36.6%) births occurs at home. Women aged 20-34 are most likely to deliver in a health facility (65.1%). Women in urban areas are almost twice as likely to deliver in a health facility as their rural counterparts (89.8% compared with 52.2%). The Western region has the highest proportion of institutional deliveries (77.7%), followed by the Central region (56.1%), while the Eastern region has the lowest proportion (47.4%). Women with higher levels of educational attainment are more likely to deliver in a health facility than women with less education or no education. The proportion of births occurring in a health facility increases drastically with increasing wealth quintile, from 33.2 percent of births in the lowest wealth quintile to 95.8 percent among those in the highest quintile. With about 36 percent, Trashigang and Zhemgang had the least women delivering in the health facility, while Thimphu had the most among the Dzongkhags with 94.4 percent.

TABLE RH.10: PLACE OF DELIVERY

Percent distribution of women age 15-49 with a birth in two years preceding the survey by place of delivery, Bhutan, 2010

	Place of delivery				Total	Delivered in health facility [1]	Number of women who gave birth in preceding two years
	Public sector health facility	Private sector health facility	Home	Other			
Dzongkhag							
Bumthang	55.7	.0	44.3	.0	100.0	55.7	69
Chukha	71.4	.8	26.7	1.0	100.0	72.2	223
Dagana	56.1	.0	43.9	.0	100.0	56.1	100
Gasa	59.3	.0	36.4	4.3	100.0	59.3	28
Haa	78.8	.0	21.2	.0	100.0	78.8	43
Lhuntse	57.3	.0	42.7	.0	100.0	57.3	47
Mongar	59.8	.0	40.2	.0	100.0	59.8	186
Paro	81.7	.0	18.3	.0	100.0	81.7	146
Pemagatshel	45.1	.0	54.9	.0	100.0	45.1	94
Punakha	77.9	.0	22.1	.0	100.0	77.9	100
Samdrup jongkhar	44.9	.0	53.8	1.3	100.0	44.9	163
Samtse	59.9	.0	40.1	.0	100.0	59.9	221
Sarpang	61.5	.0	37.5	1.0	100.0	61.5	132
Thimphu	94.4	.0	5.6	.0	100.0	94.4	298
Trashigang	35.9	.6	63.5	.0	100.0	36.5	161
Trashiyangtse	40.8	.0	59.2	.0	100.0	40.8	60
Trongsa	45.5	.0	53.8	.7	100.0	45.5	50
Tsirang	73.1	.0	26.9	.0	100.0	73.1	62
Wangdue	59.4	.0	40.6	.0	100.0	59.4	103
Zhemgang	36.9	.0	62.7	.5	100.0	36.9	82
Region							
Western	77.5	.2	22.0	.3	100.0	77.7	1059
Central	56.1	.0	43.6	.3	100.0	56.1	598
Eastern	47.3	.1	52.3	.3	100.0	47.4	711
Residence							
Urban	89.4	.4	9.9	.3	100.0	89.8	690
Rural	52.2	0.0	47.5	.3	100.0	52.2	1678
Mother's age at birth							
Less than 20	57.2	0.0	42.8	0.0	100.0	57.2	269
20-34	65.0	.1	34.6	.3	100.0	65.1	1852
35-49	54.1	.7	44.6	.5	100.0	54.9	247
Number of Antenatal care visits:							
None	21.4	0.0	77.4	1.2	100.0	21.4	59
1-3 visits	44.0	.4	55.6	0.0	100.0	44.4	462
4+ visits	69.2	.1	30.5	.3	100.0	69.2	1831
Education							
None	51.5	0.0	48.0	.5	100.0	51.5	1484
Primary	61.7	.6	37.6	.1	100.0	62.3	302
Secondary +	93.0	.2	6.9	0.0	100.0	93.1	582
Wealth index quintiles							
Poorest	33.2	0.0	66.4	.5	100.0	33.2	471
Second	40.8	0.0	58.8	.4	100.0	40.8	448
Middle	64.4	0.0	35.1	.5	100.0	64.4	475
Fourth	79.9	0.0	19.9	.2	100.0	79.9	518
Richest	95.2	.6	4.2	0.0	100.0	95.8	455
Total	**63.0**	**.1**	**36.6**	**.3**	**100.0**	**63.1**	**2368**

[1] MICS indicator 5.8

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IX. Child Development

Early Childhood Education and Learning

Attendance to pre-school education in an organized learning or child education program is important for the readiness of children going to school. In Bhutan, early education does not include pre-primary (PP), which is received in formal schools prior to starting grade one of primary education.

About 10 percent of children aged 36-59 months are attending some form of organized early child-hood education programme (Table CD.1). Urban-rural and regional differentials are significant – the figure is as high as 18.4 percent in urban areas, compared to 6 percent in rural areas. Among children aged 36-59 months, attendance is more prevalent in the Western region (13.6%), and lowest in the Eastern region (5.5 %). No gender differential exists, but differentials by education and wealth are significant. About 27 percent of children living in the richest households attend pre-school, while the figure drops to 2.7 percent in the poorest households. The proportion of children attending an early childhood education programme at ages 36-47 months is 3.9 percent compared to 15.4 percent at ages 48-59 months. Thimphu Dzongkhag (18.5%) has the highest pre-school attendance and Pemagatsel Dzongkhag (0.8%) the lowest.

TABLE CD.1: EARLY CHILDHOOD EDUCATION

Percentage of children age 36-59 months who are attending some form of organized early childhood education programme, Bhutan, 2010

	Percentage of children age 36-59 months currently attending early childhood education [1]	Number of children aged 36-59 months
Sex		
Male	9.6	1294
Female	9.5	1203
Dzongkhag		
Bumthang	9.2	66
Chukha	12.5	278
Dagana	3.5	85
Gasa	*	14
Haa	16.4	50
Lhuntse	5.2	45
Mongar	8.5	192
Paro	18.6	117
Pemagatshel	.8	76
Punakha	14.1	77
Samdrup jongkhar	9.3	161
Samtse	8.4	355
Sarpang	5.0	141
Thimphu	18.5	285
Trashigang	2.2	206
Trashiyangtse	3.3	64
Trongsa	11.0	53
Tsirang	6.3	70
Wangdue	7.8	105
Zhemgang	4.5	57
Region		
Western	13.6	1177
Central	6.4	577
Eastern	5.5	743
Residence		
Urban	18.4	711
Rural	6.0	1786
Age of child		
36-47 months	3.9	1275
48-59 months	15.4	1222
Mother's education		
None	5.4	1731
Primary	7.4	325
Secondary	27.1	442
Wealth index quintiles		
Poorest	2.7	542
Second	1.5	466
Middle	4.8	442
Fourth	12.2	577
Richest	26.5	470
Total	**9.5**	**2497**

[1] MICS indicator 6.8

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

It is well recognized that a period of rapid brain development occurs in the first 3-4 years of life, and the quality of home care is the major determinant of the child's development during this period. In this context, adult activities with children, presence of books in the home for the child, and the conditions of care are important indicators of the quality of home care. Children should be physically healthy, mentally alert, emotionally secure, socially competent and ready to learn.

Information on a number of activities that support early learning was collected in the survey. These included the involvement of adults with children in the following activities: reading books or looking at picture books, telling stories, singing songs, taking children outside the home, compound or yard, playing with children, and spending time with children naming, counting, or drawing things.

For more than half (54.2 %) of under-five children, an adult household member engaged in four or more activities that promote learning and school readiness during the three days preceding the survey (Table CD.2). The average number of activities that adults engaged with children was 3.6. Father's involvement with one or more activities was 51.3 percent. A high of 14.6 percent of children were living in a household without their fathers. The wealth and education (both parents) positively correlate with the proportion of adult/father engagement and the number of activities. For example, fathers with secondary education engage in twice as many activities (2.2 activities) compared with fathers having no education (1 activity).

TABLE CD.2: SUPPORT FOR LEARNING

Percentage of children age 36-59 months with whom an adult household member engaged in activitiesthat promote learning and school readiness during the last three days, Bhutan, 2010

	Percentage of children aged 36-59 months		Mean number of activities		Percentage of children not living with their natural father	Number of children aged 36-59 months
	With whom adult household members engaged in four or more activities [1]	With whom the father engaged in one or more activities [2]	Any adult household member engaged with the child	The father engaged with the child		
Sex						
Male	52.0	52.8	3.5	1.3	13.6	1294
Female	56.6	49.6	3.7	1.2	15.7	1203
Dzongkhag						
Bumthang	42.0	46.5	3.1	1.0	28.1	66
Chukha	60.0	54.6	3.9	1.6	12.9	278
Dagana	55.4	58.1	3.6	1.6	15.6	85
Gasa	*	*	*	*	*	14
Haa	49.3	60.0	3.4	1.8	14.2	50
Lhuntse	56.0	25.1	4.0	.4	30.0	45
Mongar	36.2	33.4	2.8	.7	20.8	192
Paro	66.7	39.0	4.1	.8	21.3	117
Pemagatshel	59.8	59.3	3.9	1.7	17.4	76
Punakha	43.6	43.6	2.9	1.0	30.1	77
Samdrup jongkhar	33.3	56.1	2.9	1.1	15.3	161
Samtse	59.3	47.8	3.8	1.1	7.8	355
Sarpang	45.4	39.6	3.3	.8	13.5	141
Thimphu	68.0	77.4	4.2	2.1	7.4	285
Trashigang	66.8	62.6	4.1	1.3	7.9	206
Trashiyangtse	62.8	34.1	3.7	.6	14.0	64
Trongsa	57.8	36.8	3.5	.9	26.9	53
Tsirang	57.1	42.1	3.7	1.0	17.8	70
Wangdue	35.2	42.1	2.9	.9	20.4	105
Zhemgang	44.2	57.7	3.4	1.1	11.2	57
Region						
Western	60.5	55.9	3.8	1.5	12.1	1177
Central	47.0	45.4	3.3	1.0	18.3	577
Eastern	49.9	48.6	3.4	1.0	15.7	743

Contd. TABLE CD.2: SUPPORT FOR LEARNING

Percentage of children age 36-59 months with whom an adult household member engaged in activitiesthat promote learning and school readiness during the last three days, Bhutan, 2010

	Percentage of children aged 36-59 months		Mean number of activities		Percentage of children not living with their natural father	Number of children aged 36-59 months
	With whom adult household members engaged in four or more activities [1]	With whom the father engaged in one or more activities [2]	Any adult household member engaged with the child	The father engaged with the child		
Residence						
Urban	64.3	64.6	4.0	1.8	8.4	711
Rural	50.2	46.0	3.4	1.0	17.0	1786
Age						
36-47 months	54.3	48.5	3.6	1.1	15.7	1275
48-59 months	54.2	54.2	3.6	1.3	13.4	1222
Mother's education						
None	47.9	48.9	3.3	1.1	13.4	1731
Primary	58.2	43.9	3.8	1.0	20.6	325
Secondary	76.1	65.9	4.6	2.0	14.7	442
Father's education						
None	45.5	50.8	3.2	1.0	.0	1065
Primary	58.2	55.5	3.7	1.3	.0	518
Secondary +	72.3	75.9	4.3	2.2	.0	549
Father not in household	47.2	9.8	3.4	.2	100.0	364
Missing/DK	*	*	*	*	*	1
Wealth index quintiles						
Poorest	39.7	44.4	3.1	.9	15.8	542
Second	49.6	46.1	3.4	1.0	17.3	466
Middle	50.0	44.5	3.3	1.0	17.4	442
Fourth	59.8	51.7	3.8	1.3	11.8	577
Richest	72.8	70.4	4.4	2.0	11.3	470
Total	**54.2**	**51.3**	**3.6**	**1.2**	**14.6**	**2497**

[1] MICS indicator 6.1
[2] MICS Indicator 6.3

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

There are small gender differentials in terms of adult activities with children; however, a slightly higher proportion of fathers engaged in activities with male children (52.8 %) than with female children (49.6 %). Larger proportions of adults engaged in learning and school readiness activities with children in urban areas (64.3 %) than in rural areas (50.2 %). Strong differentials by region and socio-economic status are also observed: Adult engagement in activities with children was greatest in the Western region (60.5 %) and lowest in the Central region (47 %), while the proportion was 72.8 percent for children living in the richest households, as opposed to those living in the poorest households (39.7 %). Father's involvement showed a similar pattern in terms of differentials by region and socio-economic status.

Exposure to books in early years not only provides the child with greater understanding of the nature of print, but may also give the child opportunities to see others reading, such as older siblings doing school work. The presence of books is important for later school performance and IQ scores. In the BMIS, the mother/caretaker of all children under - five were asked about number of children's books or picture books they have for the child, household objects or outside objects, and homemade toys or toys that came from a shop that are available at home.

Only 6.4 percent of children age 0-59 months are living in households where at least three children's books are present (Table CD.3). The proportion of children with 10 or more books declines to 1.2 percent. While small gender differentials are observed, urban children appear to have more access to children's books than those living in rural households. The proportion of under-five children who have three or more children's books is 13 percent in urban areas, compared to 3.6 percent in rural areas. Thimphu and Paro have the highest proportion of children with three or more books among the dzongkhags. The availability is more than twice as high in the Western region compared to the Eastern region.

The presence of children's books is positively correlated with the child's age; in the homes of 9.4 percent of children aged 24-59 months, there are three or more children's books, while the figure is 1.7 percent for children aged 0-23 months. Education and wealth have a very strong correlation with availability of children's books. The likelihood of finding at least three children's books is more than 30 times higher among the richest (23.9%) compared to the poorest (0.7 %). Similarly the likelihood of finding at least three children's books is more than 10 times higher when the mother has secondary or higher education compared to when the mother has no education.

Although very few children have 10 or more children's books, the analysis is similar to that of children with three or more children's books. There is no household in Gasa Dzongkhag with 10 or more children's books while Thimphu Dzongkhag has the highest proportion with 4.3 percent households having 10 or more children's books.

TABLE CD.3: LEARNING MATERIALS

Percentage of children under age 5 by numbers of children's books present in the household, and by playthings that child plays with, Bhutan, 2010

	Household has for the child:		Child plays with:			Two or more types of play-things [2]	Number of children under age 5
	3 or more children's books [1]	10 or more children's books	Homemade toys	Toys from a shop/manu-factured toys	Household objects/ objects found outside		
Sex							
Male	6.2	1.0	25.3	60.9	66.0	52.6	3216
Female	6.5	1.5	20.6	60.7	64.6	50.5	3081
Dzongkhag							
Bumthang	8.7	1.9	20.0	69.6	46.4	44.1	171
Chukha	4.3	.2	36.5	74.5	72.8	64.5	648
Dagana	1.9	.4	37.6	48.0	76.8	55.5	237
Gasa	2.9	.0	44.5	43.4	46.5	50.2	43
Haa	7.5	.4	21.3	77.4	72.9	65.5	121
Lhuntse	4.2	.8	12.2	57.0	58.8	52.2	124
Mongar	3.3	.3	16.1	43.1	49.8	32.6	466
Paro	12.6	1.8	15.0	72.3	44.6	43.5	337
Pemagatshel	2.4	.3	28.5	48.9	33.1	35.1	214
Punakha	3.6	1.6	16.7	66.3	74.3	58.2	218
Samdrup jongkhar	3.9	.2	7.6	47.3	69.5	36.4	410
Samtse	4.2	.5	18.5	53.1	75.8	52.5	755
Sarpang	5.6	1.5	42.8	68.3	75.0	65.0	350
Thimphu	16.8	4.3	15.4	84.5	67.1	65.5	801
Trashigang	5.1	1.5	27.8	59.0	68.1	51.5	479
Trashiyangtse	3.5	1.1	14.0	36.4	48.0	27.4	169
Trongsa	6.6	1.5	23.9	49.7	66.9	46.5	133
Tsirang	4.8	1.1	21.4	45.7	47.2	33.3	186
Wangdue	4.6	.4	38.9	61.4	78.3	63.4	261
Zhemgang	3.3	.5	17.2	40.7	79.4	42.6	175
Region							
Western	8.7	1.7	21.6	70.5	68.5	58.6	2922
Central	4.9	1.0	31.5	56.5	69.0	52.7	1513
Eastern	3.9	.7	18.2	49.1	57.4	39.4	1862
Residence							
Urban	13.0	2.8	17.4	80.6	64.5	60.5	1841
Rural	3.6	.6	25.3	52.6	65.6	47.8	4456
Age							
0-23 months	1.7	.3	12.6	48.8	46.3	36.1	2463
24-59 months	9.4	1.8	29.6	68.5	77.6	61.4	3834
Mother's education							
None	2.0	.4	24.9	52.9	66.9	48.3	4207
Primary	4.0	.1	25.4	70.6	66.4	58.4	781
Secondary	21.8	4.7	15.2	80.5	59.6	57.9	1309
Wealth index quintiles							
Poorest	.7	.1	24.6	32.5	66.9	35.9	1294
Second	1.9	.1	25.4	44.7	63.9	43.3	1159
Middle	1.2	.0	28.0	61.6	65.4	55.2	1197
Fourth	4.7	.7	23.0	77.4	69.0	62.0	1438
Richest	23.9	5.4	13.8	86.1	60.5	60.1	1208
Total	**6.4**	**1.2**	**23.0**	**60.8**	**65.3**	**51.5**	**6297**

[1] MICS indicator 6.3
[2] MICS indicator 6.5

Table CD.3 also shows that 51.5 percent of children aged 0-59 months had two or more playthings to play with in their homes. The playthings in BMIS included homemade toys (such as dolls and cars, or other toys made at home), toys that came from a store, and household objects (such as pots and bowls) or objects and materials found outside the home (such as sticks, rocks, animal shells, or leaves). It is interesting to note that 60.8 percent of children play with toys that come from a store while playing with homemade toys is 23 per cent. Urban-rural differentials are observed in this respect with 60.5 percent in urban and 47.8 in rural areas. Children from the Eastern region (39.4 %) are less likely to have two or more playthings than children from the Central (52.7 %) and Western (58.6 %) regions. Some differences are observed in terms of the mother's education – 58.4 percent of children whose mothers have primary education have two or more playthings, while the proportion is 48.3 percent for children whose mothers have no education. There are large differences in the availability of play-things by wealth; only 35.9 percent of children from the poorest quintile have two or more playthings, compared to 60.1 percent of children from the richest quintile.

Leaving children alone or in the presence of other young children is known to increase the risk of accidents. In BMIS, two questions were asked to find out whether children aged 0-59 months were left alone during the week preceding the interview, and whether children were left in the care of other children under 10 years of age.

Table CD.4 shows that 10.2 percent of children aged 0-59 months were left in the care of other children, while 6.3 percent were left alone during the week preceding the interview. Combining the two care indicators, it is calculated that 14.2 percent of children were left with inadequate care during the week preceding the survey, either by being left alone or in the care of another child. While there are only small differences in regard to the sex of the child, it is twice as common to leave children with inadequate care in rural areas (16.8 %) compared to urban areas (7.7 %). Inadequate care was less prevalent for children whose mothers had at least secondary education (9.6 %), as opposed to children whose mothers had no education (15.6 %). Children aged 24-59 months were left with inadequate care more (18.1 %) than those aged 0-23 months (8.1 %). Significant differences are also observed in regard to socio-economic status of the household with 7.2 percent of children left with inadequate care among the richest and 16.8 percent among the poorest.

TABLE CD.4: INADEQUATE CARE

Percentage of children under age 5 left alone or left in the care of other children under the age of 10 years for more than one hour at least once during the past week, Bhutan, 2010

	Percentage of children under age 5			Number of children under age 5
	Left alone in the past week	Left in the care of another child younger than 10 years of age in the past week	Left with inadequate care in the past week [1]	
Sex				
Male	6.4	8.9	13.2	3216
Female	6.2	11.4	15.2	3081
Dzongkhag				
Bumthang	5.5	12.0	14.9	171
Chukha	4.6	8.8	11.3	648
Dagana	7.9	18.6	21.6	237
Gasa	3.1	2.6	5.6	43
Haa	7.9	10.6	15.1	121
Lhuntse	11.6	8.1	14.6	124
Mongar	8.4	11.3	17.2	466
Paro	4.2	4.7	6.6	337
Pemagatshel	7.1	7.9	12.8	214
Punakha	5.8	6.6	11.8	218
Samdrup jongkhar	3.7	10.0	12.5	410
Samtse	5.1	7.1	10.8	755
Sarpang	14.3	19.5	31.1	350
Thimphu	1.3	2.2	2.5	801
Trashigang	8.8	22.9	28.5	479
Trashiyangtse	5.1	17.1	19.9	169
Trongsa	11.7	8.2	17.4	133
Tsirang	7.9	9.5	12.7	186
Wangdue	12.8	15.0	23.4	261
Zhemgang	2.0	4.6	5.9	175
Region				
Western	4.0	5.9	8.3	2922
Central	9.6	13.8	20.1	1513
Eastern	7.2	13.9	18.6	1862
Residence				
Urban	3.5	5.6	7.7	1841
Rural	7.5	12.0	16.8	4456
Age				
0-23	3.6	5.5	8.1	2463
24-59	8.0	13.1	18.1	3834
Mother's education				
None	7.0	11.2	15.6	4207
Primary	5.5	10.3	14.1	781
Secondary	4.4	6.8	9.6	1309
Wealth index quintiles				
Poorest	6.7	12.4	16.8	1294
Second	9.6	14.0	20.0	1159
Middle	6.5	11.8	15.5	1197
Fourth	5.9	8.2	11.9	1438
Richest	3.0	4.8	7.2	1208
Total	**6.3**	**10.2**	**14.2**	**6297**

[1] MICS indicator 6.6

Early Childhood Development

Early child development is defined as an orderly, predictable process along a continuous path, in which a child learns to handle more complicated levels of moving, thinking, speaking, feeling and relating to others. Physical growth, literacy and numeracy skills, socio-emotional development and readiness to learn are vital domains of a child's overall development, which is a basis for overall human development.

A 10-item module that has been developed for the MICS was used to calculate the Early Child Development Index (ECDI). The indicator is based on some benchmarks that children would be expected to have if they are developing as the majority of children in that age group. The primary purpose of the ECDI is to inform public policy regarding the developmental status of children in Bhutan.

Each of the 10 items is used in one of the four domains, to determine if children are developmentally on track in that domain. The domains in question are:

- Literacy-numeracy: Children are identified as being developmentally on track based on whether they can identify/name at least ten letters of the alphabet, whether they can read at least four simple, popular words, and whether they know the name and recognize the symbols of all numbers from one to 10. If at least two of these are true, then the child is considered developmentally on track.

- Physical: If the child can pick up a small object with two fingers, like a stick or a rock from the ground and/or the mother/caretaker does not indicate that the child is sometimes too sick to play, then the child is regarded as being developmentally on track in the physical domain.

- In the social-emotional domain, children are considered to be developmentally on track if two of the following is true: If the child gets along well with other children, if the child does not kick, bite, or hit other children and if the child does not get distracted easily.

- Learning: If the child follows simple directions on how to do something correctly and/or when given something to do, is able to do it independently, then the child is considered to be developmentally on track in the learning domain.

ECDI is then calculated as the percentage of children who are developmentally on track in at least three of these four domains.

TABLE CD.5: EARLY CHILD DEVELOPMENT INDEX

Percentage of children age 36-59 months who are developmentally on track in literacy-numeracy, physical, social-emotional, and learning domains, and the early child development index score, Bhutan, 2010

	Percentage of children age 36-59 months who are developmentally on track for indicated domains				Early child develop-ment index score [1]	Number of children age 36-59 months
	Literacy-numeracy	Physical	Social-Emotional	Learning		
Sex						
Male	23.6	98.3	67.2	92.2	68.4	1294
Female	25.6	98.1	72.7	93.9	74.8	1203
Dzongkhag						
Bumthang	11.6	98.8	75.1	93.6	74.0	66
Chukha	30.7	94.6	62.3	94.0	65.5	278
Dagana	10.5	100.0	75.8	87.5	70.5	85
Gasa	*	*	*	*	*	14
Haa	14.1	100.0	71.4	98.3	72.4	50
Lhuntse	25.1	99.6	61.5	92.7	65.5	45
Mongar	18.9	97.9	70.6	93.9	71.3	192
Paro	29.1	98.8	57.3	95.1	70.8	117
Pemagatshel	19.4	96.8	79.3	90.6	76.6	76
Punakha	18.0	98.3	72.4	91.3	69.1	77
Samdrup jongkhar	20.7	100.0	82.7	88.9	76.2	161
Samtse	26.3	98.0	65.6	93.3	69.0	355
Sarpang	25.0	100.0	67.5	96.4	73.0	141
Thimphu	36.5	99.1	77.3	100.0	83.4	285
Trashigang	24.1	100.0	76.1	90.0	76.1	206
Trashiyangtse	17.9	98.1	62.5	67.8	49.1	64
Trongsa	16.9	98.0	55.5	95.6	58.6	53
Tsirang	27.5	95.0	84.3	95.6	84.0	70
Wangdue	17.6	97.5	62.1	92.1	59.9	105
Zhemgang	30.8	97.4	60.7	91.2	66.0	57
Region						
Western	28.9	97.7	67.5	95.4	72.0	1177
Central	20.1	98.4	68.9	93.3	69.7	577
Eastern	21.1	99.0	74.4	89.1	72.0	743

Percentage of children age 36-59 months who are developmentally on track in literacy-numeracy, physical, social-emotional, and learning domains, and the early child development index score, Bhutan, 2010

	Percentage of children age 36-59 months who are developmentally on track for indicated domains				Early child development index score [1]	Number of children age 36-59 months
	Literacy-numeracy	Physical	Social-Emotional	Learning		
Residence						
Urban	37.2	98.8	71.4	93.5	76.9	711
Rural	19.6	97.9	69.2	92.8	69.3	1786
Age						
36-47 months	17.2	97.9	67.9	91.0	67.3	1275
48-59 months	32.3	98.5	71.9	95.2	75.8	1222
Preschool attendance						
Attending preschool	79.0	98.1	74.3	96.6	93.2	238
Not attending preschool	18.8	98.2	69.4	92.7	69.2	2259
Mother's education						
None	17.4	98.6	70.9	92.7	69.9	1731
Primary	26.0	96.5	65.7	90.3	67.1	325
Secondary	51.8	97.7	68.8	96.4	80.7	442
Wealth index quintiles						
Poorest	12.7	97.8	70.8	92.9	67.4	542
Second	14.7	98.5	71.5	92.4	69.9	466
Middle	17.4	97.8	72.0	92.8	71.0	442
Fourth	27.1	98.8	67.2	92.3	70.0	577
Richest	51.6	98.1	68.3	95.0	80.0	470
Total	**24.6**	**98.2**	**69.8**	**93.0**	**71.5**	**2497**

[1] MICS indicator 6.7

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

The results are presented in Table CD.5. In Bhutan, 71.5 percent of children aged 36-59 months are developmentally on track. ECDI is lower among boys (68.%) than girls (74.8 %). As expected, ECDI is much higher in older age groups (75.8 % among 48-59 months old compared to 67.3 percent among 36-47 months old), since children mature more skills with increasing age. Higher ECDI is seen in children attending pre-school (93.2 %) compared to 69.2 percent for those who are not attending preschool. Children living in the poorest households have lower ECDI (67.4 %) compared to children living in the richest households (80 % of children developmentally on track). The analysis of four domains of child development shows that 93 percent of children are doing better in the learning domain, with highest in the physical domain (98.2 %). In the literacy-numeracy domain, children were lagging behind (24.6 %), while they are doing better in the social-emotional domain (69.8 %). With regard to literacy-numeracy, social-emotional, and learning, the higher score is associated with children attending pre-school, older children, and girls.

X. Literacy and Education

Literacy among Young Women

One of the goals of "A World Fit for Children" (WFFC) is to assure adult literacy. Adult literacy is also an MDG indicator, relating to both men and women. In BMIS, since only a women's questionnaire was administered, the results are based only on females aged 15-24. Literacy was assessed on the ability of women to read a short simple statement or on school attendance. The percent literate is presented in Table ED.1. Table ED.1 indicates that a little more than half (56.5 %) of women 15-24 years old in Bhutan are literate. Literacy rates are higher in urban areas (77.9 %) compared to rural areas (44.5 %) and in Western region (65.1 %) compared to the Central and Eastern regions (50.9 and 42.9 % respectively). Of women who stated that primary school was their highest level of education, just 43.6 percent were actually able to read the statement shown to them. Women of the richest quintile are four times more likely to be literate than women of the poorest quintile.

TABLE ED.1: LITERACY AMONG YOUNG WOMEN

Percentage of women age 15-24 years who are literate, Bhutan, 2010

	Percentage literate [1]	Percentage not known	Number of women age 15-24 years
Dzongkhag			
Bumthang	76.0	.0	109
Chukha	61.0	.0	565
Dagana	36.6	.0	164
Gasa	(20.1)	(.0)	32
Haa	59.8	.0	85
Lhuntse	42.8	.4	92
Mongar	45.8	1.2	278
Paro	73.9	.0	286
Pemagatshel	43.7	.0	129
Punakha	58.6	.0	144
Samdrup jongkhar	45.1	.0	235
Samtse	49.1	.0	524
Sarpang	61.6	.3	314
Thimphu	79.5	.0	763
Trashigang	40.3	.0	230
Trashiyangtse	33.0	.0	85
Trongsa	53.7	.0	81
Tsirang	50.2	.0	169
Wangdue	34.6	.0	164
Zhemgang	40.1	.0	105
Region			
Western	65.1	.0	2399
Central	50.9	.1	1106
Eastern	42.9	.4	1050
Residence			
Urban	77.9	.1	1635
Rural	44.5	.1	2920
Education			
None	5.2	.2	1706
Primary	43.6	.3	643
Secondary +	100.0	.0	2205
Age			
15-19	67.1	.1	2052
20-24	47.9	.1	2502
Wealth index quintiles			
Poorest	20.7	.1	718
Second	34.3	.3	737
Middle	48.2	.2	839
Fourth	70.7	.1	1055
Richest	84.7	.0	1207
Total	**56.5**	**.1**	**4555**

[1] MICS indicator 7.1; MDG indicator 2.4

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

School Readiness

Attendance to pre-school[14] education in an organised learning or child education programme is important for the readiness of children before going to school. Table ED.2 shows the proportion of children in the first grade of primary school who attended pre-school the previous year. Overall, 1.4 percent of children who are currently attending the first grade of primary school (PP) were attending pre-school the previous year.

TABLE ED.2: SCHOOL READINESS		
Percentage of children attending first grade of primary school who attended pre-school the previous year, Bhutan, 2010		
	Percentage of children attending first grade who attended preschool in previous year [1]	Number of children attending first grade of primary school
Sex		
Male	1.2	877
Female	1.6	832
Dzongkhag		
Bumthang	.0	50
Chukha	1.3	176
Dagana	.0	80
Gasa	.0	13
Haa	3.6	30
Lhuntse	.0	22
Mongar	.0	105
Paro	1.8	113
Pemagatshel	.0	48
Punakha	12.6	64
Samdrup jongkhar	.0	122
Samtse	.7	222
Sarpang	.0	96
Thimphu	1.5	180
Trashigang	.0	135
Trashiyangtse	1.3	46
Trongsa	.8	41
Tsirang	2.1	63
Wangdue	1.2	85
Zhemgang	16.8	20

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[14] Includes those children in early childhood care and development centers and excludes those enrolled in pre-primary education.

Contd. TABLE ED.2: SCHOOL READINESS		
Percentage of children attending first grade of primary school who attended pre-school the previous year, Bhutan, 2010		
	Percentage of children attending first grade who attended preschool in previous year [1]	Number of children attending first grade of primary school
Region		
Western	2.2	797
Central	1.4	434
Eastern	.1	478
Residence		
Urban	1.0	453
Rural	1.6	1256
Mother's education		
None	1.1	1262
Primary	2.6	200
Secondary +	2.0	246
Wealth index quintiles		
Poorest	1.7	381
Second	1.7	336
Middle	.4	310
Fourth	1.1	389
Richest	2.3	294
Total	**1.4**	**1709**

[1] MICS indicator 7.3

Primary and Secondary School Participation

Universal access to basic education and the achievement of primary education by the world's children is one of the most important goals of the Millennium Development Goals and A World Fit for Children. Education is a vital prerequisite for combating poverty, empowering women, protecting children from hazardous and exploitative labour and sexual exploitation, promoting human rights and democracy, protecting the environment, and influencing population growth.

The indicators for primary and secondary school attendance include:

- Net intake rate in primary education
- Primary school net attendance ratio (adjusted)
- Secondary school net attendance ratio (adjusted)
- Female to male education ratio (or gender parity index - GPI) in primary and secondary school

The indicators of school progression include:

- Children reaching last grade of primary
- Primary completion rate
- Transition rate to secondary school

Of children who are of primary school entry age (aged six) in Bhutan, 68.1 percent are attending the first grade of primary school (Table ED.3). There is not much difference between boys and girls, urban and rural areas or between regions. Surprisingly, the net intake rate is highest among children whose mothers have only primary education (80.4 %), while the net intake rate among children whose mothers have no education is almost the same as among children whose mothers have secondary or higher education (66.6 and 67.4 % respectively).Similarly, the net intake rate is highest among children from the middle wealth quintile (70.9 %) with the lowest rates found among the poorest and richest quintiles (63.5 and 66.9 % respectively).

TABLE ED.3: PRIMARY SCHOOL ENTRY

Percentage of children of primary school entry age entering grade 1 (net intake rate), Bhutan, 2010

	Percentage of children of primary school entry age entering grade 1 [1]	Number of children of primary school entry age
Sex		
Male	67.9	803
Female	68.4	768
Dzongkhag		
Bumthang	75.5	33
Chukha	61.6	178
Dagana	71.2	56
Gasa	(67.1)	12
Haa	69.2	31
Lhuntse	50.2	33
Mongar	70.4	97
Paro	71.0	92
Pemagatshel	83.2	49
Punakha	63.8	53
Samdrup jongkhar	79.9	100
Samtse	69.4	184
Sarpang	77.5	76
Thimphu	68.5	196
Trashigang	65.1	163
Trashiyangtse	52.0	38
Trongsa	76.2	33
Tsirang	73.3	51
Wangdue	55.9	65
Zhemgang	52.5	31
Region		
Western	67.0	745
Central	69.2	347
Eastern	69.1	480
Residence		
Urban	68.5	447
Rural	68.0	1124
Mother's education		
None	66.6	1190
Primary	80.4	160
Secondary +	67.4	221
Wealth index quintiles		
Poorest	63.5	354
Second	70.6	296
Middle	70.9	286
Fourth	69.6	352
Richest	66.9	283
Total	**68.1**	**1571**

[1] MICS indicator 7.4

* Figures in parenthesis indicates that the percentage is based on just 25 to 49unweighted cases.

Table ED.4 provides the percentage of children of primary school age (six to 12 years) who are attending primary or secondary school[15] The majority of children of primary school age are attending school (91.9%). However, the remaining 8.1 percent of the children are out of school when they are expected to be participating in school. In urban areas 96.3 percent of children attend school while in rural areas attendance is slightly lower (90.2%). There are no regional differences. The lowest proportion of children attending primary school can be observed in the poorest wealth quintile (84.7%) and the highest proportion in the richest wealth quintile (97%). Attendance is also much lower among children whose mothers have no education (90.7%) compared to children whose mothers have primary education (96.9%) or secondary or higher education (95.8%).

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[15] Ratios presented in this table are "adjusted" since they include not only primary school attendance, but also secondary school attendance in the numerator.

TABLE ED.4: PRIMARY SCHOOL ATTENDANCE

Percentage of children of primary school age attending primary or secondary school (Net attendance ratio), Bhutan, 2010

	Male		Female		Total	
	Net attendance ratio (adjusted) [1]	Number of children	Net attendance ratio (adjusted) [1]	Number of children	Net attendance ratio (adjusted) [1]	Number of children
Dzongkhag						
Bumthang	96.7	115	98.4	122	97.6	237
Chukha	88.5	480	90.1	508	89.3	987
Dagana	93.6	203	93.4	194	93.5	397
Gasa	(75.3)	38	(75.2)	35	75.3	74
Haa	91.3	113	96.6	95	93.7	208
Lhuntse	88.0	125	86.8	120	87.4	245
Mongar	84.6	362	90.3	362	87.4	724
Paro	90.2	250	93.2	250	91.7	499
Pemagatshel	94.1	207	97.5	186	95.7	392
Punakha	85.9	210	93.8	191	89.6	401
Samdrup jongkhar	94.0	341	95.0	352	94.5	693
Samtse	91.6	572	91.2	592	91.4	1164
Sarpang	95.3	294	96.1	337	95.7	631
Thimphu	94.7	607	94.9	614	94.8	1221
Trashigang	92.4	501	91.8	468	92.1	969
Trashiyangtse	93.5	138	92.2	150	92.8	288
Trongsa	92.5	124	96.8	110	94.5	234
Tsirang	92.9	165	92.1	166	92.5	331
Wangdue	84.9	224	87.0	207	85.9	430
Zhemgang	88.7	133	91.5	134	90.1	267
Region						
Western	90.8	2269	92.4	2285	91.6	4554
Central	92.0	1257	93.5	1270	92.8	2527
Eastern	91.0	1674	92.5	1637	91.7	3311
Residence						
Urban	97.0	1441	95.6	1443	96.3	2884
Rural	88.9	3759	91.5	3749	90.2	7508
Age at beginning of school year						
6	82.4	803	80.7	768	81.6	1571
7	93.7	709	92.9	722	93.3	1431
8	96.5	700	96.4	643	96.5	1343
9	94.8	745	98.0	698	96.3	1443
10	91.4	724	96.2	765	93.9	1489
11	90.8	709	95.0	772	93.0	1481
12	89.9	812	90.9	822	90.4	1634

Percentage of children of primary school age attending primary or secondary school (Net attendance ratio), Bhutan, 2010

	Male		Female		Total	
	Net attendance ratio (adjusted) [1]	Number of children	Net attendance ratio (adjusted) [1]	Number of children	Net attendance ratio (adjusted) [1]	Number of children
Mother's education						
None	89.6	4056	91.7	4031	90.7	8087
Primary	96.7	590	97.2	586	96.9	1176
Secondary +	96.6	555	95.0	574	95.8	1128
Mother not in household	.	0	100.0	0	100.0	0
Wealth index quintiles						
Poorest	85.8	1047	83.7	1079	84.7	2126
Second	86.4	1055	91.3	993	88.8	2048
Middle	90.6	1029	96.4	1032	93.5	2061
Fourth	96.0	1071	95.6	1091	95.8	2162
Richest	97.2	998	96.7	997	97.0	1995
Total	**91.2**	**5201**	**92.7**	**5192**	**91.9**	**10392**

[1] MICS indicator 7.4; MDG indicator 2.2

* One unweighted case for mother not in household is deleted

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

The secondary school net attendance ratio is presented in Table ED.5[16] Around half (55 %) of the children of secondary school age are attending secondary school or higher. More dramatic than in primary school, 24.8 percent of the children of secondary school age are not attending school at all, while one in five (20.2 %) are attending primary school when they should be attending secondary school. Secondary school attendance is lower in urban areas (46.7 %) compared to rural areas (75 %) and in the Eastern and Central regions (48 and 51.4 % respectively) compared to the Western region (61 %). Among those still attending primary education there is a strong correlation with education and wealth. Thus, among secondary school aged children with mothers with no education a high 26.6 percent still attend primary school and among children from the poorest wealth quintile a high 28.2 percent still attend primary school.

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[16] Ratios presented in this table are "adjusted" since they include not only secondary school attendance, but also attendance to higher levels in the numerator.

TABLE ED.5: SECONDARY SCHOOL ATTENDANCE

Percentage of children of secondary school age attending secondary school or higher (adjusted net attendance ratio), and percentage of children attending primary school, Bhutan, 2010

	Male			Female			Total		
	Net attendance ratio (adjusted) [1]	Percent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Percent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Percent attending primary school	Number of children
Dzongkhag									
Bumthang	60.8	10.8	100	69.5	9.6	101	65.1	10.2	201
Chukha	57.6	23.7	465	58.2	18.3	488	57.9	20.9	953
Dagana	42.5	34.2	168	37.1	34.8	162	39.9	34.5	329
Gasa	(29.0)	(12.9)	22	40.5	11.4	32	35.8	12.0	54
Haa	59.7	16.1	82	70.1	17.5	81	64.9	16.8	163
Lhuntse	52.8	21.4	103	40.5	27.9	100	46.7	24.6	203
Mongar	46.5	17.7	312	52.0	15.0	282	49.1	16.4	594
Paro	55.6	17.0	266	65.0	17.5	281	60.4	17.3	547
Pemagatshel	63.4	16.3	161	54.2	24.4	174	58.6	20.5	335
Punakha	46.2	12.8	180	65.2	17.6	176	55.6	15.2	356
Samdrup jongkhar	54.3	23.9	260	54.5	20.1	271	54.4	22.0	531
Samtse	50.4	24.6	438	46.7	29.7	428	48.6	27.1	866
Sarpang	59.3	16.0	249	58.5	16.4	257	58.9	16.2	506
Thimphu	79.5	9.8	489	73.5	7.4	605	76.1	8.5	1093
Trashigang	38.6	32.3	293	39.3	28.5	299	39.0	30.4	592
Trashiyangtse	32.0	39.8	67	33.9	32.4	77	33.1	35.8	144
Trongsa	42.0	13.9	96	58.8	16.4	92	50.2	15.1	188
Tsirang	48.8	29.1	130	49.1	26.8	148	48.9	27.9	278
Wangdue	35.6	19.8	165	47.5	24.2	166	41.6	22.0	331
Zhemgang	62.5	19.5	84	55.2	22.1	115	58.3	21.0	199
Region									
Western	59.9	18.0	1942	62.0	17.2	2090	61.0	17.6	4031
Central	49.9	21.0	991	52.8	22.0	1040	51.4	21.5	2031
Eastern	48.3	24.0	1196	47.6	23.1	1203	48.0	23.5	2399
Residence									
Urban	76.7	12.9	1155	73.5	10.1	1325	75.0	11.4	2480
Rural	45.4	23.4	2974	48.0	24.3	3007	46.7	23.9	5982
Age at beginning of school year									
13	32.2	54.9	698	37.1	50.5	850	34.9	52.5	1548
14	49.0	32.9	691	51.8	29.8	932	50.6	31.1	1623
15	60.6	17.7	683	65.4	15.4	575	62.8	16.6	1258
16	64.0	8.5	741	67.7	7.1	673	65.8	7.8	1414
17	60.4	4.1	666	64.1	2.4	678	62.3	3.2	1344
18	58.7	3.6	650	56.3	.8	625	57.6	2.2	1275

Contd. TABLE ED.5: SECONDARY SCHOOL ATTENDANCE

Percentage of children of secondary school age attending secondary school or higher (adjusted net attendance ratio), and percentage of children attending primary school, Bhutan, 2010

	Male			Female			Total		
	Net attendance ratio (adjusted) [1]	Percent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Percent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Percent attending primary school	Number of children
Mother's education									
None	48.1	26.4	2776	52.5	26.9	2840	50.3	26.6	5616
Primary	67.6	19.2	314	75.0	17.3	319	71.3	18.3	632
Secondary +	82.7	9.4	268	59.9	7.6	422	68.7	8.3	690
Mother not in household	*	*	12	35.3	64.7	12	50.5	41.2	24
Wealth index quintiles									
Poorest	30.8	26.8	839	30.6	29.7	787	30.7	28.2	1626
Second	38.7	26.8	833	38.6	29.0	784	38.6	27.8	1617
Middle	48.3	23.8	794	53.2	25.3	822	50.8	24.6	1616
Fourth	66.3	18.1	806	69.8	16.5	882	68.1	17.3	1688
Richest	86.1	7.2	856	77.5	4.8	1057	81.3	5.8	1914
Total	**54.1**	**20.5**	**4129**	**55.8**	**20.0**	**4333**	**55.0**	**20.2**	**8462**

[1] MICS indicator 7.6

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Of all children starting grade one, the majority (93.6%) will eventually reach the last grade (Table. ED.6). Notice that this number includes children who repeat grades and eventually move up to reach last grade. The likelihood of reaching grade six increases with the mother's education and household wealth. A slightly higher percentage of children reach grade six in the Eastern region (95.7%) compared to the Central and Western regions (93.4 and 92.3% respectively). The percentage is also higher in urban areas (97.7%) as opposed to rural areas (92.1 %). With a difference of about five percent the girls are more likely to eventually reach grade six than boys.

TABLE ED.6: CHILDREN REACHING LAST GRADE OF PRIMARY SCHOOL

Percentage of children entering first grade of primary school who eventually reach the last grade of primary school (Survival rate to last grade of primary school), Bhutan, 2010

	Percent attending grade 0 last year who are in grade 1 this year	Percent attending grade 1 last year who are in grade 2 this year	Percent attending grade 2 last year who are attending grade 3 this year	Percent attending grade 3 last year who are attending grade 4 this year	Percent attending grade 4 last year who are attending grade 5 this year	Percent attending grade 5 last year who are attending grade 6 this year	Percent who reach grade 6 of those who enter grade 0 [1]
Sex							
Male	99.5	98.4	99.1	97.8	97.6	98.4	91.2
Female	98.9	99.7	99.5	99.4	99.1	99.4	96
Dzongkhag							
Bumthang	100.0	100.0	100.0	97.3	99.4	99.5	96.3
Chukha	98.5	100.0	98.8	97.4	95.9	100.0	90.9
Dagana	100.0	100.0	98.0	100.0	100.0	100.0	98.0
Gasa	98.0	100.0	100.0	95.2	86.0	95.7	76.7
Haa	98.8	98.9	100.0	99.3	100.0	98.5	95.6
Lhuntse	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mongar	98.9	99.2	98.7	97.2	98.8	100.0	92.9
Paro	100.0	100.0	100.0	98.7	100.0	100.0	98.7
Pemagatshel	100.0	100.0	100.0	100.0	99.0	100.0	99.0
Punakha	97.8	97.8	98.6	96.3	97.1	94.6	83.5
Samdrup jongkhar	100.0	100.0	100.0	99.2	99.1	98.8	97.2
Samtse	100.0	96.2	100.0	99.1	95.3	98.8	89.7
Sarpang	96.8	100.0	100.0	100.0	96.4	95.2	88.8
Thimphu	98.5	98.5	100.0	97.6	100.0	100.0	94.8
Trashigang	100.0	99.0	99.2	99.0	99.0	98.0	94.3
Trashiyangtse	100.0	99.2	100.0	100.0	100.0	96.7	95.9
Trongsa	98.8	99.3	100.0	100.0	99.0	100.0	97.2
Tsirang	99.8	99.1	97.0	100.0	100.0	100.0	95.9
Wangdue	100.0	100.0	96.3	97.0	96.6	97.7	88.1
Zhemgang	100.0	100.0	100.0	99.2	98.8	100.0	98.1
Region							
Western	99	98.3	99.6	98.1	97.9	99.2	92.3
Central	98.9	99.8	98.6	99.2	98.3	98.5	93.4
Eastern	99.8	99.4	99.5	98.9	99.2	98.8	95.7
Residence							
Urban	98.6	100	100	99.4	100	99.7	97.7
Rural	99.4	98.7	99.1	98.3	97.7	98.6	92.1
Mother's education							
None	99.1	98.8	99.2	98.7	98.1	98.8	93
Primary	98.9	100	100	99	99.1	99.3	96.3
Secondary +	100	99.8	100	99.5	100	100	99.3
Mother not in household	100	100	.	.	.	100	.
Wealth index quintiles							
Poorest	99.5	98.8	98.7	97.8	95.1	99.4	89.7
Second	99.9	100	99.2	98.1	98.1	96.2	91.8
Middle	98	99.7	98.9	98.3	98.9	99.4	93.3
Fourth	98.5	99.2	100	99.2	99.2	99.4	95.7
Richest	100	97.5	100	99.7	99.8	100	97
Total	**99.2**	**99.1**	**99.3**	**98.6**	**98.4**	**98.9**	**93.6**

[1] MICS indicator 7.6; MDG indicator 2.2

The primary school completion rate and transition rate to secondary education are presented in Table ED.7. The primary school completion rate is 90.1 percent meaning nine out of 10 students of primary school completion age had completed last grade of primary education. This value should be distinguished from the gross primary completion ratio, which includes children of any age attending the last grade of primary.

Unfortunately, only 88.7 percent of the children that attended the last grade of primary school in the previous year were found at the time of the survey to be attending the first grade of secondary school. There is virtually no difference between urban and rural children and only a slightly higher transition rate among girls compared with boys. The transition rate is much lower in the Eastern region (82.5 %) compared to the Central and Western regions (92.6 and 90.2 % respectively). Interestingly enough, the transition rate is slightly higher for children whose mothers have no education (90.1 %) compared with children whose mothers have secondary and higher education (86.9 %). Similarly, the transition rate is slightly higher for children from the poorest wealth quintile (90.6 %) compared to children from the richest wealth quintile (87.4 %).

TABLE ED.7: PRIMARY SCHOOL COMPLETION AND TRANSITION TO SECONDARY SCHOOL.

Primary school completion and transition to secondary school Primary school completion rates and transition rate to secondary school, Bhutan, 2010

	Primary school completion rate [1]	Number of children of primary school completion age	Transition rate to secondary school [2]	Number of children who were in the last grade of primary school the previous year
Sex				
Male	86.5	812	87.7	625
Female	93.6	822	89.6	744
Region				
Western	90.8	727	90.2	690
Central	85.8	402	92.6	312
Eastern	92.5	505	82.5	367
Residence				
Urban	92.6	460	88.5	507
Rural	89.1	1175	88.8	862
Mother's education				
None	86.6	1322	90.1	980
Primary	85.0	181	90.2	160
Secondary +	110.9	130	86.9	159
Wealth index quintiles				
Poorest	64.8	322	90.6	202
Second	84.2	336	85.6	226
Middle	103.7	323	87.4	238
Fourth	104.2	331	92.2	323
Richest	93.5	323	87.4	381
Total	**90.1**	**1634**	**88.7**	**1369**

[1] MICS indicator 7.7
[2] MICS indicator 7.9

* By Dzongkhag is not shown because the number of unweighted observation are lower than 50

* two unweighted cases for mother not in household not shown

The ratio of girls to boys attending primary and secondary education is provided in Table ED.8. These ratios are better known as the Gender Parity Index (GPI). Notice that the ratios included here are obtained from net attendance ratios rather than gross attendance ratios. The table shows that gender parity for primary school is 1.02, indicating not much of variations in primary school attendance. The indicator increases slightly to 1.03 for secondary education, indicating that there are slightly more

girls than boys in secondary school according to the GPI. Surprisingly, the GPI for secondary school is lowest among children whose mothers have secondary or higher education (0.72) and is also lower in urban areas (0.96) and among the richest wealth quintile (0.90).

TABLE ED.8: EDUCATION GENDER PARITY

Education gender parity Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, Bhutan, 2010

	Primary school adjusted net attendance ratio (NAR), girls	Primary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for primary school adjusted NAR [1]	Secondary school adjusted net attendance ratio (NAR), girls	Secondary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for secondary school adjusted NAR [2]
Dzongkhag						
Bumthang	98.4	96.7	1.02	69.5	60.8	1.14
Chukha	90.1	88.5	1.02	58.2	57.6	1.01
Dagana	93.4	93.6	1.00	37.1	42.5	.87
Gasa	75.2	75.3	1.00	40.5	29.0	1.40
Haa	96.6	91.3	1.06	70.1	59.7	1.17
Lhuntse	86.8	88.0	.99	40.5	52.8	.77
Mongar	90.3	84.6	1.07	52.0	46.5	1.12
Paro	93.2	90.2	1.03	65.0	55.6	1.17
Pemagatshel	97.5	94.1	1.04	54.2	63.4	.86
Punakha	93.8	85.9	1.09	65.2	46.2	1.41
Samdrup jongkhar	95.0	94.0	1.01	54.5	54.3	1.00
Samtse	91.2	91.6	1.00	46.7	50.4	.93
Sarpang	96.1	95.3	1.01	58.5	59.3	.99
Thimphu	94.9	94.7	1.00	73.5	79.5	.92
Trashigang	91.8	92.4	.99	39.3	38.6	1.02
Trashiyangtse	92.2	93.5	.99	33.9	32.0	1.06
Trongsa	96.8	92.5	1.05	58.8	42.0	1.40
Tsirang	92.1	92.9	.99	49.1	48.8	1.01
Wangdue	87.0	84.9	1.02	47.5	35.6	1.33
Zhemgang	91.5	88.7	1.03	55.2	62.5	.88
Region						
Western	92.4	90.8	1.02	62.0	59.9	1.03
Central	93.5	92.0	1.02	52.8	49.9	1.06
Eastern	92.5	91.0	1.02	47.6	48.3	.99
Residence						
Urban	95.6	97.0	.99	73.5	76.7	.96
Rural	91.5	88.9	1.03	48.0	45.4	1.06
Mother's education						
None	91.7	89.6	1.02	52.5	48.1	1.09
Primary	97.2	96.7	1.01	75.0	67.6	1.11
Secondary +	95.0	96.6	.98	59.9	82.7	.72
Mother not in household	100.0	.	.	35.3	66.2	.53
Wealth index quintiles						
Poorest	83.7	85.8	.98	30.6	30.8	.99
Second	91.3	86.4	1.06	38.6	38.7	1.00
Middle	96.4	90.6	1.06	53.2	48.3	1.10
Fourth	95.6	96.0	1.00	69.8	66.3	1.05
Richest	96.7	97.2	.99	77.5	86.1	.90
Total	**92.7**	**91.2**	**1.02**	**55.8**	**54.1**	**1.03**

[1] MICS indicator 7.9; MDG indicator 3.1
[2] MICS indicator 7.10; MDG indicator 3.2

XI. Child Protection

Birth Registration

The International Convention on the Rights of the Child states that every child has the right to a name and a nationality and the right to protection from being deprived of his or her identity. Birth registration is a fundamental means of securing these rights for children. The World Fit for Children states the goal to develop systems to ensure the registration of every child at or shortly after birth, and fulfil his or her right to acquire a name and a nationality, in accordance with national laws and relevant international instruments. The indicator is the percentage of children under-five years of age whose birth is registered.

The registration of births in Bhutan requires the production of the child's health card. However, there could be cases where the births have been registered without the health card. Therefore, BMIS considered both registered births and the ones with the health card as registered. The health card is also necessary for admission of the child in school as a proof of the child attaining the right school age.

TABLE CP.1: BIRTH REGISTRATION					
Percentage of children under age 5 by whether birth is registered and percentage of children not registered whose mothers/caretakers know how to register birth, Bhutan, 2010					
	Children under age 5 whose birth is registered with civil authorities				Number of children
	Has birth certificate		No birth certificate	Total registered [1]	
	Seen	Not seen			
Sex					
Male	78.9	20.8	.3	100.0	3216
Female	79.8	19.9	.1	99.8	3081
Dzongkhag					
Bumthang	53.8	45.9	.3	100.0	171
Chukha	80.4	19.6	.0	100.0	648
Dagana	88.5	11.3	.0	99.8	237
Gasa	(83.2)	(9.4)	(6.2)	(98.8)	43
Haa	86.8	13.2	.0	100.0	121
Lhuntse	66.9	32.6	.4	100.0	124
Mongar	78.4	21.6	.0	100.0	466
Paro	75.3	24.5	.2	100.0	337
Pemagatshel	72.8	27.2	.0	100.0	214
Punakha	73.8	25.8	.0	99.6	218
Samdrup jongkhar	86.8	13.2	.0	100.0	410
Samtse	88.4	11.0	.0	99.4	755
Sarpang	77.1	22.9	.0	100.0	350
Thimphu	86.9	13.1	.0	100.0	801
Trashigang	65.6	34.4	.0	100.0	479
Trashiyangtse	75.6	23.8	.5	100.0	169
Trongsa	73.2	26.5	.3	100.0	133
Tsirang	83.1	16.9	.0	100.0	186
Wangdue	79.4	19.8	.8	100.0	261
Zhemgang	71.1	27.3	1.4	99.8	175

Contd. TABLE CP.1: BIRTH REGISTRATION

Percentage of children under age 5 by whether birth is registered and percentage of children not registered whose mothers/caretakers know how to register birth, Bhutan, 2010

	Children under age 5 whose birth is registered with civil authorities				Number of children
	Has birth certificate		No birth certificate	Total registered [1]	
	Seen	Not seen			
Region					
Western	83.5	16.2	.1	99.8	2922
Central	76.3	23.2	.4	99.9	1513
Eastern	75.3	24.6	.1	100.0	1862
Residence					
Urban	81.8	18.1	.1	100.0	1841
Rural	78.3	21.3	.2	99.8	4456
Age					
0-11	83.1	16.0	.3	99.5	1229
12-23	82.9	17.0	.1	100.0	1234
24-35	81.6	18.1	.3	100.0	1337
36-47	74.6	25.2	.2	100.0	1275
48-59	74.4	25.6	.0	100.0	1222
Mother's education					
None	81.1	18.5	.2	99.8	4207
Primary	78.1	21.7	.2	100.0	781
Secondary	74.2	25.7	.0	100.0	1309
Wealth index quintiles					
Poorest	79.3	19.9	.5	99.7	1294
Second	78.5	21.1	.2	99.8	1159
Middle	77.4	22.4	.2	100.0	1197
Fourth	86.6	13.4	.0	100.0	1438
Richest	73.5	26.5	.0	100.0	1208
Total	**79.3**	**20.4**	**.2**	**99.9**	**6297**

[1] MICS indicator 8.1

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Almost all (99.9 %) children under-five years old in Bhutan have been registered (Table CP.1). Looking at age, unregistered children are only found among children 0-11 months old – with 0.5 percent unregistered children – indicating late registration and consequently that registration will eventually occur. There are no significant variations in birth registration across sex, regions, or education categories.

Child Labour

Article 32 of the Convention on the Rights of the Child states: "States Parties recognize the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development..." The World Fit for Children mentions nine strategies to combat child labour and the MDGs call for the protection of children against exploitation. In the BMIS questionnaire, a number of questions addressed the issue of child labour, that is, children from five-14 years of age involved in labour activities. A child is considered to be involved in child labour activities at the moment of the survey if during the week preceding the survey:

- Ages five-11: at least one hour of economic work or 28 hours of domestic work per week.
- Ages 12-14: at least 14 hours of economic work or 28 hours of domestic work per week.

This definition allows differentiation between child labour and child work to identify the type of work that should be eliminated. As such, the estimate provided here is a minimum of the prevalence of child labour, since some children may be involved in hazardous labour activities for a number of hours that could be less than the numbers specified in the criteria explained above. Table CP.2 presents the results of child labour by the type of work. Percentages do not add up to the total child labour as children may be involved in more than one type of work.

Nationally, child labour prevalence was found to be 18.4 percent. There was little gender variation, with 17.6 percent of boys and 19.1 percent of girls involved in child labour. Girls are much more involved in household chores than boys. While a high 25.1 percent of children 5-11 years old are engaged in child labour, only 4.2 percent are engaged in child labour among children 12-14 years old. Child labour is more common in rural areas at 22.2 percent compared to 8.7 percent of children in urban areas. The highest percentages of child labour are found in the Dzongkaghs of Pemagatshel, Trongsa and Samtse. Child labour decreases significantly with the mother's education and household wealth.

TABLE CP.2: CHILD LABOUR

Percentage of children by involvement in economic activity and household chores during the past week, according to age groups, and percentage of children age 5-14 involved in child labour, Bhutan, 2010

	Percentage of children age 5-11 involved in								Percentage of children age 12-14 involved in										
	Economic activity				Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 5-11	Economic activity					Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 12-14	Total child labour [1]	Number of children age 5-14 years
	Working outside household		Working for family business	Economic activity for at least one hour					Working outside household		Working for family business	Economic activity less than 14 hours	Economic activity for 14 hours or more						
	Paid work	Unpaid work							Paid work	Unpaid work									
Sex																			
Male	.3	.8	23.1	23.7	28.9	.2	23.7	5189	1.2	1.4	34.0	31.6	3.1	55.6	.4	3.3	2253	17.6	7442
Female	.3	.6	25.8	26.3	39.6	.3	26.5	5158	2.5	1.7	40.2	37.1	4.1	74.1	1.3	5.0	2673	19.1	7831
Dzongkhag																			
Bumthang	.1	.2	36.7	36.9	32.2	.2	37.1	242	.6	2.9	43.3	42.0	1.3	61.0	.0	1.3	101	26.6	343
Chukha	.3	.7	15.6	16.1	29.9	.3	16.5	975	1.0	1.4	30.1	29.7	1.3	63.5	.6	1.9	537	11.3	1511
Dagana	.0	.6	34.8	35.2	41.8	.2	35.2	383	.9	1.8	58.9	55.8	3.1	77.7	.3	3.1	211	23.8	593
Gasa	.0	1.1	19.7	20.8	14.6	.0	20.8	72	.0	.0	38.4	20.1	18.3	27.0	5.0	18.3	28	20.1	100
Haa	.0	.2	23.5	23.7	39.1	.0	23.7	200	.0	1.0	29.4	29.5	.4	60.5	.8	.8	98	16.2	298
Lhuntse	.0	1.3	11.1	11.9	18.5	.0	11.9	243	4.4	4.6	32.6	26.6	7.1	50.8	.0	7.1	125	10.3	367
Mongar	.2	1.4	20.3	21.5	32.9	.6	21.5	729	4.4	4.0	35.8	31.4	6.8	57.8	2.0	7.5	335	17.1	1065
Paro	.1	1.2	17.0	17.8	19.7	.2	17.8	529	1.3	1.6	35.7	29.2	7.3	63.3	1.2	7.5	294	14.1	823
Pemagatshel	.1	.9	42.6	43.4	37.5	.0	43.4	382	.4	1.8	52.6	52.2	.4	52.0	.0	.4	165	30.4	547
Punakha	.5	.2	21.9	22.2	27.0	.0	22.2	404	.7	.0	36.0	32.2	3.8	49.0	.4	4.2	198	16.3	602
Samdrup jongkhar	.3	2.4	25.0	27.5	30.0	.4	27.5	677	.7	1.3	37.8	36.8	1.6	61.2	.9	2.6	303	19.8	980
Samtse	1.5	.7	32.9	34.0	44.5	.6	34.2	1207	3.5	2.0	45.3	36.6	10.0	75.5	3.6	12.8	447	28.4	1654
Sarpang	.1	.1	35.0	35.0	57.0	.0	35.0	637	1.3	.7	49.9	46.5	4.5	85.2	.0	4.5	280	25.6	917
Thimphu	.0	.0	7.4	7.4	36.1	.0	7.4	1199	.7	.0	9.4	9.8	.3	80.6	.0	.3	671	4.9	1870
Trashigang	.0	.3	27.1	27.1	24.8	.8	27.3	916	5.7	2.1	46.7	46.0	2.1	55.4	1.2	3.3	437	19.6	1353
Trashiyangtse	.0	.0	19.1	19.1	29.5	.0	19.1	300	.0	1.7	40.9	38.8	2.1	75.9	.0	2.1	122	14.2	423
Trongsa	.3	.4	41.8	41.8	34.1	.2	42.0	242	2.4	.0	56.2	49.7	6.5	61.7	.0	6.5	116	30.4	359
Tsirang	.6	1.1	32.2	33.3	47.7	.0	33.3	333	1.9	2.3	46.5	44.7	4.1	66.3	.6	4.7	131	25.2	464
Wangdi	.0	.9	21.8	22.1	23.3	.0	22.1	413	1.0	.0	44.2	42.8	1.4	55.1	.0	1.4	186	15.7	599
Zhemgang	.4	1.1	34.7	35.4	35.1	.1	35.5	266	1.1	5.2	45.4	42.0	4.4	53.8	.2	4.6	140	24.8	406

Contd. TABLE CP.2: CHILD LABOUR

Percentage of children by involvement in economic activity and household chores during the past week, according to age groups, and percentage of children age 5-14 involved in child labour, Bhutan, 2010

	Percentage of children age 5-11 involved in								Percentage of children age 12-14 involved in											
	Economic activity				Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 5-11	Economic activity					Household chores less than 28 hours	Household chores for 28 hours or more	Child labour	Number of children age 12-14	Total child labour [1]	Number of children age 5-14 years
	Working outside household		Working for family business	Economic activity for at least one hour					Working outside household		Working for family business	Economic activity less than 14 hours	Economic activity for 14 hours or more						
	Paid work	Unpaid work							Paid work	Unpaid work									
Region																			
Western	.5	.5	19.2	19.7	34.1	.3	19.8	4585	1.4	1.0	28.3	25.2	3.9	69.0	1.2	4.7	2273	14.8	6858
Central	.2	.6	33.2	33.6	41.0	.1	33.6	2515	1.3	1.6	49.8	46.8	3.6	68.7	.1	3.7	1165	24.1	3681
Eastern	.1	1.1	25.1	26.0	29.2	.4	26.0	3247	3.2	2.5	41.4	39.3	3.3	58.0	1.0	4.0	1488	19.1	4735
Residence																			
Urban	.1	.7	11.4	12.1	30.7	.2	12.1	2894	.9	.7	20.3	20.0	1.3	72.8	.7	2.0	1477	8.7	4371
Rural	.4	.7	29.5	30.0	35.6	.3	30.1	7454	2.3	2.0	44.6	40.8	4.6	62.6	.9	5.2	3449	22.2	10902
School participation																			
Yes	.2	.6	26.3	26.8	38.0	.1	26.9	8656	.7	1.0	36.5	34.9	2.1	67.6	.3	2.4	4280	18.8	12937
No	.9	1.1	14.6	15.8	14.7	1.0	16.1	1691	9.6	5.3	42.8	32.3	13.8	52.5	4.5	16.6	645	16.2	2336
Mother's education																			
None	.4	.8	27.3	28.0	35.6	.2	28.0	7904	2.3	1.8	41.1	37.9	4.2	64.9	.8	4.7	3976	20.2	11880
Primary	.1	.5	20.9	21.2	34.6	.1	21.4	1184	.3	.5	27.0	25.5	1.8	70.1	.2	1.8	509	15.5	1693
Secondary +	.1	.3	9.7	10.1	25.1	.6	10.4	1259	.0	.9	14.9	14.9	.5	67.1	2.3	2.6	438	8.4	1697
Wealth index quintiles																			
Poorest	.6	1.3	37.0	37.8	37.4	.5	37.8	2155	3.0	3.1	51.2	45.2	7.0	58.8	1.1	7.5	924	28.7	3078
Second	.2	.4	31.4	31.7	36.8	.3	31.7	1981	4.3	2.7	52.7	47.8	6.1	62.1	.6	6.4	959	23.4	2940
Middle	.2	.6	29.8	30.2	35.4	.2	30.2	2061	1.4	.8	44.5	42.8	2.3	64.8	.4	2.5	978	21.3	3039
Fourth	0.0	.9	17.1	17.9	33.4	.0	17.9	2202	1.0	.9	30.4	29.2	2.3	73.9	1.3	3.4	1051	13.2	3252
Richest	.5	.3	6.0	6.8	27.8	.4	7.1	1949	.0	.6	10.4	10.0	.9	67.5	1.0	1.8	1014	5.3	2963
Total	**.3**	**.7**	**24.4**	**25.0**	**34.2**	**.3**	**25.1**	**10347**	**1.9**	**1.6**	**37.3**	**34.6**	**3.6**	**65.6**	**.9**	**4.2**	**4926**	**18.4**	**15273**

[1] MICS indicator 8.2

* Row for mother not in household deleted due to insufficent number of cases

Table CP.3 presents the percentage of children aged 5-14 years involved in child labour who are attending school (labourer students) and percentage of children aged 5-14 years attending school who are involved in child labour (student labourers). Of the 84.7 percent of the children 5-14 years of age attending school, 18.8 percent are also involved in child labour activities, with a higher 26.9 percent among children 5-11 years old. More than two out of ten children in rural areas who are attending school are engaged in child labour. The largest percentages of children attending school who are involved in child labour are from the poorest (30.8%) and second poorest (25%) wealth quintiles. Of the children attending school, Pemagatshel and Trongsa Dzongkhags has the highest degree of child labour at around 33 percent. On the other hand, out of the 18.4 percent children involved in child labour, the majority are also attending school (86.5%).

TABLE CP.3: CHILD LABOUR AND SCHOOL ATTENDANCE

Percentage of children age 5-14 years involved in child labour who are attending school, and percentage of children age 5-14 years attending school who are involved in child labour,Bhutan, 2010

	Percentage of children involved in child labour	Percentage of children attending school	Number of children age 5-14 years	Percentage of child labourers who are attending school [1]	Number of children age 5-14 years involved in child labour	Percentage of children attending school who are involved in child labour [2]	Number of children age 5-14 years attending school
Sex							
Male	17.6	84.6	7442	86.9	1307	18.0	6296
Female	19.1	84.8	7831	86.2	1499	19.4	6641
Dzongkhag							
Bumthang	26.6	92.9	343	98.2	91	28.1	319
Chukha	11.3	83.7	1511	78.8	171	10.6	1265
Dagana	23.8	85.3	593	91.1	141	25.4	506
Gasa	20.1	67.3	100	40.6	20	12.1	67
Haa	16.2	89.2	298	87.4	48	15.8	266
Lhuntse	10.3	77.1	367	78.9	38	10.5	283
Mongar	17.1	79.3	1065	74.9	182	16.1	844
Paro	14.1	85.7	823	90.6	116	15.0	705
Pemagatshel	30.4	88.8	547	96.9	166	33.2	486
Punakha	16.3	82.8	602	89.7	98	17.6	498
Samdrup jongkhar	19.8	86.6	980	85.1	194	19.4	849
Samtse	28.4	83.2	1654	82.0	470	28.0	1376
Sarpang	25.6	86.9	917	89.5	235	26.4	797
Thimphu	4.9	88.9	1870	78.6	91	4.3	1663
Trashigang	19.6	85.4	1353	90.7	265	20.8	1156
Trashiyangtse	14.2	83.9	423	96.2	60	16.2	355
Trongsa	30.4	85.3	359	94.3	109	33.6	306
Tsirang	25.2	83.3	464	87.9	117	26.7	386
Wangdue	15.7	79.6	599	85.0	94	16.7	476
Zhemgang	24.8	82.0	406	88.2	101	26.7	333

Percentage of children age 5-14 years involved in child labour who are attending school, and percentage of children age 5-14 years attending school who are involved in child labour,Bhutan, 2010

	Percentage of children involved in child labour	Percentage of children attending school	Number of children age 5-14 years	Percentage of child labourers who are attending school [1]	Number of children age 5-14 years involved in child labour	Percentage of children attending school who are involved in child labour [2]	Number of children age 5-14 years attending school
Region							
Western	14.8	85.2	6858	82.3	1014	14.3	5840
Central	24.1	84.9	3681	90.4	888	25.7	3124
Eastern	19.1	83.9	4735	87.3	904	19.9	3973
Residence							
Urban	8.7	90.7	4371	88.1	381	8.5	3962
Rural	22.2	82.3	10902	86.2	2425	23.3	8975
Age							
5-11 years	25.1	83.7	10347	89.5	2597	26.9	8656
12-14 years	4.2	86.9	4926	48.7	209	2.4	4280
Mother's education							
None	20.2	83.0	11880	85.5	2402	20.8	9858
Primary	15.5	91.0	1693	94.6	262	16.1	1541
Secondary +	8.4	90.4	1697	87.7	142	8.1	1534
Wealth index quintiles							
Poorest	28.7	74.8	3078	80.2	885	30.8	2304
Second	23.4	80.7	2940	86.1	688	25.0	2372
Middle	21.3	84.8	3039	92.0	646	23.1	2576
Fourth	13.2	89.3	3252	93.6	430	13.9	2904
Richest	5.3	93.8	2963	81.4	157	4.6	2781
Total	**18.4**	**84.7**	**15273**	**86.5**	**2806**	**18.8**	**12937**

[1] MICS indicator 8.3
[2] MICS indicator 8.4

* Row for mother not in household deleted due to insuffcient number of cases

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Early Marriage and Polygamy

Marriage before the age of 18 is a reality for many young girls. According to UNICEF's worldwide estimates, over 64 million women age 20-24 were married/in union before the age of 18. Factors that influence child marriage rates include: the state of the country's civil registration system, which provides proof of age for children; the existence of an adequate legislative framework with an accompanying enforcement mechanism to address cases of child marriage, and the existence of customary or religious laws that condone the practice.

In many parts of the world parents encourage the marriage of their daughters while they are still children in the hope that the marriage will benefit them both financially and socially, while also relieving financial burdens on the family. In actual fact, child marriage is a violation of human rights, compromising the development of girls and often resulting in early pregnancy and social isolation, with little education and poor vocational training reinforcing the gendered nature of poverty. The right to 'free and full' consent to a marriage is recognized in the Universal Declaration of Human Rights - with the recognition that consent cannot be 'free and full' when one of the parties involved is not sufficiently mature to make an informed decision about a life partner.

The Convention on the Elimination of all Forms of Discrimination against Women mentions the right to protection from child marriage in Article 16, which states: "The betrothal and the marriage of a child shall have no legal effect, and all necessary action, including legislation, shall be taken to specify a minimum age for marriage..." While marriage is not considered directly in the Convention on the Rights of the Child, child marriage is linked to other rights - such as the right to express their views freely, the right to protection from all forms of abuse, and the right to be protected from harmful traditional practices - and is frequently addressed by the Committee on the Rights of the Child.

Young married girls are a unique, though often invisible, group. Required to perform heavy amounts of domestic work, under pressure to demonstrate fertility, and responsible for raising children while still children themselves, married girls and child mothers face constrained decision-making and reduced life choices. Boys are also affected by child marriage but the issue impacts girls in far larger numbers and with more intensity. Cohabitation - when a couple lives together as if married - raises the same human rights concerns as marriage. Where a girl lives with a man and takes on the role of caregiver for him, the assumption is often that she has become an adult woman, even if she has not yet reached the age of 18. Additional concerns due to the informality of the relationship - for example, inheritance, citizenship and social recognition - might make girls in informal unions vulnerable in different ways than those who are in formally recognized marriages.

Research suggests that many factors interact to place a child at risk of marriage. Poverty, protection of girls, family honour and the provision of stability during unstable social periods are considered as significant factors in determining a girl's risk of becoming married while still a child. Women who married at younger ages were more likely to believe that it is sometimes acceptable for a husband to beat his wife and were more likely to experience domestic violence themselves. The age gap between partners is thought to contribute to these abusive power dynamics and to increase the risk of untimely widowhood.

Closely related to the issue of child marriage is the age at which girls become sexually active. Women who are married before the age of 18 tend to have more children than those who marry later in life. Pregnancy related deaths are known to be a leading cause of mortality for both married and unmarried girls between the ages of 15 and 19, particularly among the youngest of this cohort. There is evidence to suggest that girls who marry at young ages are more likely to marry older men which puts them at increased risk of HIV infection. Parents seek to marry off their girls to protect their honour, and men often seek younger women as wives as a means to avoid choosing a wife who might already be infected.

Two of the indicators are to estimate the percentage of women married before 15 years of age and percentage married before 18 years of age. The percentage of women married at various ages is provided in Table CP.4. Less than one in five young women age 15-19 years is currently married (15.2%). This proportion varies between urban (5.5%) and rural areas (20.8%), and is strongly related to the level of education and to household wealth. The percentage of women in a polygynous union is also provided in Table CP.4. While five percent of women 15-49 years of age live in a polygynous union, the proportion is significantly higher in the Dzongkaghs of Tsirang (16.7%), Punakha (14.7%), Haa (12.7%) and Gasa (10.7%). 6.7 percent were found to be married before 15 years of age and this increases to 10 percent in the poorest households.

TABLE CP.4: EARLY MARRIAGE AND POLYGYNY

Percentage of women age 15-49 years who first married or entered a marital union before their 15th birthday, percentages of women age 20-49 years who first married or entered a marital union before their 15th and 18th birthdays, percentage of women age 15-19 years currently married or in union, and the percentage of women currently married or in union who are in a polygynous marriage or union, Bhutan, 2010

	Percentage married before age 15 [1]	Number of women age 15-49 years	Percentage married before age 15	Percentage married before age 18 [2]	Number of women age 20-49 years	Percentage of women 15-19 years currently married/in union [3]	Number of women age 15-19 years	Percentage of women age 15-49 years in polygynous marriage/union [4]	Number of women age 15-49 years currently married/ in union
Dzongkhag									
Bumthang	2.8	337	2.8	23.7	287	17.6	51	5.3	222
Chukha	7.0	1550	8.5	29.1	1281	13.0	269	8.7	1039
Dagana	10.4	509	11.5	42.6	433	25.6	76	3.5	396
Gasa	1.2	107	1.3	16.8	98	*	9	10.7	86
Haa	4.3	282	5.0	21.1	246	(8.0)	36	12.7	201
Lhuntse	4.2	307	4.5	31.1	274	(24.8)	33	2.8	219
Mongar	6.7	926	7.4	37.1	809	28.5	117	3.6	697
Paro	2.7	799	3.1	18.5	664	5.9	135	6.9	504
Pemagatshel	7.0	489	7.1	29.1	436	25.3	53	1.2	373
Punakha	5.0	506	5.7	29.1	436	13.3	70	14.7	342
Samdrup jongkhar	10.6	775	11.4	43.5	676	21.8	99	5.2	638
Samtse	11.3	1562	12.4	35.4	1312	14.0	251	5.4	1143
Sarpang	7.7	924	8.8	39.9	783	12.3	141	2.5	651
Thimphu	3.8	2054	4.4	20.2	1698	4.7	357	1.2	1327
Trashigang	8.3	940	9.2	35.9	848	(27.1)	91	2.6	772
Trashiyangtse	4.4	301	4.8	28.8	266	16.0	35	1.5	219
Trongsa	5.0	294	5.3	31.0	259	(20.4)	35	1.0	209
Tsirang	9.8	463	11.4	34.4	374	18.5	89	16.7	333
Wangdue	3.2	562	3.4	26.1	498	16.8	64	3.5	394
Zhemgang	8.5	331	8.3	33.9	288	(35.1)	42	2.1	262
Region									
Western	6.2	6861	7.0	26.1	5735	9.8	1126	6.2	4642
Central	7.0	3420	7.7	34.3	2922	19.1	498	4.8	2468
Eastern	7.5	3736	8.2	35.9	3308	24.9	428	3.2	2919

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Condt. TABLE CP.4: EARLY MARRIAGE AND POLYGYNY

Percentage of women age 15-49 years who first married or entered a marital union before their 15th birthday, percentages of women age 20-49 years who first married or entered a marital union before their 15th and 18th birthdays, percentage of women age 15-19 years currently married or in union, and the percentage of women currently married or in union who are in a polygynous marriage or union, Bhutan, 2010

	Percentage married before age 15 [1]	Number of women age 15-49 years	Percentage married before age 15	Percentage married before age 18 [2]	Number of women age 20-49 years	Percentage of women 15-19 years currently married/in union [3]	Number of women age 15-19 years	Percentage of women age 15-49 years in polygynous marriage/ union [4]	Number of women age 15-49 years currently married/ in union
Residence									
Urban	5.1	4448	6.0	25.9	3695	5.5	753	2.8	2986
Rural	7.5	9570	8.2	33.0	8271	20.8	1299	5.9	7043
Age									
15-19	2.3	2052	na	na	na	15.2	2052	4.0	312
20-24	6.2	2502	6.2	25.8	2502	na	na	3.1	1568
25-29	7.3	2721	7.3	28.3	2721	na	na	3.1	2257
30-34	8.5	2219	8.5	33.3	2219	na	na	5.6	1923
35-39	7.1	1856	7.1	36.4	1856	na	na	6.4	1650
40-44	9.7	1561	9.7	34.6	1561	na	na	6.7	1363
45-49	6.6	1106	6.6	28.7	1106	na	na	6.5	957
Education									
None	8.9	8585	9.1	37.0	8037	35.3	548	5.6	7087
Primary	8.0	1687	9.1	36.8	1383	18.3	304	6.3	1165
Secondary +	1.2	3746	1.6	8.1	2545	5.2	1201	1.7	1778
Wealth index quintiles									
Poorest	10.4	2419	11.2	37.9	2103	25.6	316	5.1	1855
Second	8.5	2533	9.2	35.2	2210	29.7	323	6.2	1888
Middle	6.7	2659	7.2	32.0	2319	24.7	339	5.5	1937
Fourth	5.9	3040	6.8	30.7	2599	7.7	441	5.8	2189
Richest	3.5	3367	4.2	20.8	2734	2.7	633	2.5	2160
Total	**6.7**	**14018**	**7.5**	**30.8**	**11966**	**15.2**	**2052**	**5.0**	**10029**

[1] MICS indicator 8.6
[2] MICS indicator 8.7
[3] MICS indicator 8.8
[4] MICS indicator 8.9

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

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Table CP.5 presents the proportion of women who were first married or entered into a marital union before age 15 and 18 by residence and age groups. Examining the percentages married before the age of 15 and 18 by different age groups, allows us to see the trends in early marriage over time. Overall 6.7 percent of women married before the age of 15 and 30.8 percent married before the age of 18, although the legal age for marriage in Bhutan is 18 years for women. Marriage before the 15th and 18th birthdays is higher among rural women (7.5% and 33% respectively) when compared to urban women (5.1% and 25.9 % respectively). Over the last 15 years there is a decreasing trend of early marriages, particularly in urban areas.

TABLE CP.5: TRENDS IN EARLY MARRIAGE

Percentage of women who were first married or entered into a marital union before age 15 and 18, by residence and age groups, Bhutan, 2010

Age	Urban				Rural				Both			
	Percentage of women married before age 15	Number of women	Percentage of women married before age 18	Number of women	Percentage of women married before age 15	Number of women	Percentage of women married before age 18	Number of women	Percentage of women married before age 15	Number of women	Percentage of women married before age 18	Number of women
15-19	1.0	753	.	0	3.0	1299	.	0	2.3	2052	.	0
20-24	3.3	882	17.1	882	7.8	1620	30.6	1620	6.2	2502	25.8	2502
25-29	5.5	983	21.1	983	8.4	1738	32.3	1738	7.3	2721	28.3	2721
30-34	8.2	722	30.9	722	8.6	1497	34.5	1497	8.5	2219	33.3	2219
35-39	6.3	536	34.1	536	7.4	1320	37.3	1320	7.1	1856	36.4	1856
40-44	9.3	380	37.8	380	9.8	1181	33.5	1181	9.7	1561	34.6	1561
45-49	4.7	192	26.2	192	7.0	914	29.3	914	6.6	1106	28.7	1106
Total	**5.1**	**4448**	**25.9**	**3695**	**7.5**	**9570**	**33.0**	**8271**	**6.7**	**14018**	**30.8**	**11966**

TABLE CP.6: SPOUSAL AGE DIFFERENCE

Percentage distribution of women currently married/in union age 15-19 and 20-24 years according to the age difference with their husband or partner, Bhutan, 2010

	Percentage of currently married/in union women age 15-19 years whose husband or partner is:						Number of women age 15-19 years currently married/in union	Percentage of currently married/in union women age 20-24 years whose husband or partner is:						Number of women age 20-24 years currently married/in union
	Younger	0-4 years older	5-9 years older	10+ years older [1]	Husband/partner's age unknown	Total		Younger	0-4 years older	5-9 years older	10+ years older [2]	Husband/partner's age unknown	Total	
Region														
Western	1.4	44.6	43.2	10.2	.5	100.0	110	4.6	44.9	32.3	15.3	2.9	100.0	724
Central	3.1	44.4	42.0	8.0	2.5	100.0	95	12.4	45.9	29.1	11.4	1.2	100.0	389
Eastern	2.5	50.4	28.5	17.3	1.4	100.0	107	11.2	46.6	29.1	11.5	1.6	100.0	454
Residence														
Urban	.0	34.9	44.9	18.8	1.4	100.0	41	2.5	47.7	32.9	15.5	1.4	100.0	479
Rural	2.7	48.3	36.7	10.9	1.4	100.0	270	11.1	44.7	29.6	12.3	2.4	100.0	1088
Age														
15-19	2.3	46.6	37.8	11.9	1.4	100.0	312	na	na	na	na	na	na	na
20-24	na	na	na	na	na	na	na	8.5	45.6	30.6	13.3	2.1	100.0	1568
Education														
None	1.0	49.2	34.2	13.4	2.3	100.0	193	10.0	42.2	31.3	14.1	2.5	100.0	887
Primary	8.5	39.2	41.7	10.6	.0	100.0	56	8.0	44.0	27.6	18.8	1.6	100.0	234
Secondary +	.9	45.0	45.4	8.7	.0	100.0	63	5.7	53.4	30.9	8.6	1.5	100.0	446
Wealth index quintiles														
Poorest	.7	49.9	36.8	8.5	4.0	100.0	81	15.7	51.4	19.7	7.0	6.2	100.0	287
Second	2.0	53.9	33.0	11.1	.0	100.0	96	13.9	47.2	28.1	10.8	0.0	100.0	283
Middle	5.6	47.8	39.5	7.1	.0	100.0	84	7.4	40.9	36.1	13.9	1.7	100.0	334
Fourth	.0	28.2	43.3	26.7	1.8	100.0	34	4.4	44.8	32.3	16.9	1.6	100.0	417
Richest	.0	20.2	49.5	26.8	3.4	100.0	17	2.0	44.9	35.9	16.3	1.0	100.0	246
Total	**2.3**	**46.6**	**37.8**	**11.9**	**1.4**	**100.0**	**312**	**8.5**	**45.6**	**30.6**	**13.3**	**2.1**	**100.0**	**1568**

[1] MICS indicator 8.10a
[2] MICS indicator 8.10b
* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases
* Figures in parenthesis indicates that the percentage is based on just 25 to 49 unweighted cases.

Another component is the spousal age difference with an indicator being the percentage of married/ in union women with a difference of 10 or more years younger than their current spouse. Table CP.6 presents the results of the age difference between husbands and wives. The results show that there are some spousal age differences in Bhutan. About one in seven women aged 20-24 is currently married to a man who is older by ten years or more (13.3%), and about one in eight women aged 15-19 are currently married to men who are older by ten years or more (11.9%). A higher percentage of women aged 15-19 years whose husband is 10 or more years older are found in the Eastern region (17.3%) and a lower percentage are found in the Central region (8 %). A spousal age difference of 10 or more years among married/in union women aged 22-24 is more prevalent in urban areas than in rural areas, and among richer households than among poorer households.

Domestic Violence

A number of questions were asked of women aged 15-49 years to assess their attitudes towards whether husbands are justified to hit or beat their wives/partners for a variety of reasons. These questions were asked to have an indication of cultural beliefs that tend to be associated with the prevalence of violence against women by their husbands/partners.

The main assumption here is that women who agree with the statements indicating that husbands/partners are justified to beat their wives/partners under the situations described, in reality tend to be abused by their own husbands/partners. The responses to these questions can be found in Table CP.7. Overall, as many as 68.4 percent of women in Bhutan feel that their husband/partner has a right to hit or beat them for at least one of a variety of reasons.

Women who approve their partner's violence, in most cases agree and justify violence in instances when they neglect the children (54.5%), or if they demonstrate their autonomy, e.g. go out without telling their husbands (39.7%) or argue with them (39.5 %). Around one-fourth of women believe that their partner has a right to hit or beat them if they refuse to have sex with him or if they burn the food. Acceptance is more present among those living in rural areas, with less education, and also among formerly married women. Acceptance in the richest wealth quintile is much lower than in the other wealth quintiles.

BMIS also included questions on women's actual experience of domestic violence and the results will be presented in a separate thematic analysis report on gender.

Questions on experience of domestic violence were included and the results of it will be brought out in a separate thematic report on gender.

	Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner:						Number of women age 15-49 years
	If goes out without telling him	If she neglects the children	If she argues with him	If she refuses sex with him	If she burns the food	For any of these reasons [1]	
Dzongkhag							
Bumthang	60.1	76.6	58.5	25.7	42.3	86.8	337
Chukha	15.9	47.5	21.1	12.6	25.2	60.4	1550
Dagana	36.6	54.9	43.8	33.2	35.6	66.9	509
Gasa	40.5	66.7	48.5	40.0	25.1	82.7	107
Haa	19.3	51.0	19.2	21.5	6.2	60.9	282
Lhuntse	23.2	20.2	28.1	19.8	20.9	47.4	307
Mongar	40.9	57.9	59.5	35.1	38.1	74.2	926
Paro	67.4	81.1	45.8	36.9	15.4	90.4	799
Pemagatshel	30.2	34.0	30.6	9.1	24.8	56.4	489
Punakha	46.5	57.3	48.3	37.8	25.9	62.2	506
Samdrup jongkhar	60.3	74.4	69.1	58.8	59.6	84.3	775
Samtse	37.7	52.4	52.5	28.0	19.1	78.2	1562
Sarpang	46.4	65.1	29.0	16.0	13.3	70.6	924
Thimphu	34.4	35.6	24.9	11.8	8.8	46.2	2054
Trashigang	37.2	59.1	39.4	28.0	28.9	70.8	940
Trashiyangtse	51.3	65.8	67.5	44.3	15.7	85.6	301
Trongsa	54.0	63.9	45.3	38.1	47.3	83.3	294
Tsirang	66.8	73.5	17.7	11.4	6.0	77.3	463
Wangdue	31.1	47.3	43.1	20.2	15.8	70.9	562
Zhemgang	35.3	53.9	36.5	13.5	11.8	65.5	331

TABLE CP.7: ATTITUDES TOWARD DOMESTIC VIOLENCE

Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner in various circumstances, Bhutan,2010

Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner in various circumstances, Bhutan,2010

	Percentage of women age 15-49 years who believe a husband is justified in beating his wife/partner:						Number of women age 15-49 years
	If goes out without telling him	If she neglects the children	If she argues with him	If she refuses sex with him	If she burns the food	For any of these reasons [1]	
Region							
Western	35.2	50.1	34.6	21.4	17.0	64.2	6861
Central	46.1	61.7	37.0	21.2	21.7	73.2	3420
Eastern	42.0	56.0	50.7	34.3	35.3	71.8	3736
Residence							
Urban	33.9	48.5	32.0	17.2	16.0	60.8	4448
Rural	42.3	57.4	43.0	28.3	26.3	71.9	9570
Age							
15-19	41.6	57.9	39.4	19.2	22.1	70.1	2052
20-24	40.0	56.8	41.4	24.1	23.3	70.3	2502
25-29	36.4	52.1	37.4	24.9	20.9	65.4	2721
30-34	38.0	54.2	37.6	25.4	22.9	68.8	2219
35-39	38.8	52.9	40.6	26.3	23.3	68.3	1856
40-44	42.1	54.1	41.3	28.6	25.2	68.6	1561
45-49	44.6	53.3	40.1	27.2	26.1	67.7	1106
Marital/Union status							
Currently married/ in union	39.0	54.3	39.5	26.1	23.4	68.5	10029
Formerly married/ in union	45.4	56.1	42.4	28.3	25.2	71.5	909
Never married/in union	40.1	54.8	38.5	19.5	21.0	67.2	3079
Education							
None	41.2	55.7	42.5	28.2	26.5	70.7	8585
Primary	41.7	56.8	38.0	25.7	22.1	70.6	1687
Secondary +	35.1	50.9	33.4	16.5	15.6	62.3	3746
Wealth index quintiles							
Poorest	40.2	54.8	44.9	29.4	29.9	70.7	2419
Second	42.9	59.7	44.9	29.7	29.4	73.2	2533
Middle	44.7	56.6	43.3	28.2	24.3	72.7	2659
Fourth	39.8	56.7	38.1	24.5	21.2	70.3	3040
Richest	32.6	46.9	29.9	15.2	13.8	58.1	3367
Total	**39.7**	**54.5**	**39.5**	**24.8**	**23.0**	**68.4**	**14018**

[1] MICS indicator 8.14

Child Disability

One of the goals of "A World Fit for Children" is to protect children against abuse, exploitation and violence, including the elimination of discrimination against children with disabilities. For children between two-nine years of age, a series of questions were asked to assess a number of disabilities/impairments, such as sight impairment, deafness and difficulties with speech. This approach rests in the concept of functional disability developed by WHO and aims to identify the implications of any impairment or disability for the development of the child (such as health, nutrition and education).

Table CP.8 presents the percentage of children aged two to nine years with a disability reported by their mother/caretaker. Of these children 30.4 percent are reported to have at least one disability, with the highest proportion (31.5%) living in the Eastern region. Differences by mother's education and socioeconomic status are present. About 31.4 percent of children aged two to nine years that reported having at least one disability have mothers with no education and about 33.8 percent live in poor households. In addition, 22.6 percent of two-year-old children cannot name at least one object, with the highest percentage (26.5%) found in the Central region and the lowest in the Eastern region (19.5%). Figures for children living in urban areas (20.9%) are lower than those for rural areas (23.3). In addition, the percentage of children whose speech is not normal is very high in all three to nine age groups ranging from 12.2 to13.3 percent. The highest proportion of these children is found in the Central region (14.4%), middle income households (13.7%) and among those having mothers with primary education (13.6%).

The second stage disability survey will be carried out and all children that "screened positive" in the disability first stage module of the BMIS, and 10 percent children that "screened negative" will also be subjected to functional assessment by technical (medical) personnel to assess disability. The results of the second stage disability will be more reliable as the assessment will be carried out by technical persons and will be more in-depth unlike in the first stage.

TABLE CP.8 : CHILD DISABILITY

Percentage of children 2-9 years of age with disability reported by their mother or caretaker according to the type of disability, Bhutan, 2010

	Percentage of children aged 2-9 years with reported disability by type of disability														
	Delay in sitting standing or walking	Difficulty seeing, either in the daytime or at night	Appears to have difficulty hearing	No understanding of instructions	Difficulty in walking, moving, moving arms, weakness or stiffness	Have fits, become rigid, lose conciousness	Not learning to do things like other children his/her age	No speaking cannot be understood in words	Appears mentally backward, dull, or slow	Speech is not normal	Number of children aged 3-9 years	Cannot name at least one object	Number of children aged 2 years	Percentage of children 2-9 years of age with at least one reported disability*	Number of children aged 2-9 years
Dzongkhag															
Bumthang	1.4	1.0	1.3	2.3	2.1	1.8	2.4	5.4	1.4	7.1	242	22.4	34	19.3	275
Chukha	5.6	2.6	1.3	1.2	3.7	2.4	1.4	4.3	6.8	15.9	993	24.4	125	32.6	1118
Dagana	1.2	.9	1.6	3.2	2.3	2.1	1.9	2.4	1.7	21.2	367	23.3	46	31.7	413
Gasa	1.7	2.8	1.4	6.4	2.9	16.4	7.5	13.2	1.1	24.4	68	35.8	8	53.9	76
Haa	1.0	1.0	1.1	2.5	1.8	1.4	2.1	7.2	2.5	5.0	196	23.6	27	19.2	223
Lhuntse	1.2	1.2	.7	6.5	2.4	2.7	10.4	11.3	6.6	50.6	219	19.7	33	63.6	252
Mongar	2.3	1.2	2.1	2.6	1.6	.7	6.2	7.0	1.7	4.2	714	17.5	100	20.3	814
Paro	1.4	1.5	1.7	5.2	2.5	1.9	5.2	8.1	3.6	37.8	503	36.1	72	45.6	575
Pemagatshel	1.6	2.1	.6	7.3	.8	1.1	5.8	11.2	1.1	.5	336	16.4	54	20.1	390
Punakha	2.5	.9	2.9	3.1	2.3	2.2	3.9	4.6	4.2	10.4	361	18.1	41	23.0	401
Samdrup jongkhar	1.3	1.5	2.7	9.8	2.6	4.0	7.2	22.4	1.8	8.6	658	25.9	92	42.3	750
Samtse	5.8	3.7	2.6	3.6	3.0	2.9	5.2	3.1	2.1	16.2	1219	27.4	174	31.1	1394
Sarpang	1.6	1.9	2.0	1.5	2.7	1.1	2.6	3.5	2.2	3.5	567	35.4	69	16.6	636
Thimphu	1.1	1.1	.4	1.1	1.0	16.9	1.3	1.4	.8	2.0	1170	12.6	189	24.7	1359
Trashigang	2.9	1.0	4.7	4.1	3.6	3.5	3.8	11.3	2.7	8.6	879	13.5	108	29.8	987
Trashiyangtse	1.8	1.9	3.4	6.4	2.5	1.3	9.2	7.4	1.7	5.3	281	31.6	34	28.7	316
Trongsa	3.8	.5	2.5	6.0	4.1	4.8	10.0	12.0	2.3	10.5	230	19.4	28	33.8	259
Tsirang	2.0	1.4	1.5	1.9	2.5	2.5	5.5	4.1	3.8	6.9	304	34.4	48	23.7	352
Wangdi	5.4	2.0	2.8	4.7	4.6	3.3	5.7	5.3	2.9	40.7	404	23.4	57	50.3	461
Zhemgang	1.9	11.3	10.3	2.7	2.0	2.4	3.4	4.2	1.4	6.2	253	18.9	45	25.1	298

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Contd. TABLE CP.8 : CHILD DISABILITY

Percentage of children 2-9 years of age with disability reported by their mother or caretaker according to the type of disability, Bhutan, 2010

	Delay in sitting standing or walking	Difficulty seeing, either in the daytime or at night	Appears to have difficulty hearing	No understanding of instructions	Difficulty in walking, moving, moving arms, weakness or stiffness	Have fits, become rigid, lose conciousness	Not learning to do things like other children his/her age	No speaking cannot be understood in words	Appears mentally backward, dull, or slow	Speech is not normal	Number of children aged 3-9 years	Cannot name at least one object	Number of children aged 2 years	Percentage of children 2-9 years of age with at least one reported disability*	Number of children aged 2-9 years
Region															
Western	3.5	2.2	1.6	2.6	2.5	6.5	3.2	3.9	3.1	14.0	4510	22.7	636	30.5	5146
Central	2.5	2.5	2.9	3.0	2.9	2.4	4.2	4.8	2.3	14.4	2366	26.5	327	28.5	2693
Eastern	2.0	1.4	2.8	5.7	2.4	2.4	6.3	12.3	2.3	9.4	3087	19.5	420	31.5	3508
Residence															
Urban	2.0	2.2	.8	2.3	1.9	8.5	3.0	4.6	2.5	10.1	2796	20.9	387	29.5	3184
Rural	3.1	1.9	2.8	4.2	2.8	2.6	4.9	7.6	2.7	13.7	7166	23.3	996	30.7	8162
Age of child															
2-4	2.4	1.2	1.5	5.9	2.6	4.6	6.0	11.4	2.8	12.8	2577	22.6	1383	34.8	3960
5-6	3.1	1.8	2.0	2.7	2.3	4.9	3.4	4.9	2.2	13.3	3130	.	0	28.9	3130
7-9	2.9	2.8	3.2	2.2	2.8	3.4	3.6	3.7	2.8	12.2	4255	.	0	27.3	4255
Mother's education															
None	2.9	2.1	2.7	4.0	2.8	4.5	4.9	7.2	2.8	12.7	7374	24.3	975	31.4	8349
Primary	2.9	2.7	1.4	2.9	1.9	3.8	3.3	5.7	2.7	13.6	1171	20.2	152	29.6	1322
Secondary +	1.9	1.2	1.0	2.5	1.7	3.3	2.7	5.1	2.0	11.5	1418	17.6	257	25.8	1675
Mother not in household	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	0	.	0	0.0	0
Wealth index quintiles															
Poorest	2.7	2.3	3.6	5.7	2.2	3.5	6.6	9.4	3.3	13.2	2162	28.6	290	33.8	2452
Second	4.0	1.7	2.8	3.5	3.6	2.7	4.3	7.2	2.5	10.5	1880	25.8	240	28.8	2120
Middle	2.9	1.8	2.6	3.4	3.3	3.4	4.5	6.7	2.9	13.7	1912	20.8	272	30.1	2184
Fourth	2.2	2.2	1.6	3.3	1.7	8.1	3.3	6.1	2.3	12.8	2182	19.3	327	32.0	2509
Richest	2.3	1.9	.7	2.0	2.2	2.9	3.0	3.9	2.2	13.1	1826	19.0	254	26.1	2080
Total	**2.8**	**2.0**	**2.3**	**3.6**	**2.6**	**4.2**	**4.4**	**6.7**	**2.7**	**12.7**	**9963**	**22.6**	**1383**	**30.4**	**11346**

blems
On
HIV/AIDS.

Safe
Sex

ex Before

Try to have a
Safe Sex throughout
your life.

* Maximum drug
users are stude

ers are not much
of HIV/AIDS.

During sex, people
feel more satisfied
without condom.

Increasi   g sex
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younger girls.

People Having Sex With
out using condom.

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Not Having The Habit
Of Using Condoms
During Sex.

Wh
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Make a best use of
Condom when you are
having sex.

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Villagers are
not aware of
condoms.

XII. HIV/AIDS, Sexual Behaviour

Knowledge about HIV Transmission and Misconceptions about HIV/AIDS

One of the most important pre-requisites for reducing the rate of HIV infection is accurate knowledge of how HIV is transmitted and strategies for preventing transmission. Correct information is the first step toward raising awareness and giving young people the tools to protect themselves from infection. Misconceptions about HIV are common and can confuse young people and hinder prevention efforts. Different regions are likely to have variations in misconceptions although some appear to be universal (for example that sharing food can transmit HIV or mosquito bites can transmit HIV).

The UN General Assembly Special Session on HIV/AIDS (UNGASS) called on governments to improve the knowledge and skills of young people to protect themselves from HIV. The indicators to measure this goal, as well as the MDG of reducing HIV infections by half, include improving the level of knowledge of HIV and its prevention, and changing behaviours to prevent further spread of the disease. One indicator, which is both an MDG and UNGASS indicator, is the percent of young women who have comprehensive and correct knowledge of HIV prevention and transmission. The HIV module was administered to women aged 15-49 years of age.

Comprehensive knowledge is the number of women aged 15-49 years who correctly identify two ways of preventing HIV infection, know that a healthy looking person can have HIV, and reject the two most common misconceptions about HIV transmission. In BMIS, all women aged 15-49 years old who have heard of AIDS were asked whether they knew of two main ways of HIV transmission – having only one faithful uninfected partner and using a condom every time while having sex. The results are presented in Table HA.1. In Bhutan, more than four out of five of the interviewed women aged 15-49 years old have heard of AIDS (83.7%). However, the percentage of women who know of both the main ways of preventing HIV transmission is only 51 percent. 60.6 percent of women know of having one faithful uninfected sex partner and 66.1 percent know of using a condom every time as main ways of preventing HIV transmission.

Table HA.1 and figure HA.1 also present the percentage of women with comprehensive knowledge, which is still fairly low in Bhutan. Overall, 17.5 percent of women aged 15-49 years old were found to have a comprehensive knowledge of HIV. Both the education level and household wealth are positively correlated with the level of comprehensive knowledge. Comprehensive knowledge is also much more prevalent among younger women, never married women and women in urban areas. In the Western region 24.1 percent have comprehensive knowledge as compared to the Central and Eastern regions (14.0 and 8.7 % respectively).

TABLE HA.1: KNOWLEDGE ABOUT HIV TRANSMISSION, MISCONCEPTIONS ABOUT HIV/AIDS AND COMPREHANSIVE KNOWLEDGE ABOUT HIV TRANSMISSION

Percentage of women age 15-49 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions, and percentage who have comprehensive knowledge about HIV transmission, Bhutan, 2010

	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:		Percentage of women who know both ways	Percentage who know that a healthy looking person can have the AIDS virus	Percentage who know that HIV cannot be transmitted by:			Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus	Percentage with comprehensive knowledge [1]	Number of women
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
Dzongkhag											
Bumthang	99.2	51.8	85.4	47.1	63.3	47.2	83.1	86.1	30.9	8.7	337
Chukha	76.7	52.7	56.3	47.7	42.5	30.5	62.8	54.1	18.5	15.1	1550
Dagana	73.7	50.7	49.4	38.4	53.8	26.0	46.5	41.8	14.3	9.2	509
Gasa	82.6	75.3	72.2	67.4	40.5	51.3	77.4	66.2	31.7	30.0	107
Haa	99.2	89.1	89.4	82.6	86.5	62.0	89.2	79.1	50.2	45.9	282
Lhuntse	73.1	33.8	55.3	31.0	61.5	53.0	54.0	63.9	44.0	19.7	307
Mongar	91.0	71.9	74.4	63.2	33.9	26.5	71.5	58.7	8.6	6.0	926
Paro	95.3	84.4	77.4	70.3	65.6	51.6	70.8	77.6	35.3	25.3	799
Pemagatshel	88.6	53.3	74.7	48.1	38.8	50.2	72.6	65.0	15.0	7.7	489
Punakha	85.4	67.2	75.8	60.7	43.6	41.8	62.6	66.3	18.1	14.1	506
Samdrup jongkhar	69.1	51.6	43.8	35.5	30.2	34.4	52.5	48.5	14.2	10.6	775
Samtse	81.2	50.8	59.2	42.2	47.5	47.5	61.2	59.1	24.6	15.7	1562
Sarpang	83.8	74.8	66.6	60.1	50.6	48.9	61.8	57.1	26.0	20.5	924
Thimphu	92.7	77.6	70.1	59.4	69.9	65.9	82.0	84.4	50.9	36.1	2054
Trashigang	81.2	38.2	67.1	33.6	56.1	28.0	58.0	49.6	17.3	5.7	940
Trashiyangtse	71.1	55.0	57.1	44.6	35.6	39.9	59.0	50.1	17.7	12.6	301
Trongsa	90.0	76.7	78.1	68.7	50.3	35.1	69.0	73.8	18.6	14.6	294
Tsirang	58.1	45.7	52.5	43.8	36.0	35.8	43.4	41.7	19.6	14.7	463
Wangdue	82.9	28.7	73.4	26.0	32.9	29.1	45.9	49.6	9.8	4.5	562
Zhemgang	95.6	80.5	86.3	75.3	64.9	48.3	80.4	67.8	28.2	22.8	331

Contd. TABLE HA.1: KNOWLEDGE ABOUT HIV TRANSMISSION, MISCONCEPTIONS ABOUT HIV/AIDS AND COMPREHANSIVE KNOWLEDGE ABOUT HIV TRANSMISSION

Percentage of women age 15-49 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions, and percentage who have comprehensive knowledge about HIV transmission Bhutan, 2010

| | Percentage who have heard of AIDS | Percentage who know transmission can be prevented by: | | Percentage of women who know both ways | Percentage who know that a healthy looking person can have the AIDS virus | Percentage who know that HIV cannot be transmitted by: | | | Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus | Percentage with comprehensive knowledge [1] | Number of women |
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
Region											
Western	86.3	66.3	66.6	55.3	56.4	49.9	70.4	69.2	33.0	24.1	6861
Central	81.8	58.1	68.0	50.0	48.8	39.1	58.9	56.8	20.8	14.0	3420
Eastern	80.6	52.3	63.3	43.9	41.8	34.9	61.8	54.9	16.4	8.7	3736
Residence											
Urban	93.1	71.4	72.5	58.1	60.6	59.6	78.7	80.1	39.8	28.2	4448
Rural	79.3	55.6	63.1	47.6	46.0	35.6	59.1	54.1	19.0	12.6	9570
Age											
15-24	87.4	64.2	69.2	53.9	54.2	50.3	70.1	68.9	30.8	21.0	4555
25-29	87.8	63.9	70.5	55.2	53.0	47.7	70.6	68.4	29.6	20.7	2721
30-39	83.1	59.5	65.1	49.2	48.2	41.3	64.9	60.5	23.2	15.8	4075
40-49	74.1	52.9	57.7	44.3	45.8	29.6	52.5	47.8	16.5	11.1	2668
Marital status											
Ever married/in union	82.1	58.9	65.1	49.7	48.7	39.9	63.3	59.5	22.9	15.7	10939
Never married/in union	89.3	66.5	69.4	55.4	57.4	55.1	72.7	72.4	35.3	24.0	3079
Education											
None	76.2	52.9	59.2	44.2	42.8	31.2	55.5	50.1	15.5	10.2	8585
Primary	88.1	61.7	68.0	51.7	49.0	43.7	69.6	64.6	24.3	15.4	1687
Secondary +	99.0	77.7	80.9	66.1	69.4	70.6	86.0	89.4	49.5	35.4	3746
Wealth index quintiles											
Poorest	66.5	45.3	49.3	37.2	36.0	24.3	44.1	37.0	9.9	5.8	2419
Second	74.6	49.9	59.4	43.2	41.0	26.8	54.2	45.6	11.9	7.5	2533
Middle	84.4	58.1	67.2	49.2	49.3	37.4	63.7	58.5	20.5	12.6	2659
Fourth	91.4	68.4	73.6	58.7	55.8	53.3	75.0	75.1	33.0	24.6	3040
Richest	95.4	74.6	75.4	61.1	64.7	64.7	81.5	84.7	44.6	31.1	3367
Total	**83.7**	**60.6**	**66.1**	**51.0**	**50.6**	**43.2**	**65.3**	**62.4**	**25.6**	**17.5**	**14018**

[1]MICS indicator 9.1

A key indicator used to measure countries' responses to the HIV epidemic is the proportion of young people aged 15-24 who know two methods of preventing HIV. The results for women aged 15-24 are separately presented in Table HA.2. 21 percent of women aged 15-24 years have comprehensive and correct knowledge about HIV, which is relatively higher than 17.5 percent for the women aged 15-49 presented in Table HA.1. Similar to 15-49 year old women, the richer and the more educated the 15-24 year old women are, the more likely they have comprehensive and correct knowledge about HIV. Furthermore, 15-19 year old women are slightly more knowledgeable than 20-24 year old women. Comprehensive knowledge of HIV prevention is much lower among young women in the Eastern region (11.5%) compared to the Central region (17.3%) and the Western region in particular (26.8 %).

TABLE HA.2: KNOWLEDGE ABOUT HIV TRANSMISSION, MISCONCEPTIONS ABOUT HIV/AIDS AND CONPREHENSIVE KNOWLEDGE ABOUT TRANSMISSION AMONG YOUNG PEOPLE

Percentage of young women age 15-24 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions, and percentage who have comprehensive knowledge about HIV transmission, Bhutan, 2010

| | Percentage who have heard of AIDS | Percentage who know transmission can be prevented by: | | Percentage of women who know both ways | Percentage who know that a healthy looking person can have the AIDS virus | Percentage who know that HIV cannot be transmitted by: | | | Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus | Percentage with comprehensive knowledge [1] | Number of women age 15-24 |
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
Dzongkhag											
Bumthang	99.2	47.0	84.5	43.1	62.7	53.1	85.0	88.4	33.4	8.3	109
Chukha	83.6	58.9	62.7	53.0	50.4	35.4	71.2	64.8	20.3	15.7	565
Dagana	74.0	50.4	49.7	37.7	55.0	30.1	47.6	44.2	17.0	9.9	164
Gasa	(79.6)	(73.6)	(74.9)	(68.9)	(42.9)	(54.6)	(66.6)	(70.4)	(34.7)	(30.5)	32
Haa	99.6	86.6	90.8	80.9	84.0	70.0	87.2	82.2	56.8	53.3	85
Lhuntse	84.9	35.1	60.0	30.0	71.3	62.4	57.6	75.3	52.0	21.4	92
Mongar	91.4	69.1	75.4	61.8	33.2	34.5	76.7	66.0	14.8	8.7	278
Paro	97.7	84.1	77.2	67.3	66.6	59.0	76.5	80.3	40.7	26.9	286
Pemagatshel	91.1	58.3	75.3	51.6	35.0	51.0	75.5	66.5	13.4	8.6	129
Punakha	84.2	65.0	73.3	57.9	40.5	47.0	65.8	66.7	20.7	16.1	144
Samdrup jongkhar	76.1	60.3	46.0	39.8	35.8	44.9	61.9	57.2	20.9	15.8	235
Samtse	85.5	55.7	64.5	47.3	52.4	53.2	64.8	67.7	29.2	18.5	524
Sarpang	86.3	75.9	72.5	64.6	57.1	55.3	61.2	65.8	33.0	26.0	314
Thimphu	96.0	81.5	73.3	62.4	71.7	72.9	86.8	87.6	54.5	39.7	763
Trashigang	89.2	45.9	76.2	42.0	60.4	35.8	63.2	59.1	23.3	6.2	230
Trashiyangtse	76.4	60.9	63.3	50.4	41.3	45.5	64.0	56.7	23.9	17.3	85
Trongsa	86.9	70.4	77.0	64.2	51.8	41.4	71.3	74.7	24.3	21.8	81
Tsirang	66.3	54.1	59.9	51.9	41.4	43.7	50.5	50.0	26.0	20.0	169
Wangdue	81.2	22.8	71.2	20.3	29.3	33.1	46.9	49.8	12.1	4.3	164
Zhemgang	95.3	84.7	86.7	77.8	67.1	50.0	83.3	68.0	29.1	24.9	105

Contd. TABLE HA.2: KNOWLEDGE ABOUT HIV TRANSMISSION, MISCONCEPTIONS ABOUT HIV/AIDS AND CONPREHENSIVE KNOWLEDGE ABOUT TRANSMISSION AMONG YOUNG PEOPLE

Percentage of young women age 15-24 years who know the main ways of preventing HIV transmission, percentage who know that a healthy looking person can have the AIDS virus, percentage who reject common misconceptions about HIV/AIDS and percentage who have comprehensive knowledge about HIV transmission, Bhutan, 2010

| | Percentage who have heard of AIDS | Percentage who know transmission can be prevented by: | | Percentage of women who know both ways | Percentage who know that a healthy looking person can have the AIDS virus | Percentage who know that HIV cannot be transmitted by: | | | Percentage who reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus | Percentage with comprehensive knowledge [1] | Number of women age 15-24 |
		Having only one faithful uninfected sex partner	Using a condom every time			Mosquito bites	Supernatural means	Sharing food with someone with AIDS			
Region											
Western	90.2	69.9	70.0	57.9	60.0	56.2	75.6	75.3	37.1	26.8	2399
Central	82.8	58.5	69.9	51.2	51.4	44.8	60.6	60.9	25.5	17.3	1106
Eastern	85.7	57.1	66.7	47.5	44.0	42.5	67.6	62.6	21.9	11.5	1050
Area											
Urban	95.2	73.5	74.5	60.1	64.3	66.3	81.9	84.1	44.6	31.6	1635
Rural	83.0	59.0	66.2	50.4	48.6	41.3	63.5	60.4	23.0	15.1	2920
Age											
15-19	88.2	65.9	69.6	55.1	56.2	52.2	70.2	68.8	32.0	21.9	2052
20-24	86.7	62.8	68.8	52.9	52.6	48.7	70.0	69.0	29.7	20.3	2502
Marital status											
Ever married/in union	83.4	59.5	67.2	50.5	49.0	42.5	65.3	62.6	24.1	16.6	1991
Never married/in union	90.4	67.9	70.7	56.6	58.3	56.3	73.8	73.8	35.9	24.4	2563
Education											
None	73.6	51.2	56.3	42.5	39.4	30.9	52.3	48.1	14.3	9.5	1706
Primary	84.2	58.4	65.6	48.6	47.1	37.5	66.3	59.2	20.3	12.2	643
Secondary +	99.0	75.9	80.2	64.3	67.8	69.0	85.0	87.8	46.5	32.4	2205
Wealth index quintiles											
Poorest	72.0	51.1	54.7	42.4	37.5	29.8	49.0	43.3	12.7	7.2	718
Second	78.4	53.8	63.9	48.0	43.5	33.0	59.3	52.1	16.9	11.0	737
Middle	87.6	62.3	70.2	52.7	53.0	43.5	68.3	65.4	25.5	17.0	839
Fourth	93.5	71.1	75.9	61.0	58.5	60.4	78.9	80.4	38.5	28.4	1055
Richest	96.5	73.6	74.5	59.1	67.9	68.9	82.8	86.8	46.9	31.6	1207
Total	**87.4**	**64.2**	**69.2**	**53.9**	**54.2**	**50.3**	**70.1**	**68.9**	**30.8**	**21.0**	**4555**

[1] MICS indicator 9.2; MDG indicator 6.3

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

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Table HA.1 and HA.2 also present the percent of women who can correctly identify misconceptions concerning HIV. The indicator is based on the two most common and relevant misconceptions in Bhutan, that HIV can be transmitted by sharing food and mosquito bites. The table also provides information on whether women know that HIV cannot be transmitted by supernatural means. Of the interviewed women aged 15-49, 25.6 percent reject the two most common misconceptions and know that a healthy-looking person can be infected. While as many as 62.4 percent of women reject the misconception that HIV can be transmitted by sharing food, a significantly lower 43.2 percent reject the misconception that HIV can be transmitted by mosquito bites.

Figure HA.1: Percentage of women aged 15-49 years with comprehensive knowledge about HIV/AIDS by different background characteristics, Bhutan 2010.
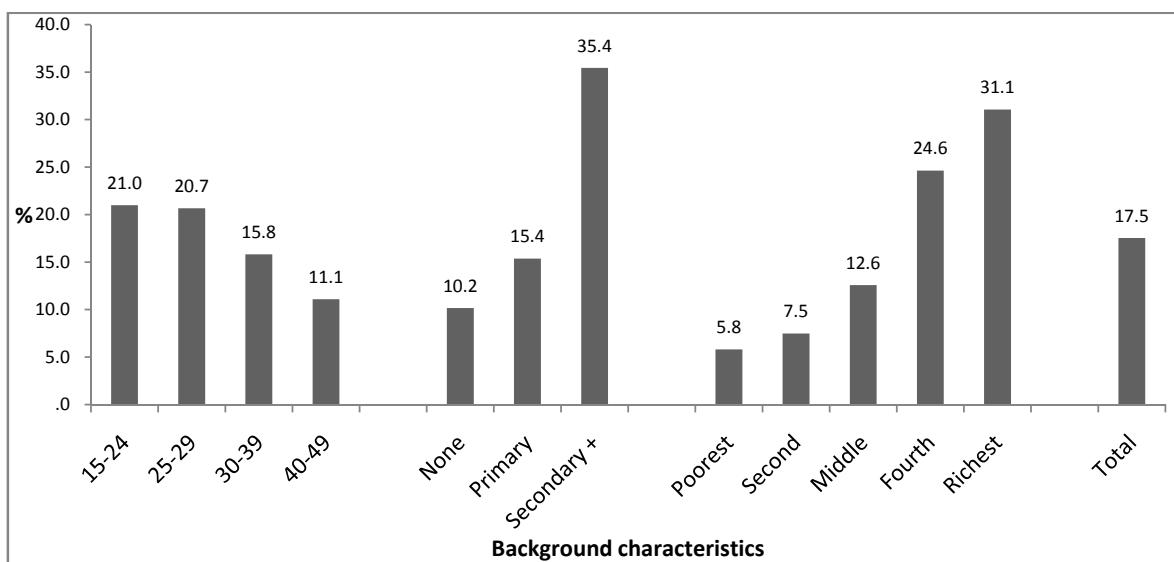
Knowledge of mother-to-child transmission of HIV is also an important first step for women to seek HIV testing when they are pregnant to avoid infection in the baby. Women should know that HIV can be transmitted during pregnancy, delivery, and through breastfeeding. The level of knowledge among women aged 15-49 years concerning mother-to-child transmission is presented in Table HA.3. Overall, 80.5 percent of women know that HIV can be transmitted from mother to child. The percentage of women who know all three ways of mother-to-child transmission is 56.2 percent, while 3.2 percent of women did not know of any specific way. There is a strong positive relationship between women's knowledge of mother-to child-transmission of HIV and their education and household wealth. Knowledge of all three ways of mother-to-child transmission varies by age with highest levels of knowledge among 25-29 years old (60.3%) and lowest among 40-49 years old (50%). It also varies considerably between urban and rural areas (61.3% versus 53.8%), by wealth (60% for the richest quintile compared with 45.7 percent for the poorest quintile) and by education (64.4% for women with secondary or higher education compared with 52.2 percent for women with no education).

TABLE HA.3: KNOWLEDGE OF MOTHER-TO-CHILD HIV TRANSMISSION

Percentage of women age 15-49 years who correctly identify means of HIV transmission from mother to child, Bhutan, 2010

	Percentage who know HIV can be transmitted from mother to child	Percent who know HIV can be transmitted:				Does not know any of the specific means	Number of women
		During pregnancy	During delivery	By breastfeeding	All three means [1]		
Dzongkhag							
Bumthang	98.1	97.1	92.5	91.7	87.0	1.1	337
Chukha	70.6	66.1	56.2	55.0	42.4	6.0	1550
Dagana	70.0	69.3	59.2	59.4	51.8	3.7	509
Gasa	81.2	79.7	66.9	75.8	63.4	1.4	107
Haa	98.2	95.7	81.5	86.3	74.9	.9	282
Lhuntse	70.8	68.5	54.8	60.3	49.9	2.3	307
Mongar	86.8	81.3	72.8	74.0	62.2	4.2	926
Paro	92.9	90.0	66.5	75.7	54.6	2.4	799
Pemagatshel	87.1	86.0	55.5	77.3	49.8	1.5	489
Punakha	83.7	81.9	77.5	71.5	67.1	1.7	506
Samdrup jongkhar	67.4	64.6	58.9	60.0	53.7	1.6	775
Samtse	75.2	68.4	53.8	56.0	39.2	6.0	1562
Sarpang	78.4	74.5	57.0	62.0	48.0	5.4	924
Thimphu	92.1	90.6	66.7	85.0	65.6	.6	2054
Trashigang	77.4	75.5	72.9	72.7	69.1	3.8	940
Trashiyangtse	69.1	65.8	61.8	65.5	58.0	2.0	301
Trongsa	87.8	84.2	68.2	70.5	56.5	2.2	294
Tsirang	55.6	53.3	47.2	47.3	43.0	2.6	463
Wangdue	80.0	77.6	69.7	70.1	62.3	2.9	562
Zhemgang	93.3	92.3	91.7	83.2	81.7	2.3	331

Percentage of women age 15-49 years who correctly identify means of HIV transmission from mother to child, Bhutan, 2010

	Percentage who know HIV can be transmitted from mother to child	Percent who know HIV can be transmitted:				Does not know any of the specific means	Number of women
		During pregnancy	During delivery	By breastfeeding	All three means [1]		
Region							
Western	82.9	79.3	62.8	69.4	53.6	3.4	6861
Central	78.5	76.2	65.9	66.7	58.1	3.3	3420
Eastern	77.7	74.7	65.3	69.4	59.2	2.9	3736
Residence							
Urban	90.6	88.0	69.5	77.1	61.3	2.5	4448
Rural	75.8	72.3	61.8	64.9	53.8	3.6	9570
Age group							
15-24	83.9	81.0	65.7	71.7	58.1	3.5	4555
25+	78.8	75.5	63.5	67.3	55.2	3.1	9463
Age group							
15-19	84.5	81.3	64.3	70.9	56.3	3.7	2052
20-24	83.4	80.8	66.8	72.4	59.6	3.2	2502
25-29	85.1	81.2	69.4	72.8	60.3	2.7	2721
30-39	79.9	76.5	64.2	67.8	55.3	3.2	4075
40-49	70.7	68.2	56.5	61.0	50.0	3.4	2668
Marital status							
Ever married/in union	79.1	75.9	64.0	68.1	56.1	3.1	10939
Never married/in union	85.4	82.2	65.0	71.2	56.4	3.8	3079
Education							
None	72.7	69.5	59.0	63.5	52.2	3.5	8585
Primary	84.3	80.5	66.8	71.6	57.9	3.7	1687
Secondary +	96.6	93.9	75.0	79.5	64.4	2.4	3746
Wealth index quintiles							
Poorest	62.8	58.6	51.4	54.6	45.7	3.7	2419
Second	71.2	68.6	59.6	62.4	53.1	3.4	2533
Middle	81.2	78.1	66.8	71.0	59.0	3.3	2659
Fourth	88.3	84.9	69.1	75.5	60.4	3.1	3040
Richest	92.5	89.8	70.4	75.8	60.0	2.9	3367
Total	**80.5**	**77.3**	**64.2**	**68.8**	**56.2**	**3.2**	**14018**

[1] MICS indicator 9.3

Accepting Attitudes toward People Living with HIV/AIDS

The indicators on attitudes toward people living with HIV measure stigma and discrimination in the community. Stigma and discrimination are low if respondents report an accepting attitude on the following four questions: 1) would care for family member sick with AIDS; 2) would buy fresh vegetables from a vendor who was HIV positive; 3) thinks that a female teacher who is HIV positive should be allowed to teach in school; and 4) would not want to keep HIV status of a family member a secret. Table HA.4 presents the attitudes of women towards people living with HIV/AIDS. In Bhutan, 97.7 percent of women who have heard of AIDS agree with at least one accepting attitude. The most common accepting attitude is willingness to care for a family member with the AIDS virus in their own home (86.9 %). Women with higher education and those from richest households have more accepting attitudes than the ones with lower education and a poorer wealth status. Women in the Western region have more accepting attitudes than women from the other two regions and women from urban areas have more accepting attitudes than women from rural areas.

TABLE HA.4: ACCEPTING ATTITUDES TOWARD PEOPLE LIVING WITH HIV/AIDS

Percentage of women age 15-49 years who have heard of AIDS who express an accepting attitude towards people living with HIV/AIDS, Bhutan, 2010

	Percent of women who:						
	Are willing to care for a family member with the AIDS virus in own home	Would buy fresh vegetables from a shopkeeper or vendor who has the AIDS virus	Believe that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Agree with at least one accepting attitude	Express accepting attitudes on all four indicators [1]	Number of women who have heard of AIDS
Dzongkhag							
Bumthang	54.7	78.0	76.6	58.7	97.5	23.6	335
Chukha	86.2	64.1	59.9	53.9	95.7	26.5	1188
Dagana	87.2	48.4	57.3	58.5	98.5	22.2	375
Gasa	94.1	76.6	57.0	56.0	98.3	34.1	89
Haa	91.4	75.6	77.9	61.3	97.6	44.9	280
Lhuntse	97.7	74.9	74.4	52.8	100.0	42.5	224
Mongar	92.3	58.2	51.0	58.9	97.9	21.3	843
Paro	94.8	67.1	66.1	44.7	98.5	23.8	761
Pemagatshel	72.6	71.3	77.2	46.1	94.9	22.7	433
Punakha	90.1	67.9	67.9	58.2	99.3	28.6	432
Samdrup jongkhar	66.5	69.6	65.6	76.5	97.9	29.9	535
Samtse	91.0	64.3	60.6	68.2	98.8	31.0	1268
Sarpang	75.4	63.1	75.1	64.7	98.1	31.2	774
Thimphu	95.7	78.5	68.8	54.3	98.7	36.1	1904
Trashigang	76.2	38.2	46.7	44.1	92.3	10.0	763
Trashiyangtse	76.7	55.6	40.4	68.2	99.3	22.8	214
Trongsa	89.1	73.5	73.0	53.0	98.4	30.2	264
Tsirang	97.3	64.1	54.0	61.8	99.3	29.6	269
Wangdi	98.7	64.2	59.5	62.6	100.0	29.6	466
Zhemgang	90.5	52.5	41.2	59.8	97.8	19.2	316

Percentage of women age 15-49 years who have heard of AIDS who express an accepting attitude towards people living with HIV/AIDS, Bhutan, 2010

	Percent of women who:						
	Are willing to care for a family member with the AIDS virus in own home	Would buy fresh veg-etables from a shopkeeper or vendor who has the AIDS virus	Believe that a female teacher with the AIDS vi-rus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Agree with at least one accept-ing attitude	Express accepting attitudes on all four indicators [1]	Number of women who have heard of AIDS
Region							
Western	92.0	70.2	65.1	56.6	98.1	31.3	5922
Central	83.5	63.0	64.2	60.9	98.5	27.2	2800
Eastern	80.1	58.1	57.3	56.6	96.3	21.9	3012
Residence							
Urban	91.1	78.4	72.7	54.9	98.1	35.7	4142
Rural	84.7	58.2	57.5	59.1	97.5	23.7	7592
Age group							
15-24	89.5	69.0	67.3	54.7	98.5	29.7	3979
25+	85.6	63.5	60.6	59.1	97.3	27.0	7755
Age group							
15-19	90.4	65.9	68.5	52.9	98.5	28.7	1810
20-24	88.7	71.5	66.3	56.2	98.5	30.5	2169
25-29	86.7	69.8	66.0	55.3	97.7	29.3	2390
30-39	85.8	63.5	60.6	60.1	97.4	28.0	3388
40-49	84.2	55.9	54.1	62.1	96.7	22.6	1977
Marital status							
Ever married/in union	85.7	63.9	60.7	59.0	97.5	27.1	8985
Never married/in union	91.0	70.2	70.0	53.3	98.6	30.7	2749
Education							
None	83.2	56.6	53.3	60.1	96.8	22.7	6540
Primary	87.7	65.2	65.8	57.0	98.3	28.3	1486
Secondary +	93.2	80.9	78.6	53.6	99.0	36.9	3708
Wealth index quintiles							
Poorest	78.9	43.5	42.7	60.3	95.8	16.1	1609
Second	81.9	54.7	53.7	61.4	96.9	20.9	1890
Middle	84.8	59.3	58.3	58.7	98.0	24.6	2245
Fourth	90.6	75.2	71.7	59.0	98.4	35.5	2778
Richest	92.3	78.3	73.9	52.1	98.4	33.8	3212
Total	**86.9**	**65.4**	**62.9**	**57.6**	**97.7**	**27.9**	**11734**

[1]MICS indicator 9.4

Knowledge of a Place for HIV Testing, Counselling and Testing during Antenatal Care

Another important indicator is the knowledge of where to be tested for HIV and the use of such services. In order to protect themselves and to prevent infecting others, it is important for individuals to know their HIV status. Knowledge of one's status is also a critical factor in the decision to seek treatment. Questions related to knowledge among women of a facility for HIV testing and whether they have ever been tested is presented in Table HA.5. 54.5 percent of women knew where to be tested, while 25.6 percent reported to have actually been tested. Women aged 15-19 years are less likely to get tested 7.1 comparing to their older peers. Women who live in better economic conditions and in urban areas have greater knowledge of places where they can get an HIV test. Of the smaller number of women who have been tested, only 9.8 percent of them have been told the result. Only 11.8 percent of women have been tested in the last 12 months.

TABLE HA.5: KNOWLEDGE OF A PLACE FOR HIV TESTING

Percentage of women age 15-49 years who know where to get an HIV test, percentage of women who have ever been tested, percentage of women who have been tested in the last 12 months, and percentage of women who have been tested and have been told the result, Bhutan, 2010

	Percentage of women who:				Number of women
	Know a place to get tested [1]	Have ever been tested	Have been tested in the last 12 months	Have been tested and have been told result [2]	
Dzongkhag					
Bumthang	69.0	35.6	12.9	9.2	337
Chukha	39.4	18.7	8.8	7.6	1550
Dagana	34.9	23.8	8.8	7.5	509
Gasa	67.8	39.6	20.9	16.6	107
Haa	60.6	20.3	12.1	8.3	282
Lhuntse	56.2	37.3	17.6	17.2	307
Mongar	68.9	45.0	14.5	11.8	926
Paro	52.8	31.8	12.1	9.8	799
Pemagatshel	64.1	36.8	20.5	19.1	489
Punakha	46.7	19.2	13.6	10.5	506
Samdrup jongkhar	39.3	18.5	6.9	6.0	775
Samtse	58.7	21.9	10.8	9.7	1562
Sarpang	66.8	22.8	11.6	7.4	924
Thimphu	72.0	30.8	15.0	12.7	2054
Trashigang	37.8	15.2	10.1	9.9	940
Trashiyangtse	42.9	18.6	7.4	7.0	301
Trongsa	56.8	34.9	11.6	8.1	294
Tsirang	48.6	15.0	8.5	8.0	463
Wangdue	41.3	17.3	9.3	7.1	562
Zhemgang	51.4	28.3	12.4	6.7	331
Region					
Western	57.0	25.0	12.2	10.2	6861
Central	53.2	23.8	10.6	7.6	3420
Eastern	51.2	28.2	12.3	11.1	3736

Contd. TABLE HA.5: KNOWLEDGE OF A PLACE FOR HIV TESTING

Percentage of women age 15-49 years who know where to get an HIV test, percentage of women who have ever been tested, percentage of women who have been tested in the last 12 months, and percentage of women who have been tested and have been told the result, Bhutan, 2010

	Percentage of women who:				Number of women
	Know a place to get tested [1]	Have ever been tested	Have been tested in the last 12 months	Have been tested and have been told result [2]	
Residence					
Urban	69.0	30.9	13.7	11.6	4448
Rural	47.8	23.1	10.9	9.0	9570
Age					
15-19	46.3	7.1	4.2	3.5	2052
20-24	58.5	27.7	14.5	11.1	2502
25-29	64.7	37.6	19.1	15.3	2721
30-34	59.8	31.6	12.8	10.4	2219
35-39	52.6	27.1	11.8	10.8	1856
40-44	46.3	20.8	7.5	7.3	1561
45-49	39.7	17.6	6.4	6.3	1106
Marital status					
Ever married/in union	55.8	30.9	14.1	11.6	10939
Never married/in union	50.1	6.5	3.7	3.7	3079
Wealth index quintiles					
Poorest	35.7	18.4	7.4	6.0	2419
Second	44.3	22.2	10.5	8.9	2533
Middle	50.5	24.7	11.6	9.4	2659
Fourth	62.4	28.6	13.8	11.3	3040
Richest	71.9	31.1	14.4	12.3	3367
Total	**54.5**	**25.6**	**11.8**	**9.8**	**14018**

[1] MICS indicator 9.5

[2] MICS indicator 9.6

Table HA.6 presents the same results for sexually active young women from 15-24 years old. The proportion of young women who have been tested and have been told the result provides a measure of the effectiveness of interventions that promote HIV counselling and testing among young people. This is important to know, because young people may feel that there are barriers to accessing services related to sensitive issues, such as sexual health. Just over four out of ten women aged 15-24 have had sex in the last 12 months and among them, more than half (57.5%) knew a place to get tested, while 34.5 percent had never been tested. A lower 18.2 percent had been tested in the last 12 months, and 13.3 percent had been both tested and told the result. Thus the majority having been tested were also told the result. The highest percent of women tested during the last 12 months is observed in Gasa, Pemagatshel, Haa and Thimphu dzongkhags

TABLE HA.6: KNOWLEDGE OF PLACE FOR HIV TESTING AMONG SEXUALLY ACTIVE YOUNG WOMEN

Percentage of women age 15-24 years who have had sex in the last 12 months, and among women who have had sex in the last 12 months, the percentage who know where to get an HIV test,percentage of women who have ever been tested,percentage of women who have been tested in the last 12 months, and percentage of women who have been tested and have been told the result, Bhutan, 2010

| | Percentage who have had sex in the last 12 months | Number of women age 15-24 years | Percentage of women who: | | | | Number of women age 15-24 years who have had sex in the last 12 months |
			Know a place to get tested	Have ever been tested	Have been tested in the last 12 months	Have been tested and have been told result [1]	
Dzongkhag							
Bumthang	(38.5)	109	82.6	59.7	25.5	14.4	42
Chukha	32.8	565	45.7	21.1	10.0	5.3	185
Dagana	52.2	164	33.5	20.2	9.9	7.6	86
Gasa	*	32	73.0	61.6	38.7	22.5	23
Haa	(41.1)	85	68.2	39.3	29.5	16.9	35
Lhuntse	(43.1)	92	61.7	39.0	21.1	20.0	40
Mongar	59.8	278	69.1	43.0	23.6	18.1	166
Paro	37.6	286	67.7	53.4	23.1	14.6	108
Pemagatshel	51.2	129	64.8	45.9	32.1	30.3	66
Punakha	36.4	144	46.8	29.0	22.2	15.6	52
Samdrup jongkhar	55.5	235	44.9	27.4	12.8	10.6	130
Samtse	42.8	524	52.9	25.5	13.1	11.5	224
Sarpang	38.1	314	68.7	29.9	18.2	8.9	119
Thimphu	29.4	763	80.5	57.4	27.0	20.5	225
Trashigang	63.0	230	38.5	18.3	12.5	12.5	145
Trashiyangtse	(49.5)	85	42.7	13.4	3.9	3.9	42
Trongsa	(49.3)	81	60.5	39.2	12.2	4.9	40
Tsirang	37.0	169	51.3	25.8	19.0	17.0	63
Wangdue	51.9	164	52.6	32.0	15.3	10.1	85
Zhemgang	58.3	105	50.6	31.8	18.8	8.4	61

Percentage of women age 15-24 years who have had sex in the last 12 months, and among women who have had sex in the last 12 months, the percentage who know where to get an HIV test, percentage of women who have ever been tested, percentage of women who have been tested in the last 12 months, and percentage of women who have been tested and have been told the result, Bhutan, 2010

	Percentage who have had sex in the last 12 months	Number of women age 15-24 years	Percentage of women who:				Number of women age 15-24 years who have had sex in the last 12 months
			Know a place to get tested	Have ever been tested	Have been tested in the last 12 months	Have been tested and have been told result [1]	
Region							
Western	35.5	2399	61.3	38.3	19.3	13.7	852
Central	44.8	1106	55.9	31.5	16.6	10.0	496
Eastern	56.2	1050	53.4	31.4	17.8	15.5	589
Residence							
Urban	32.3	1635	75.9	47.7	22.8	16.8	528
Rural	48.3	2920	50.6	29.5	16.4	12.0	1410
Age							
15-19	16.4	2052	40.4	20.7	14.5	10.4	338
20-24	63.9	2502	61.1	37.4	18.9	13.9	1600
Marital status							
Ever married/in union	94.7	1991	57.6	35.1	18.4	13.5	1886
Never married/in union	2.0	2563	53.1	10.3	8.0	8.0	51
Education							
None	64.6	1706	44.1	26.8	14.5	10.6	1103
Primary	47.4	643	62.0	35.1	18.0	13.6	305
Secondary +	24.0	2205	82.7	50.1	25.8	18.7	530
Wealth index quintiles							
Poorest	53.8	718	37.4	22.4	11.4	8.4	387
Second	53.6	737	46.7	25.5	17.0	13.1	395
Middle	51.3	839	57.0	35.9	17.4	12.1	430
Fourth	43.7	1055	69.6	41.8	23.5	16.8	461
Richest	21.9	1207	82.6	50.3	21.8	16.6	264
Total	42.5	4555	57.5	34.5	18.2	13.3	1938

[1] MICS indicator 9.7

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Among women aged 15-49 years who had given birth within the two years preceding the survey, the percentage who received counselling and HIV testing during antenatal care is presented in Table HA.7. 97.3 percent of women received antenatal care from a health care professional for the last pregnancy, but only 53.9 percent received counselling about HIV prevention during antenatal care. Among young women aged 15-24 years even fewer received counselling at 51.8 percent. Women with higher education and from wealthier households were more likely to receive counselling about HIV than poorer and less educated women. Rural women were significantly less likely to receive counselling (48.4%) than urban women (67.4%). Women, who received HIV counselling, were offered an HIV test, accepted the test and received the result account to 33.8 percent. This is a more refined measure of the quality of health services.

TABLE HA.7: HIV COUNSELING AND TESTING DURING ANTENATAL CARE

Among women age 15-49 who gave birth in the last 2 years, percentage of women who received antenatal care from a health professional during the last pregnancy, percentage who received HIV counselling, percentage who were offered and accepted an HIV test and received the results, Bhutan, 2010

	Percent of women who:					Number of women who gave birth in the 2 years preceding the survey
	Received antenatal care from a health care professional for last pregnancy	Received HIV counselling during antenatal care [1]	Were offered an HIV test and were tested for HIV during antenatal care	Were offered an HIV test and were tested for HIV during antenatal care, and received the results [2]	Received HIV counselling, were offered an HIV test, accepted and received the results	
Dzongkhag						
Bumthang	97.5	77.5	72.7	57.6	50.6	69
Chukha	98.0	35.5	44.5	38.3	27.7	223
Dagana	97.7	34.1	27.9	18.6	10.2	100
Gasa	(89.2)	(55.8)	(63.1)	(42.5)	(35.9)	28
Haa	(97.6)	(64.6)	(47.8)	(43.1)	(39.8)	43
Lhuntse	(95.7)	(49.7)	(34.3)	(25.5)	(23.1)	47
Mongar	99.3	55.2	60.2	53.2	38.4	186
Paro	98.9	74.8	71.3	62.1	56.4	146
Pemagatshel	84.8	42.1	22.4	14.4	10.4	94
Punakha	98.0	53.8	40.4	37.7	27.1	100
Samdrup jongkhar	98.4	51.2	33.9	27.8	23.6	163
Samtse	99.2	27.6	28.8	20.9	13.5	221
Sarpang	100.0	63.9	46.9	34.2	30.2	132
Thimphu	98.4	82.3	77.4	75.1	73.7	298
Trashigang	94.7	43.9	27.1	26.6	22.2	161
Trashiyangtse	94.8	39.9	32.8	28.8	24.5	60
Trongsa	97.6	62.0	57.6	45.0	35.8	50
Tsirang	99.3	43.1	35.7	32.6	27.0	62
Wangdue	99.3	52.2	40.7	38.1	27.9	103
Zhemgang	91.9	70.6	42.5	30.1	28.3	82

Among women age 15-49 who gave birth in the last 2 years, percentage of women who received antenatal care from a health professional during the last pregnancy, percentage who received HIV counselling, percentage who were offered and accepted an HIV test and received the results, Bhutan, 2010

	Percent of women who:					
	Received antenatal care from a health care professional for last pregnancy	Received HIV counselling during antenatal care [1]	Were offered an HIV test and were tested for HIV during antenatal care	Were offered an HIV test and were tested for HIV during antenatal care, and received the results [2]	Received HIV counselling, were offered an HIV test, accepted and received the results	Number of women who gave birth in the 2 years preceding the survey
Region						
Western	98.2	55.9	54.4	48.5	42.3	1059
Central	97.8	57.1	44.8	35.1	28.7	598
Eastern	95.5	48.3	37.6	32.3	25.5	711
Residence						
Urban	99.1	67.4	66.2	60.7	54.2	690
Rural	96.6	48.4	39.0	31.9	25.4	1678
Young women						
15-24	97.6	51.8	44.9	38.7	32.9	858
Age						
15-19	97.1	42.5	27.8	20.7	16.5	140
20-24	97.7	53.6	48.2	42.3	36.1	718
25-29	97.4	59.5	53.5	46.1	38.7	781
30-34	98.2	53.8	47.6	40.1	33.7	427
35-49	94.8	45.7	34.8	29.8	23.8	302
Education						
None	96.5	46.0	35.6	28.2	22.8	1484
Primary	98.8	55.7	50.2	40.8	34.5	302
Secondary +	98.5	73.2	74.2	70.9	61.6	582
Wealth index quintiles						
Poorest	95.7	36.2	24.1	18.1	12.6	471
Second	95.0	47.2	33.8	27.2	21.3	448
Middle	97.5	56.0	46.4	37.2	33.2	475
Fourth	99.2	59.3	57.4	49.9	42.3	518
Richest	98.8	70.7	72.2	68.4	58.9	455
Total	**97.3**	**53.9**	**46.9**	**40.3**	**33.8**	**2368**

[1] MICS indicator 9.8

[2] MICS indicator 9.9

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases
* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

* The background characteristics marital status has been deleted as Never/in union had only 16 unweighted cases

Sexual Behaviour Related to HIV Transmission

Promoting safer sexual behaviour is critical for reducing HIV prevalence. The use of condoms during sex, especially with non-regular partners, is especially important for reducing the spread of HIV. In most countries over half of new HIV infections are among young people aged 15-24 years, thus a change in behaviour among this age group will be especially important to reduce new infections. A module of questions was administered to women aged 15-24 years to assess their risk of HIV infection. Risk factors for HIV include sex at an early age, sex with older men, sex with a non-marital non-cohabitating partner, and failure to use a condom.

TABLE HA.8: SEXUAL BEHAVIOUR THAT INCREASES THE RISK OF HIV INFECTION

Percentage of never-married young women age 15-24 years who have never had sex, percentage of young women age 15-24 years who have had sex before age 15, and percentage of young women age 15-24 years who had sex with a man 10 or more years older during the last 12 months, Bhutan, 2010

	Percentage of never-married women age 15-24 years who have never had sex [1]	Number of never-married women age 15-24 years	Percentage of women age 15-24 years who had sex before age 15 [2]	Number of women age 15-24 years	Percentage of women age 15-24 years who had sex in the last 12 months with a man 10 or more years older [3]	Number of women age 15-24 years who had sex in the 12 months preceding the survey
Dzongkhag						
Bumthang	92.7	62	.8	109	(14.3)	42
Chukha	98.1	378	2.6	565	13.5	185
Dagana	99.0	75	5.1	164	8.3	86
Gasa	*	11	(2.6)	32	*	23
Haa	(100.0)	47	3.3	85	(16.9)	35
Lhuntse	(93.2)	49	3.2	92	(11.2)	40
Mongar	78.7	124	7.8	278	6.6	166
Paro	96.9	178	.9	286	12.6	108
Pemagatshel	95.6	58	4.9	129	20.9	66
Punakha	92.3	89	1.4	144	15.5	52
Samdrup jongkhar	96.2	97	6.4	235	17.4	130
Samtse	100.0	298	7.3	524	21.3	224
Sarpang	98.4	188	2.3	314	9.9	119
Thimphu	99.5	528	1.1	763	10.9	225
Trashigang	87.6	84	6.8	230	13.9	145
Trashiyangtse	(92.6)	42	2.3	85	(7.6)	42
Trongsa	(90.6)	41	6.1	81	(7.8)	40
Tsirang	100.0	97	1.7	169	20.0	63
Wangdue	96.4	75	1.1	164	12.6	85
Zhemgang	(94.7)	41	6.6	105	10.6	61

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TABLE HA.8: SEXUAL BEHAVIOUR THAT INCREASES THE RISK OF HIV INFECTION

Percentage of never-married young women age 15-24 years who have never had sex, percentage of young women age 15-24 years who have had sex before age 15, and percentage of young women age 15-24 years who had sex with a man 10 or more years older during the last 12 months, Bhutan, 2010

	Percentage of never-married women age 15-24 years who have never had sex [1]	Number of never-married women age 15-24 years	Percentage of women age 15-24 years who had sex before age 15 [2]	Number of women age 15-24 years	Percentage of women age 15-24 years who had sex in the last 12 months with a man 10 or more years older [3]	Number of women age 15-24 years who had sex in the 12 months preceding the survey
Region						
Western	98.3	1529	2.9	2399	14.8	852
Central	97.1	580	3.0	1106	11.7	496
Eastern	89.1	454	6.1	1050	12.8	589
Residence						
Urban	98.5	1096	1.3	1635	15.9	528
Rural	94.8	1467	5.0	2920	12.4	1410
Age						
15-19	97.8	1719	2.2	2052	12.5	338
20-24	93.5	845	4.9	2502	13.5	1600
Marital status						
Ever married/in union	na	0	7.9	1991	13.7	1886
Never married/in union	96.4	2563	.4	2563	1.3	51
Education						
None	91.9	571	7.9	1706	14.4	1103
Primary	95.1	328	4.1	643	16.4	305
Secondary +	98.2	1664	.3	2205	9.4	530
Wealth index quintiles						
Poorest	90.7	329	8.4	718	7.7	387
Second	92.4	326	5.1	737	11.3	395
Middle	95.5	387	5.1	839	13.3	430
Fourth	97.5	588	2.1	1055	17.5	461
Richest	99.5	933	.3	1207	17.7	264
Total	**96.4**	**2563**	**3.7**	**4555**	**13.4**	**1938**

[1] MICS indicator 9.10

[2] MICS indicator 9.11

[3] MICS indicator 9.12

* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

The frequency of sexual behaviours that increase the risk of HIV infection among women is presented in Table HA.8 and Figure HA.2. While 96.4 percent of never-married young women aged 15-24 never had sex, 3.7 percent of all young women aged 15-24 had sex before the age of fifteen. Of the women aged 15-24 who had sex in the 12 months preceding the survey, 13.4 percent had sex in the last 12 months with a man 10 or more years older. The percentage of never-married young women having had sex and the percentage of all young women having had sex before the age of 15, is significantly higher in rural areas compared to urban areas and in the Eastern region compared to the Western and Central regions. High levels are found in the Dzongkhags of Mongar and Trashigang among others. Furthermore, the percentage decreases with education and household wealth. In contrast, the percentage of young women having had sex with a man 10 or more years older increases with household wealth and is higher among women with primary education (16. 4%) compared to women with no education or secondary or higher education.

Figure HA.2: Percentage of women aged 15-24 years who had sex before age 15 and who had sex in the last 12 months with a man 10 or more years older, Bhutan 2010.
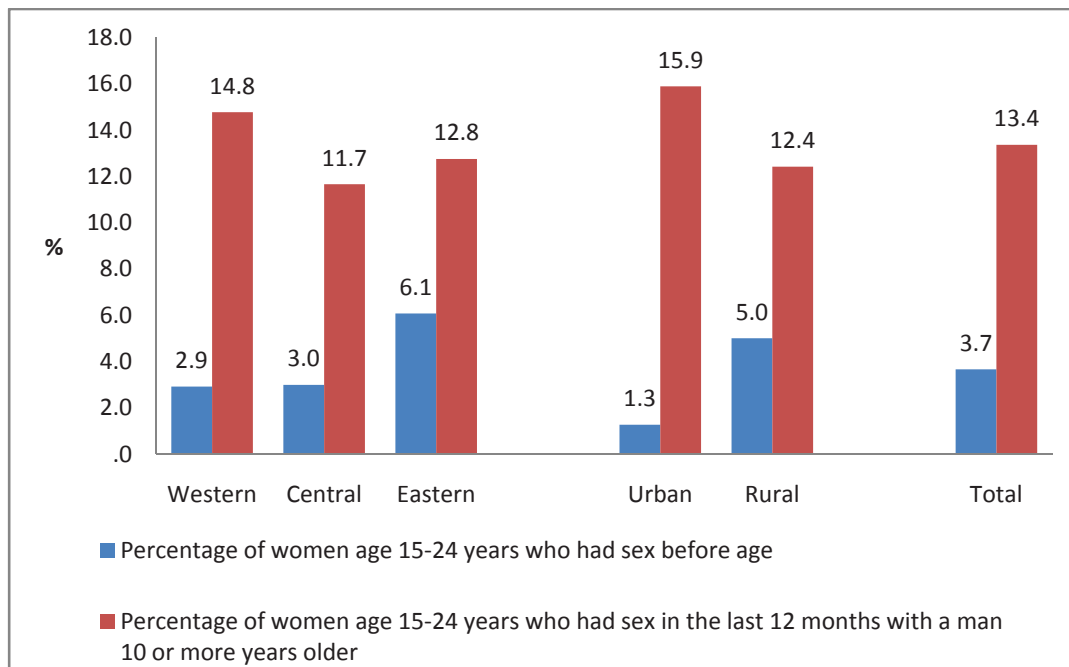
Sexual behaviour and sex with more than one partner was assessed in all women and separately for women of 15-24 years of age who had sex with such a partner in the previous year (Tables HA.9 and HA.10). Of the 71.3 percent of women aged 15-49 who had sex in the previous 12 months only 0.3 percent of women aged 15-49 had sex with more than one partner in the last 12 months.

Women who have had sex with more than one partner in the last 12 months were also asked if they used a condom the last time they had sex. About one in five (20.5%) of them reported of having used a condom the last time they had sex[17]

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[17] Although MICS indicator 9.14 cannot be shown on the table because of the low number of cases by background characteristics, there are enough (more than 50) unweighted cases to report it at national level.

TABLE HA.9: SEX WITH MULTIPLE PARTNERS

Percentage of women age 15-49 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with more than one partner in the last 12 months and among those who had sex with multiple partners, the percentage who used a condom at last sex, Bhutan, 2010

	Percentage of women who:			Number of women age 15-49 years
	Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months [1]	
Dzongkhag				
Bumthang	80.2	65.7	.8	337
Chukha	72.0	65.6	.0	1550
Dagana	83.1	76.8	.1	509
Gasa	92.0	84.5	1.3	107
Haa	79.4	70.4	.3	282
Lhuntse	83.1	72.1	.7	307
Mongar	88.0	76.2	1.0	926
Paro	75.4	62.5	.1	799
Pemagatshel	85.3	76.4	.3	489
Punakha	80.0	69.0	.6	506
Samdrup jongkhar	86.5	80.5	.9	775
Samtse	76.7	71.8	.0	1562
Sarpang	77.8	72.0	.0	924
Thimphu	69.7	64.5	.6	2054
Trashigang	90.2	82.0	.0	940
Trashiyangtse	83.2	73.3	.6	301
Trongsa	84.0	73.2	.3	294
Tsirang	75.6	69.1	.2	463
Wangdue	83.4	72.8	.2	562
Zhemgang	87.2	77.5	.5	331

Contd. TABLE HA.9: SEX WITH MULTIPLE PARTNERS				
Percentage of women age 15-49 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with more than one partner in the last 12 months and among those who had sex with multiple partners, the percentage who used a condom at last sex, Bhutan, 2010				
	Percentage of women who:			Number of women age 15-49 years
	Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months [1]	
Region				
Western	74.0	67.1	.3	6861
Central	80.9	72.5	.2	3420
Eastern	87.1	78.0	.6	3736
Residence				
Urban	72.1	67.2	.3	4448
Rural	82.5	73.2	.3	9570
Age				
15-24	45.7	42.5	.3	4555
25-29	89.9	83.3	.4	2721
30-39	97.0	87.5	.3	4075
40-49	98.1	83.5	.4	2668
Marital status				
Ever married/in union	100.0	90.7	.3	10939
Never married/in union	5.3	2.3	.3	3079
Education				
None	91.2	81.7	.4	8585
Primary	79.0	70.1	.2	1687
Secondary +	51.7	48.0	.2	3746
Wealth index quintiles				
Poorest	85.5	76.1	.5	2419
Second	85.0	74.6	.4	2533
Middle	82.9	72.4	.3	2659
Fourth	77.9	71.9	.3	3040
Richest	68.5	64.0	.2	3367
Total	**79.2**	**71.3**	**.3**	**14018**

[1]MICS indicator 9.13

Compared to women aged 15-49 (71.3%) a lesser percent of women aged 15-24 (42.5) had sex during the last 12 months. An equal percent of women (0.3) however, had sex with more than one partner. Overall, the proportion is very small to be able to draw any meaningful findings by background characteristics.

TABLE HA.10: SEX WITH MULTIPLE PARTNERS (YOUNG WOMEN)

Percentage of women age 15-24 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with more than one partner in the last 12 months and among those who had sex with multiple partners, the percentage who used a condom at last sex, Bhutan, 2010

	Percentage of women who:			Number of women age 15-24 years
	Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months [1]	
Dzongkhag				
Bumthang	46.8	38.5	.2	109
Chukha	34.3	32.8	.0	565
Dagana	54.6	52.2	.0	164
Gasa	(75.3)	(72.6)	(.0)	32
Haa	44.2	41.1	.0	85
Lhuntse	50.4	43.1	.0	92
Mongar	64.9	59.8	2.4	278
Paro	39.7	37.6	.0	286
Pemagatshel	57.2	51.2	.0	129
Punakha	42.8	36.4	.0	144
Samdrup jongkhar	60.0	55.5	.4	235
Samtse	43.2	42.8	.0	524
Sarpang	40.9	38.1	.0	314
Thimphu	31.2	29.4	.7	763
Trashigang	68.2	63.0	.0	230
Trashiyangtse	54.0	49.5	.0	85
Trongsa	53.8	49.3	1.2	81
Tsirang	42.0	37.0	.3	169
Wangdue	55.8	51.9	.0	164
Zhemgang	63.3	58.3	.0	105
Region				
Western	37.3	35.5	.2	2399
Central	49.0	44.8	.2	1106
Eastern	61.4	56.2	.7	1050
Residence				
Urban	33.9	32.3	.3	1635
Rural	52.3	48.3	.3	2920
Age				
15-19	18.0	16.4	.2	2052
20-24	68.4	63.9	.4	2502

Percentage of women age 15-24 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with more than one partner in the last 12 months and among those who had sex with multiple partners, the percentage who used a condom at last sex, Bhutan, 2010

	Percentage of women who:			Number of women age 15-24 years
	Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months [1]	
Marital status				
Ever married/in union	99.9	94.7	.3	1991
Never married/in union	3.6	2.0	.3	2563
Education				
None	69.2	64.6	.5	1706
Primary	51.4	47.4	.1	643
Secondary +	25.8	24.0	.2	2205
Wealth index quintiles				
Poorest	58.3	53.8	.9	718
Second	59.1	53.6	.0	737
Middle	55.9	51.3	.3	839
Fourth	45.6	43.7	.0	1055
Richest	23.1	21.9	.4	1207
Total	**45.7**	**42.5**	**.3**	**4555**

* Figures in parenthesis indicate that the percentage is based on just 25 to 49 unweighted cases

Table HA.11 presents the percentage of women aged 15-24 years who ever had sex, the percentage who had sex in the last 12 months, and percentage that have had sex with a non-marital, non-cohabiting partner in the last 12 months. Overall 1.4 percent of women aged 15-24 had sex with a non-marital and non-cohabiting partner in the last 12 months. The rate is higher in rural areas (1.6%) compared to urban areas (1%). Among the regions, the Eastern region reported the highest rate at 2.5 percent, whereas the Western region reported the lowest rate at 0.9 percent. The rate decreases with education and household wealth. Of the women aged 15-24 years who had sex with a non-marital, non-cohabiting partner in the last 12 months, 61.6 percent reported that a condom was used the last time they had sex with such a partner[18]

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[18] Although MICS indicator 9.16 cannot be shown on the table because of the low number of cases by background characteristics, there are enough (more than 50) unweighted cases to report it at national level.

TABLE HA.11: SEX WITH NON-REGULAR PARTNERS

Percentage of women age 15-24 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with a non-marital, non-cohabiting partner in the last 12 months and among those who had sex with a non-marital, non-cohabiting partner, the percentage who used a condom the last time they had sex with such a partner, Bhutan, 2010

	Percentage of women 15-24 who:		Number of women age 15-24 years	Percentage who had sex with a non-marital, non-cohabiting partner in the last 12 months [1]	Number of women age 15-24 years who had sex in the last 12 months
	Ever had sex	Had sex in the last 12 months			
Dzongkhag					
Bumthang	46.8	38.5	109	2.1	42
Chukha	34.3	32.8	565	1.0	185
Dagana	54.6	52.2	164	.0	86
Gasa	75.3	72.6	32	10.3	23
Haa	44.2	41.1	85	.3	35
Lhuntse	50.4	43.1	92	1.9	40
Mongar	64.9	59.8	278	5.4	166
Paro	39.7	37.6	286	1.0	108
Pemagatshel	57.2	51.2	129	.0	66
Punakha	42.8	36.4	144	1.7	52
Samdrup jongkhar	60.0	55.5	235	2.2	130
Samtse	43.2	42.8	524	.2	224
Sarpang	40.9	38.1	314	1.0	119
Thimphu	31.2	29.4	763	.7	225
Trashigang	68.2	63.0	230	.9	145
Trashiyangtse	54.0	49.5	85	2.0	42
Trongsa	53.8	49.3	81	4.0	40
Tsirang	42.0	37.0	169	.3	63
Wangdue	55.8	51.9	164	3.2	85
Zhemgang	63.3	58.3	105	1.2	61

Contd. TABLE HA.11: SEX WITH NON-REGULAR PARTNERS

Percentage of women age 15-24 years who ever had sex, percentage who had sex in the last 12 months, percentage who have had sex with a non-marital, non-cohabiting partner in the last 12 months and among those who had sex with a non-marital, non-cohabiting partner, the percentage who used a condom the last time they had sex with such a partner, Bhutan, 2010

	Percentage of women 15-24 who:		Number of women age 15-24 years	Percentage who had sex with a non-marital, non-cohabiting partner in the last 12 months [1]	Number of women age 15-24 years who had sex in the last 12 months
	Ever had sex	Had sex in the last 12 months			
Region					
Western	37.3	35.5	2399	.9	852
Central	49.0	44.8	1106	1.4	496
Eastern	61.4	56.2	1050	2.5	589
Residence					
Urban	33.9	32.3	1635	1.0	528
Rural	52.3	48.3	2920	1.6	1410
Age					
15-19	18.0	16.4	2052	1.3	338
20-24	68.4	63.9	2502	1.4	1600
Marital status					
Ever married/in union	99.9	94.7	1991	.9	1886
Never married/in union	3.6	2.0	2563	1.7	51
Education					
None	69.2	64.6	1706	1.8	1103
Primary	51.4	47.4	643	1.3	305
Secondary +	25.8	24.0	2205	1.0	530
Wealth index quintiles					
Poorest	58.3	53.8	718	3.0	387
Second	59.1	53.6	737	1.7	395
Middle	55.9	51.3	839	1.2	430
Fourth	45.6	43.7	1055	1.1	461
Richest	23.1	21.9	1207	.5	264
Total	**45.7**	**42.5**	**4555**	**1.4**	**1938**

[1]MICS indicator 9.15
* An asterisk indicates that the percentage is calculated on fewer than 25 unweighted cases
* Figures in parenthesis indicates that the percentage is based on just 25 to 49 unweighted cases

Appendix A. Sample Design

The major features of the sample design are described in this appendix. Sample design features include target sample size, sample allocation, sampling frame and listing, choice of domains, sampling stages, stratification, and the calculation of sample weights.

The primary objective of the sample design for the Bhutan Multiple Indicator Survey was to produce statistically reliable estimates of most indicators at the national level, for urban and rural areas, and for the 20 Dzongkhags of the country. Urban and rural areas in each of the 20 Dzongkhags were defined as the sampling strata.

A multi-stage, stratified cluster sampling approach was used for the selection of the survey sample.

Sample Size and Sample Allocation

The target sample size for the BMIS was calculated as 15,400 households. For the calculation of the sample size, the key indicator used was the stunting among children aged 0-4 years. The following formula was used to estimate the required sample size for this indicator:

$$n = \frac{[4(r)(1-r)(f)(1.05)]}{[(0.12r)^2(p)(\bar{n})]}$$

where

- n is the required sample size, expressed as number of households
- 4 is a factor to achieve the 95 percent level of confidence
- r is the predicted or anticipated value of the indicator, expressed in the form of a proportion
- 1.05 is the factor necessary to raise the sample size by 5 per cent for the expected non-response [the actual factor will be based on the non-response level experienced in previous surveys in the country]
- f is the shortened symbol for deff (design effect)
- 0.12r is the margin of error to be tolerated at the 95 percent level of confidence, defined as 12 per cent of r (relative margin of error of r)
- p is the proportion of the total population upon which the indicator, r, is based
- *n* is the average household size (number of persons per household).

An estimate of the probable overall sample size was obtained by calculating the required sample sizes in each Dzongkhag, using the values of the stunting indicator for each Dzongkhag taken from the 2009 National Nutrition Survey. The latest estimates of p (the percentage of children aged 0-4 years in the population) and ñ (average household size) were used for each Dzongkhag. An overall response rate of 95 percent was assumed, and – in the absence of specific information - the value of deff (design effect) was taken to be 2.0. The sample sizes required for each Dzongkhag were then added to give an overall sample size. In making these calculations it was necessary to apply a finite population correction, since in many of the Dzongkhags the required sample size represented a significant part of the total population.

The resulting number of households from this exercise was 800 households, which is the sample size needed in each Dzongkhag except Gasa (200 households) after taking account of the finite population correction factor – thus yielding about 15,400 in total. Gasa was a special case, in that it has a very small population, and widely dispersed. It was felt that 200 households was the maximum sample size that could realistically be achieved in that Dzongkhag.The average number of households selected per cluster for the BMIS was determined as 20 households, based on a number of considerations, including the design effect, the budget available, and the time that would be needed per team to complete one cluster. Dividing the total number of households by the number of sample households per cluster, it was calculated that 40 sample clusters would need to be selected in each Dzongkhag except Gasa (10).

Equal allocation of the total sample size to the 20 Dzongkhags was used except Gasa. Therefore, 40 clusters were allocated to each Dzongkhag except Gasa (10), with the final sample size calculated at 15,400 households: 40 clusters * 19 Dzongkhags * 20 sample households per cluster and 10 clusters*1 Dzongkhag *20 sample households per cluster in Gasa. In each Dzongkhag, the clusters (primary sampling units) were distributed to urban and rural domains, proportional to the size of urban and rural populations in that Dzongkhag. The table below shows the allocation of clusters to the sampling strata.

Table SD.1: Allocation of Sample Clusters (Primary Sampling Units) to Sampling Strata

Dzongkhag	Urban PSUs	Urban households selected	Rural PSUs	Rural house-holds selected	Total PSUs	Total house-holds selected
Bumthang	10	200	30	600	40	800
Chhukha	19	380	21	420	40	800
Dagana	4	80	36	720	40	800
Gasa	1	20	9	180	10	200
Haa	7	140	33	660	40	800
Lhuentse	3	60	37	740	40	800
Monggar	7	140	33	660	40	800
Paro	3	60	37	740	40	800
Pemagatshel	4	80	36	720	40	800
Punakha	3	60	37	740	40	800
Samdrupjongkhar	12	240	28	560	40	800
Samtse	8	160	32	640	40	800
Sarpang	13	260	27	540	40	800
Thimphu	34	680	6	120	40	800
Trashigang	4	80	36	720	40	800
Trashiyangtse	6	120	34	680	40	800
Trongsa	8	160	32	640	40	800
Tsirang	4	80	36	720	40	800
Wangdue	9	180	31	620	40	800
Zhemgang	7	140	33	660	40	800
Total	**166**	**3,320**	**604**	**12,080**	**770**	**15,400**

Sampling Frame and Selection of Clusters

The 2005 census frame was used for the selection of clusters. Chiwogs in rural areas and blocks in urban areas were defined as primary sampling units (PSUs), and were selected from each of the sampling strata by using systematic PPS (Probability Proportional to Size) sampling procedures, based on the estimated sizes of the enumeration areas from the 2005 Population Census. The first stage of sampling was thus completed by selecting the required number of enumeration areas from each of the 20 Dzongkhags, separately by urban and rural strata.

Listing Activities

The sampling frame (the 2005 Population Census) was used for the selection of the PSUs. For the selected PSUs a new listing of households was conducted prior to the selection of households. For this purpose, in each of the Dzongkhag two teams composed of four enumerators were deployed for listing the selected PSUs from March 15 till April 15, 2010.

Selection of Households

Lists of households were prepared by the listing teams in the field for selected PSUs. The households were then sequentially numbered from 1 to n (the total number of households in each enumeration area) at the National Statistics Bureau, where the selection of 20 households in each enumeration area was carried out using random systematic selection procedures.

Calculation of Sample Weights

The Bhutan Multiple Indicator Survey sample is not self-weighting. Essentially, by allocating equal numbers of households to each of the Dzongkhags, different sampling fractions were used in each Dzongkhag since the size of the Dzongkhags varied. For this reason, sample weights were calculated and these were used in the subsequent analyses of the survey data.

The major component of the weight is the reciprocal of the sampling fraction employed in selecting the number of sample households in that particular sampling stratum (h) and PSU (i):

$$W_{hi} = \frac{1}{f_{hi}}$$

The term fhi, the sampling fraction for the i-th sample PSU in the h-th stratum, is the product of probabilities of selection at every stage in each sampling stratum:

$$f_{hi} = p_{1hi} \times p_{2hi} \times p_{3hi}$$

where pshi is the probability of selection of the sampling unit at stage s for the i-th sample PSU in the h-th sampling stratum.

Since the estimated number of households in each enumeration area (PSU) in the sampling frame used for the first stage selection and the updated number of households in the enumeration area from the listing were different, individual sampling fractions for households in each sample enumeration area (cluster) were calculated. The sampling fractions for households in each enumeration area (cluster) therefore included the first stage probability of selection of the enumeration area in that particular sampling stratum and the second stage probability of selection of a household in the sample enumeration area (cluster).

A second component in the calculation of sample weights takes into account the level of non-response for the household and individual interviews. The adjustment for household non-response is equal to the inverse value of:

RRh = Number of interviewed households in stratum h/ Number of occupied households listed in stratum h

After the completion of fieldwork, response rates were calculated for each sampling stratum. These were used to adjust the sample weights calculated for each cluster. Response rates in the Bhutan Multiple Indicator Survey are shown in Table HH.1 in this report.

Similarly, the adjustment for non-response at the individual level (women and under-five children) for each stratum is equal to the inverse value of:

RRh = Completed women's (or under-five's) questionnaires in stratum h / Eligible women (or under-fives) in stratum h

The non-response adjustment factors for women's and under-five's questionnaires are applied to the adjusted household weights. Numbers of eligible women and under-five children were obtained from the roster of household members in the Household Questionnaire for households where interviews were completed.

The design weights for the households were calculated by multiplying the above factors for each enumeration area. These weights were then standardized (or normalized), one purpose of which is to make the weighted sum of the interviewed sample units equal the total sample size at the national level. Normalization is performed by dividing the aforementioned design weights by the average design weight at the national level. The average design weight is calculated as the sum of the design weights divided by the unweighted total). A similar standardization procedure was followed in obtaining standardized weights for the women's and under-five's questionnaires. Adjusted (normalized) weights varied between 0.84 and 23.4 in the 770 sample enumeration areas (clusters).

Sample weights were appended to all data sets and analyses were performed by weighting each household, woman or under-five with these sample weights.

Appendix B. List of Personnel Involved in the Survey

National Statistics Bureau

Mr. Kuenga Tshering   Director

Mr. Phub Sanagay   Chief Statistical Officer

Mr. Khandu Dorji   Dy. Chief Statistical Officer

Mr. Tashi Namgay   Statistical Officer

Dzongkhag Statistical Officer

Tenzin   DSO, Bumthang

Dorji Wangdi   DSO, Chhukha

Dorji Peljor   DSO, Dagana

Tashi Dorji   DSO, Gasa

Sonam Wangchuk,   DSO, Haa

Karma Thinley   DSO, Lhuentse

Tandin   DSO, Monggar

Dorji Lethro,   DSO Paro

Bikash Chettri   DSO, Pemagatshel

Pema Jampel   DSO, Punakha

Chimmi Tshewang   DSO, Samdrup jongkhar

Phuntsho Chhoegyal   DSO, Samtse

Kishore Chettri   DSO, Sarpang

Sonam Choden   DSO, Thimphu

Dorji Chedup   DSO, Trashigang

Sonam Tshering   DSO, Trashiyangtse

Wangchuk	DSO, Trongsa
Gem Tshering	DSO, Tsirang
Nimala	DSO, Wangdiphodrang
Tshewang Rinzin	DSO, Zhemgang

Data Processing

Peden	ICT Officer
Tshering Choden	Asst. ICT Officer
Nima Deki Sherpa	ICT Technical Associate II

Technical Committee

Dr. Lungten Wangchuk	Ministry of Health
Kunzang Lham Sangey	GNHC
Sangay Choden	Ministry of Education
Alexandru Nartea	UNCIEF
Kinlay Penjor	UNICEF
Dechen Chimi	UNFPA

Appendix C. Estimates of Sampling Errors

The sample of respondents selected in the Bhutan Multiple Indicator Survey is only one of the samples that could have been selected from the same population, using the same design and 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 the estimates from all possible samples. The extent of variability is not known exactly, but can be estimated statistically from the survey data.

The following sampling error measures are presented in this appendix for each of the selected indicators:

- Standard error (se): Sampling errors are usually measured in terms of standard errors for particular indicators (means, proportions etc). Standard error is the square root of the variance of the estimate. The Taylor linearization method is used for the estimation of standard errors.

- Coefficient of variation (se/r) is the ratio of the standard error to the value of the indicator, and is a measure of the relative sampling error.

- Design effect (deff) is the ratio of the actual variance of an indicator, under the sampling method used in the survey, to the variance calculated under the assumption of simple random sampling. The square root of the design effect (deft) is used to show the efficiency of the sample design in relation to the precision. A deft value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a deft value above 1.0 indicates the increase in the standard error due to the use of a more complex sample design.

- Confidence limits are calculated to show the interval within which the true value for the population can be reasonably assumed to fall, with a specified level of confidence. For any given statistic calculated from the survey, the value of that statistic will fall within a range of plus or minus two times the standard error (r + 2.se or r – 2.se) of the statistic in 95 percent of all possible samples of identical size and design.

For the calculation of sampling errors from MICS data, SPSS Version 18 Complex Samples module has been used. The results are shown in the tables that follow. In addition to the sampling error measures described above, the tables also include weighted and unweighted counts of denominators for each indicator.

Sampling errors are calculated for indicators of primary interest, for the national level, for the regions, and for urban and rural areas. Eight of the selected indicators are based household members, eighteen are based on women, and twelve are based on children under-five. All indicators presented here are in the form of proportions. Table SE.1 shows the list of indicators for which sampling errors are calculated, including the base population (denominator) for each indicator. Tables SE.2 to SE.9 shows the calculated sampling errors for selected domains.

Table SE.1: Indicators selected for sampling error calculations

List of indicators selected for sampling error calculations, and base populations (denominators) for each indicator, Bhutan, 2010

MICS4 Indicator		Base Population
HOUSEHOLD MEMBERS		
4.1	Use of improved drinking water sources	All household members
4.3	Use of improved sanitation facilities	All household members
7.4	Primary school net attendance ratio (adjusted)	Children of primary school age
7.5	Secondary school net attendance ratio (adjusted)	Children of secondary school age
8.2	Child labour	Children age 5-14 years
9.18	Prevalence of children with at least one parent dead	Children age 0-17 years
9.19	School attendance of orphans	Children age 10-14 years who have lost both parents
9.20	School attendance of non-orphans	Children age 10-14 years, whose parents are alive, and who are living with at least one parent
WOMEN		
-	Pregnant women	Women age 15-49 years
5.2	Early childbearing	Women age 20-24 years
5.3	Contraceptive prevalence	Women age 15-49 years who are currently married or in union
5.4	Unmet need	Women age 15-49 years who are currently married or in union
5.5a	Antenatal care coverage - at least once by skilled personnel	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.5b	Antenatal care coverage – at least four times by any provider	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.7	Skilled attendant at delivery	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.8	Institutional deliveries	Women age 15-49 years with a live birth in the 2 years preceding the survey
5.9	Caesarean section	
7.1	Literacy rate among young women	Women age 15-24 years
8.7	Marriage before age 18	Women age 20-49 years
9.2	Comprehensive knowledge about HIV prevention among young people	Women age 15-24 years
9.3	Knowledge of mother- to-child transmission of HIV	Women age 15-49 years
9.4	Accepting attitudes towards people living with HIV	Women age 15-49 years
9.6	Women who have been tested for HIV and know the results	Women age 15-49 years
9.7	Sexually active young women who have been tested for HIV and know the results	Women age 15-24 years who have had sex in the 12 months preceding the survey
9.11	Sex before age 15 among young women	Women age 15-24 years
9.16	Condom use with non-regular partners	Women age 15-24 years who had a non-marital, non-cohabiting partner in the 12 months preceding the survey
UNDER-FIVEs		
2.1a	Underweight prevalence	Children under age 5
2.2a	Stunting prevalence	Children under age 5
2.3a	Wasting prevalence	Children under age 5
2.6	Exclusive breastfeeding under 6 months	Total number of infants under 6 months of age
2.14	Age-appropriate breastfeeding	Children age 0-23 months
-	Diarrhoea in the previous 2 weeks	Children under age 5
-	Illness with a cough in the previous 2 weeks	Children under age 5
3.8	Oral rehydration therapy with continued feeding	Children under age 5 with diarrhoea in the previous 2 weeks
3.10	Antibiotic treatment of suspected pneumonia	Children under age 5 with suspected pneumonia in the previous 2 weeks
6.1	Support for learning	Children age 36-59 months
6.7	Attendance to early childhood education	Children age 36-59 months
8.1	Birth registration	Children under age 5

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TABLE SE.2: SAMPLING ERRORS: TOTAL SAMPLE

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhitan, 2010

	MICS Indica-tor	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design ef-fect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.961	0.005	0.005	10.222	3.197	67320	14676	0.951	0.972
Use of improved sanitation facilities	4.3	0.584	0.010	0.017	6.108	2.472	67320	14676	0.564	0.604
Primary school net attendance ratio (adjusted)	7.4	0.919	0.005	0.005	3.142	1.773	10392	10523	0.910	0.929
Secondary school net attendance ratio (adjusted)	7.5	0.550	0.009	0.017	3.087	1.757	8462	8528	0.531	0.569
Child labour	8.2	0.184	0.006	0.032	3.553	1.885	15273	15483	0.172	0.195
Prevalence of children with at least one parent dead	9.18	0.054	0.002	0.046	3.112	1.764	25770	25920	0.049	0.059
School attendance of orphans	9.19	0.641	0.000	0.000	0.000	0.000	36	34	0.641	0.641
School attendance of non-orphans	9.2	0.910	0.006	0.006	2.564	1.601	6672	6742	0.898	0.921
WOMEN										
Pregnant women	-	0.044	0.002	0.040	1.028	1.014	14018	14018	0.041	0.048
Early childbearing	5.2	0.153	0.009	0.059	1.550	1.245	2502	2435	0.135	0.171
Contraceptive prevalence	5.3	0.656	0.006	0.009	1.654	1.286	10029	10051	0.644	0.668
Unmet need	5.4	0.117	0.004	0.036	1.742	1.320	10029	10051	0.108	0.125
Antenatal care coverage - at least once by skilled personnel	5.5a	0.973	0.005	0.005	2.433	1.560	2368	2465	0.963	0.983
Antenatal care coverage – at least four times by any provider	5.5b	0.773	0.011	0.014	1.609	1.268	2368	2465	0.752	0.795
Skilled attendant at delivery	5.7	0.645	0.012	0.019	1.592	1.262	2368	2465	0.621	0.670
Institutional deliveries	5.8	0.631	0.012	0.019	1.563	1.250	2368	2465	0.607	0.656
Caesarean section	5.9	0.124	0.007	0.057	1.123	1.060	2368	2465	0.110	0.139
Literacy rate among young women	7.1	0.565	0.012	0.021	2.439	1.562	4555	4409	0.542	0.588
Marriage before age 18	8.7	0.308	0.005	0.018	1.665	1.290	11966	12044	0.297	0.319
Comprehensive knowledge about HIV prevention among young people	9.2	0.210	0.012	0.059	4.137	2.034	4555	4409	0.185	0.235
Knowledge of mother- to-child transmission of HIV	9.3	0.562	0.008	0.014	3.348	1.830	14018	14018	0.546	0.577
Accepting attitudes towards people living with HIV	9.4	0.279	0.012	0.043	8.422	2.902	11734	11770	0.255	0.303
Women who have been tested for HIV and know the results	9.6	0.098	0.004	0.042	2.731	1.653	14018	14018	0.090	0.107
Sexually active young women who have been tested for HIV and know the results	9.7	0.133	0.010	0.072	1.535	1.239	1938	1926	0.114	0.152
Sex before age 15 among young women	9.11	0.037	0.004	0.107	1.902	1.379	4555	4409	0.029	0.044
Condom use with non-regular partners	9.16	0.616	0.049	0.079	0.681	0.825	62	69	0.519	0.713
UNDER-5s										
Underweight prevalence	2.1a	0.127	0.006	0.049	2.095	1.447	6071	6039	0.114	0.139
Stunting prevalence	2.2a	0.335	0.010	0.029	2.416	1.554	5805	5769	0.316	0.354
Wasting prevalence	2.3a	0.059	0.004	0.064	1.508	1.228	5863	5845	0.051	0.066
Exclusive breastfeeding under 6 months	2.6	0.487	0.020	0.041	0.958	0.979	603	608	0.447	0.527
Age-appropriate breastfeeding	2.14	0.660	0.012	0.018	1.635	1.279	2463	2536	0.636	0.684
Diarrhoea in the previous 2 weeks	-	0.251	0.008	0.032	2.109	1.452	6297	6297	0.235	0.267
Illness with a cough in the previous 2 weeks	-	0.069	0.004	0.060	1.677	1.295	6297	6297	0.061	0.077
Oral rehydration therapy with continued feeding	3.8	0.616	0.019	0.031	2.324	1.525	1582	1545	0.578	0.654
Antibiotic treatment of suspected pneu-monia	3.1	0.487	0.023	0.046	0.895	0.946	435	440	0.442	0.533
Support for learning	6.1	0.542	0.015	0.028	2.275	1.508	2497	2422	0.512	0.573
Attendance to early childhood education	6.7	0.095	0.009	0.099	2.497	1.580	2497	2422	0.076	0.114
Birth registration	8.1	0.999	0.001	0.001	1.747	1.322	6297	6297	0.998	1.000

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweight-ed count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.996	0.002	0.002	4.810	2.193	18500	3142	0.992	1.000
Use of improved sanitation facilities	4.3	0.779	0.023	0.029	9.343	3.057	18500	3142	0.734	0.825
Primary school net attendance ratio (adjusted)	7.4	0.963	0.007	0.008	3.213	1.792	2884	2176	0.949	0.978
Secondary school net attendance ratio (adjusted)	7.5	0.750	0.014	0.019	1.994	1.412	2480	1840	0.721	0.778
Child labour	8.2	0.087	0.008	0.096	2.843	1.686	4371	3250	0.071	0.104
Prevalence of children with at least one parent dead	9.18	0.042	0.005	0.114	3.119	1.766	7410	5487	0.032	0.052
School attendance of orphans	9.19	0.671	0.000	0.000	0.000	0.000	16	12	0.671	0.671
School attendance of non-orphans	9.2	0.976	0.006	0.006	2.095	1.447	1905	1382	0.964	0.988
WOMEN										
Pregnant women	-	0.048	0.004	0.075	0.968	0.984	4448	3487	0.040	0.055
Early childbearing	5.2	0.103	0.012	0.118	1.062	1.031	882	661	0.078	0.127
Contraceptive prevalence	5.3	0.640	0.013	0.021	1.805	1.344	2986	2377	0.613	0.666
Unmet need	5.4	0.104	0.009	0.083	1.884	1.372	2986	2377	0.087	0.121
Antenatal care coverage - at least once by skilled personnel	5.5a	0.991	0.005	0.005	1.614	1.271	690	557	0.980	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.871	0.019	0.022	1.847	1.359	690	557	0.833	0.910
Skilled attendant at delivery	5.7	0.895	0.016	0.018	1.514	1.231	690	557	0.863	0.927
Institutional deliveries	5.8	0.898	0.015	0.017	1.379	1.175	690	557	0.867	0.928
Caesarean section	5.9	0.182	0.016	0.089	0.974	0.987	690	557	0.149	0.214
Literacy rate among young women	7.1	0.779	0.014	0.019	1.540	1.241	1635	1264	0.750	0.808
Marriage before age 18	8.7	0.259	0.010	0.038	1.436	1.198	3695	2884	0.240	0.279
Comprehensive knowledge about HIV prevention among young people	9.2	0.316	0.028	0.090	4.733	2.176	1635	1264	0.259	0.373
Knowledge of mother- to-child transmission of HIV	9.3	0.613	0.015	0.024	3.261	1.806	4448	3487	0.583	0.642
Accepting attitudes towards people living with HIV	9.4	0.357	0.030	0.085	13.112	3.621	4142	3244	0.296	0.417
Women who have been tested for HIV and know the results	9.6	0.116	0.008	0.071	2.315	1.521	4448	3487	0.099	0.132
Sexually active young women who have been tested for HIV and know the results	9.7	0.168	0.023	0.136	1.592	1.262	528	427	0.122	0.214
Sex before age 15 among young women	9.11	0.013	0.003	0.229	0.853	0.924	1635	1264	0.007	0.018
Condom use with non-regular partners	9.16	0.945	0.000	0.000	0.000	0.005	17	13	0.945	0.946
UNDER-5s										
Underweight prevalence	2.1a	0.105	0.011	0.104	1.680	1.296	1800	1333	0.083	0.126
Stunting prevalence	2.2a	0.280	0.017	0.062	1.917	1.384	1713	1277	0.245	0.315
Wasting prevalence	2.3a	0.065	0.007	0.110	1.060	1.030	1713	1276	0.051	0.079
Exclusive breastfeeding under 6 months	2.6	0.574	0.047	0.082	1.205	1.098	195	135	0.480	0.668
Age-appropriate breastfeeding	2.14	0.639	0.025	0.039	1.525	1.235	757	563	0.589	0.689
Diarrhoea in the previous 2 weeks	-	0.253	0.017	0.067	2.105	1.451	1841	1367	0.219	0.288
Illness with a cough in the previous 2 weeks	-	0.044	0.006	0.134	1.134	1.065	1841	1367	0.032	0.056
Oral rehydration therapy with continued feeding	3.8	0.600	0.050	0.084	3.471	1.863	467	330	0.499	0.700
Antibiotic treatment of suspected pneumonia	3.1	0.584	0.059	0.102	0.769	0.877	81	54	0.465	0.703
Support for learning	6.1	0.643	0.034	0.053	2.681	1.637	711	530	0.575	0.711
Attendance to early childhood education	6.7	0.184	0.024	0.130	2.029	1.424	711	530	0.136	0.232
Birth registration	8.1	1.000	0.000	0.000	.	.	1841	1367	1.000	1.000

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.948	0.007	0.007	11.271	3.357	48820	11534	0.934	0.962
Use of improved sanitation facilities	4.3	0.510	0.010	0.020	4.976	2.231	48820	11534	0.489	0.531
Primary school net attendance ratio (adjusted)	7.4	0.902	0.006	0.007	3.281	1.811	7508	8347	0.891	0.914
Secondary school net attendance ratio (adjusted)	7.5	0.467	0.011	0.024	3.258	1.805	5982	6688	0.445	0.489
Child labour	8.2	0.222	0.007	0.032	3.616	1.901	10902	12233	0.208	0.237
Prevalence of children with at least one parent dead	9.18	0.059	0.003	0.048	2.965	1.722	18361	20433	0.053	0.065
School attendance of orphans	9.19	0.616	0.000	0.000	0.000	0.000	20	22	0.616	0.616
School attendance of non-orphans	9.2	0.883	0.007	0.008	2.858	1.690	4767	5360	0.868	0.898
WOMEN										
Pregnant women	-	0.043	0.002	0.047	1.021	1.010	9570	10531	0.039	0.047
Early childbearing	5.2	0.180	0.012	0.068	1.780	1.334	1620	1774	0.156	0.205
Contraceptive prevalence	5.3	0.663	0.007	0.010	1.543	1.242	7043	7674	0.650	0.676
Unmet need	5.4	0.122	0.005	0.039	1.593	1.262	7043	7674	0.113	0.132
Antenatal care coverage - at least once by skilled personnel	5.5a	0.966	0.007	0.007	2.689	1.640	1678	1908	0.952	0.979
Antenatal care coverage – at least four times by any provider	5.5b	0.733	0.013	0.017	1.560	1.249	1678	1908	0.708	0.758
Skilled attendant at delivery	5.7	0.543	0.015	0.027	1.661	1.289	1678	1908	0.513	0.572
Institutional deliveries	5.8	0.522	0.015	0.028	1.652	1.285	1678	1908	0.492	0.551
Caesarean section	5.9	0.101	0.007	0.074	1.162	1.078	1678	1908	0.086	0.116
Literacy rate among young women	7.1	0.445	0.016	0.036	3.219	1.794	2920	3145	0.413	0.477
Marriage before age 18	8.7	0.330	0.006	0.020	1.720	1.311	8271	9160	0.317	0.343
Comprehensive knowledge about HIV prevention among young people	9.2	0.151	0.010	0.067	2.474	1.573	2920	3145	0.131	0.171
Knowledge of mother- to-child transmission of HIV	9.3	0.538	0.009	0.016	3.081	1.755	9570	10531	0.521	0.555
Accepting attitudes towards people living with HIV	9.4	0.237	0.007	0.031	2.535	1.592	7592	8526	0.222	0.252
Women who have been tested for HIV and know the results	9.6	0.090	0.005	0.054	3.035	1.742	9570	10531	0.080	0.100
Sexually active young women who have been tested for HIV and know the results	9.7	0.120	0.010	0.084	1.443	1.201	1410	1499	0.100	0.140
Sex before age 15 among young women	9.11	0.050	0.006	0.116	2.209	1.486	2920	3145	0.038	0.062
Condom use with non-regular partners	9.16	0.496	0.067	0.134	0.975	0.987	46	56	0.363	0.629
UNDER-5s										
Underweight prevalence	2.1a	0.136	0.008	0.056	2.310	1.520	4271	4706	0.121	0.151
Stunting prevalence	2.2a	0.358	0.012	0.033	2.787	1.669	4093	4492	0.334	0.382
Wasting prevalence	2.3a	0.056	0.004	0.079	1.697	1.303	4150	4569	0.047	0.065
Exclusive breastfeeding under 6 months	2.6	0.445	0.019	0.042	0.684	0.827	408	473	0.407	0.483
Age-appropriate breastfeeding	2.14	0.669	0.013	0.020	1.580	1.257	1706	1973	0.642	0.696
Diarrhoea in the previous 2 weeks	-	0.250	0.009	0.035	1.983	1.408	4456	4930	0.233	0.268
Illness with a cough in the previous 2 weeks	-	0.079	0.005	0.064	1.763	1.328	4456	4930	0.069	0.090
Oral rehydration therapy with continued feeding	3.8	0.623	0.016	0.026	1.330	1.153	1115	1215	0.591	0.655
Antibiotic treatment of suspected pneumonia	3.1	0.465	0.024	0.052	0.905	0.951	354	386	0.417	0.514
Support for learning	6.1	0.502	0.016	0.032	1.928	1.389	1786	1892	0.470	0.534
Attendance to early childhood education	6.7	0.060	0.009	0.151	2.746	1.657	1786	1892	0.042	0.078
Birth registration	8.1	0.998	0.001	0.001	1.916	1.384	4456	4930	0.997	1.000

TABLE SE.5: SAMPLING ERRORS: BUMTHANG

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweight-ed count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.996	0.002	0.002	1.161	1.077	1605	769	0.991	1.000
Use of improved sanitation facilities	4.3	0.803	0.026	0.033	3.361	1.833	1605	769	0.750	0.856
Primary school net attendance ratio (adjusted)	7.4	0.976	0.006	0.006	0.884	0.940	237	568	0.964	0.988
Secondary school net attendance ratio (adjusted)	7.5	0.651	0.037	0.056	2.823	1.680	201	477	0.578	0.725
Child labour	8.2	0.266	0.023	0.088	2.324	1.524	343	825	0.219	0.313
Prevalence of children with at least one parent dead	9.18	0.073	0.010	0.139	2.266	1.505	619	1489	0.053	0.094
School attendance of orphans	9.19	1.000	0.000	0.000	.	.	1	2	1.000	1.000
School attendance of non-orphans	9.2	0.971	0.010	0.011	1.226	1.107	137	331	0.950	0.991
WOMEN										
Pregnant women	-	0.049	0.009	0.180	1.331	1.154	337	808	0.031	0.066
Early childbearing	5.2	0.119	0.018	0.151	0.419	0.648	58	138	0.083	0.154
Contraceptive prevalence	5.3	0.605	0.018	0.030	0.706	0.840	222	529	0.569	0.641
Unmet need	5.4	0.150	0.010	0.064	0.383	0.619	222	529	0.131	0.170
Antenatal care coverage - at least once by skilled personnel	5.5a	0.975	0.018	0.018	2.140	1.463	69	163	0.939	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.724	0.036	0.049	1.041	1.020	69	163	0.653	0.796
Skilled attendant at delivery	5.7	0.591	0.060	0.101	2.392	1.547	69	163	0.472	0.711
Institutional deliveries	5.8	0.557	0.059	0.106	2.273	1.508	69	163	0.440	0.675
Caesarean section	5.9	0.126	0.046	0.366	3.139	1.772	69	163	0.034	0.219
Literacy rate among young women	7.1	0.760	0.045	0.059	2.804	1.675	109	254	0.670	0.850
Marriage before age 18	8.7	0.237	0.017	0.071	1.067	1.033	287	692	0.204	0.270
Comprehensive knowledge about HIV prevention among young people	9.2	0.083	0.024	0.293	1.952	1.397	109	254	0.034	0.131
Knowledge of mother- to-child transmission of HIV	9.3	0.870	0.016	0.018	1.736	1.318	337	808	0.839	0.901
Accepting attitudes towards people living with HIV	9.4	0.236	0.065	0.277	18.994	4.358	335	801	0.105	0.367
Women who have been tested for HIV and know the results	9.6	0.092	0.008	0.092	0.696	0.834	337	808	0.075	0.109
Sexually active young women who have been tested for HIV and know the results	9.7	0.144	0.037	0.253	1.017	1.008	42	95	0.071	0.218
Sex before age 15 among young women	9.11	0.008	0.006	0.715	1.072	1.035	109	254	0.000	0.020
Condom use with non-regular partners	9.16	0.735	0.000	0.000	0.000	0.000	2	6	0.735	0.735
UNDER-5s										
Underweight prevalence	2.1a	0.091	0.014	0.151	0.896	0.947	165	395	0.064	0.119
Stunting prevalence	2.2a	0.215	0.028	0.130	1.729	1.315	156	373	0.159	0.271
Wasting prevalence	2.3a	0.033	0.010	0.302	1.171	1.082	157	376	0.013	0.053
Exclusive breastfeeding under 6 months	2.6	0.433	0.083	0.192	0.820	0.905	12	30	0.266	0.599
Age-appropriate breastfeeding	2.14	0.630	0.033	0.052	0.792	0.890	72	171	0.564	0.696
Diarrhoea in the previous 2 weeks	-	0.172	0.015	0.086	0.641	0.801	171	415	0.143	0.202
Illness with a cough in the previous 2 weeks	-	0.031	0.010	0.313	1.295	1.138	171	415	0.012	0.050
Oral rehydration therapy with continued feeding	3.8	0.715	0.043	0.060	0.594	0.771	30	68	0.629	0.800
Antibiotic treatment of suspected pneumonia	3.1	0.566	0.009	0.016	0.005	0.070	5	15	0.547	0.584
Support for learning	6.1	0.420	0.041	0.098	1.110	1.054	66	161	0.338	0.502
Attendance to early childhood education	6.7	0.092	0.034	0.373	2.256	1.502	66	161	0.023	0.161
Birth registration	8.1	1.000	0.000	0.000	.	.	171	415	1.000	1.000

TABLE SE.6: SAMPLING ERRORS: CHUKHA

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Un-weighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.937	0.041	0.043	20.913	4.573	6863	749	0.856	1.000
Use of improved sanitation facilities	4.3	0.762	0.033	0.043	4.532	2.129	6863	749	0.696	0.829
Primary school net attendance ratio (adjusted)	7.4	0.893	0.021	0.023	2.275	1.508	987	510	0.852	0.935
Secondary school net attendance ratio (adjusted)	7.5	0.579	0.036	0.062	2.478	1.574	953	476	0.508	0.651
Child labour	8.2	0.113	0.017	0.151	2.252	1.501	1511	772	0.079	0.147
Prevalence of children with at least one parent dead	9.18	0.059	0.009	0.155	1.979	1.407	2631	1332	0.040	0.077
School attendance of orphans	9.19	.	.	.	.	.	.	.	.	.
School attendance of non-orphans	9.2	0.922	0.026	0.028	3.116	1.765	684	345	0.870	0.973
WOMEN										
Pregnant women	-	0.046	0.005	0.112	0.518	0.720	1550	869	0.035	0.056
Early childbearing	5.2	0.131	0.035	0.264	1.740	1.319	296	166	0.062	0.201
Contraceptive prevalence	5.3	0.658	0.016	0.024	0.655	0.809	1039	580	0.626	0.690
Unmet need	5.4	0.096	0.010	0.103	0.655	0.810	1039	580	0.076	0.116
Antenatal care coverage - at least once by skilled personnel	5.5a	0.980	0.020	0.020	2.345	1.531	223	123	0.940	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.842	0.049	0.058	2.172	1.474	223	123	0.745	0.939
Skilled attendant at delivery	5.7	0.695	0.045	0.064	1.145	1.070	223	123	0.605	0.784
Institutional deliveries	5.8	0.722	0.046	0.063	1.265	1.125	223	123	0.631	0.813
Caesarean section	5.9	0.187	0.023	0.125	0.435	0.660	223	123	0.140	0.233
Literacy rate among young women	7.1	0.610	0.038	0.062	1.910	1.382	565	321	0.534	0.685
Marriage before age 18	8.7	0.291	0.023	0.079	1.837	1.355	1281	714	0.244	0.337
Comprehensive knowledge about HIV prevention among young people	9.2	0.157	0.035	0.225	2.998	1.731	565	321	0.086	0.227
Knowledge of mother- to-child transmission of HIV	9.3	0.424	0.022	0.053	1.769	1.330	1550	869	0.380	0.469
Accepting attitudes towards people living with HIV	9.4	0.265	0.024	0.090	1.965	1.402	1188	676	0.217	0.312
Women who have been tested for HIV and know the results	9.6	0.076	0.012	0.155	1.696	1.302	1550	869	0.052	0.099
Sexually active young women who have been tested for HIV and know the results	9.7	0.053	0.025	0.466	1.249	1.118	185	104	0.004	0.102
Sex before age 15 among young women	9.11	0.026	0.012	0.451	1.770	1.330	565	321	0.003	0.050
Condom use with non-regular partners	9.16	0.751	0.000	0.000	0.000	0.000	6	3	0.751	0.751
UNDER-5s										
Underweight prevalence	2.1a	0.141	0.020	0.143	1.066	1.033	625	319	0.101	0.182
Stunting prevalence	2.2a	0.274	0.035	0.127	1.906	1.380	617	314	0.204	0.344
Wasting prevalence	2.3a	0.109	0.018	0.167	1.058	1.028	615	313	0.073	0.145
Exclusive breastfeeding under 6 months	2.6	0.561	0.034	0.060	0.124	0.352	51	28	0.494	0.629
Age-appropriate breastfeeding	2.14	0.723	0.040	0.055	1.000	1.000	248	127	0.643	0.803
Diarrhoea in the previous 2 weeks	-	0.300	0.032	0.106	1.580	1.257	648	330	0.236	0.363
Illness with a cough in the previous 2 weeks	-	0.078	0.012	0.150	0.626	0.791	648	330	0.055	0.102
Oral rehydration therapy with continued feeding	3.8	0.579	0.056	0.097	1.176	1.084	194	92	0.467	0.691
Antibiotic treatment of suspected pneumonia	3.1	0.476	0.118	0.247	1.274	1.129	51	24	0.241	0.711
Support for learning	6.1	0.600	0.053	0.088	1.556	1.247	278	136	0.495	0.705
Attendance to early childhood education	6.7	0.125	0.027	0.217	0.907	0.952	278	136	0.071	0.180
Birth registration	8.1	1.000	0.000	0.000	.	.	648	330	1.000	1.000

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.941	0.014	0.015	2.629	1.622	2541	748	0.913	0.969
Use of improved sanitation facilities	4.3	0.373	0.034	0.090	3.627	1.904	2541	748	0.306	0.441
Primary school net attendance ratio (adjusted)	7.4	0.935	0.012	0.013	1.340	1.158	397	542	0.910	0.960
Secondary school net attendance ratio (adjusted)	7.5	0.399	0.023	0.058	0.999	1.000	329	442	0.352	0.445
Child labour	8.2	0.238	0.022	0.094	2.223	1.491	593	804	0.193	0.283
Prevalence of children with at least one parent dead	9.18	0.045	0.009	0.193	2.390	1.546	993	1346	0.028	0.063
School attendance of orphans	9.19	0.667	0.000	0.000	0.000	0.000	3	3	0.667	0.667
School attendance of non-orphans	9.2	0.935	0.013	0.014	0.948	0.974	255	343	0.909	0.961
WOMEN										
Pregnant women	-	0.025	0.004	0.150	0.402	0.634	509	700	0.017	0.032
Early childbearing	5.2	0.241	0.045	0.186	1.337	1.156	88	123	0.152	0.331
Contraceptive prevalence	5.3	0.770	0.013	0.016	0.480	0.693	396	543	0.745	0.795
Unmet need	5.4	0.074	0.010	0.133	0.766	0.875	396	543	0.054	0.094
Antenatal care coverage - at least once by skilled personnel	5.5a	0.977	0.013	0.013	1.008	1.004	100	138	0.951	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.707	0.044	0.062	1.277	1.130	100	138	0.620	0.795
Skilled attendant at delivery	5.7	0.598	0.048	0.080	1.307	1.143	100	138	0.502	0.693
Institutional deliveries	5.8	0.561	0.046	0.083	1.193	1.092	100	138	0.468	0.654
Caesarean section	5.9	0.109	0.024	0.216	0.788	0.888	100	138	0.062	0.157
Literacy rate among young women	7.1	0.366	0.030	0.081	0.858	0.926	164	228	0.306	0.425
Marriage before age 18	8.7	0.426	0.027	0.064	1.814	1.347	433	595	0.372	0.481
Comprehensive knowledge about HIV prevention among young people	9.2	0.099	0.020	0.198	0.975	0.987	164	228	0.060	0.138
Knowledge of mother- to-child transmission of HIV	9.3	0.518	0.022	0.043	1.404	1.185	509	700	0.473	0.563
Accepting attitudes towards people living with HIV	9.4	0.222	0.032	0.145	3.051	1.747	375	510	0.157	0.286
Women who have been tested for HIV and know the results	9.6	0.075	0.012	0.153	1.330	1.153	509	700	0.052	0.098
Sexually active young women who have been tested for HIV and know the results	9.7	0.076	0.018	0.242	0.558	0.747	86	118	0.039	0.112
Sex before age 15 among young women	9.11	0.051	0.014	0.265	0.861	0.928	164	228	0.024	0.078
Condom use with non-regular partners	9.16	.	.	.	.	.	.	.	.	.
UNDER-5s										
Underweight prevalence	2.1a	0.124	0.015	0.118	0.623	0.789	231	318	0.095	0.154
Stunting prevalence	2.2a	0.290	0.032	0.110	1.522	1.234	225	309	0.226	0.353
Wasting prevalence	2.3a	0.055	0.014	0.245	1.088	1.043	227	312	0.028	0.082
Exclusive breastfeeding under 6 months	2.6	0.379	0.035	0.091	0.127	0.356	21	26	0.309	0.448
Age-appropriate breastfeeding	2.14	0.666	0.036	0.054	0.848	0.921	108	148	0.594	0.737
Diarrhoea in the previous 2 weeks	-	0.245	0.023	0.094	0.932	0.965	237	326	0.199	0.291
Illness with a cough in the previous 2 weeks	-	0.032	0.010	0.305	1.002	1.001	237	326	0.012	0.052
Oral rehydration therapy with continued feeding	3.8	0.770	0.059	0.076	1.529	1.237	58	79	0.652	0.888
Antibiotic treatment of suspected pneumonia	3.1	0.252	0.005	0.018	0.001	0.032	8	10	0.243	0.261
Support for learning	6.1	0.554	0.045	0.081	0.942	0.971	85	118	0.464	0.643
Attendance to early childhood education	6.7	0.035	0.021	0.607	1.577	1.256	85	118	0.000	0.078
Birth registration	8.1	0.998	0.002	0.002	0.742	0.861	237	326	0.993	1.000

TABLE SE.8: SAMPLING ERRORS: GASA

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indica-tor	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.700	0.062	0.089	3.273	1.809	484	180	0.576	0.824
Use of improved sanitation facilities	4.3	0.576	0.124	0.215	11.247	3.354	484	180	0.328	0.823
Primary school net attendance ratio (adjusted)	7.4	0.753	0.067	0.089	3.204	1.790	74	135	0.619	0.886
Secondary school net attendance ratio (adjusted)	7.5	0.358	0.030	0.083	0.387	0.622	54	102	0.299	0.417
Child labour	8.2	0.201	0.042	0.208	1.991	1.411	100	183	0.117	0.285
Prevalence of children with at least one parent dead	9.18	0.108	0.029	0.273	2.895	1.702	175	322	0.049	0.167
School attendance of orphans	9.19	.	.	.	.	.	.	.	.	.
School attendance of non-orphans	9.2	0.608	0.078	0.128	1.894	1.376	40	75	0.452	0.764
WOMEN										
Pregnant women	-	0.061	0.015	0.253	0.533	0.730	107	129	0.030	0.092
Early childbearing	5.2	0.030	0.030	1.002	0.801	0.895	23	27	0.000	0.089
Contraceptive prevalence	5.3	0.673	0.019	0.028	0.164	0.405	86	101	0.635	0.711
Unmet need	5.4	0.103	0.019	0.182	0.378	0.615	86	101	0.065	0.140
Antenatal care coverage - at least once by skilled personnel	5.5a	0.892	0.057	0.064	1.224	1.106	28	37	0.778	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.556	0.085	0.152	1.047	1.023	28	37	0.387	0.726
Skilled attendant at delivery	5.7	0.617	0.080	0.130	0.983	0.992	28	37	0.456	0.778
Institutional deliveries	5.8	0.593	0.074	0.125	0.813	0.901	28	37	0.445	0.740
Caesarean section	5.9	0.060	0.035	0.579	0.767	0.876	28	37	0.000	0.129
Literacy rate among young women	7.1	0.201	0.037	0.185	0.328	0.572	32	39	0.127	0.276
Marriage before age 18	8.7	0.168	0.027	0.161	0.606	0.778	98	117	0.114	0.222
Comprehensive knowledge about HIV prevention among young people	9.2	0.305	0.074	0.244	0.991	0.996	32	39	0.157	0.454
Knowledge of mother- to-child transmission of HIV	9.3	0.634	0.089	0.141	4.386	2.094	107	129	0.456	0.813
Accepting attitudes towards people living with HIV	9.4	0.341	0.124	0.364	6.663	2.581	89	98	0.093	0.590
Women who have been tested for HIV and know the results	9.6	0.166	0.052	0.311	2.460	1.568	107	129	0.063	0.269
Sexually active young women who have been tested for HIV and know the results	9.7	0.225	0.076	0.339	0.938	0.969	23	29	0.072	0.378
Sex before age 15 among young women	9.11	0.026	0.026	0.970	0.972	0.986	32	39	0.000	0.078
Condom use with non-regular partners	9.16	0.334	0.051	0.154	0.048	0.218	3	5	.	.
UNDER-5s										
Underweight prevalence	2.1a	0.036	0.030	0.830	1.513	1.230	37	59	0.000	0.097
Stunting prevalence	2.2a	0.318	0.048	0.151	0.616	0.785	37	59	0.222	0.414
Wasting prevalence	2.3a	0.032	0.016	0.496	0.480	0.693	38	60	0.000	0.064
Exclusive breastfeeding under 6 months	2.6	0.315	0.027	0.087	0.031	0.177	6	10	0.260	0.369
Age-appropriate breastfeeding	2.14	0.290	0.058	0.200	0.540	0.735	20	34	0.174	0.406
Diarrhoea in the previous 2 weeks	-	0.214	0.066	0.308	1.748	1.322	43	69	0.082	0.345
Illness with a cough in the previous 2 weeks	-	0.038	0.007	0.188	0.095	0.308	43	69	0.024	0.052
Oral rehydration therapy with continued feeding	3.8	0.476	0.058	0.122	0.202	0.449	9	16	0.360	0.592
Antibiotic treatment of suspected pneumonia	3.1	0.000	0.000	.	.	.	2	2	0.000	0.000
Support for learning	6.1	0.283	0.059	0.210	0.365	0.604	14	22	0.164	0.402
Attendance to early childhood education	6.7	0.106	0.058	0.546	0.744	0.862	14	22	0.000	0.222
Birth registration	8.1	0.988	0.013	0.013	0.917	0.958	43	69	0.963	1.000

TABLE SE.9: SAMPLING ERRORS: HAA

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	1.000	0.000	0.000	.	.	1312	764	1.000	1.000
Use of improved sanitation facilities	4.3	0.600	0.072	0.121	16.674	4.083	1312	764	0.455	0.745
Primary school net attendance ratio (adjusted)	7.4	0.937	0.016	0.017	2.256	1.502	208	532	0.906	0.969
Secondary school net attendance ratio (adjusted)	7.5	0.649	0.035	0.055	2.243	1.498	163	409	0.578	0.720
Child labour	8.2	0.162	0.037	0.226	7.535	2.745	298	767	0.089	0.235
Prevalence of children with at least one parent dead	9.18	0.038	0.008	0.210	2.220	1.490	500	1275	0.022	0.054
School attendance of orphans	9.19	0.000	0.000	.	.	.	0	1	0.000	0.000
School attendance of non-orphans	9.2	0.930	0.018	0.020	1.674	1.294	127	325	0.894	0.967
WOMEN										
Pregnant women	-	0.034	0.006	0.164	0.691	0.831	282	739	0.022	0.045
Early childbearing	5.2	0.229	0.038	0.166	1.050	1.025	49	129	0.153	0.305
Contraceptive prevalence	5.3	0.773	0.029	0.037	2.497	1.580	201	527	0.715	0.831
Unmet need	5.4	0.075	0.021	0.272	3.178	1.783	201	527	0.034	0.116
Antenatal care coverage - at least once by skilled personnel	5.5a	0.976	0.018	0.018	1.573	1.254	43	114	0.940	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.858	0.056	0.066	2.943	1.715	43	114	0.746	0.971
Skilled attendant at delivery	5.7	0.853	0.037	0.043	1.228	1.108	43	114	0.779	0.927
Institutional deliveries	5.8	0.788	0.041	0.053	1.159	1.077	43	114	0.705	0.871
Caesarean section	5.9	0.221	0.051	0.232	1.723	1.313	43	114	0.119	0.324
Literacy rate among young women	7.1	0.598	0.055	0.091	2.645	1.626	85	214	0.488	0.707
Marriage before age 18	8.7	0.211	0.023	0.109	2.092	1.446	246	654	0.165	0.257
Comprehensive knowledge about HIV prevention among young people	9.2	0.533	0.046	0.085	1.772	1.331	85	214	0.442	0.624
Knowledge of mother- to-child transmission of HIV	9.3	0.749	0.030	0.040	3.566	1.888	282	739	0.689	0.809
Accepting attitudes towards people living with HIV	9.4	0.449	0.026	0.058	1.983	1.408	280	732	0.397	0.501
Women who have been tested for HIV and know the results	9.6	0.083	0.016	0.197	2.571	1.604	282	739	0.050	0.115
Sexually active young women who have been tested for HIV and know the results	9.7	0.169	0.030	0.180	0.592	0.769	35	91	0.108	0.230
Sex before age 15 among young women	9.11	0.033	0.014	0.419	1.266	1.125	85	214	0.005	0.060
Condom use with non-regular partners	9.16	1.000	0.000	0.000	.	.	0	1	.	.
UNDER-5s										
Underweight prevalence	2.1a	0.098	0.024	0.249	2.046	1.430	118	306	0.049	0.146
Stunting prevalence	2.2a	0.306	0.029	0.096	1.228	1.108	118	305	0.248	0.365
Wasting prevalence	2.3a	0.033	0.010	0.297	0.897	0.947	116	300	0.013	0.052
Exclusive breastfeeding under 6 months	2.6	0.439	0.030	0.068	0.120	0.347	12	34	0.379	0.499
Age-appropriate breastfeeding	2.14	0.646	0.037	0.057	0.667	0.817	44	114	0.572	0.719
Diarrhoea in the previous 2 weeks	-	0.230	0.013	0.057	0.305	0.552	121	313	0.204	0.256
Illness with a cough in the previous 2 weeks	-	0.029	0.014	0.467	2.050	1.432	121	313	0.002	0.057
Oral rehydration therapy with continued feeding	3.8	0.625	0.063	0.101	1.232	1.110	28	74	0.499	0.751
Antibiotic treatment of suspected pneumonia	3.1	0.366	0.018	0.051	0.010	0.102	4	8	0.329	0.403
Support for learning	6.1	0.493	0.053	0.108	1.436	1.198	50	127	0.387	0.600
Attendance to early childhood education	6.7	0.164	0.058	0.352	3.067	1.751	50	127	0.049	0.280
Birth registration	8.1	1.000	0.000	0.000	.	.	121	313	1.000	1.000

TABLE SE.10: SAMPLING ERRORS: LHUNTSE

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Un-weighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.981	0.010	0.010	3.861	1.965	1564	761	0.962	1.000
Use of improved sanitation facilities	4.3	0.361	0.036	0.100	4.262	2.065	1564	761	0.289	0.433
Primary school net attendance ratio (adjusted)	7.4	0.874	0.026	0.030	3.182	1.784	245	506	0.821	0.927
Secondary school net attendance ratio (adjusted)	7.5	0.467	0.044	0.094	3.283	1.812	203	428	0.380	0.555
Child labour	8.2	0.103	0.014	0.138	1.681	1.296	367	765	0.074	0.131
Prevalence of children with at least one parent dead	9.18	0.072	0.013	0.179	3.046	1.745	585	1220	0.047	0.098
School attendance of orphans	9.19	0.508	0.000	0.000	0.000	0.000	1	2	0.508	0.508
School attendance of non-orphans	9.2	0.860	0.028	0.033	2.364	1.537	172	362	0.804	0.917
WOMEN										
Pregnant women	-	0.042	0.007	0.169	0.784	0.885	307	633	0.028	0.056
Early childbearing	5.2	0.165	0.033	0.199	0.931	0.965	60	120	0.099	0.231
Contraceptive prevalence	5.3	0.644	0.026	0.040	1.294	1.137	219	449	0.592	0.695
Unmet need	5.4	0.117	0.021	0.176	1.830	1.353	219	449	0.076	0.158
Antenatal care coverage - at least once by skilled personnel	5.5a	0.957	0.019	0.020	0.826	0.909	47	94	0.918	0.995
Antenatal care coverage – at least four times by any provider	5.5b	0.598	0.069	0.116	1.868	1.367	47	94	0.459	0.737
Skilled attendant at delivery	5.7	0.620	0.056	0.091	1.258	1.122	47	94	0.507	0.733
Institutional deliveries	5.8	0.573	0.054	0.094	1.096	1.047	47	94	0.465	0.680
Caesarean section	5.9	0.124	0.029	0.231	0.701	0.837	47	94	0.067	0.181
Literacy rate among young women	7.1	0.428	0.040	0.092	1.220	1.105	92	192	0.349	0.508
Marriage before age 18	8.7	0.311	0.016	0.051	0.659	0.812	274	561	0.279	0.342
Comprehensive knowledge about HIV prevention among young people	9.2	0.214	0.050	0.236	2.896	1.702	92	192	0.113	0.315
Knowledge of mother- to-child transmission of HIV	9.3	0.499	0.021	0.042	1.099	1.048	307	633	0.457	0.541
Accepting attitudes towards people living with HIV	9.4	0.425	0.032	0.076	1.973	1.405	224	460	0.361	0.490
Women who have been tested for HIV and know the results	9.6	0.172	0.022	0.127	2.110	1.453	307	633	0.128	0.215
Sexually active young women who have been tested for HIV and know the results	9.7	0.200	0.049	0.243	1.179	1.086	40	81	0.103	0.297
Sex before age 15 among young women	9.11	0.032	0.015	0.461	1.339	1.157	92	192	0.002	0.061
Condom use with non-regular partners	9.16	0.327	0.000	0.000	0.000	0.000	2	3	0.327	0.327
UNDER-5s										
Underweight prevalence	2.1a	0.177	0.024	0.134	1.008	1.004	123	261	0.130	0.225
Stunting prevalence	2.2a	0.589	0.049	0.084	2.352	1.533	112	236	0.491	0.687
Wasting prevalence	2.3a	0.043	0.016	0.359	1.449	1.204	118	250	0.012	0.074
Exclusive breastfeeding under 6 months	2.6	0.232	0.069	0.299	0.591	0.769	12	23	0.093	0.370
Age-appropriate breastfeeding	2.14	0.546	0.039	0.071	0.600	0.775	47	99	0.468	0.624
Diarrhoea in the previous 2 weeks	-	0.304	0.030	0.099	1.118	1.057	124	264	0.244	0.363
Illness with a cough in the previous 2 weeks	-	0.193	0.032	0.164	1.695	1.302	124	264	0.130	0.256
Oral rehydration therapy with continued feeding	3.8	0.733	0.037	0.051	0.544	0.737	38	78	0.658	0.807
Antibiotic treatment of suspected pneumonia	3.1	0.852	0.036	0.042	0.532	0.729	24	53	0.780	0.924
Support for learning	6.1	0.560	0.066	0.119	1.734	1.317	45	98	0.427	0.693
Attendance to early childhood education	6.7	0.052	0.013	0.240	0.307	0.554	45	98	0.027	0.077
Birth registration	8.1	1.000	0.000	0.000	.	.	124	264	1.000	1.000

TABLE SE.11: SAMPLING ERRORS: MONGAR

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.990	0.002	0.002	0.434	0.659	4741	772	0.986	0.995
Use of improved sanitation facilities	4.3	0.373	0.033	0.089	3.640	1.908	4741	772	0.306	0.439
Primary school net attendance ratio (adjusted)	7.4	0.874	0.018	0.020	1.638	1.280	724	585	0.839	0.909
Secondary school net attendance ratio (adjusted)	7.5	0.491	0.037	0.076	2.617	1.618	594	469	0.417	0.566
Child labour	8.2	0.171	0.021	0.120	2.571	1.603	1065	865	0.130	0.212
Prevalence of children with at least one parent dead	9.18	0.086	0.010	0.121	2.036	1.427	1843	1486	0.065	0.106
School attendance of orphans	9.19	0.000	0.000	.	.	.	4	3	0.000	0.000
School attendance of non-orphans	9.2	0.829	0.028	0.034	1.987	1.410	457	365	0.773	0.885
WOMEN										
Pregnant women	-	0.044	0.007	0.153	0.788	0.887	926	734	0.030	0.057
Early childbearing	5.2	0.166	0.033	0.197	0.977	0.988	161	128	0.101	0.231
Contraceptive prevalence	5.3	0.636	0.016	0.026	0.648	0.805	697	559	0.603	0.669
Unmet need	5.4	0.135	0.013	0.099	0.864	0.929	697	559	0.108	0.162
Antenatal care coverage - at least once by skilled personnel	5.5a	0.993	0.007	0.007	1.095	1.046	186	151	0.978	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.781	0.025	0.032	0.535	0.732	186	151	0.731	0.830
Skilled attendant at delivery	5.7	0.617	0.036	0.058	0.813	0.902	186	151	0.545	0.688
Institutional deliveries	5.8	0.598	0.040	0.067	0.994	0.997	186	151	0.519	0.678
Caesarean section	5.9	0.081	0.019	0.233	0.722	0.850	186	151	0.043	0.119
Literacy rate among young women	7.1	0.458	0.049	0.108	2.133	1.461	278	219	0.359	0.556
Marriage before age 18	8.7	0.371	0.020	0.055	1.147	1.071	809	643	0.331	0.412
Comprehensive knowledge about HIV prevention among young people	9.2	0.087	0.018	0.206	0.882	0.939	278	219	0.051	0.123
Knowledge of mother- to-child transmission of HIV	9.3	0.622	0.026	0.043	2.182	1.477	926	734	0.569	0.675
Accepting attitudes towards people living with HIV	9.4	0.213	0.018	0.084	1.276	1.130	843	670	0.177	0.248
Women who have been tested for HIV and know the results	9.6	0.118	0.013	0.110	1.182	1.087	926	734	0.092	0.144
Sexually active young women who have been tested for HIV and know the results	9.7	0.181	0.035	0.196	1.111	1.054	166	132	0.110	0.252
Sex before age 15 among young women	9.11	0.078	0.020	0.250	1.158	1.076	278	219	0.039	0.117
Condom use with non-regular partners	9.16	0.387	0.182	0.469	1.390	1.179	15	11	0.024	0.750
UNDER-5s										
Underweight prevalence	2.1a	0.120	0.022	0.185	1.748	1.322	462	376	0.075	0.164
Stunting prevalence	2.2a	0.397	0.024	0.059	0.849	0.922	453	368	0.350	0.444
Wasting prevalence	2.3a	0.055	0.014	0.261	1.453	1.205	449	365	0.027	0.084
Exclusive breastfeeding under 6 months	2.6	0.445	0.075	0.169	0.617	0.786	35	28	0.295	0.596
Age-appropriate breastfeeding	2.14	0.686	0.045	0.065	1.369	1.170	179	148	0.596	0.776
Diarrhoea in the previous 2 weeks	-	0.252	0.025	0.100	1.266	1.125	466	379	0.202	0.302
Illness with a cough in the previous 2 weeks	-	0.106	0.018	0.173	1.336	1.156	466	379	0.069	0.142
Oral rehydration therapy with continued feeding	3.8	0.436	0.021	0.049	0.164	0.405	117	91	0.394	0.479
Antibiotic treatment of suspected pneumonia	3.1	0.381	0.045	0.117	0.329	0.574	49	40	0.292	0.471
Support for learning	6.1	0.362	0.041	0.114	1.129	1.063	192	153	0.279	0.445
Attendance to early childhood education	6.7	0.085	0.043	0.509	3.645	1.909	192	153	0.000	0.171
Birth registration	8.1	1.000	0.000	0.000	.	.	466	379	1.000	1.000

TABLE SE.12: SAMPLING ERRORS: PARO

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indica-tor	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design ef-fect (deff)	Square root of design ef-fect (deft)	Weighted count	Un-weighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.964	0.015	0.016	5.276	2.297	3776	778	0.934	0.995
Use of improved sanitation facilities	4.3	0.761	0.027	0.036	3.159	1.777	3776	778	0.706	0.815
Primary school net attendance ratio (adjusted)	7.4	0.917	0.013	0.014	1.004	1.002	499	484	0.892	0.942
Secondary school net attendance ratio (adjusted)	7.5	0.604	0.024	0.040	1.329	1.153	547	535	0.555	0.653
Child labour	8.2	0.141	0.017	0.120	1.888	1.374	823	798	0.108	0.175
Prevalence of children with at least one parent dead	9.18	0.038	0.010	0.256	3.566	1.888	1397	1365	0.019	0.058
School attendance of orphans	9.19	0.821	0.000	0.000	0.000	0.000	6	5	0.821	0.821
School attendance of non-orphans	9.2	0.907	0.010	0.011	0.398	0.631	360	351	0.887	0.926
WOMEN										
Pregnant women	-	0.037	0.007	0.183	1.031	1.015	799	795	0.024	0.051
Early childbearing	5.2	0.065	0.017	0.261	0.662	0.813	151	140	0.031	0.099
Contraceptive prevalence	5.3	0.673	0.024	0.036	1.339	1.157	504	495	0.625	0.722
Unmet need	5.4	0.121	0.016	0.129	1.131	1.064	504	495	0.090	0.153
Antenatal care coverage - at least once by skilled personnel	5.5a	0.989	0.009	0.009	1.005	1.003	146	138	0.971	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.759	0.030	0.039	0.657	0.811	146	138	0.700	0.819
Skilled attendant at delivery	5.7	0.860	0.042	0.049	2.007	1.417	146	138	0.776	0.944
Institutional deliveries	5.8	0.817	0.038	0.047	1.341	1.158	146	138	0.740	0.893
Caesarean section	5.9	0.152	0.027	0.179	0.783	0.885	146	138	0.098	0.206
Literacy rate among young women	7.1	0.739	0.030	0.041	1.328	1.152	286	280	0.678	0.799
Marriage before age 18	8.7	0.185	0.015	0.079	0.918	0.958	664	655	0.156	0.214
Comprehensive knowledge about HIV prevention among young people	9.2	0.269	0.032	0.119	1.453	1.205	286	280	0.205	0.333
Knowledge of mother- to-child transmission of HIV	9.3	0.546	0.026	0.047	2.132	1.460	799	795	0.494	0.598
Accepting attitudes towards people living with HIV	9.4	0.238	0.023	0.096	2.193	1.481	761	759	0.192	0.284
Women who have been tested for HIV and know the results	9.6	0.098	0.009	0.092	0.735	0.857	799	795	0.080	0.116
Sexually active young women who have been tested for HIV and know the results	9.7	0.146	0.023	0.157	0.399	0.632	108	95	0.100	0.193
Sex before age 15 among young women	9.11	0.009	0.006	0.704	1.212	1.101	286	280	0.000	0.021
Condom use with non-regular partners	9.16	1.000	0.000	0.000	.	.	3	3	1.000	1.000
UNDER-5s										
Underweight prevalence	2.1a	0.075	0.015	0.201	1.016	1.008	320	311	0.045	0.105
Stunting prevalence	2.2a	0.301	0.037	0.124	1.960	1.400	301	296	0.226	0.375
Wasting prevalence	2.3a	0.069	0.014	0.198	0.857	0.926	301	296	0.042	0.096
Exclusive breastfeeding under 6 months	2.6	0.642	0.054	0.084	0.495	0.703	45	40	0.534	0.750
Age-appropriate breastfeeding	2.14	0.723	0.035	0.048	0.855	0.924	152	142	0.653	0.792
Diarrhoea in the previous 2 weeks	-	0.257	0.026	0.100	1.118	1.058	337	328	0.205	0.308
Illness with a cough in the previous 2 weeks	-	0.061	0.010	0.161	0.550	0.742	337	328	0.041	0.081
Oral rehydration therapy with continued feeding	3.8	0.751	0.050	0.066	1.179	1.086	86	90	0.652	0.851
Antibiotic treatment of suspected pneumonia	3.1	0.628	0.118	0.187	1.128	1.062	21	20	0.393	0.864
Support for learning	6.1	0.667	0.053	0.079	1.465	1.210	117	118	0.562	0.773
Attendance to early childhood education	6.7	0.186	0.049	0.264	1.858	1.363	117	118	0.088	0.284
Birth registration	8.1	1.000	0.000	0.000	.	.	337	328	1.000	1.000

TABLE SE.13: SAMPLING ERRORS: PEMAGATSHEL

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Un-weighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.962	0.015	0.016	4.714	2.171	2627	755	0.932	0.992
Use of improved sanitation facilities	4.3	0.314	0.031	0.097	3.277	1.810	2627	755	0.253	0.375
Primary school net attendance ratio (adjusted)	7.4	0.957	0.011	0.011	1.501	1.225	392	525	0.936	0.979
Secondary school net attendance ratio (adjusted)	7.5	0.586	0.029	0.050	1.578	1.256	335	446	0.528	0.645
Child labour	8.2	0.304	0.027	0.088	2.485	1.576	547	734	0.250	0.357
Prevalence of children with at least one parent dead	9.18	0.053	0.008	0.161	1.790	1.338	942	1245	0.036	0.070
School attendance of orphans	9.19	1.000	0.000	0.000	.	.	2	2	1.000	1.000
School attendance of non-orphans	9.2	0.914	0.021	0.023	1.868	1.367	258	339	0.872	0.956
WOMEN										
Pregnant women	-	0.040	0.008	0.196	0.932	0.965	489	583	0.024	0.056
Early childbearing	5.2	0.172	0.037	0.215	0.855	0.924	76	90	0.098	0.246
Contraceptive prevalence	5.3	0.557	0.022	0.039	0.844	0.919	373	440	0.514	0.601
Unmet need	5.4	0.197	0.020	0.101	1.097	1.048	373	440	0.157	0.237
Antenatal care coverage - at least once by skilled personnel	5.5a	0.848	0.080	0.095	5.202	2.281	94	105	0.688	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.704	0.077	0.109	2.950	1.718	94	105	0.550	0.858
Skilled attendant at delivery	5.7	0.427	0.073	0.172	2.288	1.512	94	105	0.281	0.574
Institutional deliveries	5.8	0.451	0.068	0.150	1.917	1.385	94	105	0.316	0.586
Caesarean section	5.9	0.057	0.027	0.480	1.450	1.204	94	105	0.002	0.112
Literacy rate among young women	7.1	0.437	0.044	0.101	1.212	1.101	129	153	0.349	0.526
Marriage before age 18	8.7	0.291	0.017	0.059	0.733	0.856	436	520	0.257	0.326
Comprehensive knowledge about HIV prevention among young people	9.2	0.086	0.019	0.226	0.724	0.851	129	153	0.047	0.124
Knowledge of mother- to-child transmission of HIV	9.3	0.498	0.026	0.052	1.575	1.255	489	583	0.446	0.550
Accepting attitudes towards people living with HIV	9.4	0.227	0.030	0.132	2.669	1.634	433	519	0.167	0.288
Women who have been tested for HIV and know the results	9.6	0.191	0.020	0.103	1.457	1.207	489	583	0.152	0.231
Sexually active young women who have been tested for HIV and know the results	9.7	0.303	0.061	0.202	1.355	1.164	66	77	0.180	0.426
Sex before age 15 among young women	9.11	0.049	0.019	0.389	1.184	1.088	129	153	0.011	0.087
Condom use with non-regular partners	9.16	.	.	.	.	.	.	0	.	.
UNDER-5s										
Underweight prevalence	2.1a	0.198	0.034	0.172	1.812	1.346	196	249	0.130	0.266
Stunting prevalence	2.2a	0.449	0.052	0.116	2.138	1.462	158	197	0.345	0.553
Wasting prevalence	2.3a	0.026	0.012	0.463	1.189	1.091	167	212	0.002	0.049
Exclusive breastfeeding under 6 months	2.6	0.554	0.067	0.121	0.623	0.789	30	35	0.420	0.689
Age-appropriate breastfeeding	2.14	0.528	0.075	0.142	2.496	1.580	87	112	0.378	0.678
Diarrhoea in the previous 2 weeks	-	0.157	0.025	0.162	1.337	1.156	214	276	0.106	0.208
Illness with a cough in the previous 2 weeks	-	0.015	0.007	0.439	0.828	0.910	214	276	0.002	0.029
Oral rehydration therapy with continued feeding	3.8	0.704	0.035	0.049	0.219	0.468	34	39	0.634	0.773
Antibiotic treatment of suspected pneumonia	3.1	0.348	0.020	0.059	0.006	0.074	3	4	0.308	0.389
Support for learning	6.1	0.598	0.060	0.101	1.497	1.224	76	100	0.477	0.718
Attendance to early childhood education	6.7	0.008	0.008	1.032	0.816	0.903	76	100	0.000	0.024
Birth registration	8.1	1.000	0.000	0.000	.	.	214	276	1.000	1.000

TABLE SE.14: SAMPLING ERRORS: PANAKHA

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weight-ed count	Un-weighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.910	0.022	0.024	4.533	2.129	2549	782	0.867	0.954
Use of improved sanitation facilities	4.3	0.538	0.028	0.052	2.422	1.556	2549	782	0.483	0.594
Primary school net attendance ratio (adjusted)	7.4	0.896	0.014	0.015	1.244	1.115	401	607	0.869	0.924
Secondary school net attendance ratio (adjusted)	7.5	0.556	0.032	0.057	2.234	1.495	356	554	0.493	0.619
Child labour	8.2	0.163	0.017	0.105	1.939	1.393	602	911	0.129	0.197
Prevalence of children with at least one parent dead	9.18	0.071	0.012	0.165	3.199	1.789	996	1529	0.048	0.095
School attendance of orphans	9.19	0.500	0.000	0.000	0.000	0.000	1	2	0.500	0.500
School attendance of non-orphans	9.2	0.847	0.019	0.022	1.085	1.042	268	406	0.810	0.884
WOMEN										
Pregnant women	-	0.057	0.011	0.190	1.729	1.315	506	793	0.035	0.079
Early childbearing	5.2	0.115	0.028	0.246	0.904	0.951	74	116	0.058	0.171
Contraceptive prevalence	5.3	0.612	0.025	0.041	1.366	1.169	342	527	0.562	0.661
Unmet need	5.4	0.156	0.013	0.084	0.692	0.832	342	527	0.130	0.183
Antenatal care coverage - at least once by skilled personnel	5.5a	0.980	0.012	0.012	1.140	1.068	100	156	0.956	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.771	0.044	0.057	1.714	1.309	100	156	0.682	0.859
Skilled attendant at delivery	5.7	0.783	0.036	0.047	1.210	1.100	100	156	0.710	0.856
Institutional deliveries	5.8	0.779	0.037	0.047	1.231	1.109	100	156	0.705	0.853
Caesarean section	5.9	0.107	0.029	0.273	1.379	1.174	100	156	0.048	0.165
Literacy rate among young women	7.1	0.586	0.046	0.079	2.082	1.443	144	235	0.493	0.678
Marriage before age 18	8.7	0.291	0.020	0.068	1.272	1.128	436	674	0.252	0.331
Comprehensive knowledge about HIV prevention among young people	9.2	0.161	0.041	0.253	2.874	1.695	144	235	0.079	0.242
Knowledge of mother- to-child transmission of HIV	9.3	0.671	0.021	0.031	1.567	1.252	506	793	0.630	0.713
Accepting attitudes towards people living with HIV	9.4	0.286	0.025	0.088	2.090	1.446	432	675	0.236	0.336
Women who have been tested for HIV and know the results	9.6	0.105	0.010	0.096	0.858	0.926	506	793	0.085	0.125
Sexually active young women who have been tested for HIV and know the results	9.7	0.156	0.039	0.253	0.983	0.991	52	84	0.077	0.235
Sex before age 15 among young women	9.11	0.014	0.009	0.656	1.424	1.193	144	235	0.000	0.032
Condom use with non-regular partners	9.16	0.547	0.000	0.000	0.000	0.000	2	4	0.547	0.547
UNDER-5s										
Underweight prevalence	2.1a	0.114	0.011	0.097	0.386	0.621	203	321	0.092	0.136
Stunting prevalence	2.2a	0.207	0.022	0.106	0.876	0.936	193	303	0.163	0.250
Wasting prevalence	2.3a	0.047	0.012	0.253	0.968	0.984	197	311	0.023	0.070
Exclusive breastfeeding under 6 months	2.6	0.286	0.073	0.255	0.961	0.980	23	38	0.140	0.432
Age-appropriate breastfeeding	2.14	0.621	0.039	0.063	1.043	1.021	102	159	0.542	0.700
Diarrhoea in the previous 2 weeks	-	0.276	0.033	0.121	1.911	1.382	218	343	0.210	0.343
Illness with a cough in the previous 2 weeks	-	0.076	0.022	0.282	2.254	1.501	218	343	0.033	0.119
Oral rehydration therapy with continued feeding	3.8	0.691	0.053	0.077	1.312	1.145	60	101	0.585	0.797
Antibiotic treatment of suspected pneumonia	3.1	0.688	0.049	0.071	0.256	0.506	17	24	0.591	0.786
Support for learning	6.1	0.436	0.038	0.087	0.706	0.840	77	121	0.360	0.512
Attendance to early childhood education	6.7	0.141	0.030	0.210	0.868	0.932	77	121	0.082	0.200
Birth registration	8.1	0.996	0.000	0.000	0.019	0.139	218	343	0.995	0.997

TABLE SE.15: SAMPLING ERRORS: SAMDRUP JONGKHAR

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.973	0.011	0.011	3.493	1.869	3892	739	0.951	0.996
Use of improved sanitation facilities	4.3	0.520	0.037	0.072	4.137	2.034	3892	739	0.445	0.594
Primary school net attendance ratio (adjusted)	7.4	0.945	0.010	0.011	1.308	1.144	693	627	0.924	0.966
Secondary school net attendance ratio (adjusted)	7.5	0.544	0.034	0.063	2.298	1.516	531	487	0.476	0.613
Child labour	8.2	0.198	0.020	0.103	2.290	1.513	980	885	0.157	0.238
Prevalence of children with at least one parent dead	9.18	0.046	0.010	0.213	3.299	1.816	1667	1492	0.027	0.066
School attendance of orphans	9.19	.	.	.	.	.	.	.	.	.
School attendance of non-orphans	9.2	0.909	0.017	0.018	1.312	1.145	429	393	0.876	0.943
WOMEN										
Pregnant women	-	0.067	0.012	0.174	1.404	1.185	775	645	0.044	0.090
Early childbearing	5.2	0.243	0.050	0.207	1.503	1.226	136	111	0.142	0.343
Contraceptive prevalence	5.3	0.624	0.027	0.044	1.656	1.287	638	526	0.570	0.679
Unmet need	5.4	0.130	0.019	0.149	1.739	1.319	638	526	0.092	0.169
Antenatal care coverage - at least once by skilled personnel	5.5a	0.984	0.011	0.012	1.112	1.054	163	136	0.961	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.701	0.044	0.062	1.234	1.111	163	136	0.614	0.789
Skilled attendant at delivery	5.7	0.456	0.051	0.112	1.424	1.193	163	136	0.354	0.558
Institutional deliveries	5.8	0.449	0.054	0.120	1.592	1.262	163	136	0.341	0.557
Caesarean section	5.9	0.154	0.037	0.241	1.438	1.199	163	136	0.080	0.229
Literacy rate among young women	7.1	0.451	0.038	0.084	1.115	1.056	235	194	0.375	0.526
Marriage before age 18	8.7	0.435	0.020	0.046	0.911	0.954	676	562	0.395	0.475
Comprehensive knowledge about HIV prevention among young people	9.2	0.158	0.030	0.189	1.293	1.137	235	194	0.098	0.218
Knowledge of mother- to-child transmission of HIV	9.3	0.537	0.027	0.051	1.931	1.389	775	645	0.483	0.592
Accepting attitudes towards people living with HIV	9.4	0.299	0.027	0.090	1.616	1.271	535	465	0.245	0.353
Women who have been tested for HIV and know the results	9.6	0.060	0.012	0.195	1.565	1.251	775	645	0.037	0.084
Sexually active young women who have been tested for HIV and know the results	9.7	0.106	0.030	0.280	0.950	0.975	130	103	0.047	0.166
Sex before age 15 among young women	9.11	0.064	0.016	0.250	0.826	0.909	235	194	0.032	0.096
Condom use with non-regular partners	9.16	0.772	0.235	0.305	0.944	0.971	5	4	0.301	1.000
UNDER-5s										
Underweight prevalence	2.1a	0.110	0.013	0.120	0.631	0.795	404	355	0.083	0.136
Stunting prevalence	2.2a	0.374	0.038	0.101	2.111	1.453	400	351	0.299	0.449
Wasting prevalence	2.3a	0.034	0.013	0.392	1.915	1.384	403	354	0.007	0.061
Exclusive breastfeeding under 6 months	2.6	0.300	0.077	0.257	0.650	0.806	27	24	0.146	0.454
Age-appropriate breastfeeding	2.14	0.702	0.045	0.064	1.355	1.164	160	143	0.613	0.792
Diarrhoea in the previous 2 weeks	-	0.202	0.020	0.097	0.855	0.924	410	360	0.163	0.241
Illness with a cough in the previous 2 weeks	-	0.079	0.012	0.156	0.746	0.864	410	360	0.054	0.103
Oral rehydration therapy with continued feeding	3.8	0.812	0.042	0.052	0.836	0.914	83	72	0.727	0.897
Antibiotic treatment of suspected pneumonia	3.1	0.265	0.082	0.309	0.997	0.998	32	30	0.101	0.429
Support for learning	6.1	0.333	0.041	0.124	1.076	1.037	161	142	0.250	0.415
Attendance to early childhood education	6.7	0.093	0.037	0.393	2.243	1.498	161	142	0.020	0.167
Birth registration	8.1	1.000	0.000	0.000	.	.	410	360	1.000	1.000

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.954	0.015	0.016	4.143	2.036	7530	790	0.924	0.984
Use of improved sanitation facilities	4.3	0.537	0.031	0.058	3.049	1.746	7530	790	0.475	0.599
Primary school net attendance ratio (adjusted)	7.4	0.914	0.020	0.022	2.852	1.689	1164	541	0.873	0.955
Secondary school net attendance ratio (adjusted)	7.5	0.486	0.036	0.075	2.272	1.507	866	430	0.413	0.558
Child labour	8.2	0.284	0.032	0.112	3.903	1.976	1654	780	0.220	0.348
Prevalence of children with at least one parent dead	9.18	0.048	0.007	0.154	1.634	1.278	2878	1366	0.033	0.063
School attendance of orphans	9.19	1.000	0.000	0.000	.	.	4	2	1.000	1.000
School attendance of non-orphans	9.2	0.928	0.025	0.026	2.903	1.704	669	325	0.879	0.977
WOMEN										
Pregnant women	-	0.046	0.005	0.118	0.542	0.736	1562	802	0.035	0.057
Early childbearing	5.2	0.187	0.042	0.226	1.706	1.306	274	146	0.103	0.272
Contraceptive prevalence	5.3	0.671	0.021	0.032	1.229	1.109	1143	591	0.628	0.714
Unmet need	5.4	0.138	0.019	0.141	1.880	1.371	1143	591	0.099	0.177
Antenatal care coverage - at least once by skilled personnel	5.5a	0.992	0.008	0.008	0.938	0.969	221	118	0.976	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.868	0.036	0.041	1.300	1.140	221	118	0.796	0.939
Skilled attendant at delivery	5.7	0.629	0.053	0.084	1.412	1.188	221	118	0.523	0.735
Institutional deliveries	5.8	0.599	0.053	0.088	1.351	1.162	221	118	0.494	0.705
Caesarean section	5.9	0.114	0.025	0.222	0.741	0.861	221	118	0.064	0.165
Literacy rate among young women	7.1	0.491	0.061	0.125	4.065	2.016	524	272	0.368	0.613
Marriage before age 18	8.7	0.354	0.019	0.054	1.084	1.041	1312	676	0.316	0.392
Comprehensive knowledge about HIV prevention among young people	9.2	0.185	0.037	0.201	2.487	1.577	524	272	0.111	0.259
Knowledge of mother- to-child transmission of HIV	9.3	0.392	0.026	0.065	2.214	1.488	1562	802	0.341	0.444
Accepting attitudes towards people living with HIV	9.4	0.310	0.019	0.061	1.089	1.043	1268	648	0.272	0.348
Women who have been tested for HIV and know the results	9.6	0.097	0.022	0.232	4.614	2.148	1562	802	0.052	0.142
Sexually active young women who have been tested for HIV and know the results	9.7	0.115	0.037	0.322	1.579	1.257	224	118	0.041	0.189
Sex before age 15 among young women	9.11	0.073	0.023	0.315	2.118	1.455	524	272	0.027	0.119
Condom use with non-regular partners	9.16	1.000	0.000	0.000	.	.	1	1	1.000	1.000
UNDER-5s										
Underweight prevalence	2.1a	0.131	0.027	0.210	2.296	1.515	730	346	0.076	0.186
Stunting prevalence	2.2a	0.284	0.038	0.133	2.333	1.528	712	336	0.209	0.359
Wasting prevalence	2.3a	0.047	0.012	0.252	1.039	1.019	709	334	0.023	0.071
Exclusive breastfeeding under 6 months	2.6	0.462	0.060	0.130	0.481	0.694	66	34	0.341	0.582
Age-appropriate breastfeeding	2.14	0.655	0.042	0.063	0.901	0.949	234	119	0.572	0.738
Diarrhoea in the previous 2 weeks	-	0.247	0.030	0.120	1.685	1.298	755	360	0.188	0.306
Illness with a cough in the previous 2 weeks	-	0.116	0.018	0.151	1.078	1.038	755	360	0.081	0.151
Oral rehydration therapy with continued feeding	3.8	0.559	0.056	0.100	1.119	1.058	186	90	0.447	0.670
Antibiotic treatment of suspected pneumonia	3.1	0.511	0.056	0.110	0.469	0.685	87	38	0.399	0.624
Support for learning	6.1	0.593	0.048	0.080	1.546	1.244	355	165	0.497	0.688
Attendance to early childhood education	6.7	0.084	0.025	0.300	1.349	1.161	355	165	0.034	0.134
Birth registration	8.1	0.994	0.004	0.004	1.048	1.024	755	360	0.985	1.000

TABLE SE.17: SAMPLING ERRORS: SARPANG

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Un-weighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.967	0.012	0.012	3.283	1.812	4127	765	0.944	0.990
Use of improved sanitation facilities	4.3	0.578	0.031	0.054	3.066	1.751	4127	765	0.516	0.641
Primary school net attendance ratio (adjusted)	7.4	0.957	0.011	0.012	1.707	1.306	631	564	0.935	0.980
Secondary school net attendance ratio (adjusted)	7.5	0.589	0.033	0.056	1.998	1.413	506	440	0.523	0.655
Child labour	8.2	0.256	0.026	0.100	2.797	1.673	917	818	0.205	0.308
Prevalence of children with at least one parent dead	9.18	0.048	0.006	0.124	1.042	1.021	1518	1335	0.036	0.060
School attendance of orphans	9.19	1.000	0.000	0.000	.	.	1	1	1.000	1.000
School attendance of non-orphans	9.2	0.946	0.015	0.016	1.681	1.297	410	357	0.916	0.977
WOMEN										
Pregnant women	-	0.033	0.006	0.171	0.836	0.914	924	836	0.022	0.044
Early childbearing	5.2	0.186	0.026	0.140	0.652	0.807	173	147	0.134	0.238
Contraceptive prevalence	5.3	0.674	0.024	0.035	1.525	1.235	651	599	0.627	0.721
Unmet need	5.4	0.084	0.013	0.152	1.258	1.122	651	599	0.058	0.109
Antenatal care coverage - at least once by skilled personnel	5.5a	1.000	0.000	0.000	.	.	132	124	1.000	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.949	0.024	0.025	1.422	1.192	132	124	0.901	0.996
Skilled attendant at delivery	5.7	0.623	0.043	0.069	0.967	0.984	132	124	0.537	0.709
Institutional deliveries	5.8	0.615	0.043	0.069	0.946	0.973	132	124	0.530	0.701
Caesarean section	5.9	0.132	0.027	0.204	0.775	0.880	132	124	0.078	0.186
Literacy rate among young women	7.1	0.616	0.038	0.062	1.701	1.304	314	275	0.540	0.693
Marriage before age 18	8.7	0.399	0.017	0.044	0.893	0.945	783	708	0.364	0.434
Comprehensive knowledge about HIV prevention among young people	9.2	0.260	0.041	0.159	2.448	1.565	314	275	0.177	0.343
Knowledge of mother- to-child transmission of HIV	9.3	0.480	0.026	0.054	2.226	1.492	924	836	0.428	0.532
Accepting attitudes towards people living with HIV	9.4	0.312	0.028	0.088	2.487	1.577	774	703	0.257	0.367
Women who have been tested for HIV and know the results	9.6	0.074	0.014	0.193	2.492	1.579	924	836	0.046	0.103
Sexually active young women who have been tested for HIV and know the results	9.7	0.089	0.037	0.418	1.818	1.348	119	108	0.015	0.163
Sex before age 15 among young women	9.11	0.023	0.008	0.361	0.838	0.915	314	275	0.006	0.039
Condom use with non-regular partners	9.16	0.485	0.000	0.000	0.000	0.000	3	3	0.485	0.485
UNDER-5s										
Underweight prevalence	2.1a	0.109	0.015	0.142	0.751	0.867	347	305	0.078	0.139
Stunting prevalence	2.2a	0.232	0.026	0.114	1.130	1.063	328	288	0.179	0.285
Wasting prevalence	2.3a	0.044	0.011	0.250	0.832	0.912	329	289	0.022	0.066
Exclusive breastfeeding under 6 months	2.6	0.553	0.099	0.179	1.229	1.108	34	32	0.355	0.751
Age-appropriate breastfeeding	2.14	0.725	0.044	0.061	1.227	1.108	142	127	0.637	0.813
Diarrhoea in the previous 2 weeks	-	0.205	0.024	0.116	1.053	1.026	350	307	0.158	0.253
Illness with a cough in the previous 2 weeks	-	0.056	0.011	0.204	0.759	0.871	350	307	0.033	0.079
Oral rehydration therapy with continued feeding	3.8	0.479	0.065	0.136	1.027	1.013	72	61	0.348	0.610
Antibiotic treatment of suspected pneumonia	3.1	0.384	0.084	0.220	0.390	0.624	20	14	0.215	0.552
Support for learning	6.1	0.454	0.054	0.118	1.376	1.173	141	120	0.347	0.561
Attendance to early childhood education	6.7	0.050	0.024	0.485	1.473	1.214	141	120	0.001	0.098
Birth registration	8.1	1.000	0.000	0.000	.	.	350	307	1.000	1.000

TABLE SE.18: SAMPLING ERRORS: THIMPHU

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	1.000	0.000	0.000	.	.	8372	763	1.000	1.000
Use of improved sanitation facilities	4.3	0.751	0.041	0.054	6.760	2.600	8372	763	0.670	0.833
Primary school net attendance ratio (adjusted)	7.4	0.948	0.016	0.017	2.410	1.553	1221	468	0.917	0.980
Secondary school net attendance ratio (adjusted)	7.5	0.761	0.025	0.033	1.553	1.246	1093	440	0.711	0.812
Child labour	8.2	0.049	0.017	0.341	4.284	2.070	1870	721	0.015	0.082
Prevalence of children with at least one parent dead	9.18	0.030	0.007	0.235	2.111	1.453	3216	1246	0.016	0.044
School attendance of orphans	9.19	0.000	0.000	.	.	.	4	1	0.000	0.000
School attendance of non-orphans	9.2	0.968	0.011	0.011	1.260	1.123	865	340	0.947	0.990
WOMEN										
Pregnant women	-	0.040	0.005	0.135	0.694	0.833	2054	914	0.029	0.051
Early childbearing	5.2	0.088	0.021	0.234	0.937	0.968	407	178	0.047	0.129
Contraceptive prevalence	5.3	0.666	0.025	0.038	1.645	1.283	1327	588	0.616	0.716
Unmet need	5.4	0.094	0.013	0.142	1.222	1.105	1327	588	0.067	0.120
Antenatal care coverage - at least once by skilled personnel	5.5a	0.984	0.011	0.011	0.994	0.997	298	128	0.961	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.836	0.038	0.045	1.330	1.153	298	128	0.760	0.912
Skilled attendant at delivery	5.7	0.944	0.031	0.033	2.370	1.540	298	128	0.882	1.000
Institutional deliveries	5.8	0.944	0.031	0.033	2.370	1.540	298	128	0.882	1.000
Caesarean section	5.9	0.160	0.023	0.141	0.481	0.694	298	128	0.115	0.205
Literacy rate among young women	7.1	0.795	0.023	0.029	1.101	1.049	763	337	0.748	0.841
Marriage before age 18	8.7	0.202	0.012	0.061	0.702	0.838	1698	755	0.177	0.227
Comprehensive knowledge about HIV prevention among young people	9.2	0.397	0.053	0.133	3.936	1.984	763	337	0.291	0.503
Knowledge of mother- to-child transmission of HIV	9.3	0.656	0.028	0.042	3.071	1.752	2054	914	0.601	0.711
Accepting attitudes towards people living with HIV	9.4	0.361	0.063	0.175	14.570	3.817	1904	845	0.235	0.487
Women who have been tested for HIV and know the results	9.6	0.127	0.014	0.107	1.528	1.236	2054	914	0.100	0.154
Sexually active young women who have been tested for HIV and know the results	9.7	0.205	0.047	0.231	1.330	1.153	225	98	0.110	0.299
Sex before age 15 among young women	9.11	0.011	0.005	0.486	0.894	0.946	763	337	0.000	0.022
Condom use with non-regular partners	9.16	1.000	0.000	0.000	.	.	5	2	1.000	1.000
UNDER-5s										
Underweight prevalence	2.1a	0.119	0.021	0.175	1.254	1.120	785	305	0.077	0.160
Stunting prevalence	2.2a	0.378	0.031	0.083	1.173	1.083	722	280	0.315	0.441
Wasting prevalence	2.3a	0.062	0.011	0.176	0.561	0.749	718	278	0.040	0.083
Exclusive breastfeeding under 6 months	2.6	0.650	0.079	0.121	1.039	1.019	101	39	0.492	0.808
Age-appropriate breastfeeding	2.14	0.635	0.048	0.075	1.263	1.124	332	129	0.539	0.730
Diarrhoea in the previous 2 weeks	-	0.252	0.028	0.112	1.316	1.147	801	312	0.195	0.308
Illness with a cough in the previous 2 weeks	-	0.016	0.008	0.490	1.231	1.109	801	312	0.000	0.032
Oral rehydration therapy with continued feeding	3.8	0.527	0.098	0.185	2.951	1.718	201	78	0.332	0.723
Antibiotic treatment of suspected pneumonia	3.1	1.000	0.000	0.000	.	.	13	4	1.000	1.000
Support for learning	6.1	0.680	0.060	0.088	1.778	1.333	285	110	0.561	0.799
Attendance to early childhood education	6.7	0.185	0.051	0.275	1.870	1.367	285	110	0.083	0.286
Birth registration	8.1	1.000	0.000	0.000	.	.	801	312	1.000	1.000

TABLE SE.19: SAMPLING ERRORS: TRASHIGANG

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.986	0.005	0.005	1.196	1.094	5266	755	0.976	0.995
Use of improved sanitation facilities	4.3	0.521	0.044	0.084	5.806	2.409	5266	755	0.434	0.609
Primary school net attendance ratio (adjusted)	7.4	0.921	0.014	0.015	1.518	1.232	969	579	0.894	0.949
Secondary school net attendance ratio (adjusted)	7.5	0.390	0.051	0.131	3.910	1.977	592	357	0.288	0.492
Child labour	8.2	0.196	0.021	0.107	2.269	1.506	1353	814	0.154	0.238
Prevalence of children with at least one parent dead	9.18	0.064	0.013	0.204	3.550	1.884	2086	1261	0.038	0.089
School attendance of orphans	9.19	0.665	0.000	0.000	0.000	0.000	4	3	0.665	0.665
School attendance of non-orphans	9.2	0.886	0.023	0.026	1.880	1.371	578	347	0.840	0.933
WOMEN										
Pregnant women	-	0.042	0.007	0.165	0.718	0.847	940	606	0.028	0.055
Early childbearing	5.2	0.216	0.045	0.209	1.033	1.016	139	87	0.126	0.306
Contraceptive prevalence	5.3	0.642	0.025	0.039	1.370	1.171	772	493	0.592	0.693
Unmet need	5.4	0.132	0.017	0.131	1.287	1.134	772	493	0.097	0.167
Antenatal care coverage - at least once by skilled personnel	5.5a	0.947	0.023	0.024	1.128	1.062	161	110	0.901	0.992
Antenatal care coverage – at least four times by any provider	5.5b	0.693	0.047	0.068	1.130	1.063	161	110	0.599	0.787
Skilled attendant at delivery	5.7	0.393	0.056	0.142	1.421	1.192	161	110	0.282	0.505
Institutional deliveries	5.8	0.365	0.051	0.140	1.232	1.110	161	110	0.263	0.468
Caesarean section	5.9	0.101	0.029	0.287	1.013	1.006	161	110	0.043	0.159
Literacy rate among young women	7.1	0.403	0.049	0.122	1.436	1.198	230	145	0.305	0.501
Marriage before age 18	8.7	0.359	0.028	0.079	1.919	1.385	848	548	0.302	0.416
Comprehensive knowledge about HIV prevention among young people	9.2	0.062	0.026	0.421	1.691	1.300	230	145	0.010	0.114
Knowledge of mother- to-child transmission of HIV	9.3	0.691	0.018	0.025	0.873	0.934	940	606	0.656	0.726
Accepting attitudes towards people living with HIV	9.4	0.100	0.016	0.163	1.471	1.213	763	499	0.067	0.133
Women who have been tested for HIV and know the results	9.6	0.099	0.019	0.192	2.451	1.566	940	606	0.061	0.137
Sexually active young women who have been tested for HIV and know the results	9.7	0.125	0.034	0.276	0.944	0.971	145	88	0.056	0.194
Sex before age 15 among young women	9.11	0.068	0.017	0.253	0.677	0.823	230	145	0.034	0.103
Condom use with non-regular partners	9.16	1.000	0.000	0.000	.	.	2	1	1.000	1.000
UNDER-5s										
Underweight prevalence	2.1a	0.177	0.031	0.176	1.877	1.370	454	283	0.115	0.240
Stunting prevalence	2.2a	0.472	0.041	0.086	1.763	1.328	424	265	0.390	0.553
Wasting prevalence	2.3a	0.088	0.016	0.178	0.865	0.930	452	283	0.057	0.120
Exclusive breastfeeding under 6 months	2.6	0.452	0.086	0.190	0.714	0.845	38	25	0.281	0.624
Age-appropriate breastfeeding	2.14	0.607	0.044	0.073	0.893	0.945	164	109	0.518	0.696
Diarrhoea in the previous 2 weeks	-	0.265	0.034	0.128	1.757	1.326	479	300	0.198	0.333
Illness with a cough in the previous 2 weeks	-	0.065	0.020	0.304	1.913	1.383	479	300	0.025	0.104
Oral rehydration therapy with continued feeding	3.8	0.552	0.048	0.087	0.770	0.877	127	83	0.455	0.648
Antibiotic treatment of suspected pneumonia	3.1	0.184	0.008	0.044	0.008	0.089	31	19	0.168	0.201
Support for learning	6.1	0.668	0.054	0.081	1.661	1.289	206	128	0.560	0.775
Attendance to early childhood education	6.7	0.022	0.017	0.760	1.673	1.294	206	128	0.000	0.056
Birth registration	8.1	1.000	0.000	0.000	.	.	479	300	1.000	1.000

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Un-weighted count	Confidence limits r - 2se	Confidence limits r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.974	0.010	0.010	2.713	1.647	1711	761	0.955	0.993
Use of improved sanitation facilities	4.3	0.659	0.034	0.052	3.959	1.990	1711	761	0.590	0.727
Primary school net attendance ratio (adjusted)	7.4	0.928	0.016	0.017	1.783	1.335	288	489	0.897	0.959
Secondary school net attendance ratio (adjusted)	7.5	0.331	0.047	0.143	2.526	1.589	144	250	0.236	0.425
Child labour	8.2	0.142	0.013	0.093	1.018	1.009	423	719	0.115	0.168
Prevalence of children with at least one parent dead	9.18	0.058	0.012	0.204	2.805	1.675	654	1109	0.034	0.081
School attendance of orphans	9.19	.	.	.	.	.	.	.	.	.
School attendance of non-orphans	9.2	0.940	0.016	0.017	1.265	1.125	175	299	0.909	0.971
WOMEN										
Pregnant women	-	0.047	0.009	0.187	1.032	1.016	301	595	0.030	0.065
Early childbearing	5.2	0.078	0.026	0.331	0.912	0.955	50	100	0.026	0.129
Contraceptive prevalence	5.3	0.532	0.027	0.050	1.268	1.126	219	439	0.478	0.586
Unmet need	5.4	0.123	0.020	0.164	1.664	1.290	219	439	0.083	0.164
Antenatal care coverage - at least once by skilled personnel	5.5a	0.948	0.022	0.023	1.081	1.040	60	115	0.904	0.991
Antenatal care coverage – at least four times by any provider	5.5b	0.705	0.045	0.064	1.121	1.059	60	115	0.615	0.795
Skilled attendant at delivery	5.7	0.466	0.079	0.169	2.839	1.685	60	115	0.309	0.623
Institutional deliveries	5.8	0.408	0.080	0.197	3.057	1.748	60	115	0.247	0.569
Caesarean section	5.9	0.145	0.034	0.238	1.087	1.043	60	115	0.076	0.213
Literacy rate among young women	7.1	0.330	0.048	0.146	1.766	1.329	85	170	0.234	0.426
Marriage before age 18	8.7	0.288	0.019	0.064	0.880	0.938	266	525	0.251	0.325
Comprehensive knowledge about HIV prevention among young people	9.2	0.173	0.030	0.173	1.057	1.028	85	170	0.113	0.233
Knowledge of mother- to-child transmission of HIV	9.3	0.580	0.025	0.044	1.557	1.248	301	595	0.530	0.631
Accepting attitudes towards people living with HIV	9.4	0.228	0.030	0.133	2.188	1.479	214	417	0.168	0.289
Women who have been tested for HIV and know the results	9.6	0.070	0.011	0.156	1.092	1.045	301	595	0.048	0.092
Sexually active young women who have been tested for HIV and know the results	9.7	0.039	0.024	0.604	1.255	1.120	42	85	0.000	0.087
Sex before age 15 among young women	9.11	0.023	0.012	0.538	1.131	1.064	85	170	0.000	0.047
Condom use with non-regular partners	9.16	0.626	0.000	0.000	0.000	0.000	2	3	0.626	0.626
UNDER-5s										
Underweight prevalence	2.1a	0.136	0.026	0.193	1.643	1.282	164	281	0.083	0.188
Stunting prevalence	2.2a	0.403	0.028	0.070	0.891	0.944	155	267	0.347	0.460
Wasting prevalence	2.3a	0.048	0.015	0.307	1.317	1.148	161	276	0.019	0.078
Exclusive breastfeeding under 6 months	2.6	0.300	0.041	0.137	0.224	0.474	17	29	0.218	0.382
Age-appropriate breastfeeding	2.14	0.622	0.050	0.081	1.318	1.148	72	123	0.521	0.723
Diarrhoea in the previous 2 weeks	-	0.256	0.029	0.112	1.241	1.114	169	289	0.199	0.314
Illness with a cough in the previous 2 weeks	-	0.041	0.013	0.309	1.174	1.084	169	289	0.016	0.066
Oral rehydration therapy with continued feeding	3.8	0.780	0.042	0.054	0.742	0.861	43	74	0.696	0.863
Antibiotic treatment of suspected pneumonia	3.1	0.353	0.007	0.019	0.002	0.046	7	12	0.340	0.367
Support for learning	6.1	0.628	0.077	0.123	2.757	1.660	64	109	0.473	0.782
Attendance to early childhood education	6.7	0.033	0.019	0.565	1.175	1.084	64	109	0.000	0.070
Birth registration	8.1	1.000	0.000	0.000	.	.	169	289	1.000	1.000

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweight-ed count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.948	0.011	0.012	1.988	1.410	1510	768	0.925	0.971
Use of improved sanitation facilities	4.3	0.509	0.040	0.079	5.015	2.240	1510	768	0.429	0.590
Primary school net attendance ratio (adjusted)	7.4	0.945	0.014	0.014	2.084	1.444	234	581	0.918	0.972
Secondary school net attendance ratio (adjusted)	7.5	0.502	0.050	0.099	4.472	2.115	188	454	0.403	0.601
Child labour	8.2	0.304	0.025	0.083	2.679	1.637	359	890	0.254	0.355
Prevalence of children with at least one parent dead	9.18	0.060	0.009	0.159	2.293	1.514	581	1432	0.041	0.079
School attendance of orphans	9.19	1.000	0.000	0.000	.	.	1	1	1.000	1.000
School attendance of non-orphans	9.2	0.853	0.033	0.039	3.306	1.818	154	380	0.787	0.919
WOMEN										
Pregnant women	-	0.052	0.010	0.197	1.458	1.208	294	692	0.031	0.072
Early childbearing	5.2	0.187	0.038	0.202	1.034	1.017	47	111	0.111	0.262
Contraceptive prevalence	5.3	0.684	0.023	0.034	1.213	1.101	209	495	0.638	0.730
Unmet need	5.4	0.101	0.014	0.135	1.008	1.004	209	495	0.074	0.128
Antenatal care coverage - at least once by skilled personnel	5.5a	0.976	0.018	0.019	1.673	1.293	50	123	0.939	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.732	0.050	0.068	1.531	1.237	50	123	0.633	0.831
Skilled attendant at delivery	5.7	0.480	0.071	0.148	2.465	1.570	50	123	0.338	0.622
Institutional deliveries	5.8	0.455	0.073	0.160	2.613	1.616	50	123	0.309	0.600
Caesarean section	5.9	0.075	0.033	0.439	1.910	1.382	50	123	0.009	0.141
Literacy rate among young women	7.1	0.537	0.057	0.105	2.424	1.557	81	189	0.424	0.650
Marriage before age 18	8.7	0.310	0.029	0.095	2.487	1.577	259	614	0.251	0.369
Comprehensive knowledge about HIV prevention among young people	9.2	0.218	0.033	0.151	1.195	1.093	81	189	0.152	0.283
Knowledge of mother- to-child transmission of HIV	9.3	0.565	0.025	0.044	1.760	1.327	294	692	0.515	0.615
Accepting attitudes towards people living with HIV	9.4	0.302	0.032	0.106	2.999	1.732	264	623	0.238	0.366
Women who have been tested for HIV and know the results	9.6	0.081	0.012	0.154	1.446	1.203	294	692	0.056	0.106
Sexually active young women who have been tested for HIV and know the results	9.7	0.049	0.024	0.497	1.178	1.085	40	93	0.000	0.098
Sex before age 15 among young women	9.11	0.061	0.024	0.391	1.865	1.366	81	189	0.013	0.109
Condom use with non-regular partners	9.16	0.554	0.097	0.176	0.307	0.554	3	9	0.359	0.749
UNDER-5s										
Underweight prevalence	2.1a	0.103	0.020	0.197	1.379	1.174	130	312	0.062	0.143
Stunting prevalence	2.2a	0.272	0.038	0.138	2.189	1.480	129	309	0.197	0.347
Wasting prevalence	2.3a	0.026	0.010	0.396	1.303	1.141	130	313	0.005	0.047
Exclusive breastfeeding under 6 months	2.6	0.242	0.074	0.307	1.056	1.028	15	36	0.093	0.391
Age-appropriate breastfeeding	2.14	0.612	0.043	0.070	1.003	1.001	53	131	0.526	0.697
Diarrhoea in the previous 2 weeks	-	0.234	0.024	0.102	1.010	1.005	133	321	0.186	0.281
Illness with a cough in the previous 2 weeks	-	0.033	0.010	0.309	1.040	1.020	133	321	0.013	0.053
Oral rehydration therapy with continued feeding	3.8	0.670	0.050	0.075	0.883	0.940	31	78	0.570	0.771
Antibiotic treatment of suspected pneumonia	3.1	0.647	0.023	0.036	0.021	0.147	4	10	0.600	0.694
Support for learning	6.1	0.578	0.048	0.083	1.182	1.087	53	125	0.482	0.675
Attendance to early childhood education	6.7	0.110	0.035	0.315	1.523	1.234	53	125	0.041	0.179
Birth registration	8.1	1.000	0.000	0.000	.	.	133	321	1.000	1.000

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.958	0.011	0.012	2.500	1.581	2208	769	0.935	0.981
Use of improved sanitation facilities	4.3	0.639	0.023	0.036	1.719	1.311	2208	769	0.594	0.685
Primary school net attendance ratio (adjusted)	7.4	0.925	0.014	0.016	1.611	1.269	331	547	0.896	0.953
Secondary school net attendance ratio (adjusted)	7.5	0.489	0.026	0.054	1.288	1.135	278	464	0.437	0.542
Child labour	8.2	0.252	0.024	0.095	2.347	1.532	464	770	0.204	0.300
Prevalence of children with at least one parent dead	9.18	0.037	0.008	0.226	2.584	1.608	797	1312	0.020	0.054
School attendance of orphans	9.19	1.000	0.000	0.000	.	.	1	1	1.000	1.000
School attendance of non-orphans	9.2	0.938	0.016	0.018	1.543	1.242	196	331	0.905	0.971
WOMEN										
Pregnant women	-	0.049	0.006	0.123	0.610	0.781	463	793	0.037	0.061
Early childbearing	5.2	0.172	0.030	0.175	0.833	0.913	80	132	0.112	0.232
Contraceptive prevalence	5.3	0.728	0.024	0.032	1.604	1.266	333	570	0.680	0.775
Unmet need	5.4	0.078	0.015	0.189	1.725	1.314	333	570	0.049	0.108
Antenatal care coverage - at least once by skilled personnel	5.5a	0.993	0.007	0.007	0.779	0.883	62	105	0.978	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.798	0.051	0.064	1.699	1.304	62	105	0.695	0.901
Skilled attendant at delivery	5.7	0.732	0.051	0.069	1.356	1.164	62	105	0.631	0.833
Institutional deliveries	5.8	0.731	0.048	0.065	1.203	1.097	62	105	0.635	0.826
Caesarean section	5.9	0.058	0.026	0.447	1.284	1.133	62	105	0.006	0.110
Literacy rate among young women	7.1	0.502	0.042	0.084	2.001	1.415	169	284	0.418	0.586
Marriage before age 18	8.7	0.344	0.016	0.046	0.724	0.851	374	641	0.312	0.376
Comprehensive knowledge about HIV prevention among young people	9.2	0.200	0.031	0.158	1.757	1.325	169	284	0.137	0.263
Knowledge of mother- to-child transmission of HIV	9.3	0.430	0.024	0.057	1.924	1.387	463	793	0.382	0.479
Accepting attitudes towards people living with HIV	9.4	0.296	0.023	0.079	1.211	1.100	269	459	0.249	0.343
Women who have been tested for HIV and know the results	9.6	0.080	0.010	0.127	1.114	1.056	463	793	0.060	0.100
Sexually active young women who have been tested for HIV and know the results	9.7	0.170	0.044	0.259	1.425	1.194	63	104	0.082	0.259
Sex before age 15 among young women	9.11	0.017	0.007	0.419	0.855	0.925	169	284	0.003	0.031
Condom use with non-regular partners	9.16	0.000	0.000	.	.	.	1	1	0.000	0.000
UNDER-5s										
Underweight prevalence	2.1a	0.129	0.033	0.256	2.725	1.651	178	282	0.063	0.195
Stunting prevalence	2.2a	0.284	0.033	0.115	1.465	1.211	175	279	0.219	0.350
Wasting prevalence	2.3a	0.053	0.015	0.287	1.332	1.154	181	288	0.023	0.084
Exclusive breastfeeding under 6 months	2.6	0.413	0.107	0.259	1.508	1.228	20	33	0.199	0.626
Age-appropriate breastfeeding	2.14	0.590	0.070	0.118	2.168	1.472	68	109	0.451	0.729
Diarrhoea in the previous 2 weeks	-	0.212	0.025	0.120	1.135	1.065	186	296	0.161	0.262
Illness with a cough in the previous 2 weeks	-	0.084	0.016	0.188	0.961	0.980	186	296	0.053	0.116
Oral rehydration therapy with continued feeding	3.8	0.538	0.097	0.181	2.318	1.523	39	62	0.343	0.732
Antibiotic treatment of suspected pneumonia	3.1	0.206	0.101	0.490	1.556	1.247	16	26	0.004	0.407
Support for learning	6.1	0.571	0.068	0.119	2.087	1.445	70	112	0.435	0.706
Attendance to early childhood education	6.7	0.063	0.027	0.424	1.351	1.162	70	112	0.010	0.117
Birth registration	8.1	1.000	0.000	0.000	.	.	186	296	1.000	1.000

TABLE SE.23: SAMPLING ERRORS: WANGDUE

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.900	0.026	0.029	5.738	2.395	2841	741	0.848	0.953
Use of improved sanitation facilities	4.3	0.654	0.035	0.053	3.909	1.977	2841	741	0.585	0.723
Primary school net attendance ratio (adjusted)	7.4	0.859	0.039	0.045	6.674	2.583	430	531	0.781	0.937
Secondary school net attendance ratio (adjusted)	7.5	0.416	0.031	0.074	1.588	1.260	331	411	0.354	0.477
Child labour	8.2	0.157	0.017	0.107	1.585	1.259	599	742	0.123	0.190
Prevalence of children with at least one parent dead	9.18	0.068	0.014	0.209	3.966	1.992	1030	1255	0.039	0.096
School attendance of orphans	9.19	1.000	0.000	0.000	.	.	2	4	1.000	1.000
School attendance of non-orphans	9.2	0.847	0.035	0.041	2.931	1.712	254	315	0.777	0.916
WOMEN										
Pregnant women	-	0.051	0.009	0.170	1.012	1.006	562	654	0.033	0.068
Early childbearing	5.2	0.144	0.033	0.227	0.960	0.980	99	112	0.078	0.209
Contraceptive prevalence	5.3	0.652	0.026	0.040	1.342	1.158	394	446	0.600	0.705
Unmet need	5.4	0.112	0.013	0.120	0.811	0.900	394	446	0.085	0.139
Antenatal care coverage - at least once by skilled personnel	5.5a	0.993	0.007	0.007	0.833	0.913	103	119	0.979	1.000
Antenatal care coverage – at least four times by any provider	5.5b	0.726	0.035	0.049	0.740	0.860	103	119	0.656	0.797
Skilled attendant at delivery	5.7	0.603	0.051	0.084	1.268	1.126	103	119	0.502	0.705
Institutional deliveries	5.8	0.594	0.055	0.093	1.482	1.217	103	119	0.483	0.704
Caesarean section	5.9	0.120	0.034	0.280	1.264	1.124	103	119	0.053	0.187
Literacy rate among young women	7.1	0.346	0.037	0.107	1.122	1.059	164	186	0.272	0.420
Marriage before age 18	8.7	0.261	0.019	0.072	1.051	1.025	498	580	0.224	0.298
Comprehensive knowledge about HIV prevention among young people	9.2	0.043	0.012	0.275	0.623	0.789	164	186	0.019	0.066
Knowledge of mother- to-child transmission of HIV	9.3	0.623	0.021	0.034	1.268	1.126	562	654	0.580	0.665
Accepting attitudes towards people living with HIV	9.4	0.296	0.020	0.067	1.017	1.009	466	542	0.256	0.335
Women who have been tested for HIV and know the results	9.6	0.071	0.011	0.148	1.099	1.048	562	654	0.050	0.092
Sexually active young women who have been tested for HIV and know the results	9.7	0.101	0.019	0.189	0.371	0.609	85	94	0.063	0.139
Sex before age 15 among young women	9.11	0.011	0.008	0.716	1.079	1.039	164	186	0.000	0.027
Condom use with non-regular partners	9.16	0.700	0.003	0.005	0.000	0.018	5	7	0.693	0.706
UNDER-5s										
Underweight prevalence	2.1a	0.110	0.020	0.184	1.156	1.075	237	277	0.070	0.151
Stunting prevalence	2.2a	0.287	0.047	0.165	2.951	1.718	231	271	0.192	0.382
Wasting prevalence	2.3a	0.037	0.010	0.276	0.820	0.905	237	278	0.017	0.058
Exclusive breastfeeding under 6 months	2.6	0.500	0.064	0.127	0.323	0.568	17	21	0.373	0.628
Age-appropriate breastfeeding	2.14	0.762	0.045	0.059	1.341	1.158	102	121	0.672	0.852
Diarrhoea in the previous 2 weeks	-	0.363	0.039	0.107	2.010	1.418	261	307	0.285	0.441
Illness with a cough in the previous 2 weeks	-	0.033	0.012	0.350	1.281	1.132	261	307	0.010	0.056
Oral rehydration therapy with continued feeding	3.8	0.711	0.033	0.047	0.573	0.757	95	108	0.645	0.778
Antibiotic treatment of suspected pneumonia	3.1	0.427	0.000	0.000	0.000	0.000	9	11	0.427	0.427
Support for learning	6.1	0.352	0.034	0.097	0.615	0.784	105	122	0.284	0.420
Attendance to early childhood education	6.7	0.078	0.026	0.333	1.135	1.065	105	122	0.026	0.130
Birth registration	8.1	1.000	0.000	0.000	.	.	261	307	1.000	1.000

TABLE SE.24: SAMPLING ERRORS: ZHEMGANG

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deft) and confidence intervals for selected indicators, Bhutan, 2010

	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deft)	Weighted count	Un-weighted count	Confidence limits r - 2se	r + 2se
HOUSEHOLD MEMBERS										
Use of improved drinking water sources	4.1	0.910	0.030	0.033	8.181	2.860	1800	767	0.850	0.969
Use of improved sanitation facilities	4.3	0.405	0.056	0.138	9.897	3.146	1800	767	0.293	0.516
Primary school net attendance ratio (adjusted)	7.4	0.901	0.016	0.017	1.637	1.279	267	602	0.870	0.933
Secondary school net attendance ratio (adjusted)	7.5	0.583	0.033	0.056	2.033	1.426	199	457	0.517	0.649
Child labour	8.2	0.248	0.021	0.085	2.183	1.478	406	920	0.206	0.290
Prevalence of children with at least one parent dead	9.18	0.071	0.011	0.150	2.585	1.608	664	1503	0.049	0.092
School attendance of orphans	9.19	1.000	0.000	0.000	.	.	1	1	1.000	1.000
School attendance of non-orphans	9.2	0.899	0.018	0.020	1.402	1.184	182	413	0.864	0.934
WOMEN										
Pregnant women	-	0.051	0.007	0.143	0.764	0.874	331	698	0.036	0.065
Early childbearing	5.2	0.208	0.032	0.156	0.849	0.921	63	134	0.143	0.273
Contraceptive prevalence	5.3	0.607	0.023	0.037	1.195	1.093	262	554	0.561	0.652
Unmet need	5.4	0.143	0.015	0.102	0.957	0.978	262	554	0.114	0.172
Antenatal care coverage - at least once by skilled personnel	5.5a	0.919	0.026	0.028	1.459	1.208	82	168	0.867	0.970
Antenatal care coverage – at least four times by any provider	5.5b	0.582	0.063	0.108	2.712	1.647	82	168	0.457	0.708
Skilled attendant at delivery	5.7	0.377	0.048	0.128	1.663	1.290	82	168	0.280	0.474
Institutional deliveries	5.8	0.369	0.049	0.132	1.693	1.301	82	168	0.271	0.466
Caesarean section	5.9	0.037	0.014	0.387	0.956	0.978	82	168	0.008	0.065
Literacy rate among young women	7.1	0.401	0.037	0.093	1.292	1.137	105	222	0.326	0.476
Marriage before age 18	8.7	0.339	0.019	0.057	1.022	1.011	288	610	0.300	0.378
Comprehensive knowledge about HIV prevention among young people	9.2	0.249	0.021	0.085	0.537	0.733	105	222	0.207	0.292
Knowledge of mother- to-child transmission of HIV	9.3	0.817	0.021	0.026	2.072	1.440	331	698	0.775	0.859
Accepting attitudes towards people living with HIV	9.4	0.192	0.016	0.081	1.044	1.022	316	669	0.161	0.223
Women who have been tested for HIV and know the results	9.6	0.067	0.014	0.210	2.207	1.486	331	698	0.039	0.095
Sexually active young women who have been tested for HIV and know the results	9.7	0.084	0.021	0.248	0.723	0.850	61	129	0.043	0.126
Sex before age 15 among young women	9.11	0.066	0.016	0.247	0.944	0.972	105	222	0.033	0.098
Condom use with non-regular partners	9.16	0.000	0.000	.	.	.	1	2	0.000	0.000
UNDER-5s										
Underweight prevalence	2.1a	0.159	0.024	0.149	1.574	1.255	165	378	0.112	0.206
Stunting prevalence	2.2a	0.428	0.036	0.083	1.869	1.367	158	363	0.357	0.499
Wasting prevalence	2.3a	0.088	0.017	0.189	1.228	1.108	156	357	0.055	0.121
Exclusive breastfeeding under 6 months	2.6	0.392	0.075	0.191	0.988	0.994	20	43	0.242	0.542
Age-appropriate breastfeeding	2.14	0.687	0.043	0.063	1.489	1.220	76	171	0.600	0.774
Diarrhoea in the previous 2 weeks	-	0.287	0.018	0.064	0.661	0.813	175	402	0.250	0.324
Illness with a cough in the previous 2 weeks	-	0.190	0.020	0.107	1.085	1.042	175	402	0.149	0.231
Oral rehydration therapy with continued feeding	3.8	0.807	0.060	0.074	2.556	1.599	50	111	0.687	0.928
Antibiotic treatment of suspected pneumonia	3.1	0.754	0.077	0.102	2.381	1.543	33	76	0.601	0.908
Support for learning	6.1	0.442	0.050	0.112	1.340	1.158	57	135	0.342	0.541
Attendance to early childhood education	6.7	0.045	0.021	0.462	1.352	1.163	57	135	0.003	0.087
Birth registration	8.1	0.998	0.002	0.002	0.958	0.979	175	402	0.993	1.000

Appendix D. Data Quality Tables

TABLE DQ.1: AGE DISTRIBUTION OF HOUSEHOLD POPULATION

Single-year age distribution of household population by sex, Bhutan, 2010

	Sex							Sex					
	Male		Female		Missing			Male		Female		Missing	
	Number	Percent	Number	Percent	Number	Percent		Number	Percent	Number	Percent	Number	Percent
Age							Age						
0	672	2	610	1.8	0	.0	42	410	1.2	337	1	0	.0
1	622	1.9	650	1.9	0	.0	43	298	.9	342	1	0	.0
2	693	2.1	691	2	0	.0	44	313	.9	320	.9	0	.0
3	671	2	638	1.9	0	.0	45	366	1.1	338	1	0	.0
4	672	2	596	1.8	0	.0	46	289	.9	248	.7	0	.0
5	774	2.3	783	2.3	0	.0	47	291	.9	258	.8	0	.0
6	797	2.4	777	2.3	0	.0	48	313	.9	239	.7	0	.0
7	753	2.3	699	2.1	0	.0	49	312	.9	197	.6	0	.0
8	685	2.1	689	2	0	.0	50	373	1.1	581	1.7	0	.0
9	727	2.2	702	2.1	0	.0	51	293	.9	377	1.1	0	.0
10	764	2.3	757	2.2	0	.0	52	320	1	363	1.1	0	.0
11	690	2.1	751	2.2	0	.0	53	267	.8	288	.8	0	.0
12	826	2.5	835	2.5	0	.0	54	256	.8	264	.8	0	.0
13	702	2.1	795	2.3	0	.0	55	312	.9	321	.9	0	.0
14	725	2.2	1042	3.1	0	.0	56	261	.8	256	.8	0	.0
15	657	2	562	1.7	0	.0	57	244	.7	266	.8	0	.0
16	736	2.2	661	1.9	0	.0	58	249	.7	230	.7	0	.0
17	683	2	684	2	0	.0	59	209	.6	151	.4	0	.0
18	675	2	642	1.9	0	.0	60	254	.8	283	.8	0	.0
19	599	1.8	631	1.9	0	.0	61	195	.6	186	.5	0	.0
20	651	1.9	731	2.2	0	.0	62	186	.6	143	.4	0	.0
21	535	1.6	640	1.9	0	.0	63	175	.5	140	.4	0	.0
22	528	1.6	595	1.8	0	.0	64	154	.5	156	.5	0	.0
23	539	1.6	634	1.9	0	.0	65	189	.6	163	.5	0	.0
24	531	1.6	587	1.7	0	.0	66	140	.4	106	.3	0	.0
25	617	1.8	745	2.2	0	.0	67	167	.5	124	.4	0	.0
26	552	1.7	663	2	0	.0	68	153	.5	123	.4	0	.0
27	560	1.7	598	1.8	0	.0	69	142	.4	120	.4	0	.0
28	510	1.5	564	1.7	0	.0	70	178	.5	173	.5	0	.0
29	514	1.5	495	1.5	0	.0	71	99	.3	88	.3	0	.0
30	640	1.9	612	1.8	0	.0	72	100	.3	109	.3	0	.0
31	507	1.5	527	1.6	0	.0	73	122	.4	102	.3	0	.0
32	485	1.5	471	1.4	0	.0	74	94	.3	95	.3	0	.0
33	433	1.3	451	1.3	0	.0	75	95	.3	105	.3	0	.0
34	418	1.3	451	1.3	0	.0	76	76	.2	56	.2	0	.0
35	461	1.4	469	1.4	0	.0	77	71	.2	67	.2	0	.0
36	406	1.2	429	1.3	0	.0	78	71	.2	72	.2	0	.0
37	453	1.4	372	1.1	0	.0	79	56	.2	58	.2	0	.0
38	360	1.1	436	1.3	0	.0	80+	307	.9	336	1	0	.0
39	357	1.1	363	1.1	0	.0	DK/miss-ing	3	0	5	0	0	.0
40	441	1.3	426	1.3	0	.0	**Total**	33375	100	33944	100	0	.0
41	353	1.1	305	0.9	0	.0							

TABLE DQ.2: AGE DISTRIBUTION OF ELIGIBLE AND INTERVIEWED WOMEN

Household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed, by five-year age groups, Bhutan, 2010

	Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed (Completion rate)
	Number	Number	Percent	
Age				
10-14	4181	.	.	.
15-19	3181	2160	14.8	67.9
20-24	3187	2614	17.9	82
25-29	3065	2846	19.5	92.9
30-34	2512	2313	15.9	92.1
35-39	2068	1930	13.2	93.3
40-44	1729	1606	11	92.9
45-49	1280	1126	7.7	88
50-54	1873	.	.	.
Total (15-49)	**17022**	**14595**	**100**	**85.7**

TABLE DQ.3: AGE DISTRIBUTION OF UNDER-FIVES IN HOUSEHOLD AND UNDER-FIVE QUESTIONNAIRES

Household population of children age 0-7, children age 0-4 whose mothers/caretakers were interviewed, and percentage of under-five children whose mothers/caretakers were interviewed, by single ages, Bhutan, 2010

	Household population of children 0-7 years	Interviewed under-five children		Percentage of eligible under-fives interviewed (Completion rate)
	Number	Number	Percent	
Age				
0	1282	1238	19.5	96.6
1	1272	1243	19.6	97.8
2	1383	1351	21.3	97.7
3	1309	1279	20.1	97.7
4	1268	1243	19.6	98
5	1557	.	.	.
6	1574	.	.	.
7	1452	.	.	.
Total (0-4)	**6514**	**6355**	**100**	**97.6**

TABLE DQ.4: WOMEN'S COMPLETION RATES BY SOCIO-ECONOMIC CHARACTERISTICS OF HOUSEHOLDS

Household population of women age 15-49, interviewed women age 15-49, and percentage of eligible women who were interviewed, by selected social and economic characteristics of the household, Bhutan, 2010

	Household population of women age 15-49 years		Interviewed women age 15-49 years		Percent of eligible women interviewed (Completion rates)
Dzongkhag					
Bumthang	411	2.4	338	2.3	82.1
Chukha	1890	11.1	1709	11.7	90.4
Dagana	620	3.6	516	3.5	83.2
Gasa	125	.7	72	.5	57.7
Haa	343	2	294	2	85.7
Lhuntse	371	2.2	303	2.1	81.8
Mongar	1123	6.6	925	6.3	82.4
Paro	971	5.7	813	5.6	83.7
Pemagatshel	602	3.5	432	3	71.8
Punakha	616	3.6	511	3.5	83
Samdrup jongkhar	934	5.5	723	5	77.4
Samtse	1882	11.1	1681	11.5	89.3
Sarpang	1116	6.6	1002	6.9	89.8
Thimphu	2501	14.7	2325	15.9	93
Trashigang	1144	6.7	988	6.8	86.4
Trashiyangtse	366	2.2	346	2.4	94.5
Trongsa	356	2.1	287	2	80.5
Tsirang	563	3.3	487	3.3	86.5
Wangdi	687	4	538	3.7	78.4
Zhemgang	399	2.3	305	2.1	76.4
Residence					
Urban	5399	31.7	4939	33.8	91.5
Rural	11624	68.3	9656	66.2	83.1
Household size					
1-3	10121	59.5	2407	16.5	90.6
4-6	5653	33.2	8576	58.8	88.1
7+	1248	7.3	3612	24.7	78.1
Education of household head					
None	10505	61.7	8721	59.8	83
Primary	2674	15.7	2356	16.1	88.1
Secondary +	3839	22.6	3516	24.1	91.6
Missing/DK	4	0	2	0	52.5
Wealth index quintiles					
Poorest	2996	17.6	2421	16.6	80.8
Second	3069	18	2538	17.4	82.7
Middle	3236	19	2715	18.6	83.9
Fourth	3616	21.2	3230	22.1	89.3
Richest	4106	24.1	3692	25.3	89.9
Total	**17022**	**100**	**14595**	**100**	**85.7**

TABLE DQ.5: COMPLETION RATES FOR UNDER-FIVE QUESTIONNAIRES BY SOCIO-ECONOMIC CHARACTERISTICS OF HOUSEHOLDS

Household population of under-five children, under-five questionnaires completed, and percentage of under-five children for whom interviews were completed, by selected socio-economic characteristics of the household, Bhutan, 2010

	Household population of under-five children		Interviewed under-five children		Percent of eligible under-fives with completed under-five questionnaires (Completion rates)
Dzongkhag					
Bumthang	178	2.7	173	2.7	97.1
Chukha	671	10.3	663	10.4	98.7
Dagana	245	3.8	236	3.7	96.2
Gasa	43	.7	37	.6	86.2
Haa	125	1.9	123	1.9	98.5
Lhuntse	128	2	128	2	99.5
Mongar	480	7.4	471	7.4	98.2
Paro	348	5.3	333	5.2	95.5
Pemagatshel	221	3.4	220	3.5	99.7
Punakha	226	3.5	220	3.5	97.6
Samdrup jongkhar	424	6.5	411	6.5	97.1
Samtse	786	12.1	753	11.8	95.7
Sarpang	361	5.5	357	5.6	98.7
Thimphu	827	12.7	817	12.9	98.8
Trashigang	496	7.6	485	7.6	97.8
Trashiyangtse	174	2.7	173	2.7	99
Trongsa	136	2.1	131	2.1	96.6
Tsirang	192	2.9	185	2.9	96.2
Wangdi	270	4.1	261	4.1	96.8
Zhemgang	181	2.8	178	2.8	98.2
Residence					
Urban	1900	29.2	1868	29.4	98.3
Rural	4613	70.8	4486	70.6	97.2
Household size					
1-3	839	12.9	606	9.5	96.1
4-6	3874	59.5	3703	58.3	98.2
7+	1801	27.7	2045	32.2	96.8
Education of household head					
None	3991	61.3	3879	61.1	97.2
Primary	1055	16.2	1033	16.3	97.8
Secondary +	1466	22.5	1440	22.7	98.3
Missing/DK	2	.0	2	.0	100
Wealth index quintiles					
Poorest	1350	20.7	1303	20.5	96.5
Second	1190	18.3	1168	18.4	98.2
Middle	1241	19.1	1207	19	97.3
Fourth	1487	22.8	1452	22.9	97.7
Richest	1246	19.1	1225	19.3	98.3
Total	6514	100	6355	100	97.6

TABLE DQ.6: COMPLETENESS OF REPORTING

Percentage of observations that are missing information for selected questions and indicators, Bhutan, 2010

	Percent with missing/incomplete information*	Number of cases
Age	.0	68351
Starting time of interview	.0	14676
Ending time of interview	.0	14676

TABLE DQ.6: COMPLETENESS OF REPORTING

Percentage of observations that are missing information for selected questions and indicators, Bhutan, 2010

	Percent with missing/incomplete information*	Number of cases
Woman's date of birth: Only month	38.4	14018
Woman's date of birth: Both month and year	0.9	14018
Date of first birth: Only month	20.7	10132
Date of first birth: Both month and year	4.1	10132
Completed years since first birth	.0	420
Date of last birth: Only month	8.9	10132
Date of last birth: Both month and year	0.1	10132
Date of first marriage/union: Only month	31.4	10939
Date of first marriage/union: Both month and year	41.8	10939
Age at first marriage/union	.0	10939
Age at first intercourse	0.1	2082
Time since last intercourse	.0	2082
Starting time of interview	.0	14018
Ending time of interview	.0	14018

TABLE DQ.6: COMPLETENESS OF REPORTING

Percentage of observations that are missing information for selected questions and indicators, Bhutan, 2010

	Percent with missing/incomplete information*	Number of cases
Date of birth: Only month	1.1	6297
Date of birth: Both month and year	.0	6297
Anthropometric measurements: Weight	2.2	6297
Anthropometric measurements: Height	3.0	6297
Anthropometric measurements: Both weight and height	2.0	6297
Starting time of interview	.0	6297
Ending time of interview	.0	6297

TABLE DQ.7: COMPLETENESS OF INFORMATION FOR ANTHROPOMETRIC INDICATORS

Distribution of children under-five by completeness of information for anthropometric indicators, Bhutan, 2010

	Valid weight and date of birth	Reason for exclusion from analysis				Total	Percent of children excluded from analysis	Number of children under-five
		Weight not measured	Incomplete date of birth	Weight not measured, incomplete date of birth	Flagged cases (outliers)			
Weight by age								
<6 months	97.2	.2	.2	0	2.5	100	2.8	608
6-11 months	98.1	.2	.2	0	1.6	100	1.9	w640
12-23 months	96.9	.2	.5	0	2.5	100	3.1	1288
24-35 months	96.2	.2	.7	0	2.9	100	3.8	1339
36-47 months	94.8	.1	2.1	0	3.1	100	5.2	1278
48-59 months	93.8	.1	2.7	0	3.4	100	6.2	1144
Total	**95.9**	**.1**	**1.2**	**0**	**2.8**	**100**	**4.1**	**6297**

TABLE DQ.7: COMPLETENESS OF INFORMATION FOR ANTHROPOMETRIC INDICATORS

Distribution of children under-five by completeness of information for anthropometric indicators, Bhutan, 2010

	Valid height and date of birth	Reason for exclusion from analysis				Total	Percent of children excluded from analysis	Number of children under-five
		Height not measured	Incomplete date of birth	Height not measured, incomplete date of birth	Flagged cases (outliers)			
Height by age								
<6 months	87.5	2.5	.2	.0	9.9	100	12.5	608
6-11 months	93.6	.9	.2	.0	5.3	100	6.4	640
12-23 months	92.0	1.1	.5	.0	6.4	100	8.0	1288
24-35 months	91.5	1.2	.7	.0	6.6	100	8.5	1339
36-47 months	92.3	.8	2.1	.0	4.9	100	7.7	1278
48-59 months	91.7	.5	2.7	.0	5.1	100	8.3	1144
Total	**91.6**	**1.1**	**1.2**	**.0**	**6.1**	**100**	**8.4**	**6297**

TABLE DQ.7: COMPLETENESS OF INFORMATION FOR ANTHROPOMETRIC INDICATORS

Distribution of children under-five by completeness of information for anthropometric indicators, Bhutan, 2010

	Valid weight and height	Reason for exclusion from analysis						Flagged cases (outliers)	Total	Percent of children excluded from analysis	Number of children under-five
		Weight not measured	Height not measured	Incomplete date of birth	Weight not measured, incomplete date of birth	Height not measured, incomplete date of birth	Weight and height not measured, incomplete date of birth				
Weight by height											
<6 months	83.7	.2	2.5	.2	.0	.0	.0	13.5	100	16.3	608
6-11 months	92.2	.2	.9	.2	.0	.0	.0	6.6	100	7.8	640
12-23 months	92.9	.2	1.1	.5	.0	.0	.0	5.4	100	7.1	1288
24-35 months	92.8	.1	1.1	.7	.0	.0	.0	5.3	100	7.2	1339
36-47 months	92	.1	.8	2.1	.0	.0	.0	5.0	100	8.0	1278
48-59 months	92.4	.1	.5	2.7	.0	.0	.0	4.3	100	7.6	1144
Total	**91.6**	**.1**	**1.0**	**1.2**	**.0**	**.0**	**.0**	**6.0**	**100**	**8.4**	**6297**

TABLE DQ.8: HEAPING IN ANTHROPOMETRIC MEASUREMENTS

Distribution of weight and height/length measurements by digits reported for decimals, Bhutan, 2010

	Weight		Height	
	Number	Percent	Number	Percent
Digits				
0	1336	21.8	2477	40.3
1	564	9.2	355	5.8
2	598	9.7	575	9.4
3	535	8.7	518	8.4
4	510	8.3	433	7.0
5	703	11.5	779	12.7
6	514	8.4	286	4.7
7	477	7.8	232	3.8
8	447	7.3	195	3.2
9	453	7.4	295	4.8
0 or 5	2039	33.2	3256	53
Total	**6137**	**100**	**6145**	**100**

TABLE DQ.9: OBSERVATION PLACES FOR HAND WASHING

Percentage of places for handwashing observed by the interviewer in all interviewed households, Bhutan, 2010

	Observation of places for handwashing: Observed	Place for hand-washing not in dwelling	No permission to see	Other	Total	Number of households interviewed
Dzongkhag						
Bumthang	92.5	7.5	.0	.0	100.0	769
Chukha	98.9	.4	.0	.7	100.0	749
Dagana	99.2	.8	.0	.0	100.0	748
Gasa	98.9	.6	.0	.6	100.0	180
Haa	85.5	14.5	.0	.0	100.0	764
Lhuntse	99.5	.4	.1	.0	100.0	761
Mongar	100.0	.0	.0	.0	100.0	772
Paro	99.4	.6	.0	.0	100.0	778
Pemagatshel	99.1	.8	.0	.1	100.0	755
Punakha	91.2	2.2	.1	6.5	100.0	782
Samdrup jongkhar	100.0	.0	.0	.0	100.0	739
Samtse	99.5	.5	.0	.0	100.0	790
Sarpang	98.0	.9	.4	.7	100.0	765
Thimphu	99.9	.1	.0	.0	100.0	763
Trashigang	96.0	3.6	.4	.0	100.0	755
Trashiyangtse	74.5	25.0	.0	.5	100.0	761
Trongsa	98.7	1.3	.0	.0	100.0	768
Tsirang	99.0	1.0	.0	.0	100.0	769
Wangde	98.9	.9	.1	.0	100.0	741
Zhemgang	99.2	.8	.0	.0	100.0	767
Residence						
Urban	98.8	1.0	.1	.1	100.0	3142
Rural	95.6	3.8	.1	.5	100.0	11534
Wealth index quintiles						
Poorest	95.3	4.4	.1	.3	100.0	3103
Second	94.3	5.0	.1	.6	100.0	3270
Middle	95.5	3.8	.1	.6	100.0	3251
Fourth	98.1	1.4	.0	.5	100.0	2811
Richest	99.4	.4	.0	.1	100.0	2241
Total	**96.3**	**3.2**	**.1**	**.5**	**100.0**	**14676**

TABLE DQ.10: OBSERVATION OF WOMEN'S HEALTH CARDS

Percent distribution of women with a live birth in the last 2 years by presence of a health card, and the percentage of health cards seen by the interviewers, Bhutan, 2010

	Woman does not have health card	Woman has health card		Missing/DK	Total	Percent of health cards seen by the interviewer (1)/ (1+2)*100	Number of women with a live birth in the last two years
		Seen by the interviewer (1)	Not seen by the interviewer (2)				
Dzongkhag							
Bumthang	.0	49.7	50.3	.0	100.0	49.7	163
Chukha	.0	86.2	13.8	.0	100.0	86.2	123
Dagana	.7	91.3	8	.0	100.0	92	138
Gasa	13.5	75.7	10.8	.0	100.0	87.5	37
Haa	0.9	99.1	0	.0	100.0	100	114
Lhuntse	7.4	71.3	21.3	.0	100.0	77	94
Mongar	3.3	76.2	20.5	.0	100.0	78.8	151
Paro	.0	78.3	21.7	.0	100.0	78.3	138
Pemagatshel	.0	69.5	30.5	.0	100.0	69.5	105
Punakha	1.9	78.8	19.2	.0	100.0	80.4	156
Samdrup jongkhar	1.5	89	9.6	.0	100.0	90.3	136
Samtse	3.4	83.9	12.7	.0	100.0	86.8	118
Sarpang	.0	83.9	16.1	.0	100.0	83.9	124
Thimphu	2.3	68.8	28.9	.0	100.0	70.4	128
Trashigang	1.8	65.5	32.7	.0	100.0	66.7	110
Trashiyangtse	1.7	76.5	21.7	.0	100.0	77.9	115
Trongsa	.0	71.5	26.8	1.6	100.0	72.7	123
Tsirang	.0	89.5	10.5	.0	100.0	89.5	105
Wangdi	.0	81.5	18.5	.0	100.0	81.5	119
Zhemgang	2.4	81	16.1	.6	100.0	83.4	168
Residence							
Urban	.7	77.7	21.5	.0	100.0	78.3	557
Rural	1.8	78.3	19.7	.2	100.0	79.9	1908
Wealth index quintiles							
Poorest	3.5	77.1	19.4	.0	100.0	79.9	511
Second	2.1	79.2	18.4	.4	100.0	81.2	533
Middle	.9	77	22	.0	100.0	77.8	527
Fourth	.6	83.2	16	.2	100.0	83.9	495
Richest	.5	73.4	26.1	.0	100.0	73.8	399
Total	**1.6**	**78.2**	**20.1**	**.1**	**100.0**	**79.5**	**2465**

TABLE DQ.11: OBSERVATION OF UNDER-FIVES BIRTH CERTIFICATES

Percent distribution of children under-five by presence of birth certificates,and percentage of birth calendar seen, Bhutan, 2010

	Child does not have birth certificate	Child has birth certificate		Missing/DK	Total	Percent of birth certificates seen by the interviewer (1)/ (1+2)*100	Number of children under age 5
		Seen by the interviewer (1)	Not seen by the interviewer (2)				
Dzongkhag							
Bumthang	.2	53.3	46.5	.0	100.0	53.4	415
Chukha	.0	80.9	19.1	.0	100.0	80.9	330
Dagana	.3	88.7	11.0	.0	100.0	88.9	326
Gasa	8.7	85.5	5.8	.0	100.0	93.7	69
Haa	.0	86.6	13.4	.0	100.0	86.6	313
Lhuntse	.4	67.0	32.6	.0	100.0	67.3	264
Mongar	.0	78.4	21.6	.0	100.0	78.4	379
Paro	.3	75.0	24.7	.0	100.0	75.2	328
Pemagatshel	.0	74.6	25.4	.0	100.0	74.6	276
Punakha	.3	73.5	25.9	.3	100.0	73.9	343
Samdrup jongkhar	.0	86.4	13.6	.0	100.0	86.4	360
Samtse	.6	87.5	11.9	.0	100.0	88.0	360
Sarpang	.0	77.9	22.1	.0	100.0	77.9	307
Thimphu	.0	86.5	13.5	.0	100.0	86.5	312
Trashigang	.0	66.7	33.3	.0	100.0	66.7	300
Trashiyangtse	.3	76.1	23.5	.0	100.0	76.4	289
Trongsa	.3	72.3	27.4	.0	100.0	72.5	321
Tsirang	.0	83.1	16.9	.0	100.0	83.1	296
Wangdue	.7	80.5	18.9	.0	100.0	81.0	307
Zhemgang	1.2	71.9	26.9	.0	100.0	72.8	402
Residence							
Urban	.1	79.2	20.7	.0	100.0	79.3	1367
Rural	.4	76.5	23.1	.0	100.0	76.8	4930
Child's age							
0	.9	82.4	16.7	.0	100.0	83.1	1244
1	.1	80.9	19.0	.1	100.0	81.0	1287
2	.4	78.7	20.9	.0	100.0	79.0	1343
3	.3	71.0	28.6	.0	100.0	71.3	1274
4	.1	71.9	28.0	.0	100.0	72.0	1149
Total	**.3**	**77.1**	**22.6**	**.0**	**100.0**	**77.4**	**6297**

Distribution of children under-five by whether the mother lives in the same household, and the person interviewed for the under-five questionnaire, Bhutan, 2010

| | Mother in the household | | | | | Mother not in the household | | | | Total | Number of children under-five |
	Mother interviewed	Father interviewed	Other adult female interviewed	Other adult male interviewed	Other person interviewed	Father interviewed	Other adult female interviewed	Other adult male interviewed	Other person interviewed		
Age											
0	98.9	.0	.0	.0	.0	.0	.7	.4	.0	100.0	1282
1	98.2	.0	.1	.0	.0	.0	1.6	.1	.0	100.0	1272
2	95.7	.0	.2	.0	.0	.4	3.4	.3	.0	100.0	1383
3	96.4	.1	.2	.0	.2	.3	2.6	.2	.0	100.0	1309
4	95.1	.4	.0	.3	.0	.9	3.2	.0	.1	100.0	1268
Total	**96.8**	**.1**	**.1**	**.1**	**.0**	**.3**	**2.3**	**.2**	**.0**	**100.0**	**6514**

TABLE DQ.15: SCHOOL ATTENDANCE BY SINGLE AGE

Distribution of household population age 5-24 by educational level and grade attended in the current (or most recent) school year, Bhutan, 2010

Age at beginning of school year	Not attending school	Preschool	Primary								Lower Secondary		Middle Secondary	Higher Secondary	College/University	DK	Total	Number of household members
			Pre primary	1	2	3	4	5	6	7	8						
5	49.2	1.8	35.1	12.1	1.6	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	1486
6	17.7	.7	39.6	28.6	12.3	.9	.2	.0	.0	.0	.0	.0	.0	.0	.0	100.0	1571
7	6.6	.1	14.8	37.7	28.7	10.4	1.5	.2	.0	.0	.0	.0	.0	.0	.0	100.0	1431
8	3.5	.0	6.5	20.8	35.7	23.7	8.1	1.5	.3	.0	.0	.0	.0	.0	.0	100.0	1343
9	3.6	.0	1.9	7.7	22.1	35	22.4	6.3	1.0	.0	.0	.0	.0	.0	.0	100.0	1443
10	6.0	.1	1.3	2.7	11.2	24.9	31.5	16.7	5.2	.3	.0	.0	.0	.0	.0	100.0	1489
11	7.0	.0	.3	2.2	4.9	13.9	22.9	25.9	17.8	4.3	.7	.1	.0	.0	.0	100.0	1481
12	9.7	.1	.6	1.4	3.7	6.6	15.3	25.9	23.1	10.5	3.1	.2	.0	.0	.0	100.0	1634
13	12.6	.0	.2	.6	1.0	2.9	9.1	15.6	23.1	18.6	12.6	3.7	.0	.0	.0	100.0	1548
14	18.3	.0	.0	.2	.7	1.7	4.9	7.3	16.3	19	18.9	12.4	0.2	.0	.0	100.0	1623
15	20.5	.0	.0	.3	.1	.3	2.0	3.9	9.9	12.6	20.9	25.3	4.0	.0	.0	100.0	1258
16	26.4	.0	.0	.0	.0	.1	2.1	1.0	4.6	8.4	16.4	30.2	10.8	.0	.0	100.0	1414
17	34.5	.0	.0	.0	.2	.1	.6	.4	1.9	5.8	10.7	27.1	18.1	0.7	.0	100.0	1344
18	44.5	.0	.0	.0	.0	.2	.1	.2	1.7	2.2	5.0	21.4	23	1.6	.0	100.0	1275
19	54.6	.0	.0	.0	.0	.2	.0	.0	0.1	.8	3.3	14.7	22.7	3.5	.0	100.0	1247
20	66.2	.0	.0	.0	.0	.0	.0	.1	0.1	.2	1.0	9	15.6	7.7	.0	100.0	1342
21	78.4	.0	.0	.0	.0	.0	.1	.0	.0	.0	.3	3.6	9.4	8.1	0.1	100.0	1143
22	81.6	.0	.0	.0	.0	.0	.0	.0	.0	.1	.3	1.5	7.3	9.3	.0	100.0	1134
23	90.6	.0	.1	.0	.0	.0	.0	.0	.2	.1	.1	.8	1.7	6.4	.0	100.0	1149
24	93.5	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.2	1.5	4.4	.0	100.0	1119

TABLE DQ.16: SEX RATIO AT BIRTH AMONG CHILDREN EVER BORN AND LIVING

Sex ratio (number of males per 100 females) among children ever born (at birth), children living, and deceased children, by age of women, Bhutan, 2010

	Children Ever Born			Children Living			Children Deceased			Number of women
	Number of sons ever born	Number of daughters ever born	Sex ratio	Number of sons living	Number of daughters living	Sex ratio	Number of deceased sons	Number of deceased daughters	Sex ratio	
Age										
15-19	96	120	.8	87	113	.77	9	7	1.29	1974
20-24	1047	980	1.07	991	931	1.06	56	49	1.14	2435
25-29	2404	2240	1.07	2233	2126	1.05	171	114	1.5	2651
30-34	3103	3040	1.02	2863	2848	1.01	240	192	1.25	2261
35-39	3391	3134	1.08	3055	2842	1.07	336	292	1.15	1872
40-44	3454	3308	1.04	3035	2955	1.03	419	353	1.19	1651
45-49	2797	2583	1.08	2389	2242	1.07	408	341	1.2	1174
Total	**16292**	**15405**	**1.02**	**14653**	**14057**	**1.01**	**1639**	**1348**	**1.24**	**14018**

Appendix E. MICS4 Indicators: Numerators and Denominators

	MICS Indicators	Module	Numerators	Denominators	MDG
1.1	Under-five mortality rates	CM	Probability of dying by exact age 5 years		4.1
1.2	Infant mortality rates	CM	Probability of dying by exact age 1years		4.2
2.1a	Underweight prevalence moderate and severe(-2 SD)	NU	Number of children under age five that fall below-minus two standard deviations from the median weightfor age of the NCHS/WHO standard (moderate and severe)	Total number of children under age five that were weighed	1.8
2.1b	Underweight prevalence severe (-3 SD)	NU	Number of children under age five that fall below-minus three standard deviations from the median weight for age of the NCHS/WHO standard (severe)	Total number of children under age five that were weighed	
2.2a	Stunting prevalence moderate and severe (-2 SD)	NU	Number of children under age five that fall below-minus two standard deviations from the median heightfor age of the NCHS/WHO standard (moderate and severe)	Total number of children under age five height measured	
2.2b	Severe (-3 SD)	NU	Number of children under age five that fall below-minus three standard deviations from the median height for age of the NCHS/WHO standard (severe)	Total number of children underage five height measured	
2.3a	Wasting prevalence 2.3a moderate and severe (-2 SD)	NU	Number of children under age five that fall below-minus two standard deviations from the median weightfor height of the NCHS/WHO standard (moderate andsevere)	Total number of children under age five weighed and height measured	
2.3b	Severe (-3 SD)	NU	Number of children under age five that fall belowminus three standard deviations from the median weight for height of the NCHS/WHO standard(severe)	Total number of children under age five weighed and height measured	
2.4	Children ever breast fed	NU	Number of last born children in the two years preceding the survey ever breast fed	Number of last born children in the two years preceding the survey	
2.5	Early initiation of breast feeding	NU	Children who were breastfed within one hour and one day of birth	Number of last born children in the two years preceding the survey	
2.6	Exclusive breast feeding under 6 months	NU	Number of children under 6 months who were exclusively breast fed	Total number of children age 0-5 months	
2.7	Continued breast feeding at 1 year	NU	children 12-15 months breastfeeding continually at 1 year	Total number or children age 12-15 months	
2.8	Continued breast feeding at 2 years	NU	Children 20-23 months continually breast feeding at 2 years	Total number of children age 20-23 months	
2.9	Predominant breast feeding under 6 months	NU	Children predominently breastfed under 6 months	Total number of children age 0-5 months	
2.10	Duration of breast feeding	NU	Duration of any breast feeding , exclusive breast-feeding and predominent breast feeding among chldren 0-35 months	Total number of children age 0-35 months	
2.11	Bottle feeding	NU	Children age 0-23 months fed with a bottle with nipple	Total number of children age 0-23 months	
2.12	Introduction to solid, semi or soft food	NU	Children age 6-8 months receiving solid, semi or soft food	Total number of children age 6-8 months	
2.13	Minimum meal frequency	NU	Children age 6-23 monthswith minimum meal frequency	Total number of children age 6- 23months	
2.14	Age appropriate breast feeding	NU	Children age 0-23months who were appropraitely breastfed during the previous day	Total number of children age 0-23 months	
2.15	Milk feeding frequency for non breast fed children	NU	Children age6-23 months receiving atleast 2 milk feeds	Total number of children age 6-23 months	

	MICS Indicators	Module	Numerators	Denominators	MDG
2.18	Low birth weights	NU	Children weighed below 2500 grams at birth in last 2 years	Total number of live births in last 2 years	
2.19	Infant low births	NU	Number of last live births in the 2 years preceding thesurvey weighing below 2,500 grams	Total number of last live births in the 2 years preceding the survey	
3.7	Neonatal tetanus protection	CH	Women who received atleast 2 doses during last pregnancy, 2 doses prior to 3 years, 3 doses prior to 5 years, 4 doses prior to 10 years and 5 or more doses during life time	Total number of women with live births in last 2 years	
3.8	Oral rehydration therapy with continued feeding	CH	children age 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with c	Number of chilldren age 0-59 months with diarrhoea in the last two weeks	
3.9	Care seeking for suspected pneumonia	CH	children age 0-59 months with suspected pneumonia in the last two weeks who were taken to any appropraite care provider	Number of children age 0-59 months with suspected pneumonia in the last two weeks	
3.10	Antibiotic treatment of suspected pneumonia	CH	children age 0-59 months with suspected pneumonia who were given antibiotics in the last two weeks	Number of children age 0-59 months with suspected pneumonia in the last two weeks	
3.11	Solid fuels	CH	household members living in households using solid fuels for cooking	Total number of household members living in household.	
3.21	Place for hand washing	CH	Households where place for handwashing was observed	Total number of households	
3.22	Availability of soap	CH	Household with soap anywhere in the dwelling	Total number of households	
4.1	Use of improve drinking water sources	WS	Number of household member using improved drinking water sources	Total number of household members	7.8
4.2	Water treatment	WS	Household population by drinking water treatment method used in the household	Total number of household members	
4.3	Use of improved sanitation	WS	Number of household members using improved sanitation facilities which are not shared	Total number of household members	7.9
4.4	Safe disposal of child faeces	WS	Number of children age 0-2 years whose (last) stools were disposed of safely	Total number of children age 0-2 years	
4.5	Place for handwashing	WS	Number of households with a designated place for handwashing where water and soap are present.	Total number of households	
4.6	Availability of soap	WS	Number of households with soap anywhere in the dwelling	Total numbers of households	
5.1	Adolescent fertility rate	RH	Adolescent birth rate(age specific fertility rate for women age 15-19)	Total number of women age 15-19 years	5.4
5.2	Early child bearing	RH	women age 15-19 who have had a live birth or who are pregnant with the first child; percentage of women age 15-19 who have begun childbearing before age 15, and the percentage of women age 20-24 who have had a live birth before age18	Total number of women age 15-19 years plus total number of women age 20-24 years	
5.3	Contraceptive prevalence	RH	women age 15-49 years currently married or in union who are using (or whose partner is using) a contraceptive method	Total number of women age 15-49 years who are currently married/in union	5.3
5.4	Unmet need	RH	women aged 15-49 years currently married or in union with an unmet need for family planning	Total number of women age 15-49 years who are currently married/in union	5.6
5.5b	Antenatal care coverage atleast 4 times by any provider	RH	Number of women aged 15-49 years that were attended at least 4 times during pregnancy in the 2 years preceding survey by any provider	Total number of women age 15-49 years who have given birth 2 years preceding the survey	
5.6	Content of antenatal care	RH	Women age 15-49 years who had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care	Total number of women age 15-49 years who have given birth 2 years preceding the survey	
5.7	Skilled attendant at delivery	RH	women age 15-49 who had a live birth in the two years preceding the survey attended by any skilled attendant during the delivery	Total number of women age 15-49 years who have given birth 2 years preceding the survey	5.2
5.8	Institutional deliveries	RH	Number of women aged 15-49 years with a birth in the 2 years preceding the survey that delivered in a health facility	Total number of women age 15-49 years who have given birth 2 years preceding the survey	

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	MICS Indicators	Module	Numerators	Denominators	MDG
5.9	Caesarean section	RH	women age 15-49 who had a live birth in the two years preceding the survey and delivered by caesarean section	Total number of women age 15-49 years who have given birth 2 years preceding the survey	
6.1	Support for learning	CD	children age 36-59 months with whom an adult household member engaged in four or more activities during the last three days	Total number of children age 36-59 months	
6.2	Father's support for learning	CD	children age 36-59 months with whom a father engaged in one or more activities during the last three days	Total number of children age 36-59 months	
6.3	Learning materials; children books	CD	children under age 5 by numbers of children's books present in the household	Total number of children under age 5	
6.4	Learning materials; playthings	CD	Children under age 5 with two or more type of playthings	Total number of children under age 5	
6.5	Inadequate care	CD	Children under age 5 left inadequate care in past week	Total number of children under age 5	
6.6	Early childhood development index	CD	Percentage of children age 36-59 months who are developmentally on track in literacy-numeracy, physical, social-emotional, and learning domains(early child development index score)	Total number of children age 36-59 months	
6.7	Attendance to early childhood education	CD	children age 36-59 months who are attending some form of organized early childhood education programme	Total number of children age 36-59 months	
7.1	Literacy rate among young women	ED	women age 15-24 years who are literate	Total number of women age 15-24 years	2.3
7.2	School readiness	ED	children attending first grade of primary school who attended pre-school the previous year	Number of children attending first grade of primary schools	
7.3	Net intake rate in primary education	ED	Number of children of primary school-entry age that are currently attending first grade	Total number of children of primary school entry age	
7.4	Primary school net attendance rate(adjusted)	ED	children of primary school age attending primary or secondary school (Net attendance ratio)	Total number of children of primary school age	2.1
7.5	Secondary school net attendance rate(adjusted)	ED	children of secondary school age attending secondary school or higher (adjusted net attendance ratio)	Total number of children of secondary school age	
7.6	Children reaching last grade of primary	ED	Proportion of children entering the first grade of primary school who eventually reached last grade		2.2
7.7	Primary completion rate	ED	Number of children who completed the last grade of primary school	Total number of children of the primary completion age	
7.8	Transition rate to secondary school	ED	Number of children who are attending first grade of secondary school at the current school year	Number of children who were in the last grade of primary school during the previous year	
7.9	Gender parity index(primary school)	ED	Proportion of girls in primary	Proportion of boys in primary	
7.10	Gender parity index (Secondary school)	ED	Proportion of girls in secondary	Proportion of boys in secondary	
8.1	Birth registration	CP	Children under age 5 who has birth certificate or birth registered	Total number of children under age 5	
8.2	Child labour	CP	Number of children age 5-14 involved child labour(economic activity and household chores during the past week)	Total number of children age 5-14 years	
8.3	School attendance among child labourers	CP	Number of children aged 5-14 years attending school that are involved in child labour activities	Total number of children age 5-14 who are attending school	
8.4	Child labours among students	CP	Number of children aged 5-14 years involved in child labour activities that attend school	Total number of children age 5-14 years who are involved in chil labour activities	
8.6	Marriage before age 15	CP	Number of women married before age 15	Total number of women age15-49 years	
8.7	Marriage before age 18	CP	Number of women married before age 18	Total number of women age 20-49 years	
8.8	Young women age 15-19 currently married or in unoin	CP	Number of women age 15-19 years who are currently married or in union	Total number of women age 15-19 years	
8.9	Polygamy	CP	Number of women age 15 49 years in polygynous marriage or in union	Total number of women age 15-49 years	

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MICS Indicators		Module	Numerators	Denominators	MDG
8.10a	Spousal age difference women age 15-19	CP	Number of women age 15- 19 years whose husband or partner is younger or older than the women	Total number of women age 15-19 years who are married or in union	
8.10b	Spousal age difference women age 20-24 years	CP	Number of women age 20-24 years whose husband or partner is younger or older than the women	Total number of women age 20-24 years who are married or in union	
8.14	Attitudes towards domestic violence	CP	women age 15-49 years who believe a husband is justified in beating his wife/partner in any of the various circumstances	Total number of women age 15-49 years	
9.1	Comprehensive knowledge about HIV prevention	HA	Number of women aged 15-49 years that correctly identify two ways of avoiding HIV infection and reject three misconception about HIV transmission	Total number of women age 15-49 years	
9.2	Comprehensive knowledge about HIV prevention among young people	HA	Number of women aged 15-24 years that correctly identify two ways of avoiding HIV infection and reject three misconception about HIV transmission	Total number of women age 15-24 years	6.3
9.3	Knowledge of mother to child HIV transmission	HA	women age 15-49 years who correctly identify means of HIV transmission from mother to child	Total number of women age 15-49 years	
9.4	Accepting attitude to-wards people with HIV	HA	women age 15-49 years who have heard of AIDS who express an accepting attitude towards people living with HIV/AIDS	Total number of women age 15-49 years who have heard of HIV	
9.5	Women who know where to be tested for HIV	HA	women age 15-49 years who know where to get an HIV test	Total number of women age 15-49 years	
9.6	Women who have been tested for HIV and know the results	HA	Number of women who have been tested and have been told the result	Total number of women age 15-49 years	
9.7	Sexually active young women who have been tested for HIV and know the results	HA	Number of women age 15-24 years who have been tested for HIV and told the results	Total number of women age 15-24 years	
9.8	HIV counselling during the antenatal care	HA	Women age 15-49 years given birth in the 2 years preceding the survey who received the HIV counsel-ling during the antenatal care	Number of women age 15-49 who gave birth in the 2 years preceding the survey	
9.9	HIV testing during the antenatal care	HA	Women age 15-49 years given birth in the 2 years preceding the survey who were tested for HIV during the antenatal care	Number of women age 15-49 who gave birth in the 2 years preceding the survey	
9.10	Young women who have never had sex	HA	Number of never-married young women age 15-24 years who have never had sex	Total number never married young women age 15-24 years	
9.11	Sex before age 15 among young women	HA	Women age 15-24 years who have had sex before age 15	Total number of women age 15-24 years	
9.12	Age mixing among sexual partners	HA	women age 15-24 years who had sex with a man 10 or more years older during the last 12 months preceding the survey	Number of women age 15-24 who had sex in the last 12 months preceding the survey	
9.13	Sex with multiple partners	HA	Number of women age 15-49 years who had sex with more than one partner in last 12 months preced-ing the survey	Total number of women age 15-49 years	
9.14	Condom use during sex with multiple partners	HA	Number of women age 15-49 years who report having had more than one sexual partner in the 12 months preceding the survey who also reported that a condom was used the last time they had sex	Total number of women age 15-49 years who report having had more than one sexual partner in the 12 months preceding the survey	
9.15	Sex with non-regular partner	HA	Number of women age 15-24 years who have had sex with non-marital, non cohabiting partner in last 12 months preceding the survey	Number of women age 15-24 years who had sex with mul-tiple partners in last 12 months preceding the survey	
9.16	Condon use with non-regular partners	HA	Number of women age 15-24 years reporting the use of a condom during sexual intercourse with their last non-marital, non-cohabiting sex partner in the 12 months preceding the survey	Total number of women age 15-24 years who had a non-marital, non-cohabiting partner in the 12 months preceding the survey	6.2
9.17	Children's living ar-rangements	HA	Number of children aged 0-17years not living with abiological parent	Total number of children aged 0-17 years surveyed	
9.18	Prevalence of children with atleast one parent dead	HA	Number of children under age 18 with at least onedead parent	Total number of children under age 18 surveyed	

Appendix G. Questionnaires

Bhutan Multiple Indicator Survey (BMIS)

HOUSEHOLD QUESTIONNAIRE

HOUSEHOLD INFORMATION PANEL	HH

HH1. BLOCK/CHIWOG NAME & CODE: _____ __ __

HH1A. GEWOG/TOWN NAME & CODE: _____ __ __ __

HH2. Household serial number: __ __

HH3. Interviewer name and number:

Name_____ __ __ __

HH4. Supervisor name and number:

Name_____

HH5. Day / Month / Year of interview:

__ __ / __ __ / __ __ __ __

HH6. AREA:
Urban 1
Rural 2

HH7. DZONGKHAG NAME & CODE:*

_____ __ __

HH7: Code for Dzongkhags:

11 Bumthang	16 Lhuntse	21 Samdrup Jongkhar	26 Trashiyangtse
12 Chukha	17 Monggar	22 Samtse	27 Trongsa
13 Dagana	18 Paro	23 Sarpang	28 Tsirang
14 Gasa	19 Pemagatshel	24 Thimphu	29 Wangdue
15 Haa	20 Punakha	25 Trashigang	30 Zhemgang

WE ARE FROM NATIONAL STATISTICS BUREAU. WE ARE CONDUCTING A SURVEY ON THE SITUATION OF HOUSEHOLD, WOMEN AND CHILDREN. I WOULD LIKE TO TALK TO YOU ABOUT THESE SUBJECTS. THE INTERVIEW MIGHT TAKE ABOUT 30 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL. WHILE YOUR PARTICIPATION IS VOLUNTARY IT IS OF UTMOST IMPORTANCE THAT YOU RESPOND TO THE SURVEY AS THE RESULTS WILL HELP THE GOVERNMENT IN PLANNING AND DECISION MAKING.

IF YOU HAVE NO OBJECTION, MAY I START NOW?

☐ YES, PERMISSION IS GIVEN ⇒ *GO TO HH18 TO RECORD THE TIME AND THEN BE*GIN THE INTERVIEW.

☐ NO, PERMISSION IS NOT GIVEN ⇒ COMPLETE HH9. DISCUSS THIS RESULT WITH YOUR SUPERVISOR.

AFTER ALL QUESTIONNAIRES FOR THE HOUSEHOLD HAVE BEEN COMPLETED, FILL IN THE FOLLOWING INFORMATION:

HH8. Name of head of household:

HH9. Status of household questionnaire:

Completed 01

No household member or no competent

respondent at home at time of visit 02

Entire household absent for extended ....

period of time 03
Refused 04
Dwelling vacant / Address not a dwelling 05
Dwelling destroyed 06
Dwelling not found 07
Other (specify)**.. 96**

HH10. Respondent to household questionnaire:

Name:_____

Serial Number:

__ __

HH11. Total number of household

members: ------

HH12. Number of women

age 15-49 years: __ __

HH13. Number of woman's

questionnaires completed: __ __

HH14. Number of children

under age 5: __ __

HH15. Number of under-5 questionnaires

completed: __ __

HH16. Field edited by (Name and number):

Name_____ __ __

HH17. Data entry keyer (Name and number):

Name_____ __ __

HH18.
Record the starting time (24 hours):
Hour — —
Minutes — —

HOUSEHOLD LISTING FORM HL

FIRST, PLEASE TELL ME THE NAME OF EACH PERSON WHO USUALLY LIVES HERE, STARTING WITH THE HEAD OF THE HOUSEHOLD.
List the head of the household in line 01. List all household members (HL2), their relationship to the household head (HL3), and their sex (HL4)
Then ask: ARE THERE ANY OTHERS WHO LIVE HERE, EVEN IF THEY ARE NOT AT HOME NOW?
If yes, complete listing for questions HL2–HL4. Then, ask questions starting with HL5 for each person at a time.
Use an additional questionnaire if all rows in the household listing form have been used.

| | | | | | | FOR WOMEN AGE 15-49 | FOR CHILDREN AGE 2-17 | FOR CHILDREN UNDER AGE 5 | For all household members | | For children age 0-17 years | | |

HL1.	HL2.	HL3.	HL4.	HL5.		HL6.	HL7.	HL8.	HL9.	HL10.	HL11.	HL12.	HL13.	HL14.
SL. NO.	NAME	WHAT IS THE RELATION-SHIP OF (NAME) TO THE HEAD OF HOUSE-HOLD?	IS (NAME) MALE OR FEMALE? 1 Male 2 Female	WHAT IS (NAME)'S MONTH AND YEAR OF BIRTH? 98 DK 9998 DK		HOW OLD IS (NAME)? RECORD IN COMPLETED YEARS. IF AGE IS 95 OR ABOVE, RECORD '95'	CIRCLE SL. NO. IF WOMAN IS AGE 15-49	WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? RECORD SL. NO. OF MOTHER/ CARETAKER	WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? RECORD SL. NO. OF MOTHER/ CARETAKER	DID (NAME) STAY HERE LAST NIGHT? 1 YES 2 No	IS (NAME)'S NATURAL MOTHER ALIVE? 1 Yes ⇒ 2 No ⇒ HL13 8 DK ⇒ HL13	DOES (NAME)'S NATURAL MOTHER LIVE IN THIS HOUSEHOLD? RECORD SL. NO. OF MOTHER OR 00 FOR "NO"	IS (NAME)'S NATURAL FATHER ALIVE? 1 Yes 2 No ⇒ Next Sl. No. 8 DK ⇒ Next Sl. No.	DOES (NAME)'S NATURAL FATHER LIVE IN THIS HOUSEHOLD? RECORD SL. NO. OF FATHER OR 00 FOR "NO"
	NAME	RELATION*		MONTH	YEAR	AGE	15-49	MOTHER	MOTHER			MOTHER		FATHER
01		0 1	—	— —	— — — —	— —	01	MOTHER — —	MOTHER — —	—	—	— —		— —
02		— —	—	— —	— — — —	— —	02	— —	— —	—	—	— —	— —	— —
03		— —	—	— —	— — — —	— —	03	— —	— —	—	—	— —	— —	— —
04		— —	—	— —	— — — —	— —	04	— —	— —	—	—	— —	— —	— —
05		— —	—	— —	— — — —	— —	05	— —	— —	—	—	— —	— —	— —
06		— —	—	— —	— — — —	— —	06	— —	— —	—	—	— —	— —	— —
07		— —	—	— —	— — — —	— —	07	— —	— —	—	—	— —	— —	— —
08		— —	—	— —	— — — —	— —	08	— —	— —	—	—	— —	— —	— —
09		— —	—	— —	— — — —	— —	09	— —	— —	—	—	— —	— —	— —
10		— —	—	— —	— — — —	— —	10	— —	— —	—	—	— —	— —	— —

HL1.	HL2.	HL3.	HL4.	HL5.		HL6.	HL7.	HL8.	HL9.	HL10.	HL11.	HL12.	HL13.	HL14.
SL. NO.	NAME	What is the relationship of (name) to the head of household?	Is (name) male or female?	What is (name)'s month and year of birth?		How old is (name)?	Circle SL. NO. if woman is age 15-49	Who is the mother or primary caretaker of this child?	Who is the mother or primary caretaker of this child?	Did (name) stay here last night?	Is (name)'s natural mother alive?	Does (name)'s natural mother live in this household?	Is (name)'s natural father alive?	Does (name)'s natural father live in this household?
			1 Male 2 Female			Record in completed years. If age 95 or above, record '95'.	15-49	Record SL. NO. of mother/caretaker	Record SL. NO. of mother/caretaker		1 Yes 2 No⇒HL13 8 DK⇒HL13	Record SL. NO. of mother or 00 for "No"	(name)'s natural father alive? 1 Yes 2 No⇒Next Sl. No. 8 DK⇒Next Sl. No.	household? Record SL. NO. of father or 00 for "No"
		RELATION*		MONTH	YEAR	AGE		MOTHER	MOTHER			MOTHER		FATHER
10		_ _	_	_ _	_ _ _ _	_ _	10	_ _	_ _	_	_	_ _	_	_ _
11		_ _	_	_ _	_ _ _ _	_ _	11	_ _	_ _	_	_	_ _	_	_ _
12		_ _	_	_ _	_ _ _ _	_ _	12	_ _	_ _	_	_	_ _	_	_ _
13		_ _	_	_ _	_ _ _ _	_ _	13	_ _	_ _	_	_	_ _	_	_ _
14		_ _	_	_ _	_ _ _ _	_ _	14	_ _	_ _	_	_	_ _	_	_ _
15		_ _	_	_ _	_ _ _ _	_ _	15	_ _	_ _	_	_	_ _	_	_ _

TICK HERE IF ADDITIONAL HOUSEHOLD LISTING SHEET USED ☐

Probe for additional household members. Probe especially for any infants or small children not listed, and others who may not be members of the family (such as servants, friends) but who usually live in the household.

Insert names of additional members in the household list and complete form accordingly.

Now for each woman age 15-49 years, write her name and serial number and other identifying information in the information panel of a separate Individual Women's Questionnaire.

For each child under age 5, write his/her name and serial number AND the serial number of his/her mother or caretaker in the information panel of a separate Under-5 Questionnaire.

You should now have a separate questionnaire for each eligible woman and each child under five in the household.

* *Codes for HL3: Relationship to head of household:*

01 Head	11 Niece / Nephew
02 Spouse	12 Other relative
03 Son / Daughter	13 Adopted / Foster / Stepchild
04 Son-In-Law / Daughter-In-Law	14 Not related
05 Grandchild	98 Don't know
06 Parent	
07 Parent-In-Law	
08 Brother / Sister	
09 Brother-In-Law / Sister-In-Law	
10 Uncle / Aunt	

EDUCATION

		FOR HOUSEHOLD MEMBERS AGE 4 AND ABOVE					FOR HOUSEHOLD MEMBERS AGE 4-24 YEARS		
ED1	ED2.	ED2A.	ED3.	ED4.	ED5.	ED5A	ED6.	ED7.	ED8.
SL NO	*NAME AND AGE* Copy from Household Listing Form, HL2 and HL6	HAS (*NAME*) EVER ATTENDED NON FORMAL OR MONASTIC EDUCATION?	HAS (*NAME*) EVER ATTENDED SCHOOL OR PRESCHOOL?	WHAT IS THE HIGHEST LEVEL OF SCHOOL (*NAME*) ATTENDED? WHAT IS THE HIGHEST GRADE (*NAME*) COMPLETED AT THIS LEVEL?	DURING THE (*2009-2010*) SCHOOL YEAR, DID (*NAME*) ATTEND SCHOOL OR PRESCHOOL AT ANY TIME?	IS NAME ATTENDING OR OUTSIDE IN OR BHUTAN?	DURING THIS SCHOOL YEAR, WHICH LEVEL AND GRADE IS (*NAME*) ATTENDING?	DURING THE PREVIOUS SCHOOL YEAR, THAT IS (*2008-2009*), DID (*NAME*) ATTEND SCHOOL OR PRESCHOOL AT ANY TIME?	DURING THAT PREVIOUS SCHOOL YEAR, WHICH LEVEL AND GRADE DID (*NAME*) ATTEND?
		IF **"YES":** NFE, MONASTIC OR BOTH? **1 NFE** **2 Monastic** **3 Both** **4 No**	**1 YES** **2 No ⇒** **Next Sl. No.**	*Level:* 00 PP / Grade 01…12 / 13 Diploma / 14 Degree / 15 Masters / 16 >Masters / 17 No grade / 98 DK / *If less than a full grade then, enter 17* 0 PRESCHOOL / 1 PRIMARY(PP-6) / 2 LOWER SECONDARY(7-8) / 3 MIDDLE SECONDARY(9-10) / 4 HIGHER SECONDARY(11-12) / 5 COLLEGE/UNIVERSITY / 8 DK	**1 YES** **2 NO ⇒** **ED7**	**1 IN BHUTAN** **2 OUTSIDE BHUTAN**	*Level:* 00 PP / Grade 01…12 / 13 Diploma / 14 Degree / 15 Masters / 16 >Masters / 17 No grade / 98 DK 0 PRESCHOOL / 1 PRIMARY(PP-6) / 2 LOWER SECONDARY(7-8) / 3 MIDDLE SECONDARY(9-10) / 4 HIGHER SECONDARY(11-12) / 5 COLLEGE/UNIVERSITY / 8 DK	**1 Yes** **2 No ⇒** Next Sl. No **8 DK ⇒** Next Sl. No.	*Level:* 00 PP / Grade 01…12 / 13 Diploma / 14 Degree / 15 Masters / 16 >Masters / 17 No grade / 98 DK 0 PRESCHOOL / 1 PRIMARY(PP-6) / 2 LOWER SECONDARY(7-8) / 3 MIDDLE SECONDARY(9-10) / 4 HIGHER SECONDARY(11-12) / 5 COLLEGE/ UNIVERSITY / 8 DK
	NAME / AGE			LEVEL / GRADE			LEVEL / GRADE		LEVEL
01	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
02	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
03	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
04	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
05	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
06	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
07	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
08	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
09	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
10	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
11	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
12	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
13	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
14	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__
15	__ __	__	__	__ __ / __ __	__	__	__ __ / __ __	__	__

WS1. What is the **main** source of drinking water for members of your household?	Piped water	
	Piped into dwelling 11	11⇒WS6
	Piped into compound 12	12⇒WS6
	Piped to neighbour 13	13⇒WS6
	Public tap 14	14⇒WS3
	Dug well	
	Protected well 31	31⇒WS3
	Unprotected well 32	32⇒WS3
	Water from spring	
	Protected spring 41	41⇒WS3
	Unprotected spring 42	42⇒WS3
	Rainwater collection 51	51⇒WS3
	Tanker-truck 61	61⇒WS3
	Cart with small tank / drum 71	71⇒WS3
	Surface water (river, stream, dam, lake,	
	pond, canal, irrigation channel) 81	81⇒WS3
	Bottled water 91	
	Other (specify**)** _____ **96**	96⇒WS3
WS2. What is the **main** source of water used by your household for other purposes such as cooking and handwashing?	Piped water	
	Piped into dwelling 11	11⇒WS6
	Piped into compound 12	12⇒WS6
	Piped to neighbour 13	13⇒WS6
	Public tap / standpipe 14	
	Dug well	
	Protected well 31	
	Unprotected well 32	
	Water from spring	
	Protected spring 41	
	Unprotected spring 42	
	Rainwater collection 51	
	Tanker-truck 61	
	Cart with small tank / drum 71	
	Surface water (river, stream, dam, lake,	
	pond, canal, irrigation channel) 81	
	Other (specify**) 96**	
WS3. Where is that water source located?	In own dwelling 1	1⇒WS6
	In own yard / plot 2	2⇒WS6
	Elsewhere 3	
WS4. How long does it take to go there, get water, and come back?	Number of minutes .... __ __ __	
	DK 998	

WS5. WHO USUALLY GOES TO THIS SOURCE TO COLLECT THE WATER FOR YOUR HOUSEHOLD? *PROBE:* IS THIS PERSON UNDER AGE 15? WHAT SEX?	Adult woman (age 15+ years)...1 Adult man (age 15+ years)...2 Female child (under 15)...3 Male child (under 15)..4 DK 8 8	
WS6. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes ....1 No ....2 DK 8	2⇒WS8 8⇒WS8
WS7. WHAT DO YOU USUALLY DO TO MAKE THE WATER SAFER TO DRINK? *PROBE:* ANYTHING ELSE? ***RECORD ALL ITEMS MENTIONED.***	Boil...A Add bleach / chlorine ....B Strain it through a cloth...C Use water filter (ceramic, sand, composite, etc.) ....D Solar disinfection ....E Let it stand and settle ....F **Other (**specify**) .... X** DK ....Z	

WS8. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE?
 	
IF "FLUSH" OR "POUR FLUSH", PROBE:
 	
WHERE DOES IT FLUSH TO?
 	
IF NECESSARY, ASK PERMISSION TO OBSERVE THE FACILITY.
	Flush / Pour flush
	
	    Flush to piped sewer system 11
	
	    Flush to septic tank (without soak pit)..........................12
	
	    Flush to septic tank (with soak pit) 16
	
	    Flush to pit (latrine) 13
	
	        Flush to somewhere else......................................14
	
	        Flush to unknown place / Not sure /
	
	          DK where15
	
	Pit latrine
	
	    Ventilated Improved Pit latrine (VIP) 21
	
	    Pit latrine with slab 22
	
	    Pit latrine without slab / Open pit 23
	
	    Long drop latrine 24
	
	Composting toilet...31
	
	Bucket 41
	
	No facility, Bush, Field 95
	
	Other (specify**) _____ 96**
		95⇒Next
		
		Module

WS9. DO YOU SHARE THIS FACILITY WITH OTHERS WHO ARE NOT MEMBERS OF YOUR HOUSEHOLD?	Yes ....1 No 2	2⇒Next Module
WS10. DO YOU SHARE THIS FACILITY ONLY WITH MEMBERS OF OTHER HOUSEHOLDS THAT YOU KNOW, OR IS THE FACILITY OPEN TO THE USE OF THE GENERAL PUBLIC?	Other households only (not public)...................................1 Public facility 2	2⇒Next Module
WS11. HOW MANY HOUSEHOLDS IN TOTAL USE THIS TOILET FACILITY, INCLUDING YOUR OWN HOUSEHOLD?	Number of households (if less than 10) .... 0 __ Ten or more households ....10 DK 98	

HC2. How many rooms in this household are used for sleeping?	Number of rooms .... __ __	
HC2A. How many rooms are there in this dwelling unit? (Exclude toilet and kitchen)	Number of rooms .... __ __	

HC3. Main material of the dwelling floor.
 	
     RECORD OBSERVATION.
	Natural floor
	
	  Earthen / clay floor.. 11
	
	Rudimentary floor
	
	  Planks / shingles 21
	  Bamboo.. 22
	
	Finished floor
	
	  Polished wood.. 31
	  Tiles / marble 33
	  Cement / concrete / terrazzo 34
	
	  Other (specify).. **96**	

HC4. Main material of the roof.
 	
RECORD OBSERVATION.
	Natural roofing
	
	  No Roof 11
	  Thatch 12
	
	Rudimentary Roofing
	
	  Bamboo.. 22
	  Planks / shingles 23
	  Cardboard.. 24
	  Tarpaulin 25
	
	Finished roofing
	
	  Metal sheets 31
	  Tiles / slates.. 34
	  Concrete / cement 35
	
	Other (specify) _____ **96**	

HC5. Main material of the exterior walls.
 	
     RECORD OBSERVATION.
	Natural walls
	
	  No walls 11
	  Cane / Palm / Trunks/ Bamboo 12
	
	Rudimentary walls
	
	  Bamboo with mud.. 21
	  Stone with mud 22
	  Plywood 24
	  Cardboard.. 25
	
	Finished walls
	
	  Cement / RCC wall.. 31
	  Stone with lime / cement 32
	  Bricks.. 33
	  Cement blocks... 34
	  Wood planks 36
	  Rammed earth....................................37
	
	  Mud blocks..38
	
	  Other (specify).. **96**	

HC6. What type of fuel does your household **mainly** use for cooking?	Electricity 01	01⇒HC8
	Liquefied Petroleum Gas (LPG) 02	02⇒HC8
	Kerosene 05	05⇒HC8
	Coal 06	
	Wood 08	
	Straw / Shrubs / Grass 09	
	Dung cake 10	
	No food cooked in household 95	95⇒HC8
	Other (specify) _____ 96	

HC7. Is the cooking usually done in the house, in a separate building, or outdoors?	In the house	
	In a separate room used as kitchen 1	
If 'In the house', probe: is it done in a separate room used as a kitchen?	Elsewhere in the house 2	
	In a separate building 3	
	Outdoors.. 4	
	Other (specify) _____ 6	

HC8. Does your household have:		Yes	No
[A] Electricity?	Electricity 1		2
[B] A radio?	Radio 1		2
[C] A television?	Television 1		2
[D] A fixed telephone?	Fixed telephone................................... 1		2
[E] A refrigerator?	Refrigerator 1		2
[F] A SOFA SET?	Sofa set 1		2
[G] A WASHING MACHINE?	Washing machine 1		2
[H] A SEWING MACHINE?	Sewing machine 1		2
[I] A POWER-TILLER?	Power-Tiller 1		2
[J] A VACCUM CLEANER?	Yes No Vaccum cleaner 1		2
[K] A RICE COOKER?	Rice cooker 1		2

HC9. Does any member of your household own:			
[A] A Wrist watch?	Wrist watch 1	2	
[B] A mobile phone?	Mobile phone 1	2	
[C] A bicycle?	Bicycle 1	2	
[D] A motorcycle or scooter?	Motorcycle / Scooter 1	2	
[E] A car or truck?	Car/truck 1	2	
[F] A Computer?	Computer.. 1	2	
[G] A foreign bow?	Foreign bow 1	2	
[H] A camera?	Camera 1	2	
[I] A VCR/VCD/DVD player?	VCR/VCD/DVD Player 1	2	
[J] A Sersho gho/kira?	Sersho Gho/Kira.................................. 1	2	

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HC10. Do you or someone living in this household own this dwelling? *If "No", then ask:* Do you rent this dwelling for pay or are you living there rent free? *If "Rented from someone else for pay", circle "2". If it is "Rent free", circle "3". For other responses, circle "6".*	Own... 1 Renting for pay .... 2 Rent free .... 3 Other (Not owned or rented)...................................... 6	
HC11. Does any member of this household own any land that can be used for agriculture?	Yes .... 1 No 2	2⇒HC13
HC12. How many acres/decimals of agricultural land do members of this household own? If less than 1 acre, record "00" followed by the number of decimals. If 95 or more, record '95.00'. If acre not known, record '99.98'.	Acres ....___ ___. ___ ___	
HC13. Does this household own any livestock, herds, other farm animals, or poultry?	Yes .... 1 No 2	2⇒HC15
HC14. How many of the following farm animals does this household have? [A] Cattle? [B] Horses, donkeys, or mules? [C] Goats? [D] Sheep? [E] Chickens? [F] Pigs? [G] Buffalo? [H] Yaks? If none, record '00'. If 95 or more, record '95'. If unknown, record '98'.	Cattle .... ___ ___ Horses, donkeys, or mules .... ___ ___ Goats .... ___ ___ Sheep .... ___ ___ Chickens... ___ ___ Pigs... ___ ___ Buffalo .... ___ ___ Yaks.. ___ ___	
HC15. Does any member of this household have a bank account?	Yes .... 1 No 2	
HC16. Now I would like to talk about food security. In the last 12 months has a situation been faced when there was not enough food to feed all members of the household?	Yes .... 1 No 2	2⇒Next module
HC17. In what month(s) did you experience this situation? Circle all that apply.	January .... A February .... B March .... C April .... D May .... E June .... F July .... G August .... H September .... I October.. J November.. K December... L	

TO BE ADMINISTERED FOR CHILDREN IN THE HOUSEHOLD AGE 5-17 YEARS. FOR HOUSEHOLD MEMBERS BELOW AGE 5 OR ABOVE AGE 17, LEAVE ROWS BLANK.

Now I would like to ask about any work children in this household may do.

CL1. SL. NO.	CL2. NAME AND AGE		CL3.	CL4.	CL5.	CL6.	CL7.	CL8.	CL9.	CL10.
	COPY FROM HOUSEHOLD LISTING FORM, HL2 AND HL6		DURING THE PAST WEEK, DID (*NAME*) DO ANY KIND OF WORK FOR SOMEONE WHO IS NOT A MEMBER OF THIS HOUSEHOLD? *IF YES:* FOR PAY IN CASH OR KIND? 1 YES, FOR PAY (CASH OR KIND) 2 YES, UNPAID 3 NO ⇒CL5	SINCE LAST (*DAY OF THE WEEK*), ABOUT HOW MANY HOURS DID HE/SHE DO THIS WORK FOR SOMEONE WHO IS NOT A MEMBER OF THIS HOUSEHOLD? IF MORE THAN ONE JOB, INCLUDE ALL HOURS AT ALL JOBS.	DURING THE PAST WEEK, DID (*NAME*) FETCH WATER OR COLLECT FIREWOOD FOR HOUSEHOLD USE? 1 YES 2 NO ⇒CL7	SINCE LAST (*DAY OF THE WEEK*), ABOUT HOW MANY HOURS DID HE/SHE FETCH WATER OR COLLECT FIREWOOD FOR HOUSEHOLD USE?	DURING THE PAST WEEK, DID (*NAME*) DO ANY PAID OR UNPAID WORK ON A FAMILY FARM OR IN A FAMILY BUSINESS OR SELLING GOODS IN THE STREET? INCLUDE WORK FOR A BUSINESS RUN BY THE CHILD, ALONE OR WITH ONE OR MORE PARTNERS. 1 YES 2 NO ⇒ CL9	SINCE LAST (*DAY OF THE WEEK*), ABOUT HOW MANY HOURS DID HE/SHE DO THIS WORK FOR HIS/HER FAMILY OR HIMSELF/ HERSELF?	DURING THE PAST WEEK, DID (*NAME*) HELP WITH HOUSEHOLD CHORES SUCH AS SHOPPING, CLEANING, WASHING CLOTHES, COOKING; OR CARING FOR CHILDREN, OLD OR SICK PEOPLE? 1 YES 2 NO ⇒ NEXT SL. NO	SINCE LAST (*DAY OF THE WEEK*), ABOUT HOW MANY HOURS DID HE/SHE SPEND DOING THESE CHORES?
	Name	Age		Number of hours		Number of hours		Number of hours		Number of hours
01		__ __	__	__ __	__	__ __	__	__ __	__	__ __
02		__ __	__	__ __	__	__ __	__	__ __	__	__ __
03		__ __	__	__ __	__	__ __	__	__ __	__	__ __
04		__ __	__	__ __	__	__ __	__	__ __	__	__ __
05		__ __	__	__ __	__	__ __	__	__ __	__	__ __
06		__ __	__	__ __	__	__ __	__	__ __	__	__ __
07		__ __	__	__ __	__	__ __	__	__ __	__	__ __
08		__ __	__	__ __	__	__ __	__	__ __	__	__ __
09		__ __	__	__ __	__	__ __	__	__ __	__	__ __
10		__ __	__	__ __	__	__ __	__	__ __	__	__ __
11		__ __	__	__ __	__	__ __	__	__ __	__	__ __
12		__ __	__	__ __	__	__ __	__	__ __	__	__ __
13		__ __	__	__ __	__	__ __	__	__ __	__	__ __
14		__ __	__	__ __	__	__ __	__	__ __	__	__ __
15		__ __	__	__ __	__	__ __	__	__ __	__	__ __

DISABILITY

To be administered to mothers/caretakers of all children 2 through 9 years old living in the household. For household members below age 2 or above age 9, leave rows blank

I WOULD LIKE TO ASK YOU IF ANY CHILDREN IN THIS HOUSEHOLD AGED 2 THROUGH 9 HAS ANY OF THE HEALTH CONDITIONS I AM GOING TO MENTION TO YOU.

DA1. SL. NO.	DA2. CHILD'S NAME COPY FROM HOUSEHOLD LISTING FORM, HL2	DA3. COMPARED WITH OTHER CHILDREN, DOES OR DID (NAME) HAVE ANY SERIOUS DELAY IN SITTING, STANDING, OR WALKING? 1 YES 2 NO	DA4. COMPARED WITH OTHER CHILDREN, DOES (NAME) HAVE DIFFICULTY SEEING, EITHER IN THE DAY-TIME OR AT NIGHT? 1 YES 2 NO	DA5. DOES (NAME) APPEAR TO HAVE DIFFICULTY HEARING? (USES HEARING AID, HEARS WITH DIFFICULTY, COMPLETELY DEAF?) 1 YES 2 NO	DA6. WHEN YOU TELL (NAME) TO DO SOMETHING, DOES HE/SHE SEEM TO UNDERSTAND WHAT YOU ARE SAYING? 1 YES 2 NO	DA7. DOES (NAME) HAVE DIFFICULTY IN WALKING OR MOVING HIS/HER ARMS OR DOES HE/SHE HAVE WEAKNESS AND/OR STIFFNESS IN THE ARMS OR LEGS? 1 YES 2 NO	DA8. DOES (NAME) SOMETIMES HAVE FITS, BECOME RIGID, OR LOSE CONSCIOUSNESS? 1 YES 2 NO	DA9. DOES (NAME) LEARN TO DO THINGS LIKE OTHER CHILDREN HIS/HER AGE? 1 YES 2 NO	DA10. DOES (NAME) SPEAK AT ALL (CAN HE/SHE MAKE HIM OR HERSELF UNDERSTOOD IN WORDS; CAN SAY ANY RECOGNIZABLE WORDS)? 1 YES 2 NO	DA11. (FOR 3-9 YEAR OLDS): IS (NAME)'S SPEECH IN ANY WAY DIFFERENT FROM NORMAL (NOT CLEAR ENOUGH TO BE UNDERSTOOD BY PEOPLE OTHER THAN THE IMMEDIATE FAMILY)? 1 YES 2 NO	DA12. (FOR 2-YEAR-OLDS): CAN (NAME) NAME AT LEAST ONE OBJECT (FOR EXAMPLE, AN ANIMAL, A TOY, A CUP, A SPOON)? 1 YES 2 NO	DA13. COMPARED WITH OTHER CHILDREN OF THE SAME AGE, DOES (NAME) APPEAR IN ANY WAY MENTALLY BACKWARD, DULL OR SLOW? 1 YES 2 NO
	NAME											
01		——	——	——	——	——	——	——	——	——	——	——
02		——	——	——	——	——	——	——	——	——	——	——
03		——	——	——	——	——	——	——	——	——	——	——
04		——	——	——	——	——	——	——	——	——	——	——
05		——	——	——	——	——	——	——	——	——	——	——
06		——	——	——	——	——	——	——	——	——	——	——
07		——	——	——	——	——	——	——	——	——	——	——
08		——	——	——	——	——	——	——	——	——	——	——
09		——	——	——	——	——	——	——	——	——	——	——
10		——	——	——	——	——	——	——	——	——	——	——
11		——	——	——	——	——	——	——	——	——	——	——
12		——	——	——	——	——	——	——	——	——	——	——
13		——	——	——	——	——	——	——	——	——	——	——
14		——	——	——	——	——	——	——	——	——	——	——
15		——	——	——	——	——	——	——	——	——	——	——

HW1. PLEASE SHOW ME WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS.	Observed 1	
	Not observed	
	Not in dwelling / plot / yard... 2	2 ⇒HW4
	No permission to see.. 3	3 ⇒HW4
	Other reason 6	6 ⇒HW4
HW2. *OBSERVE PRESENCE OF WATER AT THE SPECIFIC PLACE FOR HAND WASHING* *VERIFY BY CHECKING THE TAP/PUMP, OR BASIN, BUCKET, WATER CONTAINER OR SIMILAR OBJECTS FOR PRESENCE OF WATER*	Water is available .... 1 Water is not available 2	
HW3. *RECORD IF SOAP OR DETERGENT IS PRESENT AT THE SPECIFIC PLACE FOR HAND WASHING.* **CIRCLE ALL THAT APPLY.**	Bar soap ....A Detergent (Powder / Liquid / Paste)....................................B Liquid soap..C Ash / Mud / Sand ....D None..Y	HH19
HW4. DO YOU HAVE ANY SOAP OR DETERGENT (OR OTHER LOCALLY USED CLEANSING AGENT) IN YOUR HOUSEHOLD FOR WASHING HANDS?	Yes .... 1 No 2	 2⇒HH19
HW5. CAN YOU PLEASE SHOW IT TO ME? **RECORD OBSERVATION. CIRCLE ALL THAT APPLY**	Bar soap ....A Detergent (Powder / Liquid / Paste)....................................B Liquid soap..C Ash / Mud / Sand ....D Not able / Does not want to show .... Y	

HH19. *Record the end time.(24 hours)*	Hour and minutes...................__ __ : __ __

HH20. Does any eligible woman age 15-49 reside in the household?

CHECK HOUSEHOLD LISTING, COLUMN HL7 FOR ANY ELIGIBLE WOMAN.

YOU SHOULD HAVE A QUESTIONNAIRE WITH THE INFORMATION PANEL FILLED IN FOR EACH ELIGIBLE WOMAN.

☐ *YES.* ⇒ *GO TO QUESTIONNAIRE FOR INDIVIDUAL WOMEN*

       TO ADMINISTER THE QUESTIONNAIRE TO THE FIRST ELIGIBLE WOMAN.

☐ *NO.* ⇒ *CONTINUE.*

HH21. Does any child under the age of 5 reside in the household?

CHECK HOUSEHOLD LISTING, COLUMN HL9 FOR ANY ELIGIBLE CHILD UNDER AGE 5.

YOU SHOULD HAVE A QUESTIONNAIRE WITH THE INFORMATION PANEL FILLED IN FOR EACH ELIGIBLE CHILD.

☐ *YES.* ⇒ *GO TO QUESTIONNAIRE FOR CHILDREN UNDER FIVE*

       TO ADMINISTER THE QUESTIONNAIRE TO MOTHER OR CARETAKER OF THE FIRST ELIGIBLE CHILD.

☐ *No.* ⇒ *End the interview by thanking the respondent for his/her cooperation.*

       GATHER TOGETHER ALL QUESTIONNAIRES FOR THIS HOUSEHOLD AND COMPLETE THE RELEVANT INFORMATION ON THE COVER PAGE.

Interviewer's Observations

Field Editor's Observations

Supervisor's Observations

Bhutan Multiple Indicator Survey (BMIS)

QUESTIONNAIRE FOR INDIVIDUAL WOMEN

WOMAN'S INFORMATION PANEL
WM

This questionnaire is to be administered to all women age 15 through 49 (see column HL7 of Household Listing Form). Fill in one form for each eligible woman

WM1. Block/Chiwog name and code: _____ ___ ___ ___	WM1A. Gewog/Town name and code: ___ ___ ___
WM1B. Dzongkhag Name & Code: _____ ___ ___	WM2. Household serial number: ___ ___
WM3. Woman's name: Name_____	WM4. Woman's serial number: ___ ___ _
WM5. Interviewer name and number: Name_____ ___ ___	WM6. Day / Month / Year of interview: ___ ___ / ___ ___ / ___ ___ ___ ___

REPEAT GREETING IF NOT ALREADY READ TO THIS WOMAN:

WE ARE FROM NATIONAL STATISTICS BUREAU. WE ARE CONDUCTING A SURVEY ON THE SITUATION OF HOUSEHOLD, WOMEN AND CHILDREN. I WOULD LIKE TO TALK TO YOU ABOUT THESE SUBJECTS. THE INTERVIEW MIGHT TAKE ABOUT 30 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL. WHILE YOUR PARTICIPATION IS VOLUNTARY IT IS OF UTMOST IMPORTANCE THAT YOU RESPOND TO THE SURVEY AS THE RESULTS WILL HELP THE GOVERNMENT IN PLANNING AND DECISION MAKING.

IF YOU HAVE NO OBJECTION, MAY I START NOW?

IF GREETING AT THE BEGINNING OF THE HOUSEHOLD QUESTIONNAIRE HAS ALREADY BEEN READ TO THIS WOMAN, THEN READ THE FOLLOWING:

NOW I WOULD LIKE TO TALK TO YOU MORE ABOUT YOUR HEALTH AND OTHER TOPICS. THIS INTERVIEW WILL TAKE ABOUT 30 MINUTES. AGAIN, ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL

☐   YES, PERMISSION IS GIVEN ⇒ *GO TO WM10 TO RECORD THE TIME AND THEN BE*GIN THE INTERVIEW.

☐   NO, PERMISSION IS NOT GIVEN ⇒ COMPLETE WM7. DISCUSS THIS RESULT WITH YOUR SUPERVISOR

WM7. Status of woman's questionnaire	
	Completed.. 1
	Not at home.. 2
	Refused 3
	Partly completed 4
	Incapacitated 5
	Other (specify**)** _____ **6**

WM8. Field edited by (Name and number): Name_____ ___ ___	WM9. Data entry keyer (Name and number): Name_____ ___ ___
WM10. Record the starting time.(24 hours)	Hours and minutes.................___ ___ : ___ ___

WOMAN'S BACKGROUND		WB

WB1. In what month and year were you born?	Date of birth
	   Month...__ __
	
	   DK month 98
	
	Year ....__ __ __ __
	DK year...9998	

WB2. How old are you?
 	
   Probe: How old were you at your last birthday?
 	
   Compare and correct WB1 and/or WB2 if inconsistent
	Age (in completed years) ....__ __	

WB3. Have you ever attended school or preschool?	Yes 1 No 2	2⇒WB7
WB4. What is the highest level of school you attended?	Preschool...0 Primary(pp-6)..1 Lower Secondary(7-8)...................................2 Middle Secondary(9-10)........................3 Higher Secondary(11-12)........................4 College/university.................................5 DK...8	0⇒WB7
WB5. What is the highest grade you completed at that level? *If less than a full grade then enter 17.*	Grade PP-00 ....__ __ Grade 01-12 ....__ __ Diploma-13 ....__ __ Degree-14...__ __ Masters-15...__ __ >Masters-16 ....__ __ No grade-17 ....__ __ DK(write98)...__ __	
WB6. *Check WB4:* ☐ *Lower Secondary or higher.* ⇒ *Go to Next Module* (*Primary(Continue with WB7*		

WB7. Now I would like you to read this sentence to me.
 	
   Show sentence on the card to the respondent.
 	
   If respondent cannot read whole sentence, probe:
 	
Can you read part of the sentence to me?
 	
Examples of sentences for literacy test:
 	
  1. the child is reading a book
 	
  2. today is losar, we are going to the dzong
 	
  3. parents must care for their children
 	
  4. farming is hard work
	Cannot read at all 1
	
	Able to read only parts of sentence.......................2
	
	Able to read whole sentence 3
	
	No sentence in
	
	   required language _____ **4**
	
	                       (specify language)
	
	Blind / mute, visually / speech impaired............................5	

CHILD MORTALITY		CM

All questions refer only to LIVE births.

CM1. 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	 ⇒CM8
CM2. What was the date of your first birth? I mean the very first time you gave birth, even if the child is no longer living, or whose father is not your current partner. *CM4CM3.*	Date of first birth Day..__ _ DK day..98 Month..__ __ DK moth..98 Year..__ __ DK year..__ 9998	 ⇒CM4
CM3. How many years ago did you have your first birth	Completed years since first birth............................... — —	
CM4. Do you have any sons or daughters to whom you have given birth who are now living with you?	Yes..1 No 2	 2⇒CM6
CM5. How many sons live with you? How many daughters live with you? *If none, record '00'.*	Sons at home..__ __ Daughters at home..__ __	
CM6. 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	 2⇒CM8
CM7. How many sons are alive but do not live with you? How many daughters are alive but do not live with you? *If none, record '00'.*	Sons elsewhere.. — — Daughters elsewhere .... — —	
CM8. Have you ever given birth to a boy or girl who was born alive but later died? *If "No" probe by asking:* I mean, to a child who ever breathed or cried or showed other signs of life − even if he or she lived only a few minutes or hours?	Yes..1 No 2	 2⇒CM10
CM9. How many boys have died? How many girls have died? *If none, record '00'.*	Boys dead..__ __ Girls dead..__ __	
CM10. Sum answers to CM5, CM7, and CM9.	Sum..__ __	

CM11. JUST TO MAKE SURE THAT I HAVE THIS RIGHT, YOU HAVE HAD IN TOTAL (TOTAL NUMBER) LIVE BIRTHS DURING YOUR LIFE. IS THIS CORRECT?

☐ *Yes. Check below:*

        ☐ *No births ⇒ Go to contraception module*

        (*One or more births ⇒ Continue with CM12*

⇒*No*⇒ *Check responses to CM1-CM10 and make corrections as necessary before proceeding to CM12*

| CM12. OF THESE (*TOTAL NUMBER*) BIRTHS YOU HAVE HAD, WHEN DID YOU DELIVER THE LAST ONE (EVEN IF HE OR SHE HAS DIED)?

    Month and year must be recorded. | Date of last birth

  Day .... __ __

  DK day 98

  Month... __ __

  Year .... __ __ __ __ | |

CM13. *Check CM12: Last birth occurred within the last 2 years, that is, since (day and month of interview)* **2008**

☐ *No live birth in last 2 years. ⇒ Continue with the Contraception module.*

☐ *Yes, live birth in last 2 years. ⇒ Ask for the name of the child*

          Name of child_____

If child has died, take special care when referring to this child by name in the following modules.

Continue with the next module.

DESIRE FOR LAST BIRTH | DB

This module is to be administered to all women with a live birth in the 2 years preceding date of interview.

Check child mortality module CM13 and record name of last-born child here _____.

Use this child's name in the following questions, where indicated.

DB1. WHEN YOU GOT PREGNANT WITH (*NAME*), DID YOU WANT TO GET PREGNANT AT THAT TIME?	Yes .... 1 No 2	1⇒NEXT MODULE
DB2. DID YOU WANT TO HAVE A BABY LATER ON, OR DID YOU NOT WANT ANY (MORE) CHILDREN?	Later .... 1 No more 2	 2⇒NEXT MODULE
DB3. HOW MUCH LONGER DID YOU WANT TO WAIT?	 Months .... 1 __ __ Years .... 2 __ __ DK(Write 98)…………………….................................... 9 __ __	

This module is to be administered to all women with a live birth in the 2 years preceding date of interview.

Check child mortality module CM13 and record name of last-born child here _____.

Use this child's name in the following questions, where indicated.

MN1. Did you see anyone for antenatal care during your pregnancy with (NAME)?	Yes .... 1 No 2	2⇒MN5

MN2. Whom did you see?
 	
 Probe:
 	
 Anyone else?
 	
 Probe for the type of person seen and circle all answers given.
	Health professional:
	     Doctor ....A
	
	     Nurse / Midwife ....B
	       HA/BHW C
	
	     Asst. Clinical Officer (ACO)................... D
	
	 Other person
	
	     Traditional birth attendant...F
	
	     Village health worker .... G
	
	 Other (specify) _____ X	

MN3. How many times did you receive antenatal care during this pregnancy?	Number of times .... __ __ DK 98	
MN3A During (any of) your ante natal care visit(s), were you told about the signs of pregrancy complications?	Yes .... 1 No .... 2 DK 8	
MN4. As part of your antenatal care during this pregnancy, were any of the following done at least once: [A] Was your blood pressure measured? [B] Did you give a urine sample? [C] Did you give a blood sample?	Yes No Blood pressure .... 1 2 Urine sample .... 1 2 Blood sample 1 2	
MN5. Do you have a maternal card or mother and child health handbook with your own immunizations listed? May i see it please? *If a card/handbook is presented, use it to assist with answers to the following questions.*	Yes (card seen) .... 1 Yes (card not seen).. 2 No .... 3 DK 8	
MN6. When you were pregnant with (NAME), did you receive any injection in the shoulder to prevent the baby from getting tetanus, that is convulsions after birth?	Yes .... 1 No .... 2 DK 8	2⇒MN9 8⇒MN9
MN7. How many times did you receive this tetanus injection during your pregnancy with (NAME)? *If 7 or more times, record '7'.*	Number of times .... __ DK 8	8⇒MN9

MN8. *How many tetanus injections during last pregnancy were reported in MN7?*		
☐ *At least two tetanus injections during last pregnancy.* ⇒ *Go to MN17*		
☐ *Fewer than two tetanus injections during last pregnancy.* ⇒ *Continue with MN9*		
MN9. DID YOU RECEIVE ANY TETANUS INJECTION AT ANY TIME BEFORE YOUR PREGNANCY WITH (*NAME*), EITHER TO PROTECT YOURSELF OR ANOTHER BABY?	Yes .... 1 No .... 2 DK 8	 2⇒MN17 8⇒MN17
MN10. HOW MANY TIMES DID YOU RECEIVE A TETANUS INJECTION BEFORE YOUR PREGNANCY WITH (*NAME*)? *If 7 or more times, record '7'.*	Number of times .... __ DK 8	 8⇒MN17
MN11. HOW MANY YEARS AGO DID YOU RECEIVE THE LAST TETANUS INJECTION BEFORE YOUR PREGNANCY WITH (*NAME*)? If less than 1 year, record 00.	Years ago .... __ __	

MN17. WHO ASSISTED WITH THE DELIVERY OF (*NAME*)?
 	
 PROBE: ANYONE ELSE?
 	
 Probe for the type of person assisting and circle all answers given.
 	
 If respondent says no one assisted, probe to determine whether any adults were present at the delivery.
	Health professional:
	   Doctor ....A
	
	   Nurse / Midwife ....B
	   HA/BHW C
	
	   Asst. Clinical Officer (ACO)......................................D
	
	 Other person
	
	   Traditional birth attendant...F
	
	   Village health worker..G
	
	   Relative / Friend..H
	
	 Other (specify**)** _____ **X**
	
	 No one...Y	

MN18. Where did you give birth to (name)?	Home	
	Your home.. 11	11⇒MN20
	Other home 12	12⇒MN20
Probe to identify the type of place	Public sector	
	Hospital 21	
If unable to determine whether public or private, write the name of the place.	BHU.. 24	
	Satellite clinic. 34	
	Private Medical Sector	
	Private hospital 31	
_____	**Other** (specify).. 96	96⇒MN20
(Name of place)		
MN19. Was (name) delivered by caeserean section? That is, did they cut your belly open to take the baby out?	Yes 1	
	No 2	
MN20. When (*name*) was born, was he/she very large, larger than average, average, smaller than average, or very small?	Very large 1	
	Larger than average.. 2	
	Average 3	
	Smaller than average.. 4	
	Very small 5	
	DK 8	
MN21. Was (name) weighed at birth?	Yes 1	
	No 2	2⇒MN22A
	DK 8	8⇒MN22A
MN22. How much did (name) weigh? Record weight from mother and child handbook or health card, if available.	From card ....1 (kg) __ . __ __ __ From recall ....2 (kg) __ . __ __ __ DK(Write 9.998)........9 .... __.__ __ __	
MN22A After you gave birth to (name), did anyone check on your health?	Yes 1	
	No 2	2⇒MN22D
MN22B How long after delivery did the first check take place? If less than one hour,circle 1 and record 00. If less than one day, record hours. If less than one week, record days.	Hours...1 ___ ___ Days ....2 ___ ___ Weeks...3 ___ ___ DK(Write 98) ....9 ___ ___	

MN22C WHO CHECKED ON YOUR HEALTH AT THAT TIME?
 	
Probe for most qualified person.
	Health professional:
	    Doctor 10
	
	    Nurse / Midwife 11
	    HA/BHW 12
	
	    Asst. Clinical Officer (ACO) 13
	
	Other person
	
	    Traditional birth attendant.................................... 14
	
	    Village health worker.. 15
	
	    Relative / Friend... 16
	
	Other (specify) _____ **96**	

MN22D IN THE TWO MONTHS AFTER (NAME) WAS BORN, DID ANY HEALTH CARE PROVIDER CHECK ON HIS/HER HEALTH?	Yes .... 1 No .... 2 DK 8	2⇒MN23 8⇒MN23
MN22E HOW MANY HOURS, DAYS OR WEEKS AFTER THE BIRTH OF (NAME) DID THE FIRST CHECK TAKE PLACE? If less than one day record hours. If less than one week record days.	Hours after birth....................................... 1 __ __ Days after birth .... 2 __ __ Weeks after birth .... 3 __ __ DK(Write 98) .... 9 __ __	

MN22F WHO CHECKED ON (NAME)'S HEALTH AT THAT TIME?
 	
Probe for most qualified person.
	Health professional:
	    Doctor 10
	
	    Nurse / Midwife 11
	    HA/BHW 12
	
	    Asst. Clinical Officer (ACO) 13
	
	Other person
	
	    Traditional birth attendant.................................... 14
	
	    Village health worker.. 15
	
	    Relative / Friend... 16
	
	Other (specify) 96	

MN23. HAS YOUR MENSTRUAL PERIOD RETURNED SINCE THE BIRTH OF (NAME)?	Yes .... 1 No 2	
MN24. DID YOU EVER BREASTFEED (NAME)?	Yes .... 1 No 2	2⇒NEXT MODULE

MN25. 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(write 00) .... .0 __ __
	
	Hours.. 1 __ __
	
	Days .... 2 __ __
	
	Don't know / remember(write 98)……........... 9 __ __	

MN26. IN THE FIRST THREE DAYS AFTER DELIVERY, WAS (NAME) GIVEN ANYTHING TO DRINK OTHER THAN BREAST MILK?	Yes .... 1 No 2	2⇒NEXT MODULE

MN27. WHAT WAS (NAME) GIVEN TO DRINK?
 	
    PROBE:
 	
    ANYTHING ELSE?
	Milk (other than breast milk).......................................A
	
	Plain water ....B
	
	Sugar or glucose water...C
	
	Sugar-salt-water solution ....E
	
	Fruit juice ....F
	
	Infant formula ....G
	
	Tea / Infusions...H
	
	Honey...I
	
	Butter..J
	
	Other (specify) X	

CONTRACEPTION		CP
CP1. I WOULD LIKE TO TALK WITH YOU ABOUT ANOTHER SUBJECT – FAMILY PLANNING. ARE YOU PREGNANT NOW?	Yes, currently pregnant .... 1 No .... 2 Unsure or DK 8	1⇒CP4
CP2. COUPLES USE VARIOUS WAYS OR METHODS TO DELAY OR AVOID A PREGNANCY. ARE YOU CURRENTLY DOING SOMETHING OR USING ANY METHOD TO DELAY OR AVOID GETTING PREGNANT?	Yes .... 1 No 2	2⇒CP4
CP3. WHAT ARE YOU DOING TO DELAY OR AVOID A PREGNANCY? Do not prompt. If more than one method is mentioned, circle each one.	Female sterilization..A Male sterilization ....B IUD (Loop/Copper T) ....C Injectables .... D Implants.. E Oral Contraceptive Pill ....F Male condom .... G Female condom...H Foam / Jelly..J Lactational amenorrhoea method (LAM).. K Periodic abstinence/Rhythm ....L Withdrawal..M Other (specify)_____ X	
CP4 IN THE LAST 12 MONTHS HAVE YOU VISTIED A HEALTH FACILITY FOR CARE FOR YOURSELF OR YOUR CHILDREN?	Yes .... 1 No 2	2⇒NEXT MODULE
CP5 DID ANY STAFF MEMBER AT THE HEALTH FACILITY SPEAK TO YOU ABOUT FAMILY PLANNING?	Yes .... 1 No…... 2	

UN1. *Check CP1. Currently pregnant?*		
☐ Yes, currently pregnant ⇒ Continue with UN2 ☐ No, unsure or DK ⇒ Go to UN5		

UN2. Now I would like to talk to you about your current pregnancy. When you got pregnant, did you want to get pregnant at that time?	Yes .... 1 No 2	1⇒UN4
UN3. Did you want to have a baby later on or did you not want any (more) children?	Later .... 1 No more 2	
UN4. Now I would like to ask some questions about the future. After the child you are now expecting, would you like to have another child, or would you prefer not to have any more children?	Have another child .... 1 No more / None.. 2 Undecided / Don't know 8	1⇒UN7 2⇒UN13 8⇒UN13

UN5. *Check CP3. Currently using "Female sterilization"?*	
☐ Yes.⇒ Go to UN13 ☐ No. ⇒ Continue with UN6	

UN6. Now I would like to ask you some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children?	Have (a/another) child.. 1 No more / None.. 2 Says she cannot get pregnant .... 3 Undecided / Don't know 8	 2⇒UN9 3⇒UN11 8⇒UN9
UN7. How long would you like to wait before the birth of (a/another) child?	Months .... 1 __ __ Years... 2 __ __ Soon / Now .... 993 Says she cannot get pregnant .... 994 After marriage... 995 Other .... 996 Don't know 998	 994⇒UN11
UN8. *Check CP1. Currently pregnant?*		
☐ Yes, currently pregnant ⇒ Go to UN13 ☐ No, unsure or DK ⇒ Continue with UN9		

UN9. CHECK CP2. CURRENTLY USING A METHOD?		
☐ Yes. ⇒ Go to UN13		
☐ No ⇒ Continue with UN10		

UN10. DO YOU THINK YOU ARE PHYSICALLY ABLE TO GET PREGNANT AT THIS TIME?	Yes 1	1 ⇒UN13
	No 2	
	DK 8	8 ⇒UN13

UN11. WHY DO YOU THINK YOU ARE NOT PHYSICALLY ABLE TO GET PREGNANT?	Infrequent sex / No sex ....A	
	Menopausal ....B	
	Never menstruated C	
	Hysterectomy (surgical removal	
	of uterus).. D	
	Has been trying to get pregnant	
	for 2 years or more without result................................E	
	Postpartum amenorrheic ....F	
	Breastfeeding ....G	
	Too old ....H	
	Fatalistic...I	
	Other (specify) _____ X	
	Don't know ....Z	

UN12. CHECK UN11. "NEVER MENSTRUATED" MENTIONED?		
☐ Yes. ⇒ Go to Next Module		
☐ No ⇒ Continue with UN13		

UN13. WHEN DID YOUR LAST MENSTRUAL PERIOD START?	Days ago...1 __ __	
	Weeks ago ....2 __ __	
	Months ago...3 __ __	
	Years ago ....4 __ __	
	In menopause /	
	Has had hysterectomy..994	
	Before last birth...995	
	Never menstruated 996	

MA1. ARE YOU CURRENTLY MARRIED OR LIVING TOGETHER WITH A MAN AS IF MARRIED?	Yes, currently married..1	
	Yes, living with a man...2	
	No, not in union 3	3⇒MA5
MA2. HOW OLD IS YOUR HUSBAND/PARTNER?	Age in years .... __ __	
PROBE: HOW OLD WAS YOUR HUSBAND/PARTNER ON HIS LAST BIRTHDAY?		
	DK 98	
MA3. BESIDES YOURSELF, DOES YOUR HUSBAND/PARTNER HAVE ANY OTHER WIVES OR PARTNERS OR DOES HE LIVE WITH OTHER WOMEN AS IF MARRIED?	Yes 1	
	No 2	2⇒MA7
	DK 9	9⇒MA7
MA4. HOW MANY OTHER WIVES OR PARTNERS DOES HE HAVE?	Number .... __ __	⇒MA7
	DK 98	98⇒MA7
MA5. HAVE YOU EVER BEEN MARRIED OR LIVED TOGETHER WITH A MAN AS IF MARRIED?	Yes, formerly married 1	
	Yes, formerly lived with a man 2	
	No 3	3⇒NEXT MODULE
MA6. WHAT IS YOUR MARITAL STATUS NOW: ARE YOU WIDOWED, DIVORCED OR SEPARATED?	Widowed 1	
	Divorced...2	
	Separated 3	
MA7. HAVE YOU BEEN MARRIED OR LIVED WITH A MAN ONLY ONCE OR MORE THAN ONCE?	Only once 1	
	More than once 2	
MA8. IN WHAT MONTH AND YEAR DID YOU <u>FIRST</u> MARRY OR START LIVING WITH A MAN AS IF MARRIED?	Date of first marriage	
	Month .... __ __	
	DK month..98	
	Year .... __ __ __ __	⇒NEXT MODULE
	DK year...9998	
MA9. HOW OLD WERE YOU WHEN YOU STARTED LIVING WITH YOUR FIRST HUSBAND/PARTNER?	Age in years .... __ __	

DV1. SOMETIMES A HUSBAND IS ANNOYED OR ANGERED BY THINGS THAT HIS WIFE DOES. IN YOUR OPINION, IS A HUSBAND JUSTIFIED IN HITTING OR BEATING HIS WIFE IN THE FOLLOWING SITUATIONS:	Yes.........................No DK	
[A] IF SHE GOES OUT WITHOUT TELLING HIM?	Goes out without telling..........................1 2 8	
[B] IF SHE NEGLECTS THE CHILDREN?	Neglects children 1 2 8	
[C] IF SHE ARGUES WITH HIM?	Argues 1 2 8	
[D] IF SHE REFUSES TO HAVE SEX WITH HIM?	Refuses sex..1 2 8	
[E] IF SHE BURNS THE FOOD?	Burns food..1 2 8	

DV2. *Check MA1 and MA5:*

☐ Yes, Currently married or living with a man, or formerly married or formerly lived with a man⟹ Go to DV3

☐ No, not married or living with a man , or never married or lived with a man ⟹ Go to Next module

NOW I WOULD LIKE TO ASK YOU QUESTIONS ABOUT SOME IMPORTANT ASPECTS OF A WOMAN'S LIFE. I KNOW THAT SOME OF THESE QUESTIONS ARE VERY PERSONAL. HOWEVER, YOUR ANSWERS ARE CRUCIAL FOR HELPING TO UNDERSTAND THE CONDITION OF WOMEN IN BHUTAN. LET ME ASSURE YOU THAT YOUR ANSWERS ARE COMPLETELY CONFIDENTIAL AND WILL NOT BE TOLD TO ANYONE AND NO ONE ELSE WILL KNOW THAT YOU WERE ASKED THESE QUESTIONS. IF WE SHOULD COME TO ANY QUESTION THAT YOU DO NOT WANT TO ANSWER, JUST LET ME KNOW AND WE WILL GO ON TO THE NEXT QUESTION.

DV3. (DOES/DID) YOUR (LAST) HUSBAND/PARTNER EVER SAY OR DO ANYTHING TO HUMILIATE YOU IN FRONT OF OTHERS?	Yes 1	
	No 2	2⟹DV6
DV4. HOW OFTEN DID THIS HAPPEN DURING THE LAST 12 MONTHS: OFTEN OR ONLY SOMETIMES?	Often 1	
	Sometimes...2	
DV5. DOES/DID) YOUR (LAST) HUSBAND/PARTNER EVER THREATEN TO HURT OR HARM YOU OR SOMEONE CLOSE TO YOU?	Yes 1	
	No 2	2⟹DV8
DV6. HOW OFTEN DID THIS HAPPEN DURING THE LAST 12 MONTHS: OFTEN OR ONLY SOMETIMES?	Often 1	
	Sometimes...2	
DV7. DOES/DID) YOUR (LAST) HUSBAND/PARTNER EVER INSULT YOU OR MAKE YOU FEEL BAD ABOUT YOURSELF?	Yes 1	
	No 2	2⟹DV10
DV8. HOW OFTEN DID THIS HAPPEN DURING THE LAST 12 MONTHS: OFTEN OR ONLY SOMETIMES?	Often 1	
	Sometimes...2	
DV9. (DOES/DID) YOUR (LAST) HUSBAND/PARTNER EVER PUSH YOU, SHAKE YOU OR THROW SOMETHING AT YOU?	Yes 1	
	No 2	2⟹DV12
DV10. HOW OFTEN DID THIS HAPPEN DURING THE LAST 12 MONTHS: OFTEN OR ONLY SOMETIMES?	Often 1	
	Sometimes...2	
DV11. DOES/DID) YOUR (LAST) HUSBAND/PARTNER EVER SLAP YOU?	Yes 1	
	No 2	2⟹DV14
DV12. HOW OFTEN DID THIS HAPPEN DURING THE LAST 12 MONTHS: OFTEN OR ONLY SOMETIMES?	Often 1	
	Sometimes...2	
DV13. DOES/DID) YOUR (LAST) HUSBAND/PARTNER EVER TWIST YOUR ARM OR PULL YOUR HAIR?	Yes 1	
	No 2	2⟹DV16
DV14. HOW OFTEN DID THIS HAPPEN DURING THE LAST 12 MONTHS: OFTEN OR ONLY SOMETIMES?	Often 1	
	Sometimes...2	
DV15. DOES/DID) YOUR (LAST) HUSBAND/PARTNER EVER PUNCH YOU WITH HIS FIST OR SOMETHING THAT COULD HURT YOU?	Yes 1	
	No 2	2⟹DV18
DV16. HOW OFTEN DID THIS HAPPEN DURING THE LAST 12 MONTHS: OFTEN OR ONLY SOMETIMES?	Often 1	
	Sometimes...2	

DV17. Does/Did) your (last) husband/partner ever kick you, drag you or beat you up?	Yes 1 No 2	2⇒DV20
DV18. How often did this happen during the last 12 months: often or only sometimes?	Often .... 1 Sometimes... 2	
DV19. Does/Did) your (last) husband/partner ever try to choke you or burn you on purpose?	Yes 1 No 2	2⇒DV22
DV20. How often did this happen during the last 12 months: often or only sometimes?	Often .... 1 Sometimes... 2	
DV21. Does/Did) your (last) husband/partner ever threaten or attack you with a knife, gun or any other weapon?	Yes 1 No 2	2⇒DV24
DV22. How often did this happen during the last 12 months: often or only sometimes?	Often .... 1 Sometimes... 2	
DV23. Does/Did) your (last) husband/partner ever physically force you to have sexual intercourse with him even when you did not want to?	Yes 1 No 2	2⇒DV26
DV24. How often did this happen during the last 12 months: often or only sometimes?	Often .... 1 Sometimes... 2	
DV25. Does/Did) your (last) husband/partner ever force you to perform any sexual acts you did not want to?	Yes 1 No 2	2⇒DV27
DV26. How often did this happen during the last 12 months: often or only sometimes?	Often .... 1 Sometimes... 2	
DV27. Have you been able to complete this module without interruption?	Yes, fully .... 1 Yes, partially .... 2 No 3	

Thank the respondent for her cooperation and reassure her about the confidentiality of her answers.

CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, ENSURE PRIVACY.		
SB1. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT SEXUAL ACTIVITY IN ORDER TO GAIN A BETTER UNDERSTANDING OF SOME IMPORTANT LIFE ISSUES. THE INFORMATION YOU SUPPLY WILL REMAIN STRICTLY CONFIDENTIAL. HOW OLD WERE YOU WHEN YOU HAD SEXUAL INTERCOURSE FOR THE VERY FIRST TIME?	Never had intercourse .... 00 Age in years .... __ __ First time when started living with (first) husband/partner 95	00⇒NEXT MODULE
SB2. THE FIRST TIME YOU HAD SEXUAL INTERCOURSE, WAS A CONDOM USED?	Yes .... 1 No .... 2 DK / Don't remember 8	
SB3. WHEN WAS THE LAST TIME YOU HAD SEXUAL INTERCOURSE? Record 'years ago' only if last intercourse was one or more years ago. If 12 months or more the answer must be recorded in years.	Days ago... 1 __ __ Weeks ago .... 2 __ __ Months ago... 3 __ __ Years ago .... 4 __ __	4⇒SB15
SB4. THE LAST TIME YOU HAD SEXUAL INTERCOURSE, WAS A CONDOM USED?	Yes 1 No 2	
SB5. WHAT WAS YOUR RELATIONSHIP TO THIS PERSON WITH WHOM YOU LAST HAD SEXUAL INTERCOURSE? *PROBE TO ENSURE THAT THE RESPONSE REFERS TO THE RELATIONSHIP AT THE TIME OF SEXUAL INTERCOURSE* If 'boyfriend', then ask: WERE YOU LIVING TOGETHER AS IF MARRIED? *IF 'YES', CIRCLE '2'. IF 'NO', CIRCLE '3'.*	Husband .... 1 Cohabiting partner .... 2 Boyfriend .... 3 Casual acquaintance... 4 **Other** (specify) _____ **6**	3⇒SB7 4⇒SB7 6⇒SB7
SB6. *CHECK MA1:* ☐ Currently married or living with a man (MA1 = 1 or 2) ☐ Go to SB8 ☐ Not married / Not in union (MA1 = 3) ☐ Continue with SB7		
SB7. HOW OLD IS THIS PERSON? If response is DK, probe: ABOUT HOW OLD IS THIS PERSON?	Age of sexual partner .... __ __ DK 98	
SB8. HAVE YOU HAD SEXUAL INTERCOURSE WITH ANY OTHER PERSON IN THE LAST 12 MONTHS?	Yes .... 1 No 2	2⇒SB15
SB9. THE LAST TIME YOU HAD SEXUAL INTERCOURSE WITH THIS OTHER PERSON, WAS A CONDOM USED?	Yes .... 1 No 2	

SB10. What was your relationship to this person?	Husband 1	
	Cohabiting partner 2	
Probe to ensure that the response refers to the relationship at the time of sexual intercourse	Boyfriend 3	3⇒SB12
	Casual acquaintance.. 4	4⇒SB12
If 'boyfriend' then ask:		
Were you living together as if married?	**Other** (specify) _____ **6**	6⇒SB12
If 'yes', circle '2'. If 'no', circle '3'.		

| SB11. *Check MA1 and MA7:*
☐ Currently married or living with a man (MA1 = 1 or 2)

AND

Married only once or lived with a man only once (MA7 = 1) ⇒ Go to SB13

☐ Else ⇒ Continue with SB12 |

SB12. How old is this person?		
	Age of sexual partner .... __ __	
If response is DK, probe:		
About how old is this person?	DK 98	
SB13. Other than these two persons, have you had sexual intercourse with any other person in the last 12 months?	Yes 1	
	No 2	2⇒SB15
SB14. In total, with how many different people have you had sexual intercourse in the last 12 months?	Number of partners .... __ __	
SB15. In total, with how many different people have you had sexual intercourse in your lifetime?	Number of lifetime partners... __ __	
If a non-numeric answer is given, probe to get an estimate.	DK 98	
If number of partners is 95 or more, write '95'.		

HA1. Now I would like to talk with you about something else. Have you ever heard of an illness called AIDS?	Yes 1 No 2	 2⇒MM1
HA2. Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	Yes 1 No 2 DK 8	
HA3. Can people get the AIDS virus because of witchcraft or other super-natural means?	Yes 1 No 2 DK 8	
HA4. Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	Yes 1 No 2 DK 8	
HA5. Can people get the AIDS virus from mosquito bites?	Yes 1 No 2 DK 8	
HA6. Can people get the AIDS virus by sharing food with a person who has AIDS?	Yes 1 No 2 DK 8	
HA7. Is it possible for a healthy-looking person to have the AIDS virus?	Yes 1 No 2 DK 8	
HA8. Can the virus that causes AIDS be transmitted from a mother to her baby: [A] During pregnancy? [B] During delivery? [C] By breastfeeding?	Yes No DK During pregnancy.............................1 2 8 During delivery................................1 2 8 By breastfeeding.............................1 2 8	
HA9. In your opinion, if a female teacher has the AIDS virus but is not sick, should she be allowed to continue teaching in school?	Yes...1 No ....2 DK / Not sure / Depends........................8	
HA10. Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had the AIDS virus?	Yes...1 No ....2 DK / Not sure / Depends........................8	
HA11. If a member of your family got infected with the AIDS virus, would you want it to remain a secret?	Yes...1 No ....2 DK / Not sure / Depends........................8	
HA12. If a member of your family became sick with AIDS, would you be will-ing to care for her or him in your own household?	Yes...1 No ....2 DK / Not sure / Depends........................8	
HA13. Check CM13: Any live birth in last 2 years? ☐ No live birth in last 2 years. ⇒ Go to HA24. ☐ Yes, live birth in last 2 years. ⇒ Continue with HA14.		
HA14. Check MN1: Received antenatal care? ☐ Yes, antenatal care received.⇒ Continue with HA15 ☐ No antenatal care received ⇒ Go to HA24		

HA15. DURING ANY OF THE ANTENATAL VISITS FOR YOUR PREGNANCY WITH (*NAME*), WERE YOU GIVEN ANY INFORMATION ABOUT AIDS OR THE AIDS VIRUS?	Yes .... 1 No .... 2 DK 8	
HA16. I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR THE AIDS VIRUS AS PART OF YOUR ANTENATAL CARE?	Yes .... 1 No .... 2 DK 8	 2⇒HA19 8⇒HA19
HA17. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes .... 1 No .... 2 DK 8	 2⇒HA22 8⇒HA22
HA18. REGARDLESS OF THE RESULT, ALL WOMEN WHO ARE TESTED ARE SUPPOSED TO RECEIVE COUNSELING AFTER GETTING THE RESULT. AFTER YOU WERE TESTED, DID YOU RECEIVE COUNSELLING?	Yes .... 1 No .... 2 DK 8	1⇒HA22 2⇒HA22 8⇒HA22
HA19. Check MN17: Birth delivered by health professional (A, B, C or D)? ☐ Yes, birth delivered by health professional⇒ Continue with HA20 ☐ No, birth not delivered by health professional⇒ Go to HA24		
HA20. I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR THE AIDS VIRUS BETWEEN THE TIME YOU WENT FOR DELIVERY BUT BEFORE THE BABY WAS BORN?	Yes .... 1 No 2	 2⇒HA24
HA21. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes .... 1 No 2	
HA22. HAVE YOU BEEN TESTED FOR THE AIDS VIRUS SINCE THAT TIME YOU WERE TESTED DURING YOUR PREGNANCY?	Yes .... 1 No 2	1⇒HA25
HA23. WHEN WAS THE MOST RECENT TIME YOU WERE TESTED FOR THE AIDS VIRUS?	Less than 12 months ago... 1 12-23 months ago... 2 2 or more years ago... 3	1⇒MM1 2⇒MM1 3⇒MM1
HA24. I DON'T WANT TO KNOW THE RESULTS, BUT HAVE YOU EVER BEEN TESTED TO SEE IF YOU HAVE THE AIDS VIRUS?	Yes .... 1 No 2	 2⇒HA27
HA25. WHEN WAS THE MOST RECENT TIME YOU WERE TESTED?	Less than 12 months ago... 1 12-23 months ago... 2 2 or more years ago... 3	
HA26. I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes 1 No 2 DK 8	1⇒MM1 2⇒MM1 8⇒MM1
HA27. DO YOU KNOW OF A PLACE WHERE PEOPLE CAN GO TO GET TESTED FOR THE AIDS VIRUS?	Yes 1 No 2	

		MM
MATERNAL MORTALITY		

NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT YOUR BROTHERS AND SISTERS, THAT IS, ALL OF THE CHILDREN BORN TO YOUR NATURAL MOTHER. PLEASE INCLUDE THOSE WHO ARE LIVING WITH YOU, THOSE WHO ARE LIVING ELSEWHERE, AND THOSE WHO HAVE DIED.

MM1. HOW MANY CHILDREN DID YOUR MOTHER GIVE BIRTH TO, INCLUDING YOU?	Number of births to natural mother ___ ___	

MM2. *CHECK MM1.*

☐ *TWO OR MORE BIRTHS ⇒ CONTINUE WITH MM3*

☐ *ONLY ONE BIRTH (RESPONDENT ONLY) ⇒ GO TO* WM11

MM3. HOW MANY OF THESE BIRTHS DID YOUR MOTHER HAVE BEFORE YOU WERE BORN?	Number of preceding births ___ ___	

	(1) OLDEST	(2) NEXT OLDEST	(3) NEXT OLDEST	(4) NEXT OLDEST
MM4. WHAT NAME WAS GIVEN TO YOUR OLDEST (NEXT OLDEST) BROTHER OR SISTER?	_____	_____	_____	_____
MM5. IS (*NAME*) MALE OR FEMALE?	Male .... 1 Female................. 2	Male .... 1 Female................. 2	Male .... 1 Female................. 2	Male .... 1 Female................. 2
MM6. IS (*NAME*) STILL ALIVE?	Yes .... 1 No .... 2 ⇒MM8 DK .... 8 ⇒(2)	Yes .... 1 No .... 2 ⇒MM8 DK .... 8 ⇒(3)	Yes .... 1 No .... 2 ⇒MM8 DK .... 8 ⇒(4)	Yes .... 1 No .... 2 ⇒MM8 DK .... 8 ⇒(5)
MM7. HOW OLD IS (*NAME*)?	___ ___ ⇒ Go to (2)	___ ___ Go to (3)	___ ___ Go to (4)	___ ___ Go to (5)
MM8. HOW MANY YEARS AGO DID (*NAME*) DIE?	___ ___	___ ___	___ ___	___ ___
MM9. HOW OLD WAS (*NAME)* WHEN HE/SHE DIED?	___ ___ *If male or died before age 12, go to (2)*	___ ___ *If male or died before age 12, go to (3)*	___ ___ *If male or died before age 12, go to (4)*	___ ___ *If male or died before age 12, go to (5)*
MM10. WAS (*NAME*) PREGNANT WHEN SHE DIED?	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2
MM11. DID (*NAME*) DIE DURING CHILDBIRTH?	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2
MM12. DID (*NAME*) DIE WITHIN TWO MONTHS AFTER THE END OF A PREGNANCY OR CHILDBIRTH?	Yes .... 1 No 2	Yes .... 1 No 2	Yes .... 1 No 2	Yes .... 1 No 2
MM13. HOW MANY LIVE BORN CHILDREN DID (*NAME*) GIVE BIRTH TO DURING HER LIFETIME (BEFORE THIS PREGNANCY)?	___ ___	___ ___	___ ___	___ ___
MM14.	*IF NO MORE SIBLINGS, GO TO WM11*	*IF NO MORE SIBLINGS, GO TO WM11*	*IF NO MORE SIBLINGS, GO TO WM11*	*IF NO MORE SIBLINGS, GO TO WM11*

	(5) OLDEST	(6) NEXT OLDEST	(7) NEXT OLDEST	(8) NEXT OLDEST
MM4. WHAT NAME WAS GIVEN TO YOUR OLDEST (NEXT OLDEST) BROTHER OR SISTER?	_____	_____	_____	_____
MM5. IS (NAME) MALE OR FEMALE?	Male .... 1 Female................. 2	Male .... 1 Female................. 2	Male .... 1 Female................. 2	Male .... 1 Female................. 2
MM6. IS (NAME) STILL ALIVE?	Yes .... 1 No .... 2 ⇒MM8 DK .... 8 ⇒(6)	Yes .... 1 No .... 2 ⇒MM8 DK .... 8 ⇒(7)	Yes .... 1 No .... 2 ⇒MM8 DK .... 8 ⇒(8)	Yes .... 1 No .... 2 ⇒MM8 DK .... 8 ⇒(9)
MM7. HOW OLD IS (NAME)?	___ ___ ⇒ Go to (6)	___ ___ Go to (7)	___ ___ Go to (8)	___ ___ Go to (9)
MM8. HOW MANY YEARS AGO DID (NAME) DIE?	___ ___	___ ___	___ ___	___ ___
MM9. HOW OLD WAS (NAME) WHEN HE/SHE DIED?	___ ___ *If male or died before age 12, go to (6)*	___ ___ *If male or died before age 12, go to (7)*	___ ___ *If male or died before age 12, go to (8)*	___ ___ *If male or died before age 12, go to (9)*
MM10. WAS (NAME) PREGNANT WHEN SHE DIED?	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2
MM11. DID (NAME) DIE DURING CHILDBIRTH?	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2	Yes .... 1 ⇒MM13 No 2
MM12. DID (NAME) DIE WITHIN TWO MONTHS AFTER THE END OF A PREGNANCY OR CHILDBIRTH?	Yes .... 1 No 2	Yes .... 1 No 2	Yes .... 1 No 2	Yes .... 1 No 2
MM13. HOW MANY LIVE BORN CHILDREN DID (NAME) GIVE BIRTH TO DURING HER LIFETIME (BEFORE THIS PREGNANCY)?	___ ___	___ ___	___ ___	___ ___
MM14.	*IF NO MORE SIBLINGS, GO TO WM11*	*IF NO MORE SIBLINGS, GO TO WM11*	*IF NO MORE SIBLINGS, GO TO WM11*	*IF NO MORE SIBLINGS, GO TO WM11*

WM11. *RECORD THE END TIME.* (24 HOURS)	Hour and minutes .... __ __ : __ __

Check household listing, column HL9.

WM12. *Is the respondent the mother or caretaker of any child age 0-4 living in this household?*

☐ *Yes. ⇒ Go to QUESTIONNAIRE FOR CHILDREN UNDER FIVE for that child and start the interview with this*

    respondent.

☐ *No. ⇒ End the interview with this respondent by thanking her for her cooperation.*

    Check for the presence of any other eligible woman or children under-5 in the household.

Interviewer's Observations

Field Editor's Observations

Supervisor's Observations

Bhutan Multiple Indicator Survey (BMIS)

QUESTIONNAIRE FOR CHILDREN UNDER FIVE

UNDER-FIVE CHILD INFORMATION PANEL	UF

This questionnaire is to be administered to all mothers or caretakers (see Household Listing Form, column HL9) who care for a child that lives with them and is under the age of 5 years (see Household Listing Form, column HL6).

A separate questionnaire should be used for each eligible child.

UF1. Block/Chiwog name and code: _____ __ __ __	UF1A. Gewog/Town name and code: _____ __ __
UF1B. Dzongkhag Name & Code: _____ __ __	UF2. Household Serial number: __ __
UF3. Child's name: Name_____	UF4. Child's serial number: __ __
UF5. Mother's / Caretaker's name: Name_____	UF6. Mother's / Caretaker's serial number: __ __
UF7. Interviewer name and number: Name_____ __ __	UF8. Day / Month / Year of interview: __ __ / __ __ / __ __ __ __

Repeat greeting if not already read to this respondent:

IF GREETING AT THE BEGINNING OF THE HOUSEHOLD QUESTIONNAIRE HAS ALREADY BEEN READ TO THIS WOMAN, THEN READ THE FOLLOWING:

WE ARE FROM NATIONAL STATISTICS BUREAU. WE ARE CONDUCTING A SURVEY ON THE SITUATION OF HOUSEHOLD, WOMEN AND CHILDREN. I WOULD LIKE TO TALK TO YOU ABOUT THESE SUBJECTS. THE INTERVIEW MIGHT TAKE ABOUT 20 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL. WHILE YOUR PARTICIPATION IS VOLUNTARY IT IS OF UTMOST IMPORTANCE THAT YOU RESPOND TO THE SURVEY AS THE RESULTS WILL HELP THE GOVERNMENT IN PLANNING AND DECISION MAKING.

NOW I WOULD LIKE TO TALK TO YOU MORE ABOUT (CHILD'S NAME FROM UF3)'S HEALTH AND OTHER TOPICS. THIS INTERVIEW WILL TAKE ABOUT 20 MINUTES. AGAIN, ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL.

IF YOU HAVE NO OBJECTION, MAY I START NOW?

☐ *YES, PERMISSION IS GIVEN ⇒ GO TO UF12 TO RECORD THE TIME AND THEN BEGIN THE INTERVIEW.*

☐ *NO, PERMISSION IS NOT GIVEN ⇒ COMPLETE UF9. DISCUSS THIS RESULT WITH YOUR SUPERVISOR*

UF9. Status of questionnaire for children under 5 Codes refer to mother/caretaker.	Completed 1
	Not at home 2
	Refused 3
	Partly completed 4
	Incapacitated 5
	Other (*specify*) _____ **6**

UF10. Field edited by (Name and number): Name_____ __ __	UF11. Data entry keyer (Name and number): Name_____ __ __

| UF12. *Record the starting time.(24 hours)* | Hours and minutes .... __ __ : __ __ | |

AGE		**AG**
AG1. Now I would like to ask you some questions about the health of (*name*). In what month and year was (*name*) born? Probe: What is his / her birthday? If the mother/caretaker knows the exact birth date, also enter the day; otherwise, circle 98 for day Month and year must be recorded.	Date of birth Day .... __ __ DK day .... 98 Month... __ __ Year .... __ __ __ __	
AG2. How old is (*name*)? Probe: How old was (*name*) at his / her last birthday? Record age in completed years. Record '0' if less than 1 year. Compare and correct AG1 and/or AG2 if inconsistent.	Age (in completed years)... __	

BIRTH REGISTRATION		BR
BR1. Does (name) have a birth certificate or health card? IF YES, ASK: MAY I SEE IT?	Yes, seen.. 1 Yes, not seen... 2 No .... 3 DK 8	1⇒NEXT MODULE 2⇒ NEXT MODULE
BR2. Has (name)'s birth been registered with the civil registration office?	Yes .... 1 No .... 2 DK 8	1⇒NEXT MODULE
BR3. Do you know how to register your child's birth?	Yes .... 1 No 2	2⇒NEXT MODULE
BR4. Why is (name)'s birth not registered?	Must travel too far... 02 Did not know it should be registered .... 03 Does not know where to register .... 05 Father unknown .... 07 Parent(s) not registered .... 09 Parent(s) non-Bhutanese .... 10 Because of travel costs.. 11 Parent(s) living abroad.. 12 Other (specify) _____ 96 DK 98	

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EC1. HOW MANY CHILDREN'S BOOKS OR PICTURE BOOKS DO YOU HAVE FOR (NAME)?	None 00
	Number of children's books.. 0 __
	Ten or more books 10

EC2. I AM INTERESTED IN LEARNING ABOUT THE THINGS THAT (NAME) PLAYS WITH WHEN HE/SHE IS AT HOME.			
		Y	N DK
DOES HE/SHE PLAY WITH:			
[A] HOMEMADE TOYS (SUCH AS DOLLS, CARS, OR OTHER TOYS MADE AT HOME)?	Homemade toys 1		2 8
[B] TOYS FROM A SHOP OR MANUFACTURED TOYS?	Toys from a shop.. 1		2 8
[C] HOUSEHOLD OBJECTS (SUCH AS BOWLS OR POTS) OR OBJECTS FOUND OUTSIDE (SUCH AS STICKS, ROCKS, ANIMAL SHELLS OR LEAVES)?	Household objects or outside objects 1		2 8
If the respondent says "YES" to the categories above, then probe to learn specifically what the child plays with to ascertain the response			

EC3. SOMETIMES ADULTS TAKING CARE OF CHILDREN HAVE TO LEAVE THE HOUSE TO GO SHOPPING, WASH CLOTHES, OR FOR OTHER REASONS AND HAVE TO LEAVE YOUNG CHILDREN.	
ON HOW MANY DAYS IN THE PAST WEEK WAS (NAME):	
[A] LEFT ALONE FOR MORE THAN AN HOUR?	Number of days left alone for more than an hour .... __
[B] LEFT IN THE CARE OF ANOTHER CHILD (THAT IS, SOMEONE LESS THAN 10 YEARS OLD) FOR MORE THAN AN HOUR?	Number of days left with other child for more than an hour.. __
If 'none' enter' 0'. If 'don't know' enter' 8'	

EC4. Check AG2: Age of child

☐ Child age 3 or 4 ☐ Continue with EC5

☐ Child age 0, 1 or 2 ☐ Go to Next Module

EC5. DOES (NAME) ATTEND ANY ORGANIZED LEARNING OR EARLY CHILDHOOD EDUCATION PROGRAMME, SUCH AS A PRIVATE OR GOVERNMENT FACILITY, INCLUDING KINDERGARTEN OR COMMUNITY CHILD CARE?	Yes 1	
	No 2	
	DK 8	2⇒EC7
		8⇒EC7
EC6. WITHIN THE LAST SEVEN DAYS, ABOUT HOW MANY HOURS DID (NAME) ATTEND?	Number of hours .... __ __	

EC7. In the past 3 days, did you or any household member over 15 years of age engage in any of the following activities with (name): If yes, ask: who engaged in this activity with (name)? Circle all that apply. [A] Read books to or looked at picture books with (name)? [B] Told stories to (name)? [C] Sang songs to (name) or with (name), including lullabies? [D] Took (name) outside the home, compound, yard or enclosure? [E] Played with (name)? [F] Named, counted, or drew things to or with (name)?		Mother	Father	Other	No one	
	Read books	A	B	X	Y	
	Told stories	A	B	X	Y	
	Sang songs	A	B	X	Y	
	Took outside	A	B	X	Y	
	Played with	A	B	X	Y	
	Named/counted	A	B	X	Y	

EC8. I would like to ask you some questions about the health and development of your child. Children do not all develop and learn at the same rate. For example, some walk earlier than others. These questions are related to several aspects of your child's development. Can (name) identify or name at least ten letters of the alphabet?	Yes .... 1 No .... 2 DK 8	
EC9. Can (name) read at least four simple, popular words?	Yes .... 1 No .... 2 DK 8	
EC10. Does (name) know the name and recognize the symbol of all numbers from 1 to 10?	Yes .... 1 No .... 2 DK 8	
EC11. Can (name) pick up a small object with two fingers, like a stick or a rock from the ground?	Yes .... 1 No .... 2 DK 8	
EC12. Is (name) sometimes too sick to play?	Yes .... 1 No .... 2 DK 8	
EC13. Does (name) follow simple directions on how to do something correctly?	Yes .... 1 No .... 2 DK 8	
EC14. When given something to do, is (name) able to do it independently?	Yes .... 1 No .... 2 DK 8	

EC15. Does (NAME) GET ALONG WELL WITH OTHER CHILDREN?	Yes .... 1 No .... 2 DK 8	
EC16. Does (NAME) KICK, BITE, OR HIT OTHER CHILDREN OR ADULTS?	Yes .... 1 No .... 2 DK 8	
EC17. Does (NAME) GET DISTRACTED EASILY?	Yes .... 1 No .... 2 DK 8	

BREASTFEEDING		BF
BF1. Has (name) ever been breastfed?	Yes 1	
	No 2	2⇒BF3
	DK 8	8⇒BF3
BF2. Is he/she still being breastfed?	Yes 1	
	No 2	
	DK 8	
BF3. I would like to ask you about liquids that (name) may have had yesterday during the day or the night. I am interested in whether (name) had the item even if it was combined with other foods. Did (name) drink plain water yesterday, during the day or night?	 Yes .... 1 No .... 2 DK 8	
BF4. Did (name) drink infant formula yesterday, during the day or night?	Yes .... 1 No .... 2 DK 8	 2⇒BF6 8⇒BF6
BF5. How many times did (name) drink infant formula?	Number of times .... __ __	
BF6. Did (name) drink milk, such as tinned, powdered or fresh animal milk yesterday, during the day or night?	Yes .... 1 No .... 2 DK 8	 2⇒BF8 8⇒BF8
BF7. How many times did (name) drink tinned, powdered or fresh animal milk?	Number of times .... __ __	
BF8. Did (name) drink juice or juice drinks yesterday, during the day or night?	Yes .... 1 No .... 2 DK 8	
BF9. Did (name) drink soup yesterday, during the day or night?	Yes .... 1 No .... 2 DK 8	
BF10. Did (name) drink or eat vitamin or mineral supplements or any medicines yesterday, during the day or night?	Yes .... 1 No .... 2 DK 8	
BF11. Did (name) drink ORS (oral rehydration solution) yesterday, during the day or night?	Yes .... 1 No .... 2 DK 8	

BF12. DID (NAME) <u>DRINK ANY OTHER LIQUIDS</u> YESTERDAY, DURING THE DAY OR NIGHT?	Yes .... 1 No .... 2 DK 8	
BF13. DID (NAME) <u>DRINK OR EAT YOGURT</u> YESTERDAY, DURING THE DAY OR NIGHT?	Yes .... 1 No .... 2 DK 8	2⇒BF15 8⇒BF15
BF14. HOW MANY TIMES DID (NAME) DRINK OR EAT YOGURT YESTERDAY, DURING THE DAY OR NIGHT?	Number of times .... __ __	
BF15. DID (NAME) <u>EAT THIN PORRIDGE</u> YESTERDAY, DURING THE DAY OR NIGHT?	Yes .... 1 No .... 2 DK 8	
BF16. DID (NAME) <u>EAT SOLID OR SEMI-SOLID (SOFT, MUSHY) FOOD</u> YESTERDAY, DURING THE DAY OR NIGHT?	Yes .... 1 No .... 2 DK 8	2⇒BF18 8⇒BF18
BF17. HOW MANY TIMES DID (NAME) EAT SOLID OR SEMI-SOLID (SOFT, MUSHY) FOOD YESTERDAY, DURING THE DAY OR NIGHT?	Number of times .... __ __	
BF18. YESTERDAY, DURING THE DAY OR NIGHT, <u>DID (NAME) DRINK ANYTHING FROM A BOTTLE WITH A NIPPLE</u>?	Yes .... 1 No .... 2 DK 8	

CA1. In the last two weeks, has (name) had diarrhoea?	Yes 1	
	No 2	2⇒CA7
	DK 8	8⇒CA7
CA2. I would like to know how much (name) was given to drink during the diarrhoea (including breastmilk). During the time (name) had diarrhoea, was he/she given less than usual to drink, about the same amount, or more than usual? If less, probe: Was he/she given much less than usual to drink, or somewhat less?	Much less .... 1 Somewhat less.. 2 About the same .... 3 More .... 4 Nothing to drink .... 5 DK 8	
CA3. During the time (name) had diarrhoea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? If "less", probe: Was he/she given much less than usual to eat or somewhat less?	Much less .... 1 Somewhat less.. 2 About the same .... 3 More .... 4 Stopped food .... 5 Never gave food .... 6 DK 8	
CA4. During the episode of diarrhoea, was (name) given to drink any of the following: Read each item aloud and record response before proceeding to the next item. [A] A fluid made from a special packet called ORS? [B] A pre-packaged ORS fluid for diarrhoea? [C] Rice water/ Rice porridge? [D] Whey (Dachu)? [E] Weak tea (Phekha) with salt?	Y N DK Fluid from ORS packet .... 1 2 8 Pre-packaged ORS fluid... 1 2 8 Rice water/Rice porridge .... 1 2 8 Whey(Dachu)... 1 2 8 Weak Tea (Phekha) with salt................................... 1 2 8	
CA5. Was anything (else) given to treat the diarrhoea?	Yes 1	
	No 2	2⇒CA7
	DK 8	8⇒CA7

CA6. WHAT (ELSE) WAS GIVEN TO TREAT THE DIARRHOEA?
 	
PROBE:
 	
ANYTHING ELSE?
 	
RECORD ALL TREATMENTS GIVEN. WRITE BRAND NAME(S) OF ALL MEDICINES MENTIONED.
 	
_____
(Name)
	Pill or Syrup
	
	    Antibiotic ....A
	
	    Antimotility..B
	
	    Zinc C
	
	    Other (Not antibiotic, antimotility
	
	        or zinc) ....G
	
	    Unknown pill or syrup ....H
	
	Injection
	
	    Antibiotic L
	
	    Non-antibiotic ....M
	
	    Unknown injection..N
	
	Intravenous...O
	
	Home remedy / Herbal medicine ....Q
	
	Other (*specify***)** _____ **X**	

CA7. AT ANY TIME IN THE LAST TWO WEEKS, HAS (NAME) HAD AN ILLNESS WITH A COUGH?	Yes ....1 No ....2 DK 8	 2⇒CA14 8⇒CA14
CA8. WHEN (NAME) HAD AN ILLNESS WITH A COUGH, DID HE/SHE BREATHE FASTER THAN USUAL WITH SHORT, RAPID BREATHS OR HAVE DIFFICULTY BREATHING?	Yes ....1 No ....2 DK 8	 2⇒CA14 8⇒CA14
CA9. WAS THE FAST OR DIFFICULT BREATHING DUE TO A PROBLEM IN THE CHEST OR A BLOCKED OR RUNNY NOSE?	Problem in chest...1 Blocked or runny nose ....2 Both..3 **Other (**specify**)** _____ **6** DK 8	 2⇒CA14 6⇒CA14
CA10. DID YOU SEEK ANY ADVICE OR TREATMENT FOR THE ILLNESS FROM ANY SOURCE?	Yes ....1 No ....2 DK 8	 2⇒CA12 8⇒CA12

CA11. FROM WHERE DID YOU SEEK ADVICE OR TREATMENT?
 	
PROBE:
ANYWHERE ELSE?
 	
Circle all providers mentioned,
 	
but do NOT prompt with any suggestions.
 	
Probe to identify each type of source.
 	
If unable to determine if public or private sector, write the name of the place.
 	
_____
(Name of place)
	Public sector
	
	    Hospital..A
	
	    BHU ....B
	
	    Satellite clinic C
	
	    Village health worker...D
	
	    Outreach clinic..E
	
	Private medical sector
	
	    Private physician...J
	
	    Private pharmacy ....K
	
	Other source
	
	    Relative / Friend...P
	
	    Shop ....Q
	
	    Traditional practitioner ....R
	
	Other (specify**)**_____ **X**	

CA12. Was (name) given any medicine to treat this illness?	Yes 1	
	No 2	2⇒CA14
	DK 8	8⇒CA14
CA13. What medicine was (name) given? *Probe:* Any other medicine? Circle all medicines given. Write brand name(s) of all medicines mentioned. _____ (Names of medicines)	Antibiotic Pill / Syrup .... A Injection .... B Paracetamol / Panadol / Acetaminophen .... P Aspirin .... Q Ibuprofen .... R **Other (**specify) _____ **X** DK .... Z	
CA14. Check AG2: Child aged under 3? ☐ Yes.⇒ Continue with CA15 ☐ *No.*⇒ *UF13*		
CA15. The last time *(*name*)* passed stools, what was done to dispose of the stools?	Child used toilet / latrine .... 01 Put / Rinsed into toilet or latrine .... 02 Put / Rinsed into drain or ditch .... 03 Thrown into garbage (solid waste) .... 04 Buried .... 05 Left in the open .... 06 **Other (**specify) _____ **96** DK 98	

UF13. *Record the end time.(24 hours)*	Hour and minutes .... __ __ : __ __

UF13. *Record the end time.(24 hours)*	Hour and minutes .... __ __ : __ __

UF14. *Is the respondent the mother or caretaker of another child age 0-4 living in this household?*

☐ *Yes.* ⇒ *Indicate to the respondent that you will need to measure the weight and height of the child later.*

   Go to the next QUESTIONNAIRE FOR CHILDREN UNDER FIVE to be administered to the same respondent

☐ *No.*⇒ *End the interview with this respondent by thanking him/her for his/her cooperation and tell her/him that you will need to measure the weight and height of the child..*

   Check to see if there are other woman's or under-5 questionnaires to be administered in this household.

   Move to another woman's or under-5 questionnaire, or start making arrangements for anthropometric   measurements of all eligible children in the household.

After questionnaires for all children are complete, the measurer weighs and measures each child.

Record weight and length/height below, taking care to record the measurements on the correct questionnaire for each child. Check the child's name and line number on the household listing before recording measurements.

AN1. MEASURER'S NAME AND NUMBER:	Name_____ __ __	
AN2. RESULT OF HEIGHT / LENGTH AND WEIGHT MEASUREMENT	Either or both measured 1	
	Child not present.. 2	2⇒AN6
	Child or caretaker refused.. 3	3⇒AN6
	Other (specify**)** _____ **6**	6⇒AN6
AN3. CHILD'S WEIGHT	Kilograms (kg)………………..__ __ . __ __ __ Weight not measured……………99.999	
AN4. CHILD'S LENGTH OR HEIGHT Check age of child in AG2: ☐ Child under 2 years old. ☐ Measure length (lying down). ☐ Child age 2 or more years. ☐ Measure height (standing up).	Length (cm) Lying down .... 1 __ __ __ . __ Height (cm) Standing up .... 2 __ __ __ . __ Length / Height not measured...................................... 999.9	
AN5. OEDEMA OBSERVE AND RECORD	Checked Oedema present.. 1 Oedema not present .... 2 Unsure.. 3 Not checked (specify reason)... 7	

AN6. Is there another child in the household who is eligible for measurement?

☐ Yes.⇒ Record measurements for next child.

☐ No. ⇒ End the interview with this household by thanking all participants for their cooperation.

Gather together all questionnaires for this household and check that all identification numbers are inserted on each page. Tally on the Household Information Panel the number of interviews completed.

Interviewer's Observations

Field Editor's Observations

Supervisor's Observations