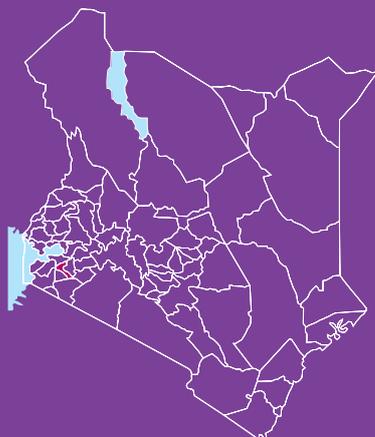


# Kenya, Kisii County



Monitoring the situation of children and women



## Multiple Indicator Cluster Survey 2011

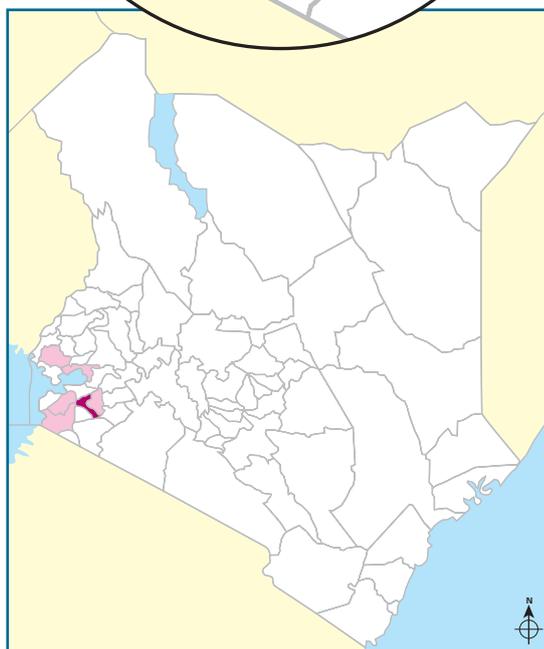
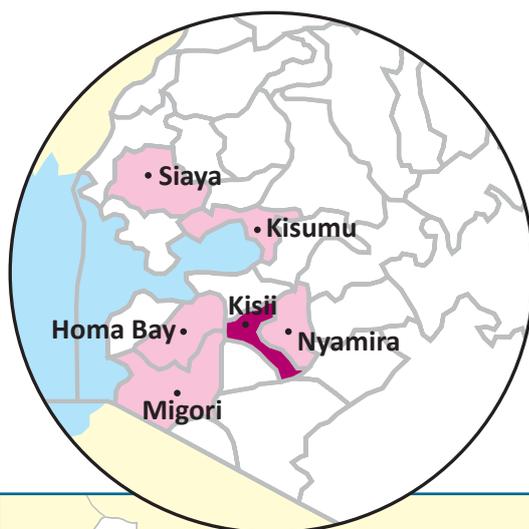


Kenya National Bureau  
of Statistics



# Kisii County

Multiple Indicator Cluster Survey 2011



July, 2013

The Kisii County Multiple Indicator Cluster Survey (MICS) was carried out in 2011 by Kenya National Bureau of Statistics in collaboration with County and Provincial administration. Financial and technical support was provided by the United Nations Children's Fund (UNICEF).

MICS is an international household survey programme developed by UNICEF. The Kisii County MICS was conducted as part of the fourth global round of MICS surveys (MICS4). MICS provides up-to-date information on the situation of children and women and measures key indicators that allow countries 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](http://www.childinfo.org). In Kenya, this information is important to guide the planning and implementation of new development plans targeting the new administrative county-levels of governance.

**Suggested citation:**

Kenya National Bureau of Statistics. 2013. Kisii County Multiple Indicator Cluster Survey 2011, Final Report. Nairobi, Kenya: Kenya National Bureau of Statistics.

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## List of Abbreviations

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AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
BCG	Bacillus Calmette Guerin (Tuberculosis)
C-section	Caesarian Section
CSPro	Census and Survey Processing System
DPT	Diphtheria Pertussis Tetanus
DPT-HeB-Hib	Diphtheria Pertusis Tetanus Hepatitis B Haemophyllus Influenza B
EA	Enumeration Area
ECDI	Early Childhood Development Index
EPI	Expanded Programme on Immunization
ERS	Economic Recovery Strategy
FGM/C	Female Genital Mutilation/ Cutting
GOK	Government of Kenya
GPI	Gender Parity Index
HIV	Human Immunodeficiency Virus
IDD	Iodine Deficiency Disorders
IPTp	Intermittent Preventive Treatment of Malaria in Pregnancy
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
IUD	Intrauterine Device
IYCF	Infant and Young Child Feeding Practices
JMP	Joint Monitoring Programme
KAIS	Kenya AIDS Indicator Survey
KDHS	Kenya Demographic Health Survey
KEPI	Kenya Expanded Programme on Immunization
KESSP	Kenya Education Sector Support Programme
KNBS	Kenya National Bureau of Statistics
LAM	Lactational Amenorrhea Method
LLIN	Long Lasting Insecticide Treated Nets
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
MOMS	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
NAR	Net Attendance Rate
NPA	National Plan of Action
ORT	Oral Rehydration Therapy
OVC	Orphans and Vulnerable Children
PMTCT	Prevention of Mother to Child Transmission
ppm	Parts Per Million
PRS	Poverty Reduction Strategy
PPS	Probability proportional to Size
PSU	Primary Sampling Units
RHF	Recommended Home Made Fluids
SP	Sulphadoxine- Pyrimethamine
SPSS	Statistical Package for Social Sciences
STIs	Sexually Transmitted Infections
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
U5MR	Under 5 mortality
UNAIDS	United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session on HIV/AIDS
UNICEF	United Nations Children's Fund
VIP	Ventilated Improved Latrine
WFFC	World Fit For Children
WHO	World Health Organization
WSC	World Summit for Children

## Foreword

---

The lives of children and women have improved significantly in the recent past, both at the global and national level. In spite of this, statistics and data presented at national levels often conceal disparities evident among the poor households in terms of access to basic services such as health care, education and protection. In addition, urban residents often present higher levels of achievement in most of the indicators compared to their rural counterparts. This may be attributed to their proximity to essential services ranging from infrastructure to provision of improved services like electricity and piped water.

The Multiple Indicator Cluster Survey (MICS) 2011 was conducted to provide comprehensive and disaggregated data to fill the existing gap, particularly at the county level. The survey, which was the first of its kind to be conducted at the devolved level, was a follow-up to the MICS 2008 conducted in 13 districts in Eastern Province and the 2009 Mombasa Informal Settlement Survey. The objective of Kisii MICS 2011 was to provide lower-level estimates relating to children and women residing in the six counties of the region. Particular emphasis was on reproductive health, child health and mortality, nutrition, child protection, childhood development, water and sanitation, hand washing practices, education, disability and HIV/AIDS, and orphanhood.

The results of Kisii MICS 2011 presented in this Report will therefore provide requisite baseline information and facilitate evidence-based planning and programming by policymakers and stakeholders in the development sphere.

This Report is a culmination of concerted efforts of various organizations and individuals. I acknowledge the technical and financial assistance from the United Nations Children's Fund (UNICEF). I sincerely applaud the UNICEF Kenya Country Office staff, lead by Dr. Robert Ndugwa - Research and Evaluation Specialist, for diligently managing and availing technical oversight of both the survey and report production. I also commend the hard work and dedication of Kenya National Bureau of Statistics (KNBS) staff, under the capable leadership of Mr. Macdonald Obudho – Director of Population and Social Statistics and Mr. James Gatungu- Director Production Statistics in the planning and implementation of the Survey.

I remain indebted to households for generously and voluntarily responding to survey questions and allowing the survey teams to measure the weights and heights of children below 5 years of age.

I urge all stakeholders to use the information presented in this report to impact positively on the lives of our people.



**Zachary Mwangi**  
**Director General**  
Kenya National Bureau of Statistics

# Executive Summary

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The Kisii County Multiple Indicator Cluster Survey (MICS) is a representative sample survey drawn using the 2009 Kenya Population and Housing Census. The urban and rural areas within Kisii County were identified as the main sampling strata and the sample was selected in two stages. The primary sampling units (PSUs) were the enumeration areas (EAs) while the households were the ultimate units. A total of 50 EAs were sampled using the Probability Proportional to Size (PPS) sampling methodology. After a household listing was carried out, a systematic sample of 25 households was drawn in each sample enumeration area. Information from a total of 1161 households was collected from 6,851 household members with 3,301 males and 3,548 females. About 46 per cent of the sampled households' population is below 15 years, 50 per cent are aged between 15-64 years and 4 per cent are aged above 65 years. The survey was conducted by the Kenya National Bureau of Statistics (KNBS) with support from UNICEF Kenya. The summary of the findings from the survey are presented below.

## Child Mortality

---

For the ten periods preceding the survey, the neonatal, infant and under-five mortality rates in Kisii are 23, 43 and 60 deaths per 1000 live births respectively. The estimated child mortality rate is 18 deaths per 1000 children surviving to the first birthday in the same period.

## Nutritional Status and Breastfeeding

---

According to WHO standards, approximately 15 per cent of children under age five in Kisii County are moderately underweight whilst 3 per cent are classified as severely underweight. Nearly, 26 per cent are moderately or severely stunted or too short for their age whilst 9 per cent are severely stunted. Three (3) per cent are moderately wasted or too thin for their height, whilst a similar proportion is classified as overweight.

Only 48 per cent of babies in Kisii County are promptly breastfed for the first time (within one

hour of birth), and only 42 per cent of children aged less than six months are being exclusively breastfed. Overall, 59 per cent of children aged less than 2 years are appropriately fed for their age. It is noteworthy that despite the risk of contamination, about 5 per cent of children aged 0-23 months in Kisii County are reported to have been fed using a bottle with a nipple.

Fifty nine percent of children in Kisii County are weighed at birth and it is estimated that 5 per cent are born with low birth weight.

## Iodization and Vitamin A supplementation

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All households in Kisii County consume salt containing the recommended levels of iodine (15 ppm).

Within the six months prior to the MICS, 47 per cent of children aged 6-59 months received a high dose Vitamin A supplement

## Immunisation

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Seventy-eight (78) per cent of children in Kisii County received the recommended vaccinations by their first birthday. There is almost universal coverage of the individual vaccines (BCG, DPT 1, 2 and 3, Polio 1, 2 and 3, and measles) with over 90 per cent of the children having received them. However, yellow fever vaccine coverage is the lowest at 75 per cent. 67 per cent of women who have had a live birth in the last 2 years are protected against tetanus.

## Care of illness

---

Fifteen cent of children under five years of age had diarrhoea in the two weeks preceding the survey. Only 22 per cent of children with diarrhoea receive oral rehydration solutions (ORS) or other recommended homemade fluids. Thirty four (34) per cent of children with diarrhoea receive ORT with continued feeding.

Eight (8) per cent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Less than half (47 per cent) of children with suspected pneumonia are taken to an appropriate provider. Only about 2 out of every 5 (40 per cent) children under 5 years with suspected pneumonia had received an antibiotic during the two weeks prior to the survey.

## Solid fuel use

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The majority (98 per cent) of household members in Kisii County use solid fuels for cooking with the most common fuel being charcoal (87 per cent) and wood (9 per cent).

## Malaria prevention

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The level of net ownership in Kisii County is high with 93 per cent of households having at least one insecticide treated net (ITN). Ninety-three (93) per cent of households have at least one ITN or have received indoor residual spraying in the prior 12 months before they survey.

Eighty (80) per cent of children under the age of five slept under any mosquito net the night prior to the survey and 79 per cent slept under an ITN. More than 7 out of every 10 (71 per cent) pregnant women slept under an ITN.

Thirteen (13) per cent of children under five years in Kisii County were ill with malarial fever in the two weeks prior to the survey, and only 27 per cent are treated with anti-malarials. Only 11 per cent are treated with artemisinin combination drugs (the recommended first line anti-malarials). Only 14 per cent of children receive anti-malarial drugs within 24 hours or on the next day after onset of symptoms.

Thirty eight (38) per cent of women who gave birth in the two years preceding the survey reported receiving the recommended dose intermittent preventive therapy for malaria (SP/Fansidar2 or more times).

## Water and sanitation

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More than 3 out of 5 households in Kisii County use an improved source of drinking water (62 per cent). The main improved source of drinking water is protected wells and springs, whereas unimproved drinking water supply is from unprotected wells and springs.

Only a third (32 per cent) of those who use unimproved drinking water sources use an appropriate water treatment method, most commonly adding bleach/chlorine (27 per cent). Nineteen (19) per cent of the Kisii County household population use improved sanitation facilities. Less than 1 per cent has no sanitation facilities.

In 89 per cent of cases, stool of children age 0-2 years are disposed of safely. Only 9 per cent of the households in Kisii County have both improved drinking water sources and improved sanitation.

Less than 1 per cent of households have designated hand washing places observed and soap was present in less than 1 per cent of the households. Eighty (80) per cent of household where the hand washing place wasn't observed, soap was shown to interviewer.

## Reproductive health

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The total fertility rate is 4.4 children per woman in the three year period before the survey. The adolescent birth rate is 172 births per 1000 women during the same period. ASFR is highest in the 20-24 years age group with 235 births per 1000 women. Generally, fertility seems to decline in all age groups over the last decade before the survey.

Teenage pregnancy (the proportion of women aged 15-19 years who have begun childbearing) is 30 per cent. Overall, 8 per cent of women aged 15-49 years have a live birth before age 15 while more than a third (35 per cent) of women aged 20-49 years have had a live birth before age 18.

More than half (53 per cent) of women currently married/in union use modern contraceptive methods while 2 per cent use traditional methods. Injectable contraceptives are by far the most popular method and are used by more than a third (38 per cent) of married women.

Coverage of antenatal care by any skilled personnel is relatively high with 9 in 10 (90 per cent) of women who gave birth in the two years preceding the survey receiving antenatal care, majority of whom received care from a nurse or midwife (54 per cent). Eighty-one (81) per cent of mothers received antenatal care more than once whilst more than a third of the mothers (36 per cent) received antenatal care at least four times.

More than half (58 per cent) of births were delivered in a health facility and 54 per cent were delivered by skilled personnel in the two years preceding the survey.

### **Childhood development**

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In Kisii County, 45 per cent of children aged 36-59 months are attending pre-school. Presence of learning materials and involvement of adults with children in learning activities is perceived as important. About 46 per cent of under-five children had an adult household member engaged in more than four learning activities during the 3 days preceding the survey and 26 per cent of children have their fathers engage with them in one or more activities. Only 5 per cent of children are living in households where at least 3 children's books are present whereas 62 per cent live in households where they have two or more playthings.

Physical growth, literacy and numeracy skills, socio-emotional development and readiness to learn are vital domains of a child's overall development. About 37 per cent of children aged 36-59 months are developmentally on track.

Almost half (46 per cent) of children under five years of age were left with inadequate care.

### **Literacy and Education**

---

In Kisii County, among females age 15-24 about 87 per cent of women are literate and the levels vary by place of residence, age and household wealth level. Only 77 per cent of children who are currently attending the first grade of primary school were attending pre-school the previous year. Only 19 per cent of children at primary-school entry age entered the first grade in school, with a net attendance of 74 per cent. Eighty five (85)per cent of those who entered grade 1 reached grade 8. Primary school completion rate is 73 percent with the transition to secondary school at 73 per cent. The net secondary school attendance rate stands at 23 per cent

### **Child protection**

---

Fifty sixper cent of children under the age of five years who live in Kisii County have their births registered. For those not registered, 8 per cent of mothers/caretakers had knowledge of birth registration though they did not register their children's birth.

Close to 47 per cent of children aged 5-14 years in Kisii County are involved in child labour. Ninety six (96) per cent of the child labourers attend school. More than 7 out of 10 (73 per cent) of the children age 2-14 years are subjected to at least one form of violent discipline method by their mothers/caretakers. Similarly, 7 out of 10 experience only non-violent discipline and a similar number experience psychological aggression.

Sixteen (16)per cent of adolescent girls of ages 15-19 years old in Kisii are currently married or in union. Little more than 1 in 10 (11 per cent) women age 15-49 years are married before their 15th birthday. Thirty seven (37)per cent of women aged 20-49 years are married before their 18th birthday. None of the Kisii County women age 15-49 years is in a polygynous marriage or union. Among married women aged 20-24 years, almost 1 out of 10 (9 per cent) have husbands or partners who are 10 or more years older than their age.

## Female genital mutilation/cutting (FGM/C)

---

Over 94 per cent of all women age 15-49 years in Kisii County have experienced FGM/C, with majority (89 per cent) having flesh removed during the procedure. Almost all have heard of FGM/C and of those who have, 3 out of 10 (30 per cent) would like the FGM/C practice to continue

## Domestic Violence

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Approximately 65 per cent of women ages 15-49 years feel that a husband/partner is justified in beating his wife/partner in various circumstances. For example, they justify wife beating 'if she neglects the children' (51 per cent). Other reasons given by women were "if she goes out without telling him" (39 per cent), "if she argues with him" (35 per cent), or "if she refuses sex with him" (30 per cent).

## HIV and AIDS

---

Almost all women in Kisii County have heard of AIDS, however, only 56 per cent have comprehensive knowledge of HIV prevention methods and transmission.

Knowledge of mother-to-child transmission of HIV is near universal (96 per cent). However, only 56 per cent know of the three main ways of transmission. Stigma and discrimination are still fairly prevalent in Kisii County as only 27 per cent of women expressed accepting attitudes on all four indicators on attitudes toward people living with HIV namely: would care for family member sick with AIDS; would buy fresh vegetables from a vendor who was

HIV positive; thinks that a female teacher who is HIV positive should be allowed to teach in school; and would not want to keep HIV status of a family member a secret.

Knowledge of HIV testing places is nearly universal (95 per cent). However, only 56 per cent of women have ever been tested and 40 per cent have been told results. Eighty two percent of all the women who gave birth in the last two years preceding the survey received HIV counselling during antenatal care, only 79 per cent of these were offered an HIV test and were tested for HIV and received the results.

Thirtynine (39) percent of never-married young women aged 15-24 years have never had sex while a quarter (25 percent) of young women aged 15-24 years had sex before age 15. Seven (7) per cent of young women aged 15-24 years had sex with a man 10 or more years older in the year preceding the survey.

About 2 per cent of women report having sex with more than one partner in the year preceding the survey. Moreover, about 3 per cent of young women aged 15-24 years have had sex with a non-marital, non-cohabiting partner in the same period.

## Orphans and vulnerable children

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Fifteen per cent of children below 18 years are not living with any biological parent and about 1 in 10 (11 per cent) have one or both parents dead. About 2 per cent of children aged 10-14 years have lost both parents. Almost all (99 per cent) children who are non-orphans are attending school. The ratio of school attendance between orphans and non-orphans is 1.01.

## Summary Table of Findings

Multiple Indicator Cluster Surveys (MICS) and Millennium Development Goals (MDG) Indicators, Kisii County, 2012

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value	Units
<b>SAMPLE</b>					
Households			Households interviewed	1161	Number
Women			Number of women interview	1078	Number
Children			Number of children under-5 years with completed information	897	Number
<b>CHILD MORTALITY</b>					
Child mortality	1.1	4.1	Under-five mortality rate	60	per thousand
	1.2	4.2	Infant mortality rate	43	per thousand
	1.3		Neonatal mortality rate	23	per thousand
	1.4		Post-neonatal mortality rate	20	per thousand
	1.5		Child mortality rate	18	per thousand
<b>NUTRITION</b>					
Nutritional status		1.8	Underweight prevalence		
	2.1a		Moderate and Severe (- 2 SD)	14.7	per cent
	2.1b		Severe (- 3 SD)	2.5	per cent
			Stunting prevalence		
	2.2a		Moderate and Severe (- 2 SD)	26.3	per cent
	2.2b		Severe (- 3 SD)	9.0	per cent
			Wasting prevalence		
	2.3a		Moderate and Severe (- 2 SD)	3.4	per cent
	2.3b		Severe (- 3 SD)	0.5	per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value	Units
Breastfeeding and infant feeding	2.4		Children ever breastfed	96.2	per cent
	2.5		Early initiation of breastfeeding	47.9	per cent
	2.6		Exclusive breastfeeding under 6 months	41.6	per cent
	2.7		Continued breastfeeding at 1 year	83.4	per cent
	2.8		Continued breastfeeding at 2 years	41.2	per cent
	2.9		Predominant breastfeeding under 6 months	55.6	per cent
	2.10		Duration of breastfeeding	19.2	months
	2.11		Bottle feeding	5.1	per cent
	2.12		Introduction of solid, semi-solid or soft foods	72.9	per cent
	2.13		Minimum meal frequency	34.4	per cent
	2.14		Age-appropriate breastfeeding	59.2	per cent
	2.15		Milk feeding frequency for non-breasted children	26.1	percent
Salt iodization	2.16		Iodized salt consumption	87.6	per cent
Vitamin A	2.17		Vitamin A supplementation (children under age 5)	46.9	per cent
Low birth weight	2.18		Low-birth weight infants	4.7	per cent
	2.19		Infants weighed at birth	59.3	per cent
<b>CHILD HEALTH</b>					
Vaccinations	3.1		Tuberculosis immunization coverage	99.2	per cent
	3.2		Polio immunization coverage	90.2	per cent
	3.3		Immunization coverage for diphtheria, pertussis and tetanus (DPT)	93.3	per cent
	3.4	4.3	Measles immunization coverage	92.9	per cent
	3.6		Yellow fever immunization coverage	74.5	per cent
Tetanus toxoid	3.7		Neonatal tetanus protection	67.0	per cent
Care of illness	3.8		Oral rehydration therapy with continued feeding	34.0	per cent
	3.9		Care seeking for suspected pneumonia	47.4	per cent
	3.10		Antibiotic treatment of suspected pneumonia	40.3	per cent
Solid fuel use	3.11		Solid fuels	97.7	per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value	Units
Malaria	3.12		Household availability of insecticide-treated nets (ITNs)	92.7	per cent
	3.13		Households protected by a vector control method	93.2	per cent
	3.14		Children under age 5 sleeping under any mosquito net	80.3	per cent
	3.15	6.7	Children under age 5 sleeping under insecticide-treated nets (ITNs)	78.6	per cent
	3.17		Antimalarial treatment of children under 5 the same or next day	14.3	per cent
	3.18	6.8	Antimalarial treatment of children under age 5	27.1	per cent
	3.19		Pregnant women sleeping under insecticide-treated nets (ITNs)	71.1	per cent
	3.20		Intermittent preventive treatment for malaria	37.9	per cent
<b>WATER AND SANITATION</b>					
Water and sanitation	4.1	7.8	Use of improved drinking water sources	61.5	per cent
	4.2		Water treatment	31.9	per cent
	4.3	7.9	Use of improved sanitation facilities	12.7	per cent
	4.4		Safe disposal of child's faeces	88.5	per cent
	4.6		Availability of soap	80.4	per cent
<b>REPRODUCTIVE HEALTH</b>					
Contraception and unmet need	5.1	5.4	Adolescent birth rate	172	per 1,000
	5.2		Early childbearing	32.1	per cent
	5.3	5.3	Contraceptive prevalence rate	54.2	per cent
Maternal and new-born health		5.5	Antenatal care coverage		
	5.5a		At least once by skilled personnel	89.6	per cent
	5.5b		At least four times by any provider	35.6	per cent
	5.6		Content of antenatal care	61.0	per cent
	5.7	5.2	Skilled attendant at delivery	54.4	per cent
	5.8		Institutional deliveries	57.8	per cent
	5.9		Caesarean section	7.5	per cent
<b>CHILD DEVELOPMENT</b>					
Child development	6.1		Support for learning	45.8	per cent
	6.2		Father's support for learning	25.8	per cent
	6.3		Learning materials: children's books	5.0	per cent
	6.4		Learning materials: playthings	52.0	per cent
	6.5		Inadequate care	45.6	per cent
	6.6		Early child development index	37.3	per cent
	6.7		Attendance to early childhood education	44.6	per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value	Units
<b>EDUCATION</b>					
Literacy and education	7.1	2.3	Literacy rate among young women	87.4	per cent
	7.2		School readiness	77.1	per cent
	7.3		Net intake rate in primary education	18.7	per cent
	7.4	2.1	Primary school net attendance ratio (adjusted)	74.1	per cent
	7.5		Secondary school net attendance ratio (adjusted)	23.2	per cent
	7.6	2.2	Children reaching last grade of primary	84.9	per cent
	7.7		Primary completion rate	72.7	per cent
	7.8		Transition rate to secondary school	72.2	per cent
	7.9		Gender parity index (primary school)	1.01	ratio
	7.10		Gender parity index (secondary school)	1.05	ratio
<b>CHILD PROTECTION</b>					
Birth registration	8.1		Birth registration	56.2	per cent
Child labour	8.2		Child labour	46.8	per cent
	8.3		School attendance among child labourers	96.0	per cent
	8.4		Child labour among students	46.7	per cent
Child discipline	8.5		Violent discipline	89.1	per cent
Early marriage and polygyny	8.6		Marriage before age 15	10.8	per cent
	8.7		Marriage before age 18	37.4	per cent
	8.8		Young women age 15-19 currently married or in union	15.5	per cent
	8.9		Polygamy	0.0	per cent
			Spousal age difference		
	8.10b		Women age 20-24	9.4	per cent
Female genital mutilation/cutting	8.11		Approval for female genital mutilation/cutting (FGM/C)	30.3	per cent
	8.12		Prevalence of female genital mutilation/cutting (FGM/C) among women	94.4	per cent
Domestic violence	8.14		Attitudes towards domestic violence	64.5	per cent

Topic	MICS4 Indicator Number	MDG Indicator Number	Indicator	Value	Units
<b>HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN</b>					
HIV/AIDS knowledge and attitudes	9.1		Comprehensive knowledge about HIV prevention	55.5	per cent
	9.2	6.3	Comprehensive knowledge about HIV prevention among young people	54.8	per cent
	9.3		Knowledge of mother-to-child transmission of HIV	55.7	per cent
	9.4		Accepting attitude towards people living with HIV	27.1	per cent
	9.5		Women who know where to be tested for HIV	94.9	per cent
	9.7		Sexually active young women who have been tested for HIV and know the results	40.1	per cent
	9.8		HIV counselling during antenatal care	82.0	per cent
	9.9		HIV testing during antenatal care	79.2	per cent
Sexual behaviour	9.10		Young women who have never had sex	39.4	per cent
	9.11		Sex before age 15 among young women	25.2	per cent
	9.12		Age-mixing among sexual partners	7.2	per cent
	9.13		Sex with multiple partners	1.9	per cent
	9.15		Sex with non-regular partners	3.4	per cent
Orphaned children	9.17		Children's living arrangements	14.9	per cent
	9.18		Prevalence of children with at least one parent dead	11.4	per cent
	9.20	6.4	School attendance of non-orphans	99.4	per cent



# I. Introduction

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## Background

This report is based on the Kisii County Multiple Indicator Cluster Survey, conducted in 2011 by the KNBS and UNICEF. The survey provides valuable information on the situation of children and women in Kisii County, and is 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 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 subnational 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.”

Kenya is committed to improving the welfare of its people particularly women and children who are more vulnerable to social-economic hardships. In regard to children, the Government of Kenya (GOK) formulated the National Plan of Action (NPA) for children in 1992 soon after the World Summit for Children (WSC) which was held in 1990. The main objective of this programme was to identify issues affecting children and the strategies to address them. Measuring indicators of progress towards declared goals through proper monitoring and evaluation of projects/programmes and other interventions e.g. emergency response and humanitarian assistance, are vital components of the NPA.

Proper monitoring and evaluation of targeted projects and programmes by the government and development partners requires a wide range of data to track progress towards achievement of desired outcomes. In this respect, MICS data from the county will be helpful in appraising national programme such as Poverty Reduction Strategy (PRS), Economic Recovery Strategy (ERS) and Kenya Education Sector Support Programme (KESSP) 2005-2010 among other programmes. The MICS findings also fit into an overall plan to assess the Millennium Development Goals as the target year 2015 approaches, the World Fit for Children goals, the UNICEF Country Programme, UN Development Assistance Framework, and reporting on the Convention on the Rights of the Child and the Convention on the Elimination of All Forms of Discrimination against Women.

The GOK/UNICEF programme has a sizeable component of production of high quality and sufficiently disaggregated data for effective child friendly policy formulation and programme implementation. This final report presents the results of the indicators and topics covered in the Kisii County survey.

## **Survey Objectives**

The 2011 Kisii County Multiple Indicator Cluster Survey has as its primary objectives:

- To provide up-to-date information for assessing the situation of children and women in Kisii County;
- To furnish data needed for monitoring progress toward goals established in the Millennium Declaration and other internationally agreed upon goals, as a basis for future action;
- To contribute to the improvement of data and monitoring systems in Kisii County and to strengthen technical expertise in the design, implementation, and analysis of such systems.
- To generate data on the situation of children and women, including the identification of vulnerable groups and of disparities, to inform policies and interventions.

## II. Sample and Survey Methodology

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### Sample Design

The sample for the Kisii County Multiple Indicator Cluster Survey (MICS) was designed to provide estimates for a large number of indicators on the situation of children and women at county level, for urban and rural area. The urban and rural areas within Kisii County were identified as the main sampling strata and the samples were selected in two stages. Therefore, to attain the desired sample size, a two-stage stratified sampling design was applied. The primary sampling units (PSUs) for the survey were the recently created enumeration areas (EAs) based on the 2009 Kenya Population and Housing Census while the households were the ultimate units.

A stand-alone statistical frame for Kisii County which is located within the old Nyanza province was created based on the 2009 census EAs for the purpose of MICS 4 survey. Within each stratum, a specified number of census enumeration areas were selected systematically with probability proportional to size (PPS). After a household listing was carried out within the selected enumeration areas, a systematic sample of 25 households was drawn in each sample enumeration area. In total there were 50 enumeration areas in Kisii County. The sample was stratified by urban and rural areas, and is not self-weighting. For reporting county level results, sample weights are used. A more detailed description of the sample design can be found in Appendix A.

### Questionnaires

Three sets of questionnaires were used in the survey: 1) a household questionnaire which was used to collect information on all de jure household members (usual residents), the household, and the dwelling; 2) a women's questionnaire administered in each household to all women aged 15-49 years; and 3) an under-5 questionnaire, administered to mothers or caretakers for all children under 5 living in the household. The questionnaires included the following modules:

The Household Questionnaire included the following modules:

- Household Listing Form
- Education
- Water and Sanitation
- Household Characteristics
- Insecticide Treated Nets
- Indoor Residual Spraying
- Child Labour
- Child Discipline
- Handwashing
- Salt Iodization
- Child disability
- Orphans and vulnerable children

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
- Planning of the last pregnancy
- Maternal and Newborn Health
- Illness Symptoms
- Contraception
- Female Genital Mutilation/Cutting
- Attitudes Towards Domestic Violence
- Marriage/Union
- Sexual Behaviour
- HIV/AIDS

The Questionnaire for Children under Five was administered to mothers or caretakers of children under 5 years of age<sup>1</sup> living in the households. Normally, the questionnaire was administered to mothers of under-5 children; in cases when the mother was not listed in the household roster, a primary caretaker for the child was identified and interviewed. The questionnaire included the following modules:

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

The questionnaires are based on the MICS4 model questionnaire<sup>2</sup>. From the MICS4 model English version, the questionnaires were also translated into Swahili and Kisii which are the other commonly spoken languages in Kisii County and back-translated to ensure that the meaning and context of the translations remained the same. A copy of the MICS questionnaires used in Kisii County is provided in Appendix G.

In addition to the administration of questionnaires, fieldwork teams tested the salt used for cooking in the households for iodine content, observed the place for handwashing and measured the weights and heights of children age under 5 years. Details and findings of these measurements are provided in the respective sections of the report.

## Training and Fieldwork

Training for the fieldwork was conducted for 19 days in August/September, 2011. Training 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 2 days in practice interviewing in Kisii County within clusters that were not sampled for the main survey exercise.

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1 The terms "children under 5", "children age 0-4 years", and "children aged 0-59 months" are used interchangeably in this report.

2 The model MICS4 questionnaires can be found at [www.childinfo.org](http://www.childinfo.org)

The data were collected by 12 teams; each comprising of 5 interviewers, one driver, one editor, one measurer and a supervisor. Fieldwork began in October 2011 and was concluded in December 2011.

### **Data Processing**

Data were entered using the CSPro software. The data were entered on 43 microcomputers and carried out by 28 data entry operators and 3 data entry 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 Kisii County questionnaire were used throughout. Data processing began simultaneously with data collection in October 2011 and was completed in January 2012. Data were analysed using the Statistical Package for Social Sciences (SPSS) software program, Version 18, 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 1250 households selected for the sample, 1191 were found to be occupied. Of these, 1161 were successfully interviewed for a household response rate of 97.5 per cent. In the interviewed households, 1223 women (age 15-49 years) were identified. Of these, 1078 were successfully interviewed, yielding a response rate of 88.1 per cent within interviewed households. In addition, 918 children under age five were listed in the household questionnaire. Questionnaires were completed for 897 of these children, which corresponds to a response rate of 97.7 per cent within interviewed households. Overall response rates of 85.9 per cent and 95.3 per cent were calculated for the women’s and under-5’s interviews respectively (Table HH.1).

**Table HH.1: Results of household and individual interview’s**

<b>Number of households, women, and children under 5 by results of the interviews, and household, women’s and under-5’s response rates, Kisii County, 2011</b>	
<b>Households</b>	
Sampled	1250
Occupied	1191
Interviewed	1161
Household response rate	97.5
<b>Women</b>	
Eligible	1223
Interviewed	1078
Women’s response rate	88.1
Women’s overall response rate	85.9
<b>Children under 5</b>	
Eligible	918
Mothers/caretakers interviewed	897
Under-5’s response rate	97.7
Under-5’s overall response rate	95.3

#### Characteristics of Households

The weighted age and sex distribution of survey population is provided in Table HH.2. The distribution is also used to produce the population pyramid in Figure HH.1. In the 1161 households successfully interviewed in the survey 6851 household members were listed. Of these, 3301 were males, and 3548 were females. The age distribution from Table HH.2 shows that 46 per cent of the population in the sampled household is below 15 years of age, 50 per cent are aged between 15-64 years and 4 per cent are aged above 65 years. The child population aged between 0-17 years is 53 per cent, highlighting a high dependency burden in Kisii County. The population pyramid shows less population for both males and females age-groups between 44 and 49 years. To understand the reasons for the irregularities observed, refer to the single year age distribution in Table DQ.1 in Appendix D, Data Quality Tables.

**Table HH.2: Household age distribution by sex**

<b>Per cent and frequency distribution of the household population by five-year age groups, dependency age groups, and by child (age 0-17 years) and adult populations (age 18 or more), by sex, Kisii County, 2011</b>									
		Males		Females		Missing		Total	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
<b>Age</b>	0-4	571	17.3	567	16.0	0	0.0	1138	16.6
	5-9	547	16.6	519	14.6	0	0.0	1066	15.6
	10-14	478	14.5	470	13.3	0	0.0	949	13.8
	15-19	381	11.5	345	9.7	0	0.0	726	10.6
	20-24	264	8.0	363	10.2	0	0.0	626	9.1
	25-29	218	6.6	264	7.5	0	0.0	482	7.0
	30-34	152	4.6	196	5.5	0	0.0	348	5.1
	35-39	144	4.4	166	4.7	0	0.0	310	4.5
	40-44	110	3.3	106	3.0	0	0.0	216	3.2
	45-49	77	2.3	117	3.3	0	0.0	194	2.8
	50-54	103	3.1	140	3.9	0	0.0	243	3.5
	55-59	87	2.6	87	2.4	0	0.0	174	2.5
	60-64	64	1.9	67	1.9	0	0.0	132	1.9
	65-69	28	0.9	40	1.1	0	0.0	68	1.0
	70-74	32	1.0	35	1.0	0	0.0	68	1.0
	75-79	13	0.4	17	0.5	2	100.0	33	0.5
	80-84	17	0.5	29	0.8	0	0.0	46	0.7
85+	13	0.4	17	0.5	0	0.0	29	0.4	
<b>Dependency age groups</b>	0-14	1597	48.4	1557	43.9	0	0.0	3153	46.0
	15-64	1600	48.5	1851	52.2	0	0.0	3451	50.4
	65+	103	3.1	139	3.9	2	100.0	244	3.6
<b>Children and adult populations</b>	Children age 0-17 years	1821	55.2	1776	50.1	0	0.0	3598	52.5
	Adults age 18+ years	1479	44.8	1770	49.9	2	100.0	3250	47.4
<b>Total</b>		<b>3301</b>	<b>100.0</b>	<b>3548</b>	<b>100.0</b>	<b>2</b>	<b>100.0</b>	<b>6851</b>	<b>100.0</b>

**Figure HH.1: Age and sex distribution of household population, Kisii County, 2011**

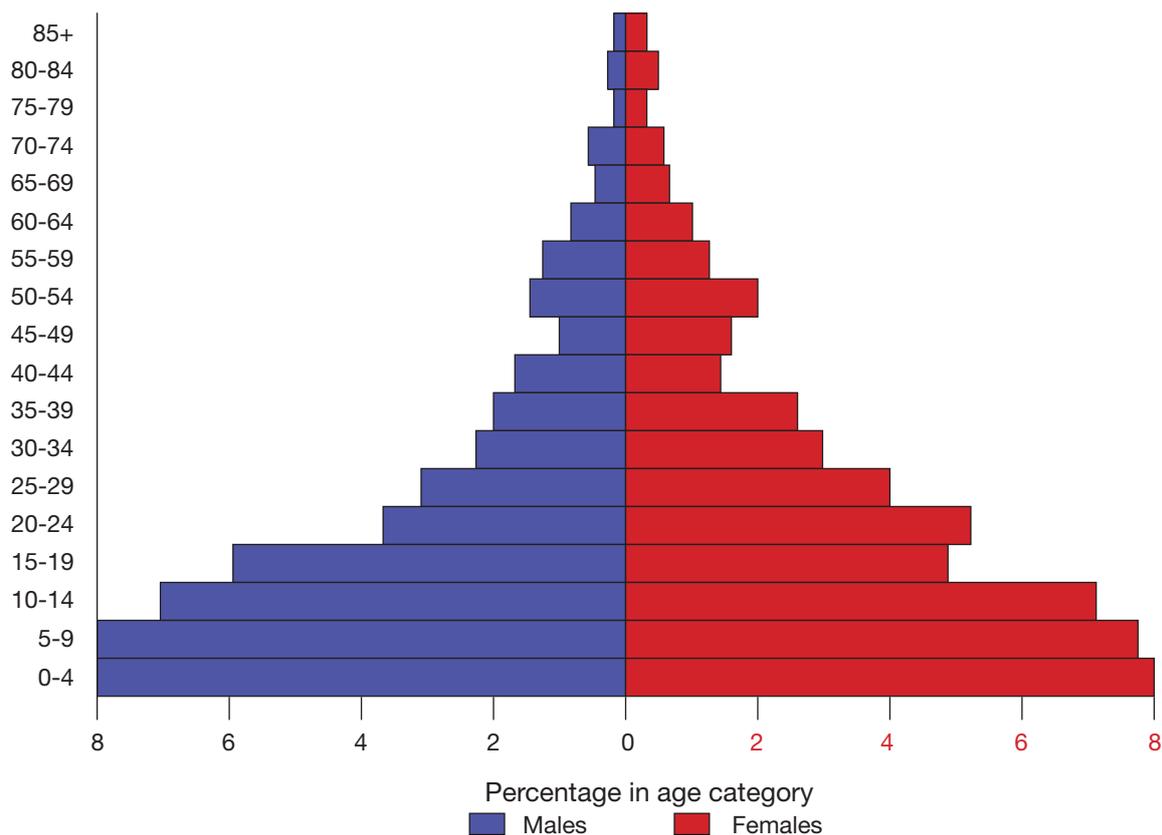


Table HH.3 - HH.5 provide basic information on the households, female respondents age 15-49, and children under-5 by presenting the unweighted as well as the weighted numbers. Information on the basic characteristics of households, women and children under-5 interviewed in the survey is essential for the interpretation of findings presented later in the report and also can provide an indication of the representativeness of the survey. The remaining tables in this report are presented only with weighted numbers. See Appendix A for more details about the weighting.

Table HH.3 provides basic background information on the households. Within households, the sex of the household head, residence, number of household members, and education of the household head are shown in the table. These background characteristics are used in subsequent tables in this report; the figures in the table are also intended to show the numbers of observations by major categories of analysis in the report. At the overall provincial level that covers the 6 counties included for this survey the weighted and unweighted numbers of households are equal, since sample weights were normalized (See Appendix A of overall Nyanza Report). For the specific Kisii county report the weighted and unweighted numbers are not equal. The table also shows the proportions of households with at least one child under 18, at least one child under 5, and at least one eligible woman age 15-49. The table also shows the weighted average household size estimated by the survey.

In Kisii County, about 13 per cent of the residents live in the urban areas while the rest live in the rural areas. The mean household size is 4.6 persons which is higher than the national mean household size of 4.2 as reported in the 2008-09 KDHS. About 33 per cent of the households are reportedly headed by females and approximately 54 per cent of the households have at least one child below 5 years of age. About 83 per cent of the households have at least one child below 18 years of age and 78 per cent have at least one female in the reproductive age group 15-49 years. About 23 per cent of the household heads have no education, 47 per cent have attained primary education and 30 per cent have attained secondary education or higher.

**Table HH.3: Household composition**

<b>Per cent and frequency distribution of households by selected characteristics, Kisii County, 2011</b>			
	Weighted per cent	Number of households	
		Weighted	Unweighted
<b>Sex of household head</b>			
Male	66.9	992	781
Female	33.0	489	379
<b>Residence</b>			
Rural	12.6	187	111
Urban	87.4	1296	1050
<b>Number of household members</b>			
1	7.8	115	84
2	11.0	163	121
3	14.2	210	165
4	18.6	276	221
5	15.8	234	183
6	12.9	192	155
7	9.2	136	107
8	5.9	88	69
9	1.7	25	21
10+	3.0	44	35
<b>Education of household head</b>			
None	23.2	344	267
Primary	47.0	697	541
Secondary+	29.5	438	350
Missing/Don't know	0.3	4	3
<b>Total</b>	<b>100</b>	<b>1483</b>	<b>1161</b>
<b>Households with at least</b>			
One child age 0-4 years	53.6	1483	1161
One child age 0-17 years	83.2	1483	1161
One woman age 15-49 years	77.8	1483	1161
<b>Mean household size</b>	<b>4.6</b>	<b>1483</b>	<b>1161</b>

### Characteristics of Female Respondents 15-49 Years of Age and Children Under-5

Tables HH.4 and HH.5 provide information on the background characteristics of female respondents 15-49 years of age and of children under age 5. In both tables, the total numbers of weighted and unweighted observations are unequal, since sample weights have been normalized (standardized) at the provincial level. 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 frequency distribution of women age 15-49 years by selected background characteristics, Kisii County, 2011				
		Weighted per cent	Number of women	
			Weighted	Unweighted
<b>Residence</b>	Urban	11.7	164	97
	Rural	88.3	1241	981
<b>Age</b>	15-19	18.8	264	208
	20-24	23.4	328	245
	25-29	18.0	252	193
	30-34	12.9	181	141
	35-39	11.5	161	123
	40-44	7.5	105	82
	45-49	8.0	113	86
<b>Marital/Union status</b>	Currently married/in union	64.7	909	704
	Widowed	4.7	66	52
	Divorced	0.6	8	6
	Separated	4.2	59	46
	Never married/in union	25.8	362	270
<b>Motherhood status</b>	Ever gave birth	78.6	1104	851
	Never gave birth	21.4	300	227
<b>Births in last two years</b>	Had a birth in last two years	26.3	370	290
	Had no birth in last two years	73.7	1034	788
<b>Education</b>	None	7.9	111	84
	Primary	52.1	732	567
	Secondary +	40.0	561	427
<b>Wealth index quintiles</b>	Poorest	25.0	350	279
	Second	27.2	382	294
	Middle	17.3	243	197
	Fourth	15.4	216	164
	Richest	15.2	213	144
<b>Total</b>		<b>100</b>	<b>1404</b>	<b>1078</b>

Table HH.4 provides background characteristics of female respondents 15-49 years of age. The table includes information on the distribution of women according to residence, age, marital status, motherhood status, births in last two years, education<sup>3</sup>, and wealth index quintiles<sup>4</sup>.

In Kisii County, most of the women aged 15-49 years are in the age category of 20 to 24 years, accounting for 23 per cent of the sample. About 65 per cent of the women aged 15-49 years are currently married whilst 26 per cent reported never having been married or in a union. The number of women reported married / in union is 58 % (KDHS 2008/09). Seventy nine per cent of the women reported they have given birth, while 21 per cent had never given birth. The results suggest that most women in this county give birth within marriage or in a union. Seventy four per cent of women have had no birth in the last two years. The majority of women have attained primary education (52 per cent) and 40 per cent have attained secondary education. About 15 per cent of the women are from high wealth index households, while 25 per cent are from the lowest wealth index households.

Some background characteristics of children under 5 are presented in Table HH.5. These include the distribution of children by several attributes: sex, region and residence, age, mother's or caretaker's education, and wealth index. The results show that the proportion of male to female children aged 0-4 years is almost the same accounting for 50 per cent. About 8 per cent of children aged below five years belong to the 0-5 month age group, while 10 per cent are in the 6-11 month category. Majority of the children are in the older age categories of 24 to 49 months which corresponds to 66 per cent of the sample. Fifty seven per cent of children have mothers who have attained primary level education, while thirty six per cent have mothers who have attained at least secondary education. The distribution of children below five years by wealth index shows that 29 per cent come from households categorised as low wealth index

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

4 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 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, persons per sleeping room, type of floor, roof, wall, cooking fuel; possession of electricity, radio, black and white Tv, color Tv, mobile phone, non-mobile phone, fridge, blender, water heater, washing machine, computer, internet, watch, bicycle, car or truck, motorcycle, boat, boat with motor, ownership of dwelling unit, land, cattle, cows, goats, sheep, chicken, horse or donkey, sewing machine, air conditioner, VCR or DVD). 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 Filmer, D. and Pritchett, L., 2001. "Estimating wealth effects without expenditure data – or tears: An application to educational enrolments in states of India". *Demography* 38(1): 115-132. Gwatkin, D.R., Rutstein, S., Johnson, K., Pande, R. and Wagstaff, A., 2000. *Socio-Economic Differences in Health, Nutrition, and Population. HNP/Poverty Thematic Group, Washington, DC: World Bank.* Rutstein, S.O. and Johnson, K., 2004. *The DHS Wealth Index. DHS Comparative Reports No. 6. Calverton, Maryland: ORC Macro.*

**Table HH.5: Under-5's background characteristics**

Per cent and frequency distribution of children under five years of age by selected characteristics, Kisii County, 2011				
		Weighted per cent	Number of children	
			Weighted	Unweighted
Sex	Male	50.4	572	452
	Female	49.6	562	445
Residence	Urban	7.8	89	59
	Rural	92.2	1046	838
Age	0-5 months	7.8	88	68
	6-11 months	9.7	110	87
	12-23 months	16.5	187	149
	24-35 months	22.0	250	192
	36-47 months	21.3	241	196
	48-59 months	22.7	258	205
Mother's education	None	7.2	82	67
	Primary	57.1	647	515
	Secondary	35.5	402	313
Wealth index quintiles	Poorest	29.3	333	272
	Second	27.5	312	248
	Middle	15.4	175	145
	Fourth	16.3	185	139
	Richest	11.5	130	93
<b>Total</b>		<b>100</b>	<b>1135</b>	<b>897</b>

(\*) Mother's education refers to educational attainment of mothers and caretakers of children under 5.

## IV. Child Mortality

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One of the overarching goals of the Millennium Development Goals (MDGs) is the reduction of infant and under-five mortality. Specifically, the fourth MDG 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 using direct questions, such as “Has anyone in this household died in the last year?” give inaccurate results.

The Kisii County Multiple Indicator Cluster Survey utilised direct measures of child mortality from birth histories which is one of the best ways of obtaining this information. The birth history obtained from women aged 15-49 years includes number of children ever born and living by sex, and date of birth of each child born. If the child is not alive at the time of the survey, information on age of the child at the time of death is also obtained. This method is being used by the Demographic and Health Surveys (DHS) worldwide including the KDHS. This allows us to compare the mortality rates obtained by MICS with those of KDHS.

The Infant Mortality Rate (IMR) is the probability of dying before the first birthday. The Under-five Mortality Rate (U5MR) is the probability of dying before the fifth birthday. The neonatal mortality rate is the probability of dying before one month of life. Post neonatal mortality rate is the probability of dying between one month and one year of life. The child mortality rate refers to probability of dying between one and five year of life. All mortality rates mentioned above are expressed per 1,000 live births, except for child mortality rate, which is expressed per 1,000 children surviving up to 12 months of age.

Though direct estimates of mortality obtained from birth histories are the best, the quality of these mortality estimates depend on the completeness of information obtained in the birth histories. In many cases women tend to avoid reporting their dead children and this tends to under estimate the mortality levels.

Table CM.1 provides estimates of early childhood mortality for tenyear periods preceding the MICS survey. For the tenyears immediately preceding the survey, the infant mortality rate is estimated at 43deaths per 1000 live births, while the under age 5 (U5MR) is 60 deaths per 1000 live births. This implies that nearly 1 in every 24 children born in Kisii County dies before their first birthday, while 1 in every 17does not survive to age five. The estimated neonatal mortality rate is 22.7deaths per 1000 live births while the post-neonatal mortality rate is 20deaths per 1000 live births, for the tenyears immediately preceding the MICS survey. This shows that about53per cent of infant deaths in Kisii County occur during the first month of life. The estimated child mortality rate is 18deaths per 1000 children surviving to the first birthday.

Table CM.1 also shows that over the past 15 years there has been a general decline in childhood mortality.

**Table CM.1: Early childhood mortality rates**

<b>Neonatal, post-neonatal, Infant, child and under-five mortality rates for ten year periods preceding the survey, Kisii County, 2011</b>					
<b>Years preceding the survey</b>	<b>Neonatal mortality rate [1]</b>	<b>Post-neonatal mortality rate [2]</b>	<b>Infant mortality rate [3]</b>	<b>Child mortality rate [4]</b>	<b>Under-five mortality rate [5]</b>
0-9	22.7	19.9	42.6	18.4	60.2
10-19	42.4	34.1	76.5	54.4	126.7
[1] MICS indicator 1.3 [2] MICS indicator 1.4 [3] MICS indicator 1.2; MDG indicator 4.2 [4] MICS indicator 1.5 [5] MICS indicator 1.1; MDG indicator 4.1 Post-neonatal mortality rates are computed as the difference between the infant and neonatal mortality rates					

## V. Nutrition

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### 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<sup>5</sup>. 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 underweight* 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.

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 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 MICS, weights and heights of all children under 5 years of age were measured using anthropometric equipment recommended by UNICEF ([www.childinfo.org](http://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 2 standard deviations from the median of the reference population, and mean z-scores for all three anthropometric indicators.

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5 [http://www.who.int/childgrowth/standards/second\\_set/technical\\_report\\_2.pdf](http://www.who.int/childgrowth/standards/second_set/technical_report_2.pdf)

**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, Kisii County, 2011													
	Weight for age				Height for age				Weight for height				
	Underweight				Stunted				Wasted		Overweight		
	per cent below	Mean Z-Score	Number of children under age 5		per cent below	Mean Z-Score	Number of children under age 5		per cent below	per cent above	Mean Z-Score	Number of children under age 5	
- 2 SD [1]	- 3 SD [2]	(SD)			- 2 SD [3]	- 3 SD [4]			(SD)	- 2 SD [5]	- 3 SD [6]		+ 2 SD
<b>Sex</b>													
Male	14.9	1.5	-0.9	560	27.6	8.7	-1.3	560	3.1	1.0	3.2	-0.1	560
Female	14.5	3.4	-0.8	545	24.9	9.4	-1.2	545	3.7	0.0	3.6	-0.1	545
<b>Residence</b>													
Urban	8.2	3.8	-0.5	86	11.6	10.7	-0.8	86	2.0	0.0	1.7	0.0	86
Rural	15.3	2.4	-0.9	1019	27.5	8.9	-1.2	1019	3.5	0.5	3.6	-0.1	1019
<b>Age</b>													
0-5 months	0.0	0.0	0.5	83	3.9	0.0	-0.1	83	6.0	3.6	16.0	0.6	83
6-11 months	9.6	0.0	-0.3	110	9.5	2.3	-0.5	110	7.1	0.0	7.2	0.2	110
12-23 months	20.2	3.0	-1.2	184	36.9	12.4	-1.6	184	3.9	0.0	3.4	-0.3	184
24-35 months	16.0	4.8	-1.0	247	28.3	8.4	-1.3	247	1.7	0.5	2.2	-0.2	247
36-47 months	18.4	2.9	-1.1	235	32.9	11.9	-1.4	235	2.8	0.5	0.8	-0.2	235
48-59 months	13.1	1.3	-0.9	245	25.0	10.4	-1.3	245	2.8	0.0	1.2	-0.2	245
<b>Mother's education</b>													
None	13.0	1.6	-0.8	79	16.4	10.4	-1.1	79	3.3	0.0	1.1	-0.1	79
Primary	16.1	2.5	-0.9	628	28.6	8.6	-1.3	628	4.1	0.7	3.8	-0.1	628
Secondary	12.3	2.7	-0.8	395	24.4	9.1	-1.0	395	2.3	0.3	3.3	-0.2	395
<b>Wealth index quintile</b>													
Poorest	18.6	4.4	-1.0	324	31.9	10.7	-1.4	324	4.2	0.7	2.1	-0.2	324
Second	17.2	3.4	-0.9	306	30.3	10.0	-1.3	306	4.4	1.1	4.8	-0.1	306
Middle	14.1	1.3	-0.8	170	22.4	9.5	-1.1	170	2.6	0.0	3.5	0.0	170
Fourth	10.4	0.3	-0.8	182	20.5	6.4	-1.0	182	1.9	0.0	4.3	-0.1	182
Richest	5.5	0.0	-0.5	123	15.6	5.3	-0.8	123	2.1	0.0	2.1	0.1	123
<b>Total</b>	<b>14.7</b>	<b>2.5</b>	<b>-0.9</b>	<b>1105</b>	<b>26.3</b>	<b>9.0</b>	<b>-1.2</b>	<b>1105</b>	<b>3.4</b>	<b>0.5</b>	<b>3.4</b>	<b>-0.1</b>	<b>1105</b>
[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 whose full birth date (month and year) are not obtained, and children whose measurements are outside a plausible range were excluded from Table NU.1. Children were excluded from one or more of the anthropometric indicators when their weights and heights had not been measured, whichever was applicable. For example if a child had been weighed but his/her height had not been measured, the child was 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 all children in Kisii County had either their month or year of birth taken, 98 per cent had their height measured, 98 per cent had their weight measured whilst 98 per cent had either their weights or heights measured (Table DQ.6). Table DQ.7 shows that due to incomplete dates of birth, implausible measurements, and missing weight and/or height, 0.6 per cent of children were been excluded from calculations of the weight-for-age indicator, height-for-age and the weight-for-height indicators.

Approximately one in seven (15 per cent) children under age five in Kisii County were moderately or severely underweight (below -2SD from the WHO reference mean) whilst 3 per cent are classified as severely underweight (below -3SD from the WHO reference mean) (Table NU.1). About one in four (26 per

cent) were moderately or severely stunted or were too short for their age whilst approximately 1 in 10 (9 per cent) were severely stunted. A little more than 3 per cent were moderately or severely wasted or too thin for their height, whilst an equal proportion is classified as overweight.

Although the proportions of underweight and wasted children in Kisii County were comparable between males and female children according to most of the indicators, there were discrepancies in the weight for age indicator with female children being twice as likely to be severely underweight as male children. Consistent with findings from the 2008/09 KDHS report, rural areas have higher levels of malnutrition according to the weight for age, height for age and weight for height indicators. The level of mothers' education had no effect on the nutrition status of their children. There was no relation between level of mother's education and proportion of children who were severely stunted – the percentage is slightly higher amongst mothers with no education.

The prevalence of moderately or severely underweight ranged from 6 per cent in children from the highest wealth quintile to 19 per cent in children from the lowest wealth quintile.

Being overweight was comparable across household wealth quintiles in Kisii County.

**Figure NU.1: Percentage of children under age 5 who are underweight, stunted and wasted, Kisii County, 2011**



The age pattern shows that a higher percentage of children aged 12-23 months are undernourished according to the height for age and weight for age indicators (Figure NU.1). This pattern is expected and is related to the age at which many children cease to be breastfed and get exposed to contamination in water, food, and environment. On the other hand, the proportion of overweight children is inversely correlated with child age, with the proportion of overweight children being highest in the youngest age-group (less than 6 months) and lowest in the older age groups (36-59 months).

## 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 infant formula, which can contribute to growth faltering and micronutrient deficiency and is unsafe especially if clean water is not readily available.

WHO/UNICEF have the following feeding recommendations:

- Exclusive breastfeeding for first six months
- Continued breastfeeding for two years or more
- Safe, appropriate and adequate complementary foods beginning at 6 months
- Frequency of complementary feeding: 2 times per day for 6-8 month olds; 3 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:

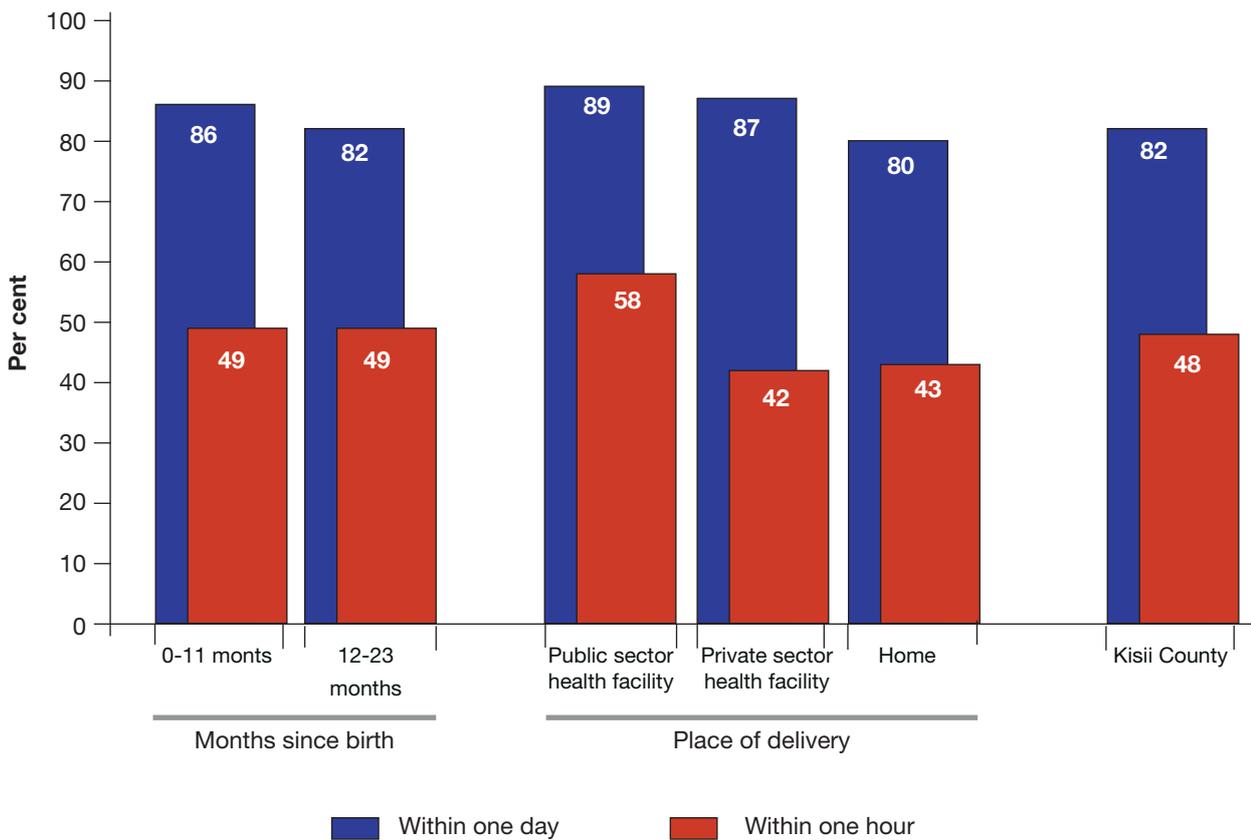
- Early initiation of breastfeeding (within 1 hour of birth)
- Exclusive breastfeeding rate (< 6 months)
- Predominant breastfeeding (< 6 months)
- Continued breastfeeding rate (at 1 year and at 2 years)
- Duration of breastfeeding
- Age-appropriate breastfeeding (0-23 months)
- Introduction of solid, 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, Kisii County, 2011				
	Percentage who were ever breastfed [1]	Percentage who were first breastfed:		Number of last-born children in the two years preceding the survey
		Within one hour of birth [2]	Within one day of birth	
<b>Residence</b>				
Urban	(96.2)	(62.4)	(82.5)	35
Rural	96.2	46.4	82.4	335
<b>Months since birth</b>				
0-11 months	99.4	49.1	85.7	186
12-23 months	95.7	48.7	81.7	165
<b>Assistance at delivery</b>				
Skilled attendant	99.7	54.1	88.3	226
Traditional birth attendant	(*)	(*)	(*)	24
<b>Place of delivery</b>				
Public sector health facility	99.5	58.3	88.8	161
Private sector health facility	100.0	42.4	87.2	53
Home	98.2	42.9	80.0	134
<b>Mother's education</b>				
None	(*)	(*)	(*)	18
Primary	96.2	44.4	78.7	211
Secondary+	96.5	51.8	87.2	141
<b>Wealth index quintile</b>				
Poorest	94.4	42.3	73.4	110
Second	95.8	41.9	82.2	88
Middle	100.0	55.2	93.3	64
Fourth	97.0	54.6	93.2	62
Richest	(94.4)	(53.7)	(74.7)	46
<b>Total</b>	<b>96.2</b>	<b>47.9</b>	<b>82.4</b>	<b>370</b>
[1] MICS indicator 2.4				
[2] MICS indicator 2.5				
(*) Not shown, based on less than 25 unweighted cases.				
() Based on 25-49 unweighted cases				

Table NU.2 provides the proportion of children born in the last two years who were ever breastfed, and those who were first breastfed within one hour and one day of birth. Overall, the majority (96 per cent) of children born in the 2 years preceding the survey in Kisii County have been breastfed. However, although early initiation of breastfeeding (within an hour of birth) is an extremely important step in management of lactation and establishment of a physical and emotional relationship between the baby and the mother, less than half (48 per cent) of babies were breastfed for the first time within one hour of birth. In the 2008/09 KDHS the proportion of children who were breastfed within one hour of birth was 61 per cent in Nyanza and 58 per cent nationally. Initiation of breastfeeding within one hour of birth ranges from 42 per cent in children born in private facilities to 58 per cent in children born in public health facilities. In Kisii County, 82 per cent of newborns start breastfeeding within one day of birth.

**Figure NU.2 Percentage of mothers who started breastfeeding within one hour and within one day of birth Kisii County, 2011**



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.

**Table NU.3: Breastfeeding**

Percentage of living children according to breastfeeding status at selected age groups, Kisii County, 2011							
	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Per cent exclusively breastfed [1]	Per cent predominantly breastfed [2]	Number of children	Per cent breastfed (Continued breastfeeding at 1 year) [3]	Number of children	Per cent breastfed (Continued breastfeeding at 2 years) [4]	Number of children
<b>Sex</b>							
Male	(30.4)	(49.0)	41	(82.5)	43	(28.6)	32
Female	(51.3)	(61.2)	48	(84.6)	29	(*)	22
<b>Residence</b>							
Urban	(*)	(*)	3	(*)	7	(*)	4
Rural	41.5	55.9	86	86.7	66	44.7	50
<b>Mother's education</b>							
None	(*)	(*)	2	(*)	9	(*)	6
Primary	39.9	51.5	51	80.1	36	42.2	28
Secondary+	(43.6)	(61.9)	35	(86.1)	27	(*)	20
<b>Wealth index quintile</b>							
Poorest	(36.9)	(45.3)	34	(*)	20	(*)	13
Second	(*)	(*)	17	(*)	18	(*)	12
Middle	(*)	(*)	17	(*)	8	(*)	11
Fourth	(*)	(*)	11	(*)	16	(*)	8
Richest	(*)	(*)	8	(*)	11	(*)	9
<b>Total</b>	<b>41.6</b>	<b>55.6</b>	<b>88</b>	<b>83.4</b>	<b>72</b>	<b>41.2</b>	<b>54</b>
1 MICS indicator 2.6 2 MICS indicator 2.9 3 MICS indicator 2.7 4 MICS indicator 2.8 (*) Not shown, based on less than 25 unweighted cases. ( ) Based on 25-49 unweighted cases. Note: Titles of indicators on continued breastfeeding at 1 and 2 years reflect approximations of the age ranges covered							

Only 42 per cent of children under the age of six months were exclusively breastfed. By age 12-15 months, 83 per cent of children are still being breastfed whilst 41 per cent are still being breastfed by the age of 20-23 months.

Even at the earliest age group (0-1 months), almost half (46 per cent) are given liquids or foods other than breast milk. By the end of the sixth month, only 33 per cent are being exclusively breastfed. About 41 per cent of children are receiving breast milk after 2 years (Table NU.3).

**Figure NU.3 Infant feeding patterns by age: Per cent distribution of children aged under 2 years by feeding pattern by age group, Kisii County, Nyanza province, Kenya, 2011**

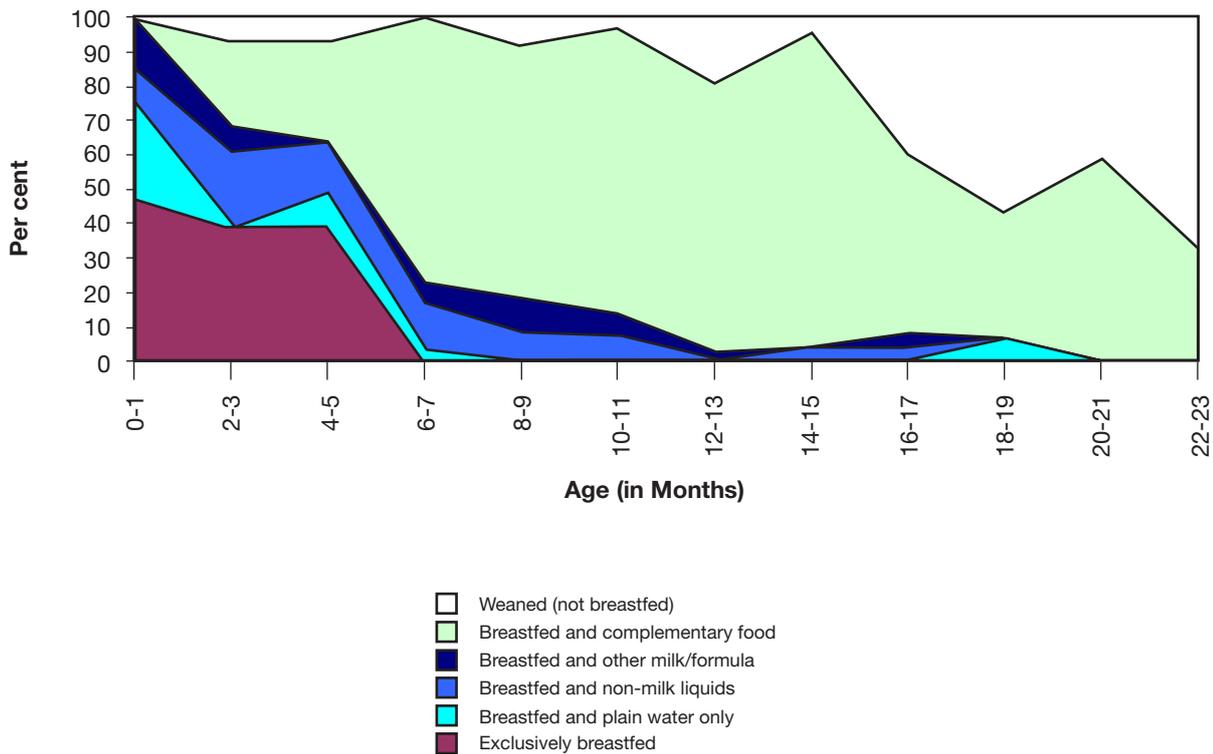


Table NU.4 shows the median duration of breastfeeding by selected background characteristics. Among children under age 3, the median duration is approximately 19.2 months for any type of breastfeeding, 0.7 months for exclusive breastfeeding, and 3 months for predominant breastfeeding. The duration of exclusive breastfeeding is shorter for children whose mothers have secondary level education compared to those whose mothers have primary level or no education whilst the converse is true for mothers predominantly breastfeeding. The duration of exclusive and predominant breastfeeding is higher for children from the richest households compared to those from other wealth quintiles. The duration of any type breastfeeding is slightly higher in urban than rural areas.

**Table NU.4: Duration of breastfeeding**

<b>Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, Kisii County, 2011</b>				
	Median duration (in months) of			Number of children age 0-35 months
	Any breastfeeding [1]	Exclusive breastfeeding	Predominant breastfeeding	
<b>Sex</b>				
Male	18.4	0.6	2.4	306
Female	21.2	2.6	3.6	330
<b>Residence</b>				
Urban	16.1	na	5.6	53
Rural	19.2	0.7	3.0	582
<b>Mother's education</b>				
None	(16.7)	(1.9)	(1.9)	43
Primary	18.0	1.5	2.6	349
Secondary+	21.1	0.6	3.5	243
<b>Wealth index quintile</b>				
Poorest	16.2	1.3	2.3	183
Second	20.7	NA	0.5	173
Middle	17.6	3.2	3.9	99
Fourth	18.4	0.5	3.3	112
Richest	20.1	4.2	7.4	69
<b>Median</b>	<b>19.2</b>	<b>0.7</b>	<b>3.0</b>	<b>635</b>
<p>[1] MICS indicator 2.10</p> <p>a) Median duration of any breastfeeding is calculated as the age in months when 50 per cent of children age 0-35 months did not receive breast milk during the previous day. Median durations of exclusive and predominant breastfeeding are calculated the same way</p> <p>b) Median and mean durations are based on current status. The table is based only on living children at the time of survey.</p> <p>c) For definitions of exclusive and predominant breastfeeding, see footnotes below Table NU.3.</p> <p>( ) Based on 25-49 unweighted cases</p>				

The adequacy of infant feeding in children less than 24 months of age is provided in Table NU.5. Different criteria of adequate feeding are used depending on the age of the child. For infants aged between 0 and 5 months, exclusive breastfeeding is considered as adequate feeding, while infants aged between 6 and 23 months are considered to be adequately fed if they are receiving breast milk and solid, semi-solid or soft food. In Kisii County, only 42 per cent of infants aged less than 6 months are exclusively breast fed, whilst about 65 per cent of those in the 6-23 months age group are adequately fed. Overall, about 59 per cent of children aged 0-23 months are appropriately fed. The national figure based on the 2008/09 KDHS for exclusive breastfeeding by children below six months is 32 per cent.

**Table NU.5: Age-appropriate breastfeeding**

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, Kisii County, 2011						
	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Per cent exclusively breastfed [1]	Number of children	Per cent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Per cent appropriately breastfed [2]	Number of children
<b>Sex</b>						
Male	(30.4)	41	64.4	154	57.3	194
Female	(51.3)	48	64.5	143	61.2	191
<b>Residence</b>						
Urban	(*)	3	(53.3)	31	(52.8)	34
Rural	41.5	86	65.8	265	59.9	351
<b>Mother's education</b>						
None	(*)	2	(42.0)	21	(42.7)	24
Primary	39.9	51	65.8	166	59.8	217
Secondary+	(43.6)	35	66.8	109	61.1	145
<b>Wealth index quintile</b>						
Poorest	(36.9)	34	68.5	78	58.9	113
Second	(*)	17	72.2	73	61.0	91
Middle	(*)	17	58.9	52	58.5	70
Fourth	(*)	11	63.9	57	60.3	68
Richest	(*)	8	(49.3)	36	(56.0)	45
<b>Total</b>	<b>41.6</b>	<b>88</b>	<b>64.5</b>	<b>297</b>	<b>59.2</b>	<b>385</b>
[1] MICS indicator 2.6						
[2] MICS indicator 2.14						
(*) Not shown, based on less than 25 unweighted cases.						
() Based on 25-49 unweighted cases.						

Adequate complementary feeding of children from 6 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 breast milk is no longer sufficient. This requires that for breastfed children, two or more meals of solid, semi-solid or soft foods are given 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.

**Table NU.6: Introduction of solid, semi-solid or soft foods**

Percentage of infants age 6-8 months who received solid, semi-solid or soft foods during the previous day, Kisii County, 2011						
	Currently breastfeeding		Currently not breastfeeding		All	
	Per cent receiving solid, semi-solid or soft foods	Number of children age 6-8 months	Per cent receiving solid, semi-solid or soft foods	Number of children age 6-8 months	Per cent receiving solid, semi-solid or soft foods [1]	Number of children age 6-8 months
<b>Sex</b>						
Male	(*)	22	(*)	0	(*)	22
Female	(68.6)	33	(*)	1	(69.7)	34
<b>Residence</b>						
Urban	(*)	6	(*)	0	(*)	6
Rural	(75.4)	48	(*)	1	(76.0)	49
<b>Total</b>	<b>72.3</b>	<b>54</b>	<b>(*)</b>	<b>1</b>	<b>72.9</b>	<b>56</b>
[1] MICS indicator 2.12						
(*) Not shown, based on less than 25 unweighted cases.						
() Based on 25-49 unweighted cases.						

Table NU. 6 shows that about 72 per cent of children aged 6-8 months (majority of whom are currently breastfeeding) receive solid, semi-solid or soft foods. Table NU.7 presents the proportion of children age 6-23 months who received 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, about one in three (34per cent) of children in Kisii County are receiving solid, semi-solid and soft foods the minimum number of times.

**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, Kisii County, 2011								
		Currently breastfeeding		Currently not breastfeeding			All	
		Per cent receiving solid, semi-solid and soft foods the minimum number of times	Number of children age 6-23 months	Per cent receiving at least 2 milk feeds [1]	Per cent receiving solid, semi-solid and soft foods or milk feeds 4 times or more	Number of children age 6-23 months	Per cent with minimum meal frequency [2]	Number of children age 6-23 months
<b>Sex</b>	Male	31.0	108	(25.4)	(35.9)	46	32.5	154
	Female	34.7	111	(26.9)	42.1	32	36.4	143
<b>Age</b>	6-8 months	58.5	54	(*)	(*)	1	59.4	56
	9-11 months	17.1	50	(*)	(*)	4	15.8	54
	12-17 months	20.4	79	(*)	(*)	23	26.2	102
	18-23 months	(43.9)	35	28.4	36.7	50	39.7	85
<b>Area</b>	Rural	(*)	20	(*)	(*)	11	29.7	31
	Urban	32.2	199	23.1	42.9	67	34.9	265
<b>Mother's education</b>	None	(*)	10	(*)	(*)	11	(*)	(*)
	Primary	37.5	121	19.9	33.7	45	36.5	166
	Secondary+	28.1	87	(*)	(*)	22	32.6	109
<b>Wealth index quintiles</b>	Poorest	27.5	58	(*)	(*)	20	27.4	78
	Second	39.2	59	(*)	(*)	14	39.8	73
	Middle	(30.4)	38	(*)	(*)	14	34.8	52
	Fourth	(34.1)	40	(*)	(*)	17	42.8	57
	Richest	(*)	24	(*)	(*)	12	(24.8)	36
<b>Total</b>		<b>32.9</b>	<b>219</b>	<b>26.1</b>	<b>38.4</b>	<b>78</b>	<b>34.4</b>	<b>297</b>
<p>[1] MICS indicator 2.15                      [2] MICS indicator 2.13                      (*) Not shown, based on less than 25 unweighted cases.                      () Based on 25-49 unweighted cases.</p> <p><b>Note:</b> Among currently breastfeeding children age 6-8 months, minimum meal frequency is defined as children who also received solid, semi-solid or soft foods 2 times or more. Among currently breastfeeding children age 9-23 months, receipt of solid, semi-solid or soft foods at least 3 times constitutes minimum meal frequency. For non-breastfeeding children age 6-23 months, minimum meal frequency is defined as children receiving solid, semi-solid or soft foods, and milk feeds, at least 4 times during the previous day.</p>								

Among currently breastfeeding children age 6-23 months, only about one in three (33 per cent) are receiving solid, semi-solid and soft foods the minimum number of times, whilst among non-breastfeeding children, about 38 per cent are receiving solid, semi-solid and soft foods or milk feeds 4 times or more. The proportion of children aged 6-23 months receiving complementary foods in accordance with the recommended infant and young feeding practices was 31 per cent in Nyanza province and 39 per cent nationally according to the 2008/09 KDHS.

**Table NU.8: Bottle feeding**

<b>Percentage of children age 0-23 months who were fed with a bottle with a nipple during the previous day, Kisii County, 2011</b>			
		Percentage of children age 0-23 months fed with a bottle with a nipple [1]	Number of children age 0-23 months
<b>Sex</b>	Male	4.4	194
	Female	5.9	191
<b>Age</b>	0-5 months	3.6	88
	6-11 months	8.6	110
	12-23 months	3.8	187
<b>Residence</b>	Rural	(14.3)	34
	Urban	4.2	351
<b>Mother's education</b>	None	(*)	24
	Primary	3.0	217
	Secondary	8.5	145
<b>Wealth index quintiles</b>	Poorest	5.6	113
	Second	7.2	91
	Middle	5.4	70
	Fourth	0.0	68
	Richest	(7.1)	45
<b>Total</b>		<b>5.1</b>	<b>385</b>
1 MICS indicator 2.11			
(*) Not shown, based on less than 25 unweighted cases.			
() Based on 25-49 unweighted cases.			

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 occurring to a small extent in Kisii County with 5 per cent of children aged 0-23 months reported to be fed using a bottle with a nipple. The prevalence of bottle feeding ranges from 3 per cent for children whose mothers have primary level education to 8 per cent for children whose mothers have secondary level education.

## Salt Iodization

Iodine Deficiency Disorders (IDD) is the world's leading cause of preventable mental retardation and impaired psychomotor development in young children. In its most extreme form, iodine deficiency causes cretinism. It also increases the risks of stillbirth and miscarriage in pregnant women. Iodine deficiency is most commonly and visibly associated with goitre. IDD takes its greatest toll in impaired mental growth and development, contributing in turn to poor school performance, reduced intellectual ability, and impaired work performance. The international goal is to achieve sustainable elimination of iodine deficiency by 2005. The WHO and UNICEF recommend universal salt iodization as a safe, cost-effective and sustainable strategy to ensure sufficient intake of iodine by all individuals. In line with international recommendations, the Ministry of Public Health and Sanitation (MOPHS) recommends that all salts meant for human consumption in Kenya be iodized. The indicator is the percentage of households consuming adequately iodized salt (>15 parts per million).

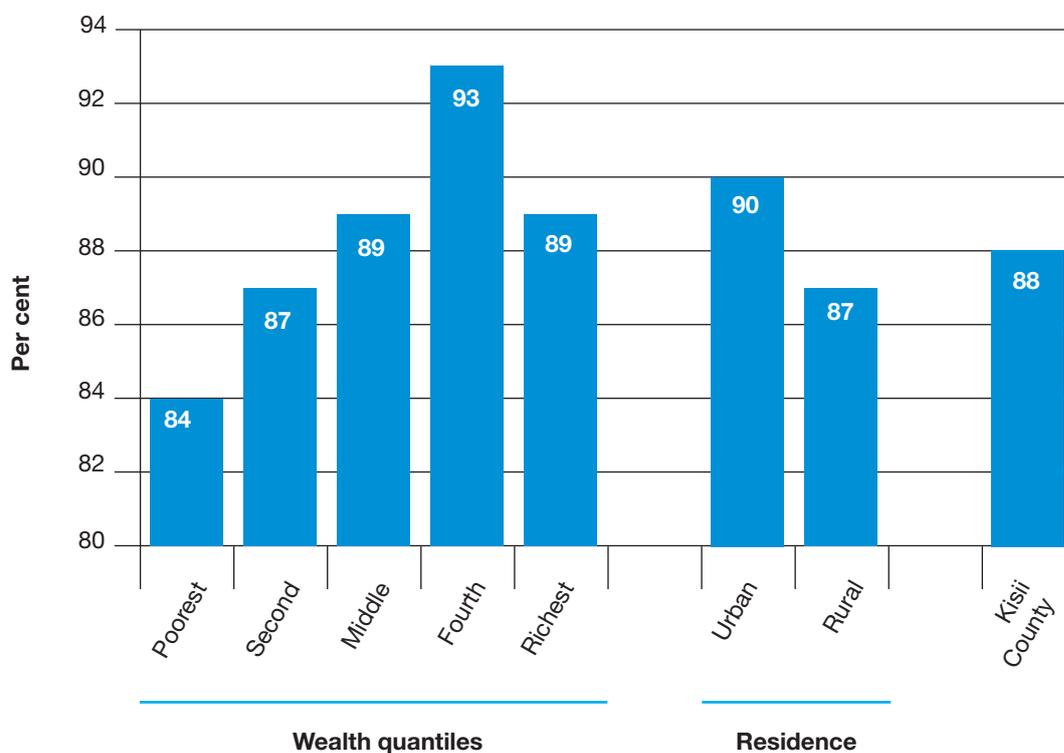
**Table NU.9: Iodized salt consumption**

Percentage distribution of households by consumption of iodized salt, Kisii County, 2011								
	Percentage of households in which salt was tested	Number of households	Percent of households with				Total	Number of households in which salt was tested or with no salt
			No salt	Salt test result				
				Not iodized 0 PPM	>0 and <15 PPM	15+ PPM [1]		
<b>Residence</b>								
Urban	92.2	187	7.5	0.7	1.7	90.1	100.0	187
Rural	86.9	1296	11.2	0.6	0.9	87.3	100.0	1268
<b>Wealth index quintile</b>								
Poorest	83.4	411	14.8	0.0	1.3	83.9	100.0	402
Second	87.8	374	10.8	1.9	0.4	86.9	100.0	368
Middle	88.6	250	10.2	0.0	0.6	89.2	100.0	247
Fourth	90.7	210	5.8	0.0	1.3	92.8	100.0	202
Richest	90.5	238	8.6	0.6	1.9	89.0	100.0	236
<b>Total</b>	<b>87.6</b>	<b>1483</b>	<b>10.7</b>	<b>0.6</b>	<b>1.0</b>	<b>87.6</b>	<b>100.0</b>	<b>1455</b>

[1] MICS indicator 2.16  
 Note: Adequately iodized salt is defined as salt that contains at least 15 parts per million of iodine

In about 87 per cent of households, salt used for cooking was analysed for iodine content by using salt test kits to test for the presence of potassium iodate. Table NU.9 shows that whilst salt in all 88 per cent of the households had the required 15PPM of iodine, there was no salt available in 11 per cent of the households. Consumption of adequate levels of iodine in salt does not vary markedly by area of residence or wealth status. (Figure NU.3).

**Figure NU.4 Percentage of households consuming adequately iodized salt, Kisii County, 2011**



## Children's Vitamin A Supplementation

Vitamin A is essential for eye health and proper functioning of the immune system. It is found in foods such as milk, liver, eggs, red and orange fruits, red palm oil and green leafy vegetables, although the amount of vitamin A readily available to the body from these sources varies widely. In developing areas of the world, where vitamin A is largely consumed in the form of fruits and vegetables, daily per capita intake is often insufficient to meet dietary requirements. Inadequate intakes are further compromised by increased requirements for the vitamin as children grow or during periods of illness, as well as increased losses during common childhood infections. As a result, vitamin A deficiency is quite prevalent in the developing world and particularly in countries with the highest burden of under-five deaths.

The 1990 World Summit for Children set the goal of virtual elimination of vitamin A deficiency and its consequences, including blindness, by the year 2000. This goal was also endorsed at the Policy Conference on Ending Hidden Hunger in 1991, the 1992 International Conference on Nutrition, and the UN General Assembly's Special Session on Children in 2002. The critical role of vitamin A for child health and immune function also makes control of deficiency a primary component of child survival efforts, and therefore critical to the achievement of the fourth Millennium Development Goal: a two-thirds reduction in under-five mortality by the year 2015.

For countries with vitamin A deficiency problems, current international recommendations call for high-dose vitamin A supplementation every four to six months, targeted to all children between the ages of 6 to 59 months living in affected areas. Providing young children with two high-dose vitamin A capsules a year is a safe, cost-effective, efficient strategy for eliminating vitamin A deficiency and improving child survival. Giving vitamin A to new mothers who are breastfeeding helps protect their children during the first months of life and helps to replenish the mother's stores of vitamin A, which are depleted during pregnancy and lactation. For countries with vitamin A supplementation programs, the definition of the indicator is the per cent of children 6-59 months of age receiving at least one high dose vitamin A supplement in the last six months.

The Kenya Ministry of Public Health (MOPHS) recommends that children aged 6-11 months be given one high dose Vitamin A capsules and that children aged 12-59 months be given a vitamin A capsule every 6 months. In some parts of the country, Vitamin A capsules are linked to immunization services and are given when the child has contact with these services after six months of age. It is also recommended that mothers take a Vitamin A supplement within eight weeks of giving birth due to increased Vitamin A requirements during pregnancy and lactation.

Within the six months prior to the MICS, 47 per cent of children aged 6-59 months received a high dose Vitamin A supplement (Table NU.10). In general, a much higher proportion of children are indicated to have received vitamin A supplementation according to mother's report compared to vaccination card records in the 6 months preceding the survey (46 per cent compared to 4 per cent). The proportions are higher for the 12 month period preceding the survey with 55 per cent of mother's cards marked their children have had the vitamin A supplementation during that time period, compared to 7 per cent of the vaccination cards.

The proportion of children who received vitamin A supplementation by area of residence ranges from 36 per cent in urban areas to 48 per cent in the rural areas of Kisii County.

**Table NU.10: Children's vitamin A supplementation**

Percent distribution of children age 6-59, Kisii County, 2011							
		Percentage who received Vitamin A according to:				Percentage of children who received Vitamin A during the last 6 months [1]	Number of children age 6-59 months
		Child health book/card/vaccination card in last 12 months	Child health book/card/vaccination card in last 6 months	Mother's report any time prior to 12 months	Mother's report less than 6 months		
<b>Sex</b>	Male	5.7	4.4	57.4	47.8	48.3	531
	Female	7.4	4.1	53.3	44.9	45.5	515
<b>Area</b>	Urban	9.1	2.4	45.9	35.6	35.6	86
	Rural	6.3	4.4	56.2	47.4	48.0	960
<b>Age</b>	6-11 months	21.2	18.2	77.4	75.7	75.7	110
	12-23 months	17.9	9.1	76.5	56.1	58.6	187
	24-35 months	2.4	1.5	47.2	39.7	39.7	250
	36-47 months	1.9	1.0	53.2	45.9	46.4	241
	48-59 months	0.5	0.5	40.6	33.7	33.7	258
<b>Mother's education</b>	None	5.8	4.9	42.3	38.9	38.9	80
	Primary	6.8	4.8	55.2	46.5	47.3	597
	Secondary	6.3	3.3	58.9	48.1	48.4	367
<b>Wealth index quintiles</b>	Poorest	5.6	4.2	52.6	46.1	47.2	299
	Second	5.9	3.9	55.9	47.1	47.9	295
	Middle	7.7	5.2	59.1	49.2	49.2	157
	Fourth	6.6	4.2	62.9	50.6	50.6	173
	Richest	9.1	3.9	45.5	35.8	35.8	122
<b>Total</b>		<b>6.6</b>	<b>4.2</b>	<b>55.4</b>	<b>46.4</b>	<b>46.9</b>	<b>1046</b>

[1] MICS indicator 2.17

## 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 are at 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 cognitive disabilities and a lower IQ, 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 have 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 the fact 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 new-borns are not delivered in facilities, and those who are represent only a selected sample of all births.

Because many infants are not 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 2500 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<sup>6</sup>.

**Table NU.11: Low birth weight infants**

<b>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, Kisii County, 2011</b>			
	Per cent of live births:		Number of last born children in the 2 years preceding the survey
	Below 2500 grams [1]	Weighed at birth [2]	
<b>Residence</b>			
Urban	(9.5)	(68.1)	35
Rural	4.2	58.4	335
<b>Mother's education</b>			
None	(*)	(*)	18
Primary	4.5	50.1	211
Secondary+	4.7	72.9	141
<b>Wealth index quintile</b>			
Poorest	4.5	45.7	110
Second	3.8	58.0	88
Middle	4.6	58.7	64
Fourth	4.9	79.4	62
Richest	(6.8)	(68.3)	46
<b>Total</b>	<b>4.7</b>	<b>59.3</b>	<b>370</b>
[1] MICS indicator 2.18			
[2] MICS indicator 2.19			

Overall, 59 per cent of births were weighed at birth and approximately 5 per cent of infants are estimated to have weighed less than 2500 grams at birth (Table NU.11). The proportion of children weighed at birth was 50 per cent for children whose mothers have primary level education and 73 per cent for children whose mothers have secondary level education.

<sup>6</sup> For a detailed description of the methodology, see Boerma, J. T., Weinstein, K. I., Rutstein, S.O., and Sommerfelt, A. E., 1996. *Data on Birth Weight in Developing Countries: Can Surveys Help?* *Bulletin of the World Health Organization*, 74(2), 209-16.

## VI. Child Health

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### Vaccinations

The Millennium Development Goal (MDG) 4 is to reduce child mortality by two thirds between 1990 and 2015. Immunization plays a key part in this goal. Immunizations have saved the lives of millions of children in the three decades since the launch of the Expanded Programme on Immunization (EPI) in 1974. Worldwide there are still 27 million children overlooked by routine immunization and as a result, vaccine-preventable diseases cause more than 2 million deaths every year.

The goal of *A World Fit for Children* is to ensure full immunization of children under the age one year of age at 90 per cent nationally, with at least 80 per cent coverage in every district or equivalent administrative unit.

The Kenya National Expanded Programme on Immunization (KEPI) recommends that a child should receive a BCG vaccination to protect against tuberculosis, three doses of DPT-HeB-Hib (Pentavalent) vaccine to protect against diphtheria, pertussis, tetanus, Hepatitis B and invasive *Hemophilus influenzae* type B disease, four doses of polio vaccine and a single dose of measles vaccine by the age of 9 months. Mothers were asked to provide vaccination cards for children under the age of five. Interviewers copied vaccination information from the cards onto the MICS questionnaire.

The percentage of children aged between 12 to 23 months who received each of the vaccinations is shown in Table CH.1. The denominator for the table is children age 12-23 months, therefore only children who were old enough to be fully vaccinated were counted. In the first and second columns, the numerator includes all children who were vaccinated at any time before the survey according to the vaccination card or the mother's report. In the last column, only those who were vaccinated before their first birthday, as recommended, are included. For children without vaccination cards, the proportion of vaccinations given before the first birthday is assumed to be the same as for children with vaccination cards.

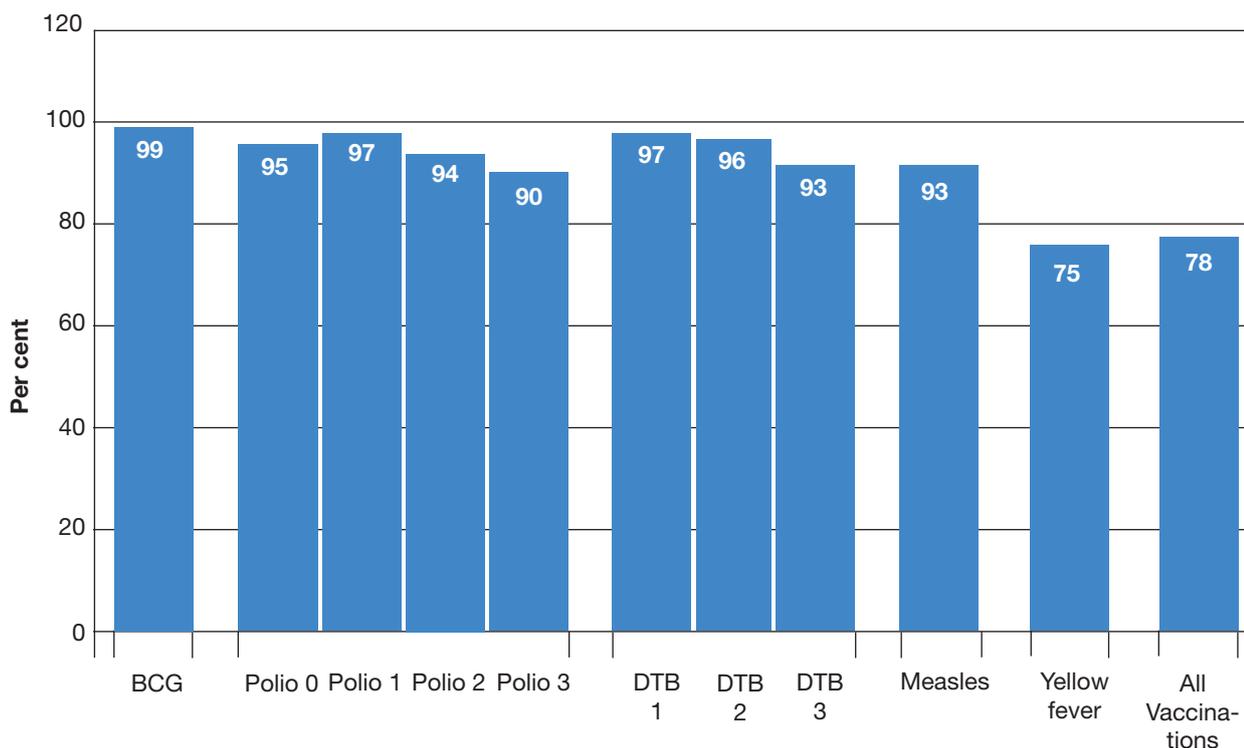
**Table CH.1: Vaccinations in first year of life**

Percentage of children age 12-23 months immunized against childhood diseases at any time before the survey and before the first birthday, Kisii County, 2011				
	Vaccinated at any time before the survey according to			Vaccinated by 12 months of age
	Vaccination card	Mother's report	Either	
BCG1	81.8	18.2	100.0	99.2
<b>Polio</b>				
At birth	74.1	22.1	96.3	95.2
1	82.1	16.1	98.2	97.4
2	82.1	13.1	95.2	94.4
32	79.8	11.2	91.0	90.2
<b>DPT</b>				
1	82.1	16.1	98.2	97.4
2	82.1	14.5	96.6	95.8
3[3]	82.1	12.9	95.0	93.3
Measles4	81.5	15.3	96.8	92.9
Yellow Fever5	82.7	4.4	87.1	74.5
All vaccinations	82.7	0.9	83.6	78.4
No vaccinations	0.0	0.0	0.0	0.0
Number of children age 12-23 months	187	187	187	187
1 MICS indicator 3.1; 2 MICS indicator 3.2; 3 MICS indicator 3.3 4 MICS indicator 3.4; MDG indicator 4.3 5MICS indicator 3.6 Notes: a) For each antigen, the total number of 12-23 month old children vaccinated before 12 months is calculated, as validated by card or mother's recall. To estimate the number of children without a card who have received vaccine before the first birthday, the proportion of vaccinations given during the first year of life is assumed to be the same as for the proportion of children with a card that received the vaccine before first birthday. b) The use of the 12-23 months age group is based on the assumption that measles is given at 9 months of age. In countries where measles vaccination is given later, an older age group should be used. c) Children receiving all vaccinations (fully immunized children) needs to be determined at the county level, in accordance with the existing vaccination schedule and the vaccinations included in the table should be revised / adapted accordingly.				

There is almost universal coverage of immunisation of BCG, measles and the first doses of Polio and DPT amongst children aged 12-23 month by their 12 month of age in Kisii County. For example, 99 per cent of children have received a BCG vaccination, 93 per cent of children have been immunised against measles, and 95 per cent have received first dose of DPT and 97 per cent have received Polio vaccine at birth. However, the proportion of children who have received the second and third doses of DPT and Polio decreases (Figure CH.1). For instance, DPT vaccine coverage falls to 93 per cent, whilst for polio; coverage falls to 90 per cent. Yellow fever vaccine coverage is much lower compared to the other vaccines coverage in Kisii County. Only 75 per cent of children have received all the recommended vaccines by their first.

Due to the lower proportions of children who have received their second and third vaccines in Kisii County, the overall percentage of children who have received all the recommended vaccinations by their first birthday is much lower at 78 per cent.

**Figure CH.1 Percentage of children aged 12-23 months who received the recommended vaccinations by 12 months of age, Kisii County, 2011**



The Hepatitis B vaccine is included in the immunization schedule in Kenya as part of the Pentavalent vaccine whilst yellow fever vaccine is recommended (at 9 months) in four districts in Rift Valley Province. Although not on the national immunization schedule, the meningococcal vaccine is also recommended for children between 6 weeks and 1 year. The HiB and Pneumomococcal conjugate (PCV) vaccines were introduced into the national immunization Programme in 2011. However data for immunization before 12 months of age for these vaccines was not collected in this MICS survey.

Table CH.2 shows vaccination coverage rates among children 12-23 months by background characteristics. The figures indicate children receiving the vaccinations at any time up to the date of the survey, and are based on information from both the vaccination cards and mothers'/caretakers' reports. Overall, 82 per cent of children have health cards (Table CH.2). If the child did not have a card, the mother was asked to recall whether or not the child had received each of the vaccinations and, for DPT and Polio, how many times. Eight-four (84) per cent of children aged 12-23 months have received all the vaccinations (BCG, 3 doses of DPT, 4 doses of Polio, yellow fever and measles) at any time point up to the date of the survey, and not necessarily by their first birthday.

**Table CH.2: Vaccinations by background characteristics**

Percentage of children age 12-23 months currently vaccinated against childhood diseases, Kisii County, 2011													Number of children age 12-23 months	
Percentage of children who received:														
BCG	Polio			DPT			Measles	Yellow fever	None	All	Percentage with vaccination card seen			
	At birth	1	2	3	1	2						3		
<b>Sex</b>														
Male	100.0	94.6	96.9	94.0	88.9	96.9	94.0	92.6	95.6	87.2	0.0	82.5	80.8	106
Female	100.0	98.4	100.0	96.8	93.7	100.0	100.0	98.2	98.3	87.0	0.0	85.2	83.8	81
<b>Area</b>														
Urban	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	17
Rural	100.0	96.9	100.0	99.3	95.1	100.0	100.0	99.1	98.4	87.0	0.0	87.0	86.4	170
<b>Mother's education</b>														
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Primary	100.0	94.7	96.7	95.5	90.7	96.7	96.7	95.2	94.0	84.2	0.0	80.8	79.8	100
Secondary+	100.0	97.5	100.0	96.0	92.6	100.0	98.1	96.0	100.0	91.1	0.0	89.0	86.6	70
<b>Wealth index quintile</b>														
Poorest	100.0	97.4	100.0	100.0	97.6	100.0	100.0	100.0	97.4	85.6	0.0	85.6	85.6	52
Second	(100.0)	(97.1)	(100.0)	(100.0)	(98.1)	(100.0)	(100.0)	(100.0)	(100.0)	(98.0)	(0.0)	(98.0)	(95.2)	44
Middle	(100.0)	(96.0)	(100.0)	(96.0)	(86.6)	(100.0)	(100.0)	(100.0)	(95.4)	(77.6)	(0.0)	(77.6)	(77.6)	29
Fourth	(100.0)	(95.8)	(100.0)	(100.0)	(93.5)	(100.0)	(100.0)	(95.8)	(100.0)	(80.5)	(0.0)	(80.5)	(80.5)	36
Richest	(100.0)	(93.3)	(87.3)	(69.8)	(66.9)	(87.3)	(75.4)	(69.8)	(87.3)	(92.0)	(0.0)	(66.9)	(60.1)	26
<b>Total</b>	<b>100.0</b>	<b>96.3</b>	<b>98.2</b>	<b>95.2</b>	<b>91.0</b>	<b>98.2</b>	<b>96.6</b>	<b>95.0</b>	<b>96.8</b>	<b>87.1</b>	<b>0.0</b>	<b>83.6</b>	<b>82.1</b>	<b>187</b>

(\*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

**Notes:**

a) In this table, the calculation is the same as the third column of Table CH.1 (i.e. the child's age at vaccination is not taken into account). Children who were vaccinated at any time before the survey are included in the numerator.

b) Children receiving all vaccinations (fully immunized children) needs to be determined at the country level, in accordance with the existing vaccination schedule. Vaccinations included in the table should be revised/adapted accordingly.

## 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 1 case of neonatal tetanus per 1000 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 3 years;
- Received at least 3 doses, the last within the prior 5 years;
- Received at least 4 doses, the last within 10 years;
- Received at least 5 doses during lifetime.

Table CH.3 shows the protection status from tetanus of women who have had a live birth within the last 2 years. Figure CH.2 shows the protection of women against neonatal tetanus by major background characteristics. Overall, about two thirds (67 per cent) of women who have had a live birth in the last 2 years are protected against tetanus. Only 46 per cent of women have received at least 2 doses during their last pregnancy. Though there is no marked variation in proportion of women vaccinated against neonatal tetanus by wealth quintiles, the smallest proportion (60 per cent) of women protected against tetanus are from households that fall in the poorest wealth quintile.

**Table CH.3: Neonatal tetanus protection**

Percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus, Kisii County, 2011							
	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		
<b>Area</b>							
Urban	(55.7)	(13.1)	(0.0)	(0.0)	(0.0)	(68.8)	35
Rural	44.5	22.3	0.0	0.0	0.0	66.8	335
<b>Education</b>							
None	(*)	(*)	(*)	(*)	(*)	(*)	18
Primary	42.9	23.4	0.0	0.0	0.0	66.3	211
Secondary	51.1	17.4	0.0	0.0	0.0	68.5	141
<b>Wealth index quintile</b>							
Poorest	34.6	25.1	0.0	0.0	0.0	59.7	110
Second	48.3	20.0	0.0	0.0	0.0	68.3	88
Middle	48.7	18.1	0.0	0.0	0.0	66.8	64
Fourth	50.5	23.5	0.0	0.0	0.0	74.0	62
Richest	(55.4)	(17.1)	(0.0)	(0.0)	(0.0)	(72.5)	46
<b>Total</b>	<b>45.6</b>	<b>21.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>67.0</b>	<b>370</b>
[1] MICS indicator 3.7							
(*) Not shown, based on less than 25-unweighted cases.							
() Based on 25-49 unweighted cases.							

## 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 per cent.

The indicators are:

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

In the MICS 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, 15 per cent of under-5 children had diarrhoea in the two weeks preceding the survey (Table CH.4). The proportion with diarrhoea is comparable in rural and urban areas (15 per cent and 16 per cent respectively). Diarrhoea prevalence is highest in children in the 12-23 months age group at 30 per cent and least in children in the 48 to 59 months age group at 8 per cent.

**Table CH.4: 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, Kisii County, 2011								
		Had diarrhoea in last two weeks	Number of children age 0-59 months	Children with diarrhoea who received:				Number of children aged 0-59 months with diarrhoea
				ORS (Fluid from ORS packet or pre-packaged ORS fluid)	Recommended homemade fluids		ORS or any recommended homemade fluid	
					Sugar and salt solution*	Any recommended homemade fluid		
<b>Sex</b>	Male	17.5	572	12.9	12.9	12.9	23.5	100
	Female	11.7	562	11.0	7.6	7.6	18.6	66
<b>Area</b>	Urban	15.6	89	14.9	(*)	(*)	(*)	14
	Rural	14.5	1046	11.9	10.6	10.6	21.0	152
<b>Age</b>	0-11 months	22.5	198	7.0	(13.7)	(13.7)	(20.7)	45
	12-23 months	29.8	187	20.8	9.1	9.1	27.3	56
	24-35 months	9.9	250	5.1	(9.7)	(9.7)	(14.8)	25
	36-47 months	7.3	241	11.8	(*)	(*)	(*)	18
	48-59 months	8.8	258	8.8	(*)	(*)	(*)	23
<b>Mother's education</b>	None	17.5	82	5.2	(*)	(*)	(*)	14
	Primary	16.0	647	9.4	11.9	11.9	20.5	104
	Secondary	11.8	402	20.2	(9.2)	(9.2)	(26.4)	47
	Missing/DK	0.0	3		.	.	.	0
<b>Wealth index quintiles</b>	Poorest	14.0	333	2.5	(11.3)	(11.3)	(13.8)	47
	Second	15.8	312	(12.9)	(4.9)	(4.9)	(17.7)	49
	Middle	21.2	175	(16.1)	(20.2)	(20.2)	(34.3)	37
	Fourth	8.3	185	(*)	(*)	(*)	(*)	15
	Richest	13.2	130	(*)	(*)	(*)	(*)	17
<b>Total</b>		<b>14.6</b>	<b>14.6</b>	<b>12.1</b>	<b>10.8</b>	<b>10.8</b>	<b>21.6</b>	<b>165</b>

(\*) Not shown, based on less than 25 unweighted cases.  
( ) Based on 25-49 unweighted cases

Table CH.4 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 Table CH.4 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. Overall, only about 1 out of 5 children with diarrhoea (22 per cent) receive oral rehydration therapy (ORS) or other recommended homemade fluids. Twelve (12) per cent of children with diarrhoea receive pre-packaged ORS whilst 11 per cent receive sugar and salt solutions or other homemade fluids.

The proportion receiving ORS or pre-packaged fluids is highest amongst children whose mothers have secondary level educations (20 per cent) compared to those whose mothers have primary level (9 per cent) or no education (5 per cent) (Figure CH.3). Children from the poorest households are least likely (3 per cent) to receive ORS or pre-packaged ORS fluid than those from wealthier households. A higher proportion of boys (24 per cent) receive ORS or any recommended home-made fluids than girls (19 per cent).

**Figure CH.3 Percentage of children under age 5 with diarrhoea who received oral rehydration solutions (Fluid from ORS packed or pre-packed ORS fluid), Kisii County, 2011**

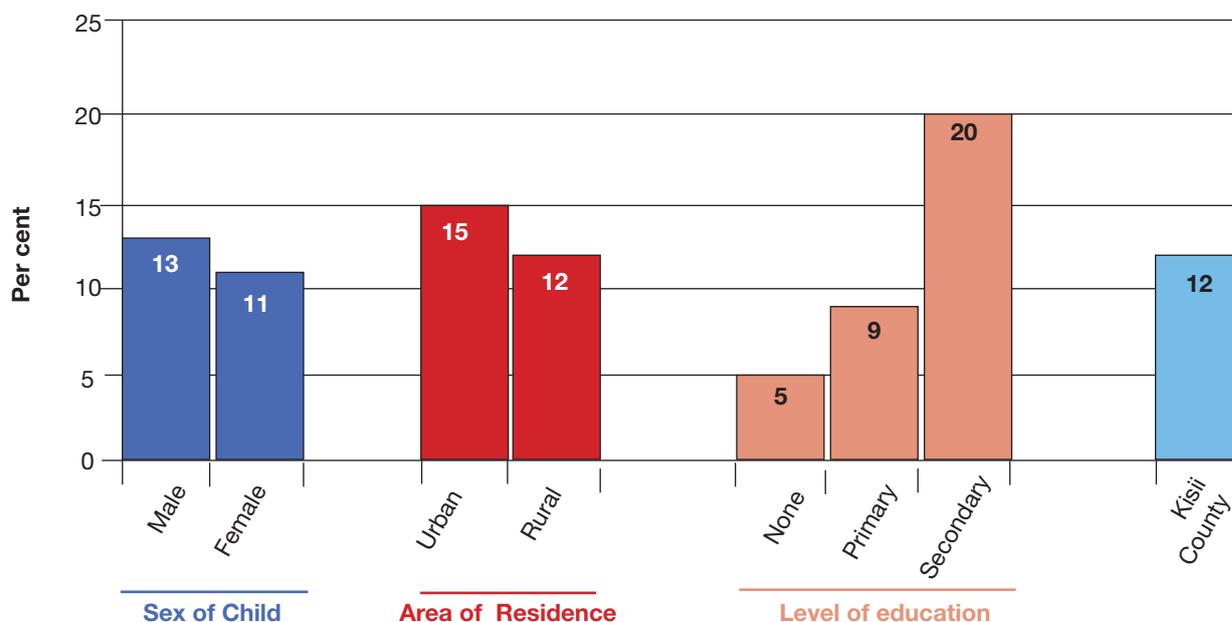


Table CH.5 shows the distribution of children age 0-59 months with diarrhoea by amount of liquids and food given during episode of diarrhoea. Sixteen (16) per cent of children with diarrhoea are given much less to eat and 30 per cent eat nothing during their diarrhoea episode, whilst 23 per cent eat the same amount. About 37 per cent are given much less to drink and 29 per cent are given much less to drink. Only 19 per cent are given more to drink (Table CH.5).

Table CH.6 provides the proportion of children age 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, 23 per cent of children with diarrhoea received ORS or increased fluids whilst 53 per cent received ORT (ORS or recommended homemade fluids or increased fluids). Combining the information in Table CH.5 with that in Table CH.4 on oral rehydration therapy, it is observed that 34 per cent of children received ORT with continued feeding as is the recommendation. The proportion who received ORT with continued feeding is slightly higher for girls (37 per cent) than boys (32 per cent). About 12 per cent are given herbal remedies whilst almost half (47 per cent) are not given any treatment or drug.

**Table CH.5: Feeding practices during diarrhoea**

		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 about the same (or somewhat less)	Given more to drink	Missing/DK	Total	Given none to eat	Given much less to eat	Given somewhat less to eat		Given about the same to eat	Missing/DK	Total
<b>Sex</b>	Male	17.5	572	28.0	51.5	19.0	1.5	100.0	14.9	29.3	30.8	20.9	4.1	100.0	100
	Female	11.7	562	29.3	52.1	18.6	0.0	100.0	18.2	31.4	21.5	26.8	2.2	100.0	66
<b>Area</b>	Urban	15.6	89	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
	Rural	14.5	1046	27.3	53.2	18.5	1.0	100.0	16.1	30.2	27.1	23.1	3.6	100.0	152
<b>Age</b>	0-11 months	22.5	198	(32.8)	(54.0)	(9.9)	(3.3)	(100.0)	(32.8)	(30.2)	(25.5)	(11.5)	(0.0)	(100.0)	45
	12-23 months	29.8	187	29.2	43.7	27.1	0.0	100.0	19.6	26.5	34.5	17.8	1.5	100.0	56
	24-35 months	9.9	250	(35.6)	(46.2)	(18.2)	(0.0)	(100.0)	(4.9)	(46.2)	(15.5)	(19.1)	(14.2)	(100.0)	25
	36-47 months	7.3	241	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
<b>Mother's education</b>	48-59 months	8.8	258	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23
	None	17.5	82	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
<b>Wealth index quintiles</b>	Primary	16.0	647	24.4	60.8	14.7	0.0	100.0	14.6	30.1	20.5	29.6	5.3	100.0	104
	Secondary	11.8	(402)	(32.8)	(33.7)	(30.4)	(3.1)	(100.0)	(20.5)	(28.6)	(34.6)	(16.2)	(0.0)	(100.0)	47
	Missing/DK	0.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
	Poorest	14.0	333	(22.7)	(60.4)	(13.8)	(3.2)	(100.0)	(17.1)	(24.6)	(28.2)	(30.0)	(.0)	(100.0)	47
	Second	15.8	312	(28.6)	(43.4)	(28.0)	(0.0)	(100.0)	(10.7)	(36.6)	(18.8)	(22.7)	(11.2)	(100.0)	49
<b>Total</b>	Middle	21.2	175	(35.3)	(43.3)	(21.3)	(0.0)	(100.0)	(24.6)	(30.1)	(32.4)	(12.9)	(0.0)	(100.0)	37
	Fourth	8.3	185	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
	Richest	13.2	130	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	17
<b>Total</b>		<b>14.6</b>	<b>1135</b>	<b>28.5</b>	<b>51.7</b>	<b>18.8</b>	<b>0.9</b>	<b>100.0</b>	<b>16.2</b>	<b>30.2</b>	<b>27.1</b>	<b>23.2</b>	<b>3.3</b>	<b>100.0</b>	<b>165</b>

(\*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases

**Table CH.6: 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, Kisii County, 2011											Num-ber of children aged 0-59 months with diar-rhoea				
		Children with diarrhoea who received:				Other treatment:								Not given any treat-ment or drug			
		ORS or increased fluids	ORT (ORS or recommended home-made fluids or increased fluids)	ORT with continued feeding [1]	Antibiotic	Antimotility	Zinc	Other	Unknown	Antibiotic	Non-anti-biotic	Un-known			Intrave-nous	Home remedy, herbal medicine	Other
<b>Sex</b>	Male	24.5	54.7	32.3	14.2	1.3	0.0	0.0	6.7	1.2	0.0	0.0	0.0	12.9	4.7	45.3	100
	Female	19.9	49.9	36.6	15.7	2.0	0.0	0.0	10.0	0.0	0.0	1.0	0.0	11.7	2.0	50.1	66
<b>Area</b>	Urban	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
	Rural	22.2	51.9	35.3	11.8	1.7	0.0	0.0	7.4	0.8	0.0	0.4	0.0	13.6	2.6	48.1	152
<b>Age</b>	0-11 months	(16.5)	(55.7)	(32.8)	(14.6)	(2.9)	(0.0)	(0.0)	(9.2)	(2.6)	(0.0)	(0.0)	(0.0)	(18.5)	(2.8)	(44.3)	45
	12-23 months	26.8	48.5	31.5	13.4	0.0	0.0	0.0	8.5	0.0	0.0	0.0	0.0	9.3	1.3	51.5	56
	24-35 months	(29.0)	(70.3)	(44.2)	(16.1)	(0.0)	(0.0)	(0.0)	(9.7)	(0.0)	(0.0)	(0.0)	(0.0)	(9.4)	(10.9)	(29.7)	25
	36-47 months	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
	48-59 months	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	23
<b>Mother's education</b>	None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
	Primary	24.1	46.7	33.7	10.2	2.5	0.0	0.0	6.1	1.1	0.0	0.6	0.0	10.1	2.6	53.3	104
	Secondary	(22.4)	(56.9)	(30.4)	(18.0)	(0.0)	(0.0)	(0.0)	(8.9)	(0.0)	(0.0)	(0.0)	(0.0)	(13.1)	(5.4)	(43.1)	47
	Missing/DK	0.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
<b>Wealth index quintiles</b>	Poorest	(11.3)	(49.5)	(37.3)	(13.7)	(0.0)	(0.0)	(0.0)	(2.6)	(0.0)	(0.0)	(0.0)	(0.0)	(27.9)	(2.7)	(50.5)	47
	Second	(28.9)	(39.7)	(30.1)	(2.9)	(0.0)	(0.0)	(0.0)	(2.4)	(0.0)	(0.0)	(0.0)	(0.0)	(5.5)	(2.5)	(60.3)	49
	Middle	(29.2)	(73.8)	(43.6)	(24.8)	(7.0)	(0.0)	(0.0)	(11.4)	(3.1)	(0.0)	(0.0)	(0.0)	(9.9)	(0.0)	(26.2)	37
	Fourth	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	15
	Richest	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	17
<b>Total</b>		<b>22.7</b>	<b>52.8</b>	<b>34.0</b>	<b>14.8</b>	<b>1.6</b>	<b>0.0</b>	<b>0.0</b>	<b>8.0</b>	<b>0.7</b>	<b>0.0</b>	<b>0.4</b>	<b>0.0</b>	<b>12.4</b>	<b>3.6</b>	<b>47.2</b>	<b>165</b>

[1] MICS indicator 3.8

(\*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

In this table, the percentages of children receiving various treatments will not add to 100 since some children may have received more than one type of treatment.

## Care Seeking and Antibiotic Treatment of Pneumonia

Pneumonia is the leading cause of death in children and the use of antibiotics in under-5s 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.7: Care seeking for suspected pneumonia and antibiotic use during suspected pneumonia**

		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:				Private:				Other source								
		Government hospital	Government health centre	Government dispensary	Other public	Mission hospital	Private hospital / clinic	Nursing/ maternity home	Private pharmacy	Other private medical	Mobile clinic	Community health worker	Shop	Traditional practitioner	Other			Any appropriate provider [1]
<b>Sex</b>	Male	-8.9	0	-25.5	0	-2.7	-4.4	0	0	-2.6	0	0	0	0	0	-44.2	-39.8	49
	Female	-4.6	-5	-38.6	0	0	0	-3.2	-3	0	0	0	0	0	0	-51.2	-41	41
<b>Area</b>	Urban	7.4	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
	Rural	8	7.5	2.5	33.9	0	1.6	2.6	3	1.6	0	0	0	0	0	51.1	39.6	84
<b>Age</b>	0-11 months	10.9	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	22
	12-23 months	11	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	21
	24-35 months	7.3	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
	36-47 months	7.4	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
	48-59 months	10.9	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	22
<b>Mother's education</b>	None	7.9	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	7
	Primary	10.5	7.5	3	29.1	0	2	3.2	0	1.9	1.9	0	0	0	0	46.7	43.8	68
	Secondary+	3.9	402	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	16
<b>Wealth index quintiles</b>	Poorest	9.1	333	-6.2	-2.7	-47.1	0	-4.5	0	-4.3	0	0	0	0	0	-68.7	-42.1	30
	Second	7.7	312	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	24
	Middle	7.8	175	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	14
	Fourth	6.3	185	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12
	Richest	8.3	130	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11
<b>Total</b>	<b>8</b>	<b>1135</b>	<b>7</b>	<b>2.3</b>	<b>31.4</b>	<b>0</b>	<b>1.5</b>	<b>2.4</b>	<b>0</b>	<b>1.4</b>	<b>2.7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>47.4</b>	<b>40.3</b>	<b>91</b>	

[1] MICS indicator 3.9

[2] MICS indicator 3.10

(\*) Not shown, based on less than 25 unweighted cases.

( ) Based on 25-49 unweighted cases.

Note: In this table, percentages of children taken to various providers will not add to 100 since some children may have been taken to see more than one type of provider.

Table CH.7 presents the prevalence of suspected pneumonia and, if care was sought outside the home, the site of care. 8 per cent of children aged 0-59 months were reported to have had symptoms of pneumonia during the two weeks preceding the survey. Of all children with suspected pneumonia, less than half (47 per cent) are taken to an appropriate provider. Suspected pneumonia cases are mainly taken to dispensaries (31 per cent) and government hospitals (7 per cent).

Table CH.7 also presents the use of antibiotics for the treatment of suspected pneumonia in under-5s by sex, age, region, residence, age, and socioeconomic factors. Only 2 out of every 5 (40 per cent) per cent of under-5 children with suspected pneumonia had received an antibiotic during the two weeks prior to the survey.

## **Solid Fuel Use**

More than 3 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 carbon monoxide, polyaromatic hydrocarbons, sulphur dioxide, 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.8: Solid fuel use**

		Percentage of household members in households using:													Solid fuels for cooking [1]	Number of household members		
		Electricity	Liquid propane gas (LPG)	Natural gas	Biogas	Kerosene	Charcoal	Wood	Straw/ shrubs/ grass	Animal dung	Agricultural crop residue	Other	Missing	Total				
<b>Area</b>	Urban	5.9	3.6	1.3	0.0	2.1	46.5	38.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.1	701
	Rural	0.0	0.3	0.0	0.0	0.2	4.9	92.9	0.2	0.1	0.8	0.4	0.1	0.0	0.1	0.0	98.9	6150
<b>Education of household head</b>	None	0.6	2.0	1.0	0.2	0.6	14.9	78.8	0.0	0.0	1.7	0.0	0.2	0.0	0.2	0.0	95.4	1258
	Primary	0.9	0.0	0.0	0.0	0.3	5.1	92.0	0.4	0.0	0.8	0.6	0.1	0.0	0.1	0.0	98.2	3462
	Secondary +	0.2	0.8	0.0	0.0	0.6	12.5	84.7	0.8	0.2	0.2	0.2	0.0	0.0	0.0	0.0	98.2	2102
<b>Wealth index quintiles</b>	Poorest	0.0	0.0	0.0	0.0	0.0	0.0	98.4	0.0	0.2	1.3	0.0	0.1	0.0	0.1	0.0	99.9	1813
	Second	0.0	0.0	0.0	0.0	0.0	0.0	99.2	0.3	0.0	0.2	0.3	0.1	0.0	0.1	0.0	99.6	1876
	Middle	0.0	0.0	0.0	0.0	0.2	4.2	91.7	0.7	0.0	2.0	1.1	0.1	0.1	0.0	0.0	98.6	1181
	Fourth	0.0	0.0	0.0	0.0	0.9	14.3	83.8	0.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0	98.4	1031
	Richest	4.4	4.4	1.3	0.2	1.9	45.2	41.3	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.8	950
<b>Total</b>		<b>0.6</b>	<b>0.6</b>	<b>0.2</b>	<b>0.0</b>	<b>0.4</b>	<b>9.1</b>	<b>87.3</b>	<b>0.4</b>	<b>0.1</b>	<b>0.7</b>	<b>0.4</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>97.7</b>	<b>6851</b>

[1] MICS indicator 3.11

Overall, the majority (98 per cent) of household members in Kisii County use solid fuels for cooking (Table CH.8). The use of solid fuels by area of residence ranges between 87 per cent in urban areas and 99 per cent in rural areas. Solid fuel use by household members does not vary by education level of household head, and generally decreases with increasing wealth quintiles. For example, all households in the poorest wealth quintiles use solid fuel, compared to 88 per cent of households in the richest wealth quintile. The most common sources of solid fuel are wood (87 per cent) and charcoal (9 per cent).

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 stove or 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.9. Majority of the Kisii County residents use solid fuels in a separate building which is used as a kitchen (56 per cent). The rest of the household members use a separate room (25 per cent) or room used for living or sleeping (15 per cent) as a kitchen, or use solid fuels in the outdoors (4 per cent).

The proportion of households members cooking in a place used for living or sleeping is highest in urban households (28 per cent) or those from households in the poorest wealth quintile (22 per cent). On the other hand, the biggest proportion of households members who use solid fuels for cooking in a separate building are those who reside in rural areas (60 per cent).

**Table CH.9: Solid fuel use by place of cooking**

Percent distribution of household members in households using solid fuels by place of cooking, Kisii County, 2011								
		Place of cooking:					Total	Number of household members in households using solid fuels for cooking
		In a room used for living/sleeping	In a separate room used as kitchen	In a separate building used as kitchen	Outdoors	Missing		
<b>Area</b>	Urban	27.5	39.3	25.3	7.9	0.0	100.0	610
	Rural	13.2	24.0	59.5	3.3	0.0	100.0	6083
<b>Education of household head</b>	None	11.2	33.7	51.5	3.6	0.0	100.0	1201
	Primary	13.9	24.7	58.6	2.8	0.1	100.0	3399
	Secondary+	17.8	21.9	55.1	5.2	0.0	100.0	2065
	Missing/DK	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(100.0)	29
<b>Wealth index quintiles</b>	Poorest	22.4	29.7	45.6	2.2	0.1	100.0	1812
	Second	9.3	17.0	71.2	2.4	0.0	100.0	1869
	Middle	9.4	18.8	65.5	6.3	0.0	100.0	1165
	Fourth	10.7	22.7	59.3	7.2	0.0	100.0	1014
	Richest	20.8	46.9	30.6	1.6	0.0	100.0	834
<b>Total</b>		<b>14.5</b>	<b>25.4</b>	<b>56.4</b>	<b>3.7</b>	<b>0.0</b>	<b>100.0</b>	<b>6694</b>

( ) Based on less than 25-49 unweighted cases

## Malaria

Malaria is a leading cause of death of children under the age of five years in Kenya. It also contributes to anaemia in children and is among the leading causes of school absenteeism. Preventive measures, especially the use of mosquito nets treated with insecticide (ITNs), can dramatically reduce malaria mortality rates among children. In Kenya, The Ministry of Public Health and Sanitation (MOPHS) and The Ministry of Medical Services (MOMS) recommend that all patients with fever or history of fever should be tested for malaria and only patients who test positive should be treated with Artemisinin based combination

therapy, the current recommended first line treatment. Children with severe malaria symptoms, such as fever or convulsions, should be taken to a health facility. Also, children recovering from malaria should be given extra liquids and food. Younger children should continue breastfeeding. To prevent malaria in pregnancy, Intermittent Preventive Treatment of malaria in Pregnancy (IPTp) with 3 doses of Sulphadoxine - Pyrimethamine (SP) is recommended. To augment malaria control efforts, integrated vector control methods such as the use of long lasting insecticide treated nets (LLINs) and Indoor residual spraying (IRS) are recommended.

The MICS questionnaire incorporates questions on the availability and use of bed nets, both at household level and among children under five years of age and pregnant women, as well as anti-malarial treatment, IPTp, and indoor residual spraying of households.

**Table CH.10: Household availability of insecticide treated nets and protection by a vector control methods**

<b>Percentage of households with at least one mosquito net, Percentage of households with at least one long-lasting treated net, Percentage of households with at least one insecticide treated net (ITN) and Percentage of households which either have at least one ITN or have received spraying through an indoor residual spraying (IRS) campaign in the last 12 months, Kisii County, 2011</b>						
		Percentage of households with at least one mosquito net	Percentage of households with at least one long-lasting treated net	Percentage of households with at least one ITN [1]	Percentage of households with at least one ITN or received IRS during the last 12 months [2]	Number of households
<b>Area</b>	Urban	90.5	81.9	88.8	88.8	187
	Rural	94.6	92.7	93.2	93.8	1296
<b>Education of household head</b>	None	91.2	89.9	90.2	90.6	344
	Primary	94.0	91.7	92.8	93.3	697
	Secondary +	96.3	91.9	94.2	95.1	438
	Missing/DK	0.0	0.0	100.0	0.0	29
<b>Wealth index quintiles</b>	Poorest	89.4	87.6	88.5	89.7	411
	Second	95.9	93.3	93.3	93.3	374
	Middle	95.0	94.3	94.3	95.5	250
	Fourth	97.0	94.1	97.7	97.7	210
	Richest	95.6	89.2	92.6	92.6	238
<b>Total</b>		<b>94.0</b>	<b>91.3</b>	<b>92.7</b>	<b>93.2</b>	<b>1483</b>
[1] MICS indicator 3.12						
[2] MICS indicator 3.13						

In Kisii County, the survey results indicate a high level of net ownership with 94 per cent having at least one mosquito net, 93 per cent of households having at least one ITN and 91 per cent having at least one long lasting treated net (Table CH.10). The availability of nets and vector control methods does not vary markedly by background characteristics. Ninety three (93) per cent of households in Kisii County have at least one ITN or received IRS during the last 12 months prior to the survey.

**Table CH.11: Children sleeping under mosquito nets**

Percentage of children age 0-59 months who slept under a mosquito net during the previous night, by type of net, Kisii County, 2011								
		Percentage of children age 0-59 who stayed in the household the previous night	Number of children age 0-59 months	Percentage of children who: Slept under any mosquito net [1]	Percentage of children who: Slept under an insecticide treated net [2]	Number of children age 0-59 months who slept in the household the previous night	Percentage of children who slept under an ITN living in households with at least one ITN	Number of children age 0-59 living in households with at least one ITN
<b>Sex</b>	Male	100.0	572	81.0	78.4	572	81.4	551
	Female	100.0	562	79.5	78.8	562	82.4	538
<b>Area</b>	Urban	100.0	89	77.3	75.4	89	76.5	88
	Rural	100.0	1046	80.5	78.9	1046	82.4	1001
<b>Age</b>	0-11 months	100.0	198	83.3	82.1	198	85.4	190
	12-23 months	100.0	187	86.6	82.9	187	86.7	179
	24-35 months	100.0	250	81.3	79.8	250	82.4	242
	36-47 months	100.0	241	77.5	76.0	241	79.6	230
	48-59 months	100.0	258	75.1	74.0	258	77.4	246
<b>Mother's education</b>	None	100.0	82	76.2	74.1	82	81.6	75
	Primary	100.0	647	78.2	77.6	647	81.1	619
	Secondary	100.0	402	85.0	81.6	402	83.8	392
	Missing/DK	100.0	3	0.0	100.0	3	100.0	3
<b>Wealth index quintiles</b>	Poorest	100.0	333	69.0	69.0	333	74.4	309
	Second	100.0	312	81.0	77.9	312	81.5	298
	Middle	100.0	175	85.2	83.3	175	85.7	170
	Fourth	100.0	185	90.2	90.2	185	90.6	184
	Richest	100.0	130	86.9	81.9	130	83.6	128
<b>Total</b>		<b>100.0</b>	<b>1135</b>	<b>80.3</b>	<b>78.6</b>	<b>1135</b>	<b>81.9</b>	<b>1088</b>
1 MICS indicator 3.14,								
2 MICS indicator 3.15; MDG indicator 6.7								

4 out of every 5 (80 per cent) children under the age of five slept under any mosquito net the night prior to the survey and a similar proportion (79 per cent) slept under an ITN (Table CH.11).

**Table CH.12: Pregnant women sleeping under mosquito nets**

Percentage of pregnant women who slept under a mosquito net during the previous night, by type of net, Kisii County, 2011								
		Percentage of pregnant women who stayed in the household the previous night	Number of pregnant women	Percentage of pregnant women who: Slept under any mosquito net	Percentage of pregnant women who: Slept under an insecticide treated net [1]	Number of pregnant women who slept in the household the previous night	Percentage of pregnant women who slept under an ITN, living in households with at least one ITN	Number of pregnant women living in households with at least one ITN
<b>Area</b>	Urban	(*)	(*)	(*)	(*)	(*)	(*)	16
	Rural	100.0	79	79.0	73.5	79	77.6	75
<b>Age</b>	15-19	(*)	(*)	(*)	(*)	(*)	(*)	15
	20-24	(100.0)	(37)	(81.6)	(78.3)	(37)	(78.3)	37
	25-29	(*)	(*)	(*)	(*)	(*)	(*)	22
	30-34	(*)	(*)	(*)	(*)	(*)	(*)	11
	35-39	(*)	(*)	(*)	(*)	(*)	(*)	5
	40-44	(*)	(*)	(*)	(*)	(*)	(*)	15
<b>Education</b>	None	(*)	(*)	(*)	(*)	(*)	(*)	12
	Primary	100.0	51	65.9	65.9	51	67.0	50
	Secondary+	(100.0)	(32)	(81.7)	(68.2)	(32)	(76.0)	28
<b>Wealth index quintiles</b>	Poorest	(100.0)	(33)	(76.1)	(76.1)	(33)	(76.1)	33
	Second	(*)	(*)	(*)	(*)	(*)	(*)	16
	Middle	(*)	(*)	(*)	(*)	(*)	(*)	11
	Fourth	(*)	(*)	(*)	(*)	(*)	(*)	13
	Richest	(*)	(*)	(*)	(*)	(*)	(*)	18
<b>Total</b>		<b>100.0</b>	<b>95</b>	<b>75.6</b>	<b>71.1</b>	<b>95</b>	<b>74.3</b>	<b>91</b>
[1] MICS indicator 3.19								
(*) Not shown, based on less than 25 unweighted cases.								
() Based on 25-49 unweighted cases.								

Table CH.12 presents the proportion of pregnant women who slept under a mosquito net during the previous night. Seventy six (76) per cent of pregnant women slept under any mosquito net the night prior to the survey and 71 per cent slept under an ITN.

**Table CH.13: Treatment of children with anti-malarial drugs**

		Children with a fever in the last two weeks who received anti-malarial drugs, Kisii County, 2011										Percentage who took an anti-malarial drug same or next day [2]	Num-ber of children with fever in last two weeks				
		Had a fever in last two weeks	Num-ber of children age 0-59 months	Anti-malarials: Fansidar	Anti-malarials: Chloroquine	Anti-malarials: Armodiaquine	Anti-malarials: Quinine	Anti-malarials: Artemisinin based combinations	Anti-malarials: Other malarial drug [1]	Other medications: Paracetamol/ Acetaminophan	Other medications: Aspirin			Other medications: Ibuprofen	Other medications: Other	Don't know	
<b>Sex</b>	Male	14.0	572	2.5	0.0	1.5	2.5	15.9	8.3	28.2	51.5	0.0	11.0	24.8	0.0	14.0	80
	Female	11.7	562	5.5	0.0	3.9	6.8	5.9	3.7	25.8	56.4	5.6	5.7	22.6	5.8	14.6	66
<b>Area</b>	Urban	18.9	89	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	17
	Rural	12.3	1046	4.3	0.0	2.9	5.1	10.5	7.0	28.3	52.7	2.9	8.7	25.2	3.0	15.2	129
<b>Age</b>	0-11 months	14.1	198	(9.2)	(0.0)	(0.0)	(0.0)	(11.1)	(0.0)	(20.3)	(65.6)	(4.5)	(14.4)	(28.1)	(5.2)	(0.0)	28
	12-23 months	19.1	187	3.0	(0.0)	(3.8)	(6.7)	(9.2)	(8.1)	(30.8)	(41.9)	(.0)	(13.4)	(19.7)	(6.7)	(18.8)	36
	24-35 months	10.3	250	(3.3)	(0.0)	(4.8)	(3.3)	(10.2)	(18.6)	(32.3)	(37.7)	(9.5)	(4.3)	(26.8)	(0.0)	(13.4)	26
	36-47 months	14.9	241	(3.0)	(0.0)	(3.4)	(9.1)	(13.7)	(0.0)	(29.2)	(62.0)	(0.0)	(0.0)	(28.3)	(0.0)	(22.2)	36
	48-59 months	7.9	258	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	20
<b>Mother's education</b>	None	14.5	82	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	12
	Primary	11.5	647	4.1	0.0	3.5	7.2	6.5	6.0	26.0	50.8	5.0	3.0	17.5	3.5	15.4	75
	Secondary	14.7	402	1.8	0.0	2.1	2.0	11.1	5.8	22.8	52.4	0.0	14.9	33.1	0.0	13.6	59
	Missing/DK	0.0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	0
<b>Wealth index quintiles</b>	Poorest	11.6	333	(6.5)	(0.0)	(0.0)	(8.3)	(5.4)	(0.0)	(20.3)	(56.9)	(3.3)	(10.4)	(25.6)	(0.0)	(6.9)	39
	Second	10.1	312	(6.9)	(0.0)	(0.0)	(0.0)	(8.0)	(10.8)	(22.0)	(51.8)	(3.8)	(14.4)	(16.9)	(0.0)	(3.7)	31
	Middle	19.2	175	(2.6)	(0.0)	(4.0)	(9.8)	(21.1)	(1.9)	(36.8)	(38.3)	(.0)	(7.8)	(19.9)	(7.8)	(17.3)	34
	Fourth	13.7	185	(0.0)	(0.0)	(9.7)	(0.0)	(5.4)	(19.8)	(34.9)	(67.0)	(0.0)	(0.0)	(39.6)	(0.0)	(30.2)	25
	Richest	12.8	130	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	17
<b>Total</b>		<b>12.9</b>	<b>1135</b>	<b>3.8</b>	<b>0.0</b>	<b>2.6</b>	<b>4.5</b>	<b>11.4</b>	<b>6.2</b>	<b>27.1</b>	<b>53.7</b>	<b>2.6</b>	<b>8.6</b>	<b>23.8</b>	<b>2.6</b>	<b>14.3</b>	<b>146</b>

[1] MICS indicator 3.18; MDG indicator 6.8

[2] MICS indicator 3.17

( ) Based on 25-49 un-weighted cases.

Questions on the prevalence and treatment of fever were asked for all children under age five. 13 per cent of under five children were ill with fever in the two weeks prior to the survey (Table CH.13). Children who resided in the urban regions or those between 12 and 23 months of age are most likely to have had fever in the two weeks prior to the survey (both 19 per cent).

Mothers were asked to report all of the medicines given to a child to treat the fever, including both medicines given at home and medicines given or prescribed at a health facility. Overall, slightly more than a quarter (27 per cent) of children with fever in the last two weeks was treated with any anti-malarial with only 11 per cent of children with fever in the last two weeks treated with artemisinin based combination drugs (the recommended first line anti-malarial medication). Other than anti-malarial medication, children with fever are given other types of medicines including anti-pyretic drugs such as paracetamol (53 per cent), ibuprofen (9 per cent) and aspirin (3 per cent).

In regards to promptness of treatment with anti-malarial drugs, only 14 per cent received anti-malarial drugs within 24 hours or on the next day after onset of symptoms. The promptness of treatment with artemisinin combination treatments or any other kind of anti-malarial medication is comparable by gender - 14 per cent and 15 per cent of male and female children respectively.

Pregnant women living in places where malaria is highly prevalent are four times more likely than other adults to get malaria and twice as likely to die of the disease. Once infected, pregnant women risk anaemia, premature delivery and stillbirth. Their babies are likely to be of low birth weight, which makes them unlikely to survive their first year of life. For this reason, steps are taken to protect pregnant women by distributing insecticide-treated mosquito nets and treatment during antenatal check-ups with drugs that prevent malaria infection (Intermittent preventive treatment or IPT). In the Kisii County MICS, women were asked of the medicines they had received in their last pregnancy during the 2 years preceding the survey. Women are considered to have received intermittent preventive therapy if they have received at least 2 doses of SP/Fansidar during the pregnancy.

Intermittent preventive treatment for malaria in pregnant women who gave birth in the two years preceding the survey is presented in Table CH.15. Overall, 90 per cent of women aged 15-49 who have had a live birth in the 2 years preceding the survey receive antenatal care. 56 per cent receive at least 1 dose of SP whilst 38 per cent receive the recommended IPT dose (2 or more times). There is no marked variation between IPT and area of residence, level of education or wealth status. In spite of this, the highest proportion of women who have received it is those educated to secondary level and higher (42 per cent), and the lowest proportion is amongst those living in the poorest quintile (34 per cent).

**Table CH.15: Intermittent preventive treatment for malaria**

Percentage of women age 15-49 years who had a live birth during the two years preceding the survey and who received intermittent preventive treatment (IPT) for malaria during pregnancy at any antenatal care visit, Kisii County, 2011							
		Percentage of women who received antenatal care (ANC)	Number of women who gave birth in the preceding two years	Percentage of pregnant women who took:			Number of women who had a live birth in the last two years and who received antenatal care
				Any medicine to prevent malaria at any ANC visit during pregnancy	SP/Fansidar at least once	SP/Fansidar two or more times [1]	
<b>Area</b>	Urban	(87.5)	35	(75.7)	(32.2)	(16.5)	31
	Rural	89.8	335	69.8	58.1	40.0	301
<b>Education</b>	None	(*)	18	(*)	(*)	(*)	15
	Primary	88.5	211	70.4	57.0	35.4	187
	Secondary	92.5	141	70.2	54.1	41.5	130
<b>Wealth index quintiles</b>	Poorest	84.4	110	64.0	53.8	33.5	93
	Second	90.2	88	80.1	68.0	50.0	79
	Middle	92.9	64	66.8	52.4	35.4	60
	Fourth	92.7	62	72.5	58.6	38.2	57
	Richest	(91.7)	46	(68.1)	(37.8)	(27.4)	42
<b>Total</b>		<b>89.6</b>	<b>370</b>	<b>70.4</b>	<b>55.7</b>	<b>37.9</b>	<b>331</b>
1 MICS indicator 3.20							
(*) Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

## VII. Water and Sanitation

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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 (or snail fever). Drinking water can also be polluted by 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 of carrying water, often over 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**

Area	Main source of drinking water											Percentage using improved sources of drinking water [1]	Number of household members			
	Improved sources					Unimproved sources										
	Piped water			Protected well	Protected spring	Rain-water collection	Bottled water	Unprotected well	Unprotected spring	Cart with tank/drum	Surface water					
	Piped into dwelling	Piped into compound, yard or plot	Piped to neighbor											Public tap/standpipe		
Rural	0.0	0.2	0.1	1.2	2.1	55.9	3.6	0.0	2.1	27.2	0.0	7.6	100.0	61.9	6150	
Urban	4.2	4.3	1.7	5.4	7.0	32.7	7.3	0.5	3.1	13.5	0.2	20.1	100.0	57.8	701	
<b>Education of household head</b>																
None	1.3	2.0	0.2	2.1	3.7	59.0	8.1	0.3	1.4	13.9	0.1	7.8	100.0	74.7	1258	
Primary	0.3	0.0	0.5	1.7	1.4	52.2	2.9	0.0	2.5	29.3	0.0	9.1	100.0	57.3	3462	
Secondary	0.2	0.7	0.0	1.3	4.0	52.7	3.3	0.0	2.1	26.6	0.0	9.2	100.0	60.9	2102	
Missing/DK	0.0	0.0	0.0	0.0	0.0	(29.3)	0.0	0.0	0.0	(70.7)	0.0	0.0	100.0	(29.3)	29	
<b>Wealth index quintile</b>																
Poorest	0.0	0.0	0.0	0.3	0.6	63.1	0.2	0.0	1.6	27.9	0.0	6.2	100.0	64.0	1813	
Second	0.0	0.0	0.0	0.2	1.0	57.7	1.3	0.0	1.2	31.4	0.0	7.1	100.0	60.1	1876	
Middle	0.0	0.0	0.7	3.2	2.8	55.2	1.7	0.0	2.9	23.1	0.0	10.4	100.0	60.4	1181	
Fourth	0.0	0.0	0.9	3.2	2.6	49.7	7.3	0.0	4.3	19.6	0.0	12.5	100.0	60.5	1031	
Richest	3.4	4.2	0.3	3.6	9.1	29.3	15.4	0.4	2.0	20.8	0.2	11.4	100.0	62.1	950	
<b>Total</b>	<b>0.5</b>	<b>0.6</b>	<b>0.3</b>	<b>1.7</b>	<b>2.6</b>	<b>53.5</b>	<b>4.0</b>	<b>0.0</b>	<b>2.2</b>	<b>25.8</b>	<b>0.0</b>	<b>8.8</b>	<b>100.0</b>	<b>61.5</b>	<b>6851</b>	

[1] MICS indicator 4.1; MDG indicator 7.8

() Based on 25-49 unweighted cases.

**Note:** Households using bottled water as the main source of drinking water are classified into improved or unimproved drinking water users according to the water source used for other purposes such as cooking and hand washing.

More than 3 out of 5 (62 per cent) household in Kisii County use an improved source of drinking water – 62 per cent in rural areas and 58 per cent in urban areas. The most frequently used improved drinking water source is protected springs (54 per cent) whilst the most commonly used unimproved source of drinking water is unprotected springs (26 per cent).

The dominant source of drinking water in both urban and rural regions is protected springs (33 per cent and 56 per cent respectively). The most regularly used unimproved source of drinking water in rural areas is unprotected springs (27 per cent) and surface water in urban areas (20 per cent).

The proportion of households with access to improved drinking water sources compared to the level of their wealth status are very comparable – 64 per cent of households in the poorest quintile versus 62 per cent of households in the richest quintile. More than 3 out of 5 households use improved drinking water sources regardless of the wealth status.

**Figure WS.1: Percentage distribution of households by source of drinking water, Kisii County, 2011**

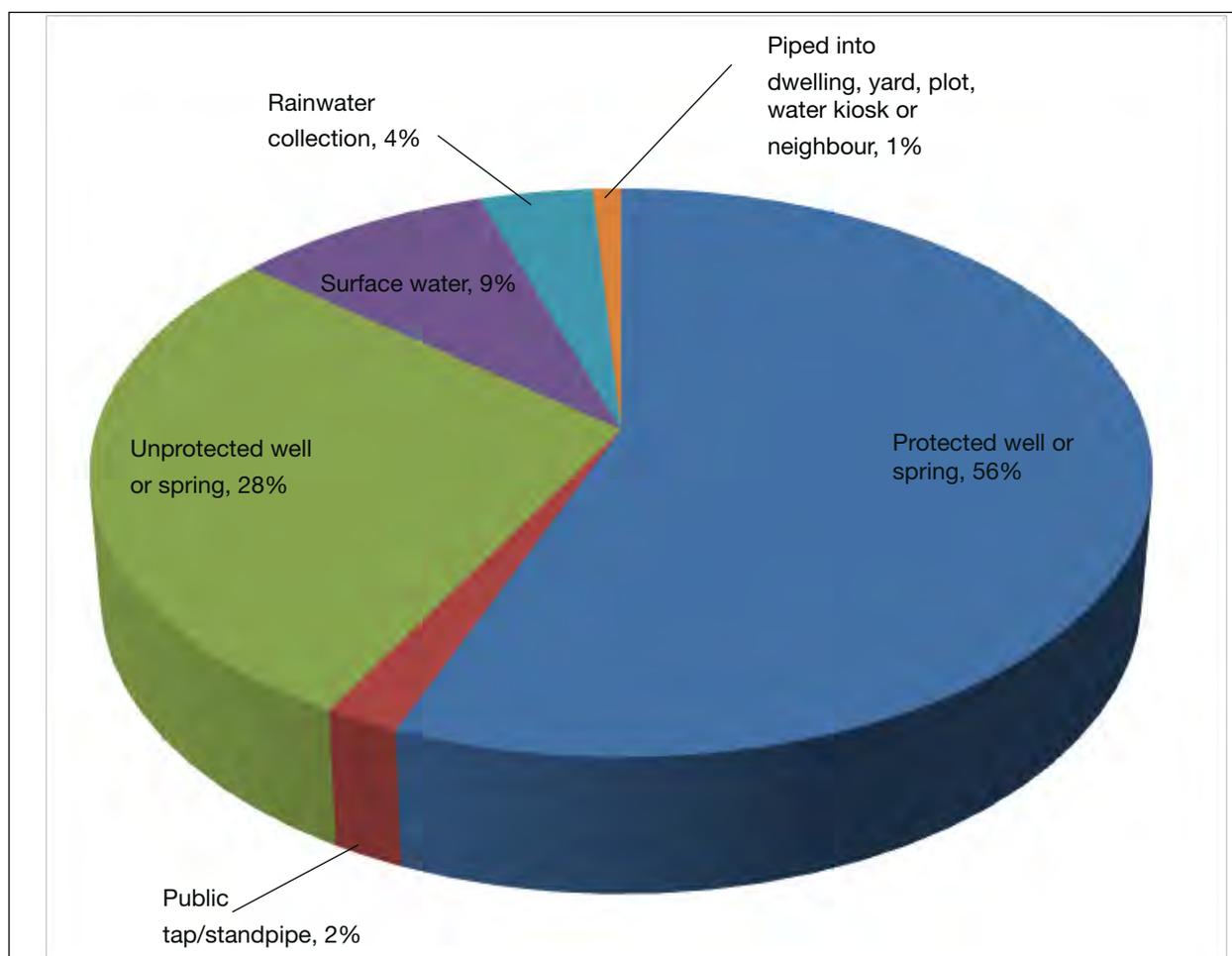


Figure WS.1 clearly demonstrates the most relied upon source of drinking water in Kisii County. More than 3 out of 5 of Kisii County households use improved sources of drinking water (protected well/springs- 56 per cent, rainwater collection – 4 per cent, public tap/stand pipe – 2 per cent and piped water- 1 per cent). Almost 1 out of 3 households rely on unprotected springs as their main source of drinking water.

## Use of Adequate Water Treatment Method

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 are 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.

Overall, slightly more than 1 out of 3 (32 per cent) of Kisii County households using unimproved drinking water sources use an appropriate water treatment method – 30 per cent in rural areas and 48 per cent in urban areas. The water treatment methods commonly used in these households is boiling water (27 per cent). Only 8 per cent add bleach/chlorine to their unsafe drinking water, while about 1 per cent strains water through a cloth. Sixty seven per cent of the household do not use any water treatment methods.

**Table WS.2: Household water treatment**

		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				
<b>Residence</b>	Urban	47.7	38.6	11.4	5.1	0.2	0.0	1.3	1.1	0.0	701	48.2	259	
	Rural	69.1	25.4	7.7	0.6	0.0	0.0	0.0	0.5	0.0	6150	30.1	2265	
<b>Education of household head</b>	None	58.4	35.1	8.3	0.8	0.1	0.0	0.7	0.7	0.0	1258	46.3	292	
	Primary	73.0	19.6	8.7	0.8	0.0	0.0	0.0	0.9	0.1	3462	29.2	1416	
	Secondary+	61.5	33.9	7.1	1.5	0.0	0.0	0.0	0.0	0.0	2102	32.3	795	
	Missing/DK	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29	(*)	21	
<b>Wealth index quintiles</b>	Poorest	82.0	14.2	3.4	0.0	0.0	0.0	0.0	0.6	0.0	1813	22.1	647	
	Second	70.6	23.9	8.0	0.9	0.0	0.0	0.0	0.3	0.1	1876	26.5	746	
	Middle	72.7	20.9	7.7	1.7	0.0	0.0	0.0	0.6	0.0	1181	24.1	430	
	Fourth	54.9	35.3	13.8	0.6	0.0	0.0	0.0	1.0	0.0	1031	47.0	374	
	Richest	36.5	54.1	11.2	3.1	0.2	0.0	1.0	0.8	0.0	950	57.0	326	
<b>Total</b>		<b>66.9</b>	<b>26.7</b>	<b>8.1</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.6</b>	<b>0.0</b>	<b>6851</b>	<b>31.9</b>	<b>2524</b>	

[1] MICS indicator 4.2

( ) Based on 25-49 unweighted cases.

## Time to Source Drinking Water

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 is not collected.

Overall, Table WS.3 shows that for only 5 per cent of Kisii County households, the drinking water source is on the premises – 3 per cent in rural areas compared to 18 per cent in the urban areas. This proportion also increases greatly as the wealth status of the households improved – less than 1 per cent of households in the poorest wealth index compared to 22 per cent of households in the richest household index. Households where the head has no education are most likely have water on their premises too (11 per cent).

It takes less than 30 minutes of 33 per cent of households to get to an improved drinking water source. This task requires 30 minutes or more for 26 per cent of households members, of whom the bigger proportion (27 per cent), reside in rural areas.

In the rural areas of Kisii, 18 per cent of households spend 30 minutes or more to access an improved drinking water source. In general, households in rural areas spend more time to collect water either from both improved and unimproved sources of water. The data shows that households in the richest quintile are least likely to be spending 30 minutes or more to collect water.

**Table WS.3: Time to source of drinking water**

		Per cent 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, Kisii County, 2011										
		Time to source of drinking water										
		Users of improved drinking water sources					Users of unimproved drinking water sources					
Residence	Education of household head	Wealth index quintiles	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	Total	Number of household members
Urban			17.6	32.7	12.9	0.0	0.7	27.5	8.7	0.0	100.0	701
Rural			3.1	32.9	26.9	0.1	0.9	18.1	17.8	0.1	100.0	6150
None			10.8	33.4	31.9	0.7	0.3	9.8	12.6	0.6	100.0	1258
Primary			3.2	32.8	23.1	0.0	1.1	21.4	18.4	0.0	100.0	3462
Secondary+			3.3	33.3	25.6	0.0	0.9	20.4	16.5	0.0	100.0	2102
Missing/DK			(0.0)	(0.0)	(29.3)	(0.0)	(0.0)	(39.8)	(30.8)	(0.0)	100.0	29
Poorest			0.2	36.1	27.6	0.5	0.1	18.3	17.3	0.0	100.0	1813
Second			0.9	35.7	23.6	0.0	0.6	16.0	23.1	0.0	100.0	1876
Middle			2.3	31.2	30.0	0.0	0.6	18.8	16.5	0.6	100.0	1181
Fourth			5.9	28.6	29.2	0.0	2.3	21.9	12.2	0.0	100.0	1031
Richest			21.8	28.2	15.6	0.0	1.8	23.6	9.0	0.0	100.0	950
<b>Total</b>			<b>4.6</b>	<b>32.9</b>	<b>25.5</b>	<b>0.1</b>	<b>0.9</b>	<b>19.0</b>	<b>16.8</b>	<b>0.1</b>	<b>100.0</b>	<b>6851</b>

( ) Based on 25-49 unweighted cases.

## Person Collecting Water

Table WS.4 shows that for the majority (94 per cent) of households where the source of drinking water is not on the premises, an adult female is usually the person collecting the water (78 per cent). An adult woman is responsible for water collection for use in 78 per cent of rural and urban households. The proportion of adult women who collect drinking water ranges from 66 per cent in households where the household head has no education to 83 per cent in households where the household head has secondary level education or higher.

**Table WS.4: Person collecting water**

		Percentage of households without drinking water on premises	Number of households	Person usually collecting drinking water						Total	Number of households without drinking water on premises
				Adult woman	Adult man	Female child (under 15)	Male child (under 15)	DK	Missing		
<b>Residence</b>	Urban	81.2	187	77.6	15.5	4.8	2.1	0.0	0.0	100.0	174
	Rural	95.6	1296	78.3	9.3	9.6	2.6	0.1	0.1	100.0	1291
<b>Education of household head</b>	None	88.6	344	65.8	15.0	16.0	3.1	0.0	0.0	100.0	334
	Primary	95.6	697	80.9	8.5	7.7	2.7	0.2	0.0	100.0	695
	Secondary+	95.0	438	83.2	8.8	6.0	1.8	0.0	0.3	100.0	431
	Missing/DK	100.0	(4)	(64.5)	(0.0)	(35.5)	(0.0)	(0.0)	(0.0)	(0.0)	4
<b>Wealth index quintiles</b>	Poorest	99.4	411	78.6	7.9	10.9	2.7	0.0	0.0	100.0	411
	Second	98.0	374	81.4	4.4	10.7	3.2	0.3	0.0	100.0	374
	Middle	96.8	250	71.8	16.0	7.1	4.6	0.0	0.5	100.0	250
	Fourth	93.2	210	81.0	11.0	7.4	0.6	0.0	0.0	100.0	210
	Richest	74.9	238	76.5	17.0	6.4	0.0	0.0	0.0	100.0	220
<b>Total</b>		<b>93.8</b>	<b>1483</b>	<b>78.2</b>	<b>10.0</b>	<b>9.1</b>	<b>2.5</b>	<b>0.1</b>	<b>0.1</b>	<b>100.0</b>	<b>1465</b>

(\*) Not shown, based on less than 25 unweighted cases.

Overall, water is usually collected by an adult man in 1 out of every 10 households in Kisii County (10 per cent). In the rural and urban areas of this county, water collection by adult men was reported by 9 and 16 per cent of the households respectively.

Female or male children under age 15 engaged in water collection activities in 12 per cent of the households –female children collect water in 9 per cent of households, and in 3 per cent of households, a male child is responsible. Children are more likely to be engaged in water collection if they are from poorer households compared to those from richer households. For example, 11 per cent of female children collect water in the poorest households compared to 6 per cent of female children in the richest households. Proportion of children involved in water collection is positively associated with education level of the household head. For instance, 16 per cent of female children collect water in households where the head has no education compared to 6 per cent of households where the head has attained secondary education or higher.

### **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. 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 (VIP), pit latrine with slab, and composting toilet.

Table WS.5 shows that 19 per cent of the population in Kisii County is living in houses using improved sanitation. Overall, pit latrines with slabs are the most frequently used improved sanitation facility (10 per cent). Only 1 per cent uses flush toilets in their households and the rest of the household population use VIP (8 per cent). Households where the head has had no education are more likely to use pit latrines with slabs.

In contrast, about 4 out of 5 (81 per cent) of households in Kisii County use unimproved sanitation facilities. The most frequently used unimproved sanitation facility is pit latrines without slab/open pit (80 per cent) whilst less than 1 per cent has no facilities.

There is marked variation in use of improved sanitation facilities by area of residence –cumulatively 53 per cent in urban areas compared to 15 per cent in rural areas. Less than 1 per cent of households use pit latrines with slab in the poorer households whereas 21 per cent of households in the richest quintile use pit latrines with a slab. The use of unimproved sanitation facilities ranges from 31 per cent among households in the highest wealth quintile to 98 per cent among households in the lowest wealth quintile. In general, residents in Kisii County are likely to use improved sanitation facilities if they either reside in urban areas or live in households that fall in the richest wealth index category.

**Table WS.5: Types of sanitation facilities**

Per cent distribution of household population according to type of toilet facility used by the household, Kisii County, 2011													
Area	Type of toilet facility used by household												
	Improved sanitation facility						Unimproved sanitation facility					Number of household members	
	Flush/pour flush to:						Pit latrine with slab	Composting toilet	Pit latrine without slab/open pit	Other	No facilities or bush or field or ocean		
	Piped sewer system	Septic tank	Pit latrine	Unknown place/not sure/DK where		Ventilated Improved Pit latrine (VIP)							
Unknown place/not sure/DK where				Unknown place/not sure/DK where									
Rural	0.1	0.3	0.2	0.0	0.0	5.6	8.8	0.1	84.3	0.2	0.4	100.0	6150
Urban	5.2	0.8	0.2	2.1	2.1	29.2	15.2	0.0	46.5	0.7	0.0	100.0	701
<b>Education of household head</b>													
None	1.5	2.1	0.1	0.0	0.0	15.5	11.6	0.2	67.9	0.0	1.1	100.0	1258
Primary	0.0	0.0	0.3	0.0	0.0	4.4	9.0	0.0	85.6	0.4	0.2	100.0	3462
Secondary +	1.1	0.0	0.1	0.7	0.7	9.5	9.1	0.0	79.1	0.2	0.3	100.0	2102
Missing/DK	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(100.0)	29
<b>Wealth index quintile</b>													
Poorest	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	97.6	0.7	1.2	100.0	1813
Second	0.0	0.0	0.0	0.0	0.0	0.3	4.4	0.0	95.4	0.0	0.0	100.0	1876
Middle	0.0	0.0	0.0	0.0	0.0	3.4	13.5	0.0	82.6	0.0	0.5	100.0	1181
Fourth	0.0	0.0	1.1	0.0	0.0	12.4	19.5	0.0	66.5	0.5	0.0	100.0	1031
Richest	4.3	2.7	0.3	1.5	1.5	39.4	21.2	0.0	30.6	0.0	0.0	100.0	950
<b>Total</b>	<b>0.6</b>	<b>0.4</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>8.0</b>	<b>9.5</b>	<b>0.0</b>	<b>80.4</b>	<b>0.3</b>	<b>0.4</b>	<b>100.0</b>	<b>6851</b>

## Use and Sharing of Sanitation Facilities

Access to safe drinking-water and to basic sanitation is measured by the proportion of population using an improved sanitation facility. MDGs and WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation classify households as using an unimproved 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, of the 19 per cent of the Kisii County residents with access to an improved sanitation facility only 1 per cent use public facilities, 13 per cent use private facilities not shared, and a further 5 per cent use private shared facilities. A bigger proportion of those who share improved sanitation facilities share among 5 households or less (3 per cent). The proportion of those whose private facilities that are not shared increases with increasing wealth index – less than 1 per cent of households in the poorest quintile compared to 46 per cent of households in the richest quintile.

The probability of sharing sanitation facilities among households decreases with increasing wealth status of the household. For example less than one per cent of households in the lowest wealth quintile do not share improved sanitation facility whereas 46 per cent of the households in the richest quintile do not share improved sanitation facilities.

Of the 81 per cent of Kisii resident who use unimproved sanitation facilities, 2 per cent use public facilities, whilst 60 per cent use private facilities that are not shared. The remaining 18 per cent use shared private facilities of which the biggest proportion (16 per cent) of households most frequently share with 5 households or less. Less than 1 per cent of Kisii County residents do not have access to any sanitation facilities. Lack of sanitation facilities is evident in poor households (1 per cent) or those whose household heads have no education (1 per cent).

**Table WS.6: Use and sharing of sanitation facilities**

Per cent 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, Kisii County, 2011															
	Users of improved sanitation facilities						Users of unimproved sanitation facilities						Open defecation (no facility, bush field)	Total	Number of household members
	Not shared [1]	Public facility	Shared by: 5 households or less	Shared by: More than 5 households	Missing/DK	Not shared	Public facility	Shared by: 5 households or less	Shared by: More than 5 households	Missing/DK	Open defecation (no facility, bush field)	Total			
<b>Residence</b>	Urban	27.2	6.1	7.4	11.9	0.0	18.7	5.7	14.0	8.9	0.0	100.0	701		
	Rural	11.0	0.5	2.7	0.6	0.2	64.8	1.7	16.3	1.5	0.1	100.0	6150		
<b>Education of household head</b>	None	21.8	2.1	5.1	1.9	0.0	49.9	1.0	15.0	2.1	0.0	100.0	1258		
	Primary	9.2	0.9	1.8	1.7	0.1	65.1	1.8	17.4	1.5	0.1	100.0	3462		
	Secondary +	13.1	0.6	4.4	1.7	0.4	57.9	3.4	14.6	3.2	0.2	100.0	2102		
	Missing/DK	0.0	0.0	0.0	0.0	0.0	(69.2)	0.0	0.0	(30.8)	0.0	100.0	29		
<b>Wealth index quintiles</b>	Poorest	0.4	0.0	0.0	0.0	0.0	69.3	2.8	25.5	0.7	0.1	100.0	1813		
	Second	4.3	0.0	0.3	0.0	0.0	77.9	1.2	13.6	2.8	0.0	100.0	1876		
	Middle	11.6	1.6	3.8	0.0	0.0	63.3	2.1	13.4	3.6	0.4	100.0	1181		
	Fourth	20.2	3.4	7.1	2.3	0.0	46.6	3.3	14.5	2.5	0.1	100.0	1031		
	Richest	46.0	2.0	10.2	10.0	1.2	18.3	1.7	7.9	2.6	0.0	100.0	950		
<b>Total</b>		<b>12.7</b>	<b>1.1</b>	<b>3.2</b>	<b>1.7</b>	<b>0.2</b>	<b>60.1</b>	<b>2.1</b>	<b>16.0</b>	<b>2.3</b>	<b>0.1</b>	<b>100.0</b>	<b>6851</b>		

[1] MICS indicator 4.3; MDG indicator 7.9

( ) based on 25-49 unweighted cases

## Disposal of Child's Faeces

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.

Overall in Kisii County, majority of the children age 0-2 years (89 per cent) have their stools disposed safely – 86 per cent in rural areas and 88 per cent in urban areas. The difference between the proportion of children whose stools are disposed safely in dwellings where there is improved and those that have unimproved sanitation facilities was fairly small (87 and 89 per cent respectively). Also, a higher proportion (91 per cent) of children seem to have their waste disposed of safely if the mother has secondary education or higher compared to households where the mother has up to primary education (86 per cent). There is no association between proportion of children whose stools are disposed of safely and the wealth quintiles. Nonetheless, majority (94 per cent) of the children whose waste is disposed of safely reside in the richest quintile.

Countywide, the most common methods of disposal are rinsing into a toilet/latrine (84 per cent) or by rinsing into a ditch or drain (7 per cent). About 1 per cent of children have their waste disposed by other ways such as throwing into garbage, buried or left in the open. Only 5 per cent of children use toilets or latrines.

For households which have improved sanitation facilities, majority of the children's stools are disposed by rinsing into toilet or latrines (87 per cent) or rinsing into a drain/ditch (8 per cent). As expected, for households where there are no sanitation facilities, the most commonly known method of disposal of child's waste is burying (37 per cent).

**Table WS.7: Disposal of child's faeces**

		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	Missing	Total			
<b>Type of sanitation facility in dwelling</b>	Improved	0.0	86.6	7.7	0.0	0.0	1.8	3.9	0.0	100.0	86.6	98	
	Unimproved	5.3	84.1	6.4	1.3	0.5	0.2	2.1	0.2	100.0	89.4	532	
	Open defecation	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	4	
<b>Residence</b>	Urban	1.4	89.4	6.0	0.0	0.0	3.2	0.0	0.0	100.0	90.8	53	
	Rural	4.7	83.6	6.7	1.2	0.6	0.2	2.8	0.1	100.0	88.3	580	
<b>Mother's education</b>	None	(4.4)	(85.8)	(4.4)	(0.0)	(0.0)	(0.0)	(3.4)	(2.0)	(100.0)	(90.2)	43	
	Primary	4.0	82.3	7.5	1.5	0.7	0.8	3.1	0.0	100.0	86.4	348	
	Secondary+	5.1	86.2	5.9	0.6	0.5	0.0	1.7	0.0	100.0	91.3	242	
<b>Wealth index quintiles</b>	Poorest	4.0	84.3	7.2	0.7	0.7	0.0	3.1	0.0	100.0	88.3	183	
	Second	4.6	83.1	7.5	2.3	0.0	0.6	1.5	0.5	100.0	87.7	173	
	Middle	3.5	78.5	9.4	1.5	2.5	0.0	4.7	0.0	100.0	82.0	97	
	Fourth	4.8	87.5	4.0	0.0	0.0	1.6	2.1	0.0	100.0	92.3	110	
	Richest	6.1	88.1	3.8	0.0	0.0	0.0	2.0	0.0	100.0	94.2	69	
<b>Total</b>		<b>4.5</b>	<b>84.0</b>	<b>6.7</b>	<b>1.1</b>	<b>0.6</b>	<b>0.4</b>	<b>2.6</b>	<b>0.1</b>	<b>100.0</b>	<b>88.5</b>	<b>633</b>	

[1] MICS indicator 4.4

(\*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

## Drinking Water and Sanitation Ladders

In its 2008 report<sup>7</sup>, 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 “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 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.

In Kisii County, 62 per cent of household population uses improved drinking water. Thirteen per cent has improved sanitation facilities and only 9 per cent has both improved drinking water sources and improved sanitation. Urban households are three times more likely to have both improved water and sanitation than rural households (22 per cent versus 7 per cent). The use of both improved drinking water sources and improved sanitation facilities is associated with household wealth – less than 1 per cent of households in the poorest quintile compared to 31 per cent of households in the richest quintile.

There is no clear pattern in the increasing proportion of those using improved drinking water and sanitation facilities, and education level of the household head. However, the data indicate that those from households where the head has no education are most likely to have both improved sanitation facilities and drinking water sources (15 per cent).

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7 WHO/UNICEF JMP (2008), MDG assessment report - [http://www.wssinfo.org/download?id\\_document=1279](http://www.wssinfo.org/download?id_document=1279)

**Table WS.8: Drinking water and sanitation ladders**

		Percentage of household population using:										
		Improved drinking water [1]		Unimproved drinking water		Improved sanitation [2]		Unimproved sanitation			Improved drinking water sources and improved sanitation	Number of households
		Piped into dwelling, plot or yard	Other improved	Unimproved drinking water	Total	Improved sanitation [2]	Total	Shared improved facilities	Unimproved facilities	Open defecation		
Area	Rural	0.2	61.7	38.1	100.0	11.0	4.0	84.5	0.4	100.0	7.0	6150
	Urban	8.5	49.2	42.2	100.0	27.2	25.5	47.3	0.0	100.0	21.7	701
	None	3.3	71.4	25.3	100.0	21.8	9.1	67.9	1.1	100.0	15.1	1258
	Primary	0.3	57.0	42.7	100.0	9.2	4.5	86.0	0.2	100.0	6.3	3462
	Secondary +	0.9	60.0	39.1	100.0	13.1	7.2	79.4	0.3	100.0	8.3	2102
	Missing/DK	(0.0)	(29.3)	(70.7)	(100.0)	(0.0)	(0.0)	(100.0)	(0.0)	(100.0)	(0.0)	(29)
	Poorest	0.0	64.0	36.0	100.0	0.4	0.0	98.4	1.2	100.0	0.3	1813
	Second	0.0	60.1	39.9	100.0	4.3	0.3	95.4	0.0	100.0	2.9	1876
	Middle	0.0	60.4	39.6	100.0	11.6	5.3	82.6	0.5	100.0	7.4	1181
	Fourth	0.0	60.5	39.5	100.0	20.2	12.8	67.0	0.0	100.0	13.3	1031
	Richest	7.6	54.4	37.9	100.0	46.0	23.5	30.6	0.0	100.0	31.2	950
<b>Total</b>		<b>1.1</b>	<b>60.4</b>	<b>38.5</b>	<b>100.0</b>	<b>12.7</b>	<b>6.2</b>	<b>80.7</b>	<b>0.4</b>	<b>100.0</b>	<b>8.5</b>	<b>6851</b>

[1] MICS indicator 4.1; MDG indicator 7.8

[2] MICS indicator 4.3; MDG indicator 7.9

( ) Based on 25-49 unweighted cases.

## Hand Washing Practices

Hand washing 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 if 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.

In Kisii County, less than 1 per cent of households have their designated hand washing places observed (Table WS.9). For the rest of the 99 per cent of households where it is not observed, the hand washing place is not in the dwelling/plot/yard. Places for washing hands were observed in in less than 1 per cent of households in rural areas and in 4 per cent of households in urban parts of Kisii County.

**Table WS.9: Water and soap at place for handwashing**

Percentage of households where place for hand washing was observed and per cent distribution of households by availability of water and soap at place for hand washing, Kisii County, 2011											
Area	Percentage of households where place for handwashing was observed		Percentage of households where place for handwashing was not observed		Total	Number of households	Per cent distribution of households where place for handwashing was observed, where:			Total	Number of households where place for handwashing was observed
	where place for handwashing was observed	Not in dwelling/plot/yard	No permission to see	Water and soap are available [1]			Water is available, soap is not available	Water is not available, soap is available			
Rural	0.4	99.6	0.1	100.0	1296	(*)	(*)	(*)	(*)	(*)	5
Urban	4.1	95.9	0.0	100.0	187	(*)	(*)	(*)	(*)	(*)	8
None	1.2	98.8	0.0	100.0	344	(*)	(*)	(*)	(*)	(*)	4
Primary	0.6	99.4	0.0	100.0	697	(*)	(*)	(*)	(*)	(*)	4
Secondary +	0.8	98.9	0.3	100.0	438	(*)	(*)	(*)	(*)	(*)	4
Missing/DK	(*)	(*)	(*)	(*)	4	(*)	(*)	(*)	(*)	(*)	0
Poorest	0.0	100.0	0.0	100.0	411	(*)	(*)	(*)	(*)	(*)	0
Second	0.0	100.0	0.0	100.0	374	(*)	(*)	(*)	(*)	(*)	0
Middle	0.5	99.5	0.0	100.0	250	(*)	(*)	(*)	(*)	(*)	1
Fourth	0.0	100.0	0.0	100.0	210	(*)	(*)	(*)	(*)	(*)	0
Richest	4.7	94.8	0.5	100.0	238	(*)	(*)	(*)	(*)	(*)	11
<b>Total</b>	<b>0.8</b>	<b>99.1</b>	<b>0.1</b>	<b>100.0</b>	<b>1483</b>	<b>(*)</b>	<b>(*)</b>	<b>(*)</b>	<b>(*)</b>	<b>(*)</b>	<b>12</b>

[1] MICS indicator 4.5

(\*) Not shown, based on less than 25 unweighted cases

## Availability of Soap

Overall, 4 out of 5 households (80 per cent) of the Kisii County households have soap anywhere in the dwelling, not necessarily at the designated hand washing place (Table WS.10). A slightly higher proportion (82 per cent) of households in the urban areas has soap compared to rural areas (80 per cent). The availability of soap anywhere in the household is positively associated with wealth status. For example, households that fall in the richest quintile are more likely to have soap (86 per cent) compared to households in the poorest wealth quintile (86 per cent versus 76 per cent respectively). The proportion of households that have soap available by education level of household head are comparable - 81 per cent of households headed by one who has attained secondary education or higher and 79 per cent of households where the head has not had education (79 per cent).

In the households where the place for hand washing is observed, soap is present at the designated hand washing place in only 1 per cent of the households. Of the remaining 99 per cent of households where the designated hand washing place was not observed, 80 per cent are still able to show soap to the survey interviewer. However, 1 out of 5 (20 per cent) households do not have soap in the household.

**Table WS.10: Availability of soap**

Percentage distribution of households by availability of soap in the dwelling, Nyanza Province, Kenya, 2011										
		Place for handwashing observed			Place for handwashing not observed				Percent- age of households with soap anywhere in the dwelling [1]	Number of house- holds
		Soap ob- served	Soap shown	Total	Soap shown	No soap in house- hold	Not able/ Does not want to show soap	Total		
Area	Rural	0.4	0.0	0.4	79.8	19.7	0.1	99.6	80.2	1296
	Urban	3.3	0.8	4.1	78.0	17.9	0.0	95.9	82.1	187
Education of household head	None	0.8	0.4	1.2	78.2	20.6	0.0	98.8	79.4	344
	Primary	0.6	0.0	0.6	79.5	19.7	0.2	99.4	80.1	697
	Secondary +	0.8	0.0	0.8	80.7	18.4	0.0	99.2	81.6	438
	Missing/ DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	4
Wealth index quintiles	Poorest	0.0	0.0	0.0	78.7	21.3	0.0	100.0	78.7	411
	Second	0.0	0.0	0.0	78.9	21.1	0.0	100.0	78.9	374
	Middle	0.5	0.0	0.5	78.9	20.3	0.4	99.5	79.3	250
	Fourth	0.0	0.0	0.0	81.6	18.4	0.0	100.0	81.6	210
	Richest	4.1	0.6	4.7	81.4	14.0	0.0	95.3	86.0	238
Total		<b>0.7</b>	<b>0.1</b>	<b>0.8</b>	<b>79.6</b>	<b>19.5</b>	<b>0.1</b>	<b>99.2</b>	<b>80.4</b>	<b>1483</b>
[1] MICS indicator 4.6										
*Not shown, based on less than 25 un-weighted cases. ( ) Based on 25-49 un-weighted cases.										

## VIII. Reproductive Health

### Fertility

In MICS4, Age Specific Fertility Rates (ASFR) and Total Fertility Rates (TFR) are calculated by using information on birth histories of women aged 15-49 years from the sampled households. Birth histories include details of all children ever born alive to a woman, such as child's name, sex, month and year of birth, survival status and if dead, the age at death. Current fertility rates are based on the date of last birth of each woman for the three years preceding the survey. Rates are underestimated by a very small margin due to absence of information on multiple births (twins, triplets etc.) and on women having multiple deliveries during the periods preceding the survey.

Table RH.1 shows age specific fertility rates and total fertility rate. ASFRs are calculated by dividing the number of births to women in a specific age group by the number of women years lived during a given period, and is expressed per 1000 women. The Total Fertility Rate (TFR) is calculated by summing the age-specific fertility rates calculated for each of the 5-year age groups of women, from age 15 through to age 49. The TFR 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

For the three year period preceding the MICS survey, the TFR in Kisii County is 4.4 children per woman. The adolescent birth rate (age-specific fertility rate for women age 15-19) in the two years preceding the survey is 172 births per 1000 women. ASFR is highest in the 20-24 age group with 235 births per 1000 women. Generally, fertility seems to decline in all age groups with the exception of age group 15-19 where fertility seems to increase over the last decade before the survey.

**Table RH.1: Current fertility**

Age specific fertility rates (ASFR) and total fertility rate (TFR) for three year periods preceding the survey, Kisii County, 2011					
	Age specific fertility rates (ASFR)				
	Number of years preceding the survey				
	0-2	3-5	6-8	9-11	12-14
Age					
15-19	1721	144	131	159	156
20-24	235	277	259	262	337
25-29	231	249	251	256	258
30-34	121	220	187	232	242
35-39	86	121	109	157	85
40-44	28	62	73	123	-
45-49	9	29	-	-	-
<b>Total Fertility Rate</b>	<b>4.4</b>	<b>5.5</b>	<b>5.0</b>	<b>5.9</b>	<b>5.4</b>

[1] MICS indicator 5.1; MDG indicator 5.4  
Note: Age-specific fertility rates are per 1,000 women.

Table RH.1a presents the distribution of children ever born and surviving for all women by age groups. The mean number of children ever born to all women aged 15-49 years is 2.9 and that of surviving is 2.6. Women in Kisii County attain a parity of 6.2 children per woman at the end of their childbearing period which is 1.8 children above the current total fertility rate (4.4 children per woman).

**Table RH.1a:Children ever born and children surviving**

<b>Mean and total numbers of children ever born and children surviving by age of women, Kisii County, 2011</b>					
	Children ever born		Children surviving		Number of women
	Mean	Total	Mean	Total	
Age					
15-19	0.3	63	0.3	60	208
20-24	1.5	357	1.4	336	245
25-29	2.8	533	2.6	502	193
30-34	3.9	548	3.7	515	141
35-39	5.1	622	4.5	552	123
40-44	5.6	462	4.9	398	82
45-49	6.2	531	5.1	439	86
<b>Total</b>	<b>2.9</b>	<b>3116</b>	<b>2.6</b>	<b>2802</b>	<b>1078</b>

### Early Childbearing

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 age 15-19 and 20-24 while Table RH.3 presents the trends for early childbearing. As shown in Table RH.2, about a quarter (25 per cent) of women age 15-19 have already had a birth, 5 per cent are pregnant with their first child, 30 per cent have begun childbearing and 3 per cent have had a live birth before age 15.

Almost a third (32 per cent) of the women aged 20-24 years have had a live birth before age 18. The proportion of women in this age group who have had a live birth before age 18 ranges from 14 per cent in the wealthiest households to 44 per cent in households in the poorest quintile.

**Table RH.2: Early childbearing**

Percentage of women age 15-19 years who have had a live birth or who are pregnant with the first child and Percentage of women age 15-19 years who have begun childbearing, Percentage of women who have had a live birth before age 15, and Percentage of women age 20-24 who have had a live birth before age 18, Kisii County, 2011							
	Percentage of women age 15-19 who:				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			
<b>Residence</b>							
Urban	(*)	(*)	(*)	(*)	21	(16.1)	49
Rural	25.3	3.8	29.2	3.7	242	35.0	279
<b>Education</b>							
None	(*)	(*)	(*)	(*)	5	(*)	22
Primary	24.7	7.6	32.3	2.5	130	48.2	143
Secondary+	26.2	2.1	28.3	4.5	129	20.8	163
<b>Wealth index quintile</b>							
Poorest	25.1	5.7	30.8	0.0	68	44.4	73
Second	23.2	8.6	31.8	1.8	71	42.6	89
Middle	27.9	0.0	27.9	10.5	55	26.1	53
Fourth	(35.7)	(0.0)	(35.7)	(3.3)	37	23.0	57
Richest	(11.5)	(7.8)	(19.3)	(2.1)	33	14.3	55
<b>Total</b>	<b>25.0</b>	<b>4.8</b>	<b>29.8</b>	<b>3.4</b>	<b>264</b>	<b>32.1</b>	<b>328</b>
[1] MICS indicator 5.2							
(*) Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases							

### Trends in Early Childbearing

Overall, 8 per cent of women aged 15-49 years have a live birth before age 15 while more than a third (35 per cent) of women aged 20-49 years have had a live birth before age 18 as shown in Table RH.3. The proportion of women aged 15-49 years who have had a live birth before age 15 tends to increase with increasing woman's age. , The proportion of women aged 15-49 years who had a live birth before age 15 years is 4 per cent in the urban areas and 9 per cent in the rural areas of Kisii County. Also, the proportion of women aged 20 -49 years who have had a live birth before age 18 is 21 per cent in the urban areas and 37 per cent in the rural areas of Kisii County.

**Table RH.3: Trends in early childbearing**

Percentage of women who have had a live birth, by age 15 and 18, by residence and age group, Kisii County, 2011				
	All			
	Percentage of women with a live birth before age 15	Number of women age 15-49 years	Percentage of women with a live birth before age 18	Number of women age 20-49 years
<b>Age</b>				
15-19	3.4	264	NA	0
20-24	4.7	328	32.1	328
25-29	8.6	252	36.1	252
30-34	10.9	181	36.4	181
35-39	11.2	161	29.5	161
40-44	13.6	105	43.9	105
45-49	14.4	113	42.1	113
<b>Total</b>	<b>8.1</b>	<b>1404</b>	<b>35.4</b>	<b>1141</b>
(*) Not shown, based on less than 25 unweighted cases.				
() Based on 25-49 unweighted cases.				

## 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 is reported by more than half (54 per cent) of women who are currently married or in union (Table RH.4). Modern methods of contraception are more commonly used (53 per cent) than traditional methods (2 per cent) with injectable contraceptives being the most popular method which was used by more than a third (38 per cent) of married women in Kisii County. The next most popular methods are the pill and female sterilization which are used by 6 and 4 per cent of married women respectively. Less than 2 per cent of married women reported use of intrauterine devices (IUDs), implants, the male condom, periodic abstinence and lactational amenorrhoea method (LAM).

Contraceptive prevalence among currently married women in the rural is 55 per cent) whereas it is 50 per cent in urban areas (50 per cent). There is no clear relationship between contraceptive prevalence and a woman's education status. Moreover, there is no clear trend in contraceptive prevalence based on household wealth. In spite of this, the data indicates that the lowest use of contraceptive was amongst those with no education (43 per cent) or those from the poorest households (49 per cent). The proportion of women who use any contraceptive is highest (64 per cent) among women aged 30-34 years.

While injectable contraceptives are the most commonly used contraceptives across all age groups, women aged 15-19 years are more likely to use the male condom than their older counterparts and women aged 35-39 years are more likely use the pill than their counterparts. Female sterilization is most commonly used by women aged 45-49 years. Implants are more likely to be used by women from the richest households.

Non use of contraceptives has important implications on fertility and hence child bearing and consequently population growth. Kisii County stood at 46 per cent. Half of the married urban women are not using any method compared to 45 per cent of the rural women. Similarly, more than half of the women with one living child are not using any method. This proportion declines with increasing number of living children. The poorest households and those with women with no education register the highest proportion of non-contraceptive use.

**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, Kisii County, 2011														Number of women currently married or in union			
Per cent of women (currently married or in union) who are using:																	
	Not using any method	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Diaphragm/Foam/Jelly	Lactational amenorrhoea method (LAM)	Periodic abstinence	Withdrawal	Other	Any modern method	Any traditional method	Any method [1]
<b>Residence</b>																	
Urban	50.3	1.4	0.0	4.2	29.1	3.4	3.6	3.0	0.0	0.0	0.8	0.8	0.0	3.4	44.7	5.0	49.7
Rural	45.2	4.1	0.0	1.6	39.1	1.2	6.0	1.3	0.2	0.0	0.6	0.6	0.0	0.2	53.4	1.4	54.8
<b>Age</b>																	
15-19	(65.0)	(0.0)	(0.0)	(0.0)	(28.5)	(0.0)	(0.0)	(6.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(35.0)	(0.0)	(35.0)
20-24	43.3	0.0	0.0	0.6	47.5	0.6	6.4	0.0	0.0	0.0	0.5	0.5	0.0	0.6	55.1	1.7	56.7
25-29	44.1	1.6	0.0	1.1	42.9	1.2	4.6	2.6	0.0	0.0	1.3	0.5	0.0	0.0	54.1	1.8	55.9
30-34	35.8	1.7	0.0	1.8	48.0	4.6	5.1	0.9	0.0	0.0	1.3	0.0	0.0	0.0	62.9	1.3	64.2
35-39	41.7	7.7	0.0	5.6	27.2	1.0	11.7	1.0	0.0	0.0	1.7	1.7	0.0	2.4	54.2	4.1	58.3
40-44	54.2	5.3	0.0	3.7	30.9	0.0	4.3	0.0	0.0	0.0	0.0	1.5	0.0	0.0	44.3	1.5	45.8
45-49	62.0	16.1	0.0	0.0	14.7	1.6	2.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0	38.0	0.0	38.0
<b>Number of living children</b>																	
0	(91.2)	(0.0)	(0.0)	(0.0)	(5.5)	(0.0)	(0.0)	(3.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(8.8)	(0.0)	(8.8)
1	53.8	0.0	0.0	1.0	35.2	0.0	6.7	2.4	0.0	0.0	0.0	0.0	0.0	1.0	45.2	1.0	46.2
2	39.5	0.0	0.0	0.0	51.3	0.7	5.4	1.8	0.8	0.0	0.0	0.6	0.0	0.0	59.9	0.6	60.5
3	44.5	1.5	0.0	0.7	38.8	4.2	6.1	1.4	0.0	0.0	1.1	1.8	0.0	0.0	52.7	2.9	55.5
4+	42.4	8.1	0.0	3.6	35.6	1.3	6.0	0.9	0.0	0.0	1.0	0.4	0.0	0.8	55.5	2.2	57.6
<b>Education</b>																	
None	57.0	6.2	0.0	1.1	19.7	5.1	8.2	0.0	0.0	0.0	0.0	2.8	0.0	0.0	40.2	2.8	43.0
Primary	44.3	3.6	0.0	2.1	41.3	1.5	4.9	1.0	0.0	0.0	0.7	0.7	0.0	0.0	54.3	1.4	55.7
Secondary	45.6	3.6	0.0	1.7	37.0	0.7	6.6	2.4	0.4	0.0	0.7	0.0	0.0	1.4	52.4	2.0	54.4
+																	
<b>Wealth index quintile</b>																	
Poorest	51.3	4.0	0.0	2.2	33.2	1.2	4.1	1.8	0.6	0.0	1.1	0.5	0.0	0.0	47.2	1.6	48.7
Second	39.4	5.7	0.0	1.2	47.3	0.0	5.5	0.5	0.0	0.0	0.4	0.0	0.0	0.0	60.1	0.4	60.6
Middle	49.4	1.8	0.0	2.4	38.7	1.0	3.2	2.5	0.0	0.0	0.0	1.0	0.0	0.0	49.6	1.0	50.6
Fourth	42.1	2.2	0.0	0.9	40.4	1.7	8.9	1.0	0.0	0.0	1.0	1.6	0.0	0.0	55.2	2.7	57.9
Richest	48.2	4.0	0.0	2.7	26.5	4.6	8.1	1.8	0.0	0.0	0.5	0.5	0.0	3.0	47.8	4.1	51.8
<b>Total</b>	<b>45.8</b>	<b>3.8</b>	<b>0.0</b>	<b>1.8</b>	<b>38.0</b>	<b>1.5</b>	<b>5.7</b>	<b>1.4</b>	<b>0.2</b>	<b>0.0</b>	<b>0.6</b>	<b>0.6</b>	<b>0.0</b>	<b>0.5</b>	<b>52.5</b>	<b>1.8</b>	<b>54.2</b>

[1] MICS indicator 5.3; MDG indicator 5.3

( ) Based on 25-49 unweighted cases

## 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 new-born 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 life-saving 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 bacteriuria and proteinuria
- Blood testing to detect syphilis and severe anaemia
- 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 the survey is presented in Table RH.5. Coverage of antenatal care (by a doctor, nurse, midwife, clinical officer or community nurse) is relatively high in Kisii County with 90 per cent of women receiving antenatal care at least once during the pregnancy, majority of whom receiving care from a nurse or midwife (54 per cent). About 8 per cent of women did not receive any antenatal care. There is no clear relationship between antenatal care coverage and household wealth, although the data suggests that those from the biggest proportion of women who did not receive any antenatal care reside in the poorest households.

**Table RH.5: Antenatal care coverage**

Per cent distribution of women age 15-49 who gave birth in the two years preceding the survey by type of personnel providing antenatal care, Kisii County, 2011										
	Person providing antenatal care						No antenatal care received	Total	Any skilled personnel [1]	Number of women who gave birth in the preceding two years
	Medical doctor	Community nurse	Clinical officer	Nurse/Midwife	Relative/Friend	Other				
<b>Residence</b>										
Urban	(18.7)	(9.4)	(17.8)	(41.6)	(0.0)	(3.8)	(8.7)	(100.0)	(87.5)	35
Rural	14.1	7.8	13.0	54.9	0.4	2.3	7.5	100.0	89.8	335
<b>Mother's age at birth</b>										
Less than 20	23.8	3.5	11.4	53.4	0.0	0.0	7.9	100.0	92.1	84
20-34	11.9	8.2	14.7	55.6	0.5	3.5	5.6	100.0	90.4	261
35-49	(10.0)	(20.9)	(7.3)	(33.9)	(0.0)	(0.0)	(27.9)	(100.0)	(72.1)	25
<b>Education</b>										
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Primary	13.8	9.1	12.1	53.6	0.0	2.5	8.9	100.0	88.5	211
Secondary +	15.5	5.4	17.2	54.4	0.9	1.8	4.8	100.0	92.5	141
<b>Wealth index quintiles</b>										
Poorest	12.9	8.1	7.7	55.8	0.0	1.3	14.3	100.0	84.4	110
Second	14.0	4.5	10.9	60.9	0.0	2.8	7.0	100.0	90.2	88
Middle	18.6	10.6	15.9	47.8	0.0	2.1	5.0	100.0	92.9	64
Fourth	13.6	8.6	20.0	50.5	2.1	2.0	3.2	100.0	92.7	62
Richest	(14.8)	(10.0)	(20.1)	(46.9)	(0.0)	(5.6)	(2.7)	(100.0)	(91.7)	46
<b>Total</b>	<b>14.5</b>	<b>8.0</b>	<b>13.5</b>	<b>53.6</b>	<b>0.4</b>	<b>2.5</b>	<b>7.6</b>	<b>100.0</b>	<b>89.6</b>	<b>370</b>
[1] MICS indicator 5.5a; MDG indicator 5.5										
(*) Not shown, based on less than 25 unweighted cases.										
() Based on 25-49 unweighted cases										

### Antenatal Care Visits

UNICEF and WHO recommend a minimum of at least four antenatal care visits during pregnancy. TaRH.6 shows number of antenatal care visits during the last pregnancy during the two years preceding the survey, regardless of provider by selected characteristics.

Majority of mothers received antenatal care more than once of which more than a third of the mothers (36 per cent) received antenatal care at least four times. There is a general upward trend in the proportion of mothers who received antenatal care at least four times with increasing wealth quintiles. For example, 24 per cent of women residing in the poorest households received antenatal care at least four times compared to 48 per cent of women residing in the richest households.

**Table RH.6: Number of antenatal care visits**

Per cent distribution of women who had a live birth during the two years preceding the survey by number of antenatal care visits by any provider, Kisii County, 2011								
	Per cent distribution of women who had:						Total	Number of women who had a live birth in the preceding two years
	No antenatal care visits	One visit	Two visits	Three visits	4 or more visits [1]	Missing/DK		
<b>Residence</b>								
Urban	(8.7)	(14.9)	(7.1)	(25.9)	(34.6)	(8.7)	(100.0)	35
Rural	7.5	6.7	15.6	30.9	35.7	3.6	100.0	335
<b>Mother's age at birth</b>								
Less than 20	7.9	14.9	12.4	26.9	34.4	3.5	100.0	84
20-34	5.6	5.8	16.2	32.6	35.3	4.7	100.0	261
35-49	(27.9)	(0.0)	(9.3)	(20.5)	(42.4)	(0.0)	(100.0)	25
<b>Education</b>								
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Primary	8.9	8.2	15.2	33.4	30.5	3.7	100.0	211
Secondary +	4.8	6.4	12.2	28.7	44.8	3.1	100.0	141
<b>Wealth index quintile</b>								
Poorest	14.3	12.4	18.5	27.8	24.4	2.6	100.0	110
Second	7.0	3.8	14.8	32.3	36.7	5.5	100.0	88
Middle	5.0	2.7	13.5	41.7	36.2	1.0	100.0	64
Fourth	3.2	11.5	14.9	20.3	48.2	2.0	100.0	62
Richest	(2.7)	(3.8)	(8.1)	(31.3)	(42.1)	(12.0)	(100.0)	46
<b>Total</b>	<b>7.6</b>	<b>7.4</b>	<b>14.8</b>	<b>30.5</b>	<b>35.6</b>	<b>4.1</b>	<b>100.0</b>	<b>370</b>
[1] MICS indicator 5.5b; MDG indicator 5.5								
(*) Not shown, based on less than 25 unweighted cases.								
() Based on 25-49 unweighted cases								

The types of services pregnant women received are shown in Table RH.7. Among those women who have given birth to a child during the two years preceding the survey, 67 per cent reported that a blood sample had been taken during antenatal care visits, 88 per cent reported that their blood pressure had been checked whilst urine samples were taken in 80 per cent of cases. Sixty-one per cent of women received all three services (had their blood pressure measured, urine sample taken, and blood sample taken) during antenatal care visits. The women who had their blood pressure measures, urine and blood sample taken ranged from 54 per cent for women from households in the lowest wealth quintile to 81 per cent for women in households in the highest wealth quintile.

**Table RH.7: 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, Kisii County, 2011					
	Percentage of pregnant women who had:				Number of women who had a live birth in the preceding two years
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken [1]	
<b>Residence</b>					
Urban	(87.5)	(87.5)	(68.9)	(68.9)	35
Rural	87.5	79.0	67.3	60.2	335
<b>Mother's age at birth</b>					
Less than 20	88.9	74.6	70.8	59.9	84
20-34	88.5	82.7	68.0	62.9	261
35-49	(72.1)	(67.1)	(50.3)	(45.3)	25
<b>Education</b>					
None	(*)	(*)	(*)	(*)	18
Primary	85.4	78.4	61.8	54.3	211
Secondary+	91.8	82.8	75.2	69.6	141
<b>Wealth index quintile</b>					
Poorest	79.7	72.3	58.9	53.5	110
Second	88.8	78.0	63.5	56.7	88
Middle	95.0	84.2	65.9	57.9	64
Fourth	88.5	84.9	77.1	69.0	62
Richest	(91.7)	(88.3)	(84.5)	(81.1)	46
<b>Total</b>	<b>87.5</b>	<b>79.8</b>	<b>67.4</b>	<b>61.0</b>	<b>370</b>
1 MICS indicator 5.6					
(*) Not shown, based on less than 25 unweighted cases.					
() Based on 25-49 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 MICS included a number of questions to assess the proportion of births attended by a skilled attendant. A skilled attendant includes a doctor, nurse, midwife, clinical officer or community nurse.

More than half (54 per cent) of births occurring in the two years preceding the MICS survey were delivered by skilled personnel (Table RH.8). The highest proportion of births (36 per cent) was delivered with the assistance of a nurse or midwife in the two years preceding the MICS survey. Doctors, community nurses and clinical officers assisted with the delivery of 16, 3 and 7 per cent of births respectively. Traditional birth attendants play a minor role in Kisii County and assisted with the delivery of 7 per cent of births.

**Table RH8: Assistance during delivery**

Per cent 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, Kisii County, 2011

	Person assisting at delivery										Delivery assisted by any skilled attendant [1]	Per cent delivered by C-section [2]	Number of women who had a live birth in preceding two years	
	Medical doctor	Community nurse	Nurse/Midwife	Community health worker	Relative / Friend	Clinical Officer	Traditional birth attendant	Other/Missing	No attendant	Total				
<b>Residence</b>														
Urban	-26.4	0	-36.1	0	-9.4	-9.9	-9.4	-3.8	-5	-100	-62.5	-15.5	35	
Rural	14.3	3.7	35.5	0.9	21.5	6.4	6.3	5.6	5.8	100	53.5	6.7	335	
<b>Mother's age at birth</b>														
Less than 20	21.8	3.2	39.6	0	14.1	11.1	1.6	7.1	1.4	100	64.7	10.3	84	
20-34	14.5	3.2	34.6	1.1	20.7	5.6	8.8	5.5	5.9	100	52.3	7.3	261	
35-49	-4.3	-5	-32	0	-36.6	-4.2	0	0	-17.8	-100	-41.3	0	25	
<b>Place of delivery</b>														
Public sector health facility	25.8	7.6	57.5	0	0	9.1	0	0	0	100	90.9	13.4	161	
Private sector health facility	29.8	0	50	0	0	17.9	0	2.2	0	100	79.8	11.6	53	
Home	0	0	9.4	2.1	49.7	0.7	16.3	8.4	13.3	100	9.4	0	134	
Other	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11	
<b>Education</b>														
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18	
Primary	10.7	1.5	33.5	0.7	27.8	7.8	6.6	5.5	5.9	100	45.7	6.8	211	
Secondary +	20.6	5.3	41.2	1	10.9	4.9	6.5	5.3	4.3	100	67.1	8.1	141	
<b>Wealth index quintiles</b>														
Poorest	8.6	1.9	27.5	1.3	26.6	7.3	6.9	6	13.9	100	38	6	110	
Second	17.5	5.9	36.8	1.6	19.8	2.7	9.4	4.1	2.2	100	60.3	7	88	
Middle	14.6	2	34.7	0	21.3	8.5	6.6	9.7	2.7	100	51.2	2.7	64	
Fourth	13.9	6	54.4	0	12.5	6.1	1.6	2	3.5	100	74.3	7.2	62	
Richest	-31.4	0	-28.4	0	-15.6	-11.7	-7.2	-5.6	0	-100	-59.9	-19.3	46	
<b>Total</b>	<b>15.5</b>	<b>3.3</b>	<b>35.6</b>	<b>0.8</b>	<b>20.3</b>	<b>6.8</b>	<b>6.6</b>	<b>5.5</b>	<b>5.7</b>	<b>100</b>	<b>54.4</b>	<b>7.5</b>	<b>370</b>	

[1] MICS indicator 5.7; MDG indicator 5.2

[2] MICS indicator 5.9

(\*) Not shown, based on less than 25 unweighted cases.

(-) Based on 25-49 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.9 presents the percentage distribution of women aged 15-49 years 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.

More than half (58 per cent) of the births were delivered in a health facility. About 44 per cent of deliveries occurred in public sector facilities whilst 14 per cent occurred in private sector facilities. More than a third (36 per cent) of births occurred at home.

**Table RH.9: Place of delivery**

Per cent distribution of women age 15-49 who had a live birth in two years preceding the survey by place of delivery, Kisii County, 2011								
	Place of delivery					Total	Delivered in health facility [1]	Number of women who had a live birth in preceding two years
	Public sector health facility	Private sector health facility	Home	Other	Missing/DK			
<b>Residence</b>								
Urban	(49.7)	(22.7)	(23.8)	(0.0)	(3.8)	(100.0)	(72.4)	35
Rural	42.9	13.4	37.5	3.4	2.9	100.0	56.3	335
<b>Mother's age at birth</b>								
Less than 20	57.5	15.0	22.7	4.8	0.0	100.0	72.5	84
20-34	40.5	13.8	39.5	2.5	3.7	100.0	54.2	261
35-49	(28.7)	(16.9)	(46.4)	(2.9)	(5.2)	(100.0)	(45.6)	25
<b>Number of antenatal care visits</b>								
None	(21.4)	(5.2)	(61.7)	(0.0)	(11.7)	(100.0)	(26.6)	28
1-3 visits	38.2	17.6	41.9	2.3	0.0	100.0	55.8	195
4+ visits	56.9	12.9	25.9	4.2	0.0	100.0	69.9	132
<b>Education</b>								
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	18
Primary	36.1	12.0	45.3	3.2	3.4	100.0	48.0	211
Secondary	54.4	17.0	23.6	3.2	1.8	100.0	71.4	141
<b>Wealth index quintiles</b>								
Poorest	31.2	12.0	53.0	0.0	3.8	100.0	43.2	110
Second	49.2	7.0	33.5	7.4	2.8	100.0	56.2	88
Middle	42.8	12.3	43.2	1.7	0.0	100.0	55.1	64
Fourth	52.6	25.9	14.8	3.7	3.0	100.0	78.5	62
Richest	(51.0)	(20.6)	(19.9)	(3.0)	(5.6)	(100.0)	(71.6)	46
<b>Total</b>	<b>39.3</b>							
[1] MICS indicator 5.8								
(*) Not shown, based on less than 25 unweighted cases.								
() Based on 25-49 unweighted cases.								

## 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 to school. 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 a major determinant of the child's development during this period. In this context, adult activities with children, presence of books at home, for the child, and the conditions of care are important indicators of quality of child care. A *World Fit for Children* goal is that "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 and development was collected in the Kisii County Multiple indicator 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.

Table CD.1 shows the percentage of children age 36-59 months currently attending early childhood education disaggregated by selected background characteristics.

**Table CD.1: Early childhood education**

Percentage of children age 36-59 months who are attending an organized early childhood education programme, Kisii County, 2011		
	Percentage of children age 36-59 months currently attending early childhood education [1]	Number of children age 36-59 months
<b>Sex</b>		
Male	47.6	266
Female	41.2	233
<b>Residence</b>		
Rural	(67.7)	36
Urban	42.8	464
<b>Age of child</b>		
36-47 months	21.0	241
48-59 months	66.7	258
<b>Mother's education</b>		
None	(44.5)	39
Primary	38.8	298
Secondary	56.3	160
Missing/DK	(*)	3
<b>Wealth index quintile</b>		
Poorest	32.0	150
Second	42.8	139
Middle	40.3	76
Fourth	67.2	73
Richest	57.9	62
<b>Total</b>	<b>44.6</b>	<b>499</b>
[1] MICS indicator 6.7		
() Based on 25-49 unweighted cases.		
(*) Not shown, based on less than 25 unweighted cases.		

About 45 per cent of children aged 36-59 months are attending pre-school (Table CD.1). Only 39 per cent of children born to mothers with primary level education attend pre-school compared to 56 per cent of children born to mothers with at least secondary or higher education. Pre-school attendance by area of residence ranges from 68 per cent in urban areas to 43 per cent in rural areas. Pre-school attendance among boys is at 48 per cent compared to 41 per cent among girls. About 58 per cent of children from the richest households attend pre-school, while the figure drops to 32 per cent for those from the poorest households. The results also show that the proportions of children attending pre-school at ages 36-47 months is lower than for those aged 48-59 months at 21 and 67 per cent, respectively.

Findings on adult participation in childhood development are presented in Table CD.2. In Kisii County, for almost 46 per cent of under-five children, there was an adult household member who engaged in more than four activities that promote learning and school readiness with them during the 3 days preceding the survey (Table CD.2). The table also indicates that the father's involvement in such activities was somewhat limited. Father's involvement with children in one or more activities is 26 per cent. Only 42 per cent of children live in a household without their fathers. The corresponding figures for female children is 46 per cent, while among children aged 36-47 months, 43 per cent live in households without their fathers.

Involvement of parents in childhood development activities varies with age and sex of the child, parent's educational level and household wealth index. Adult household members were more engaged in four or more activities with male children compared to female children (47 per cent versus 44 per cent). The percentage of children with whom adult household members engaged in four or more activities ranges between 45 per cent in the rural areas and 62 per cent in the urban areas. The proportion of children with whom adult household members engaged in four or more activities varies across wealth quintiles. For example, among the poorest households only 42 per cent of adults were engaged in four or more activities, compared to 63 per cent among those from the richest households.

Father's engagement in one or more activities with the child varies across sex of the child, mothers' education level and household wealth index. For instance, father involvement for male children is 30 per cent compared to 21 per cent for girls, while the corresponding figure is 31 per cent for children from the richest households compared to 21 per cent for those from the poorest households. Also fathers' engagement in these activities for older children 48-59 months is higher than for the younger ones (51 per cent versus 40 per cent respectively). Similarly, a slightly higher proportion of children have their fathers engaged in these activities if they live in a household where the household head has secondary or higher education, compared to households where the household head has up to primary level education.

**Table CD.2: Support for learning**

Percentage of children age 36-59 months with whom an adult household member engaged in activities that promote learning and school readiness during the last three days, Kisii County, 2011						
	Percentage of children age 36-59 months		Mean number of activities		Percentage of children not living with their natural father	Number of children age 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		
<b>Sex</b>						
Male	47.1	30.3	2.7	0.8	38.7	266
Female	44.2	20.5	2.5	0.5	45.7	233
<b>Residence</b>						
Rural	(62.4)	(51.9)	(3.3)	(1.3)	(27.3)	36
Urban	44.5	23.7	2.5	0.6	43.1	464
<b>Age</b>						
36-47 months	40.1	22.1	2.4	0.6	43.1	241
48-59 months	51.0	29.1	2.7	0.8	40.9	258
<b>Mother's education</b>						
None	(55.4)	(21.0)	(2.9)	(0.8)	(61.4)	39
Primary	42.3	26.3	2.5	0.7	37.2	298
Secondary+	50.6	26.4	2.7	0.7	45.1	160
Missing/DK	(*)	(*)	(*)	(*)	(*)	3
<b>Father's education</b>						
None	(50.3)	(62.7)	(3.1)	(1.8)	(0.0)	27
Primary	46.2	40.0	2.7	1.1	0.0	159
Secondary	48.3	45.5	2.7	1.1	0.0	103
Father not in household	43.5	0.4	2.4	0.0	100.0	209
<b>Wealth index quintiles</b>						
Poorest	41.8	21.2	2.4	0.6	49.7	150
Second	44.9	26.0	2.5	0.7	40.8	139
Middle	43.3	22.2	2.6	0.6	36.8	76
Fourth	43.5	33.8	2.6	0.8	36.9	73
Richest	62.8	31.1	3.3	0.8	37.9	62
<b>Total</b>	<b>45.8</b>	<b>25.8</b>	<b>2.6</b>	<b>0.7</b>	<b>41.9</b>	<b>499</b>
[1] MICS indicator 6.1						
[2] MICS Indicator 6.2						
() Based on 25-49 unweighted cases.						

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. Presence of books in a household is important for later school performance and IQ scores. The mother/caretaker of all children under 5 were asked about the 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.

In Kisii County, only 5 per cent of children aged 0-59 months are living in households where at least 3 children's books are present (Table CD.3). The proportion of households with 10 or more books is less than 1 per cent in the whole county. There is no difference in the proportion of households reporting 3 or more books for children by child's gender. However, there is a marked variation between households in urban areas versus rural households. For example, 14 per cent of urban households report having more

than 3 children's books compared to 4 per cent among rural households. The proportion of households with more than 3 children's books is higher among households with older children (8 per cent for children aged 24-59 months compared to less than 1 per cent for children aged 0-23 months). The proportion of households with 3 or more children's books is 15 per cent among richest households compared to 1 per cent for those from the poorest households.

**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, Kisii County, 2011							
	Household has for the child:		Child plays with:			Two or more types of playthings [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/ manufactured toys	Household objects/ objects found outside		
<b>Sex</b>							
Male	4.9	0.2	55.2	27.9	76.1	55.4	572
Female	5.2	0.2	48.6	28.1	71.6	48.6	562
<b>Residence</b>							
Urban	14.4	1.5	58.0	58.1	81.7	74.8	89
Rural	4.2	0.1	51.4	25.4	73.2	50.1	1046
<b>Age</b>							
0-23 months	0.0	0.0	28.4	22.3	56.7	34.9	385
24-59 months	7.6	0.3	64.0	30.9	82.7	60.9	749
<b>Mother's education</b>							
None	13.4	1.5	74.2	37.9	84.1	74.4	82
Primary	2.5	0.0	49.7	21.0	73.0	47.6	647
Secondary	7.4	0.3	51.3	37.4	73.0	54.9	402
Missing/DK	(*)	(*)	(*)	(*)	(*)	(*)	3
<b>Wealth index quintiles</b>							
Poorest	1.4	0.0	48.5	15.2	73.5	44.5	333
Second	2.8	0.0	54.0	26.5	74.2	51.3	312
Middle	7.1	0.0	51.2	28.4	73.3	53.2	175
Fourth	6.4	0.0	53.1	32.5	71.7	54.1	185
Richest	15.0	1.9	54.9	57.2	77.9	68.5	130
<b>Total</b>	<b>5.0</b>	<b>0.2</b>	<b>51.9</b>	<b>28.0</b>	<b>73.9</b>	<b>52.0</b>	<b>1135</b>
[1] MICS indicator 6.3							
[2] MICS indicator 6.4							

Table CD.3 also shows that 52 per cent of children aged 0-59 months have 2 or more playthings to play with in their homes. The playthings in MICS 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). About 28 per cent of children play with toys that come from a store while 52 per cent play with homemade toys. Majority of children (74 per cent) play with household objects or other objects found outside the home. The proportion of children who have 2 or more playthings to play with is 55 per cent among male children and 49 per cent among female children and ranges between 75 per cent for urban areas residing in urban and 50 per cent for those residing in rural areas. Fifty five per cent of children whose mothers have at least secondary education level have 2 or more playthings, whereas the 74 per cent for children whose mothers have no education have 2 or more play things. The range of proportion of children with two or more play things is 45 per cent in children residing in households with the lowest wealth quintile to 69 per cent for children residing in households with the highest wealth quintile.

Leaving children alone or in the presence of other young children is known to increase the risk of accidents, and equally affects the child's growth and development. In Kisii county MICS, two questions were asked to find out whether children aged 0-59 months were left alone during the week preceding the interview date, and whether children were left in the care of other children under 10 years of age.

Table CD.4 shows that 17 per cent of children aged 0-59 months were left in the care of another child younger than 10 years of age, while 40 per cent were left alone during the week preceding the interview. Combining the two care indicators, findings show that 46 per cent 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. Forty seven per cent of male children and 45 per cent of female children were left alone with another child. The proportion of children left alone by wealth status ranges from 47 per cent in households in the lowest wealth quintile to 40 per cent in households in the highest wealth quintile.

There are major differences between proportion of children left with inadequate care and level of mother's education. Children aged 24-59 months were left with inadequate care more (52 per cent) than those who were aged 0-23 months (34 per cent). No major differences are observed in regard to region— the prevalence with urban and rural areas is around 46 per cent.

**Table CD.4: Inadequate care**

<b>Percentage of children under age 5 left alone or left in the care of another child younger than 10 years of age for more than one hour at least once during the past week, Kisii County, 2011</b>				
	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]	
<b>Sex</b>				
Male	40.2	18.3	46.6	572
Female	40.4	15.4	44.6	562
<b>Residence</b>				
Urban	37.6	20.1	46.1	89
Rural	40.5	16.6	45.5	1046
<b>Age</b>				
0-23 months	28.9	9.2	33.5	385
24-59 months	46.2	20.8	51.8	749
<b>Mother's education</b>				
None	33.6	11.4	36.9	82
Primary	46.9	18.0	51.5	647
Secondary	31.3	16.4	38.1	402
Higher	(*)	(*)	(*)	3
<b>Wealth index quintiles</b>				
Poorest	42.4	17.5	46.9	333
Second	40.7	15.5	44.6	312
Middle	39.3	19.2	44.6	175
Fourth	43.6	13.0	49.6	185
Richest	30.6	21.0	40.0	130
<b>Total</b>	<b>40.3</b>	<b>16.9</b>	<b>45.6</b>	<b>1135</b>
[1] MICS indicator 6.5				
(*) Less than 25 unweighted cases				

## 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 programme 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 Kisii County.

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 1 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.

The results are presented in Table CD.5. In Kisii County, 37 per cent of children aged 36-59 months are developmentally on track. ECDI is higher in older age groups – 46 per cent among 48-59 months old compared to 28 per cent among 36-47 months old, since children accumulate more skills with increasing age. Higher ECDI is seen in children attending pre-school compared to those not attending preschool (53 per cent compared to 25 per cent respectively). Children living in poorest households have an ECDI (30 per cent) contrasted to children living in richest households (46 per cent). The analysis of four domains of child development shows that 98 per cent of children are on track in the physical domain, but much less on social-emotional (34 per cent), literacy-numeracy (33 per cent) and in learning (55 per cent) domains. In literacy-numeracy domain, with a higher proportion was observed among male children (37 per cent) compared to females (29 per cent). The proportion of children on track within the literacy-numeracy domain is for older children (47 per cent) versus younger ones; for children attending preschool (60 per cent versus 12 per cent for those not attending pre-school); high for children born to mothers with at least secondary education (41 per cent) and for those living in households from the richest quintile (55 per cent versus 24 per cent for those from households from the poorest wealth quintile). Scores in learning domains for female children (59 per cent), the older children of 48-59 years (58 per cent), children attending preschool (59 per cent), or children born to mothers with secondary education or higher (58 per cent)

Thirty six per cent of male children and 32 per cent of female children are developmentally on track. There are no major differences between proportions of children who are developmentally on track on physical domains, for most of the background characteristics.

**Table CD.5: Early child development index**

<b>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, Kisii County, 2011</b>						
	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		
<b>Sex</b>						
Male	37.4	96.8	36.1	51.3	38.1	266
Female	28.5	98.9	32.3	59.3	36.5	233
<b>Residence</b>						
Urban	(65.6)	(95.2)	(34.2)	(59.7)	(60.6)	36
Rural	30.8	98.0	34.4	54.7	35.6	464
<b>Age</b>						
36-47 months	19.0	97.6	36.5	51.9	28.4	241
48-59 months	46.6	98.0	32.3	57.9	45.7	258
<b>Preschool attendance</b>						
Attending preschool	59.9	98.7	37.0	58.8	53.1	223
Not attending preschool	11.8	97.0	32.2	52.0	24.7	277
<b>Mother's education</b>						
None	(34.5)	(100.0)	(40.7)	(56.7)	(50.0)	39
Primary	28.6	96.9	31.4	52.9	32.5	298
Secondary	40.5	98.9	37.3	57.8	42.3	160
Higher	(*)	(*)	(*)	(*)	(*)	3
<b>Wealth index quintiles</b>						
Poorest	24.4	98.1	33.9	54.1	30.4	150
Second	25.6	97.3	40.6	62.7	37.3	139
Middle	36.1	98.1	35.6	51.7	42.0	76
Fourth	44.9	98.3	26.2	47.0	39.7	73
Richest	54.8	97.2	29.6	53.5	45.7	62
<b>Total</b>	<b>33.3</b>	<b>97.8</b>	<b>34.3</b>	<b>55.0</b>	<b>37.3</b>	<b>499</b>
[1] MICS indicator 6.6						
() Based on 25-49 unweighted cases.						
(*) Less than 25 unweighted cases						

## X. Literacy and Education

### Literacy among Young Women

One of the World Fit for Children goals is to assure adult literacy. Adult literacy is also an MDG indicator, relating to both men and women. In MICS, since only a women's questionnaire was administered, the results are based only on females age 15-24. Literacy was assessed on the ability of women to read a short simple statement or on school attendance.

Table ED.1 presents the percentage of literate women age 15 -24. The results show that 87 per cent of women age 15 -24 in Kisii County are literate and that literacy status varies greatly by place of residence, age, education level and household wealth level. About 75 per cent of women who have attained primary school level of education I are actually able to read the statement shown to them. Literacy level urban and rural areas are 88 per cent 86 per cent respectively. Literacy levels for women aged 15-19 is 89 per cent whereas for women aged 20-24 per cent is 85 per cent.

**Table ED.1: Literacy among young women**

Percentage of women age 15-24 years who are literate, Kisii County, 2011			
	Percentage literate [1]	Percentage not known	Number of men age 15-24 years
<b>Residence</b>			
Urban	86.4	0.0	71
Rural	87.5	0.8	521
<b>Education</b>			
None	95.6	0.0	27
Primary	74.5	1.0	272
Secondary	98.7	0.5	292
<b>Age</b>			
15-19	89.8	0.6	264
20-24	85.4	0.8	328
<b>Wealth index quintile</b>			
Poorest	86.7	0.0	141
Second	92.5	0.7	159
Middle	82.6	1.4	108
Fourth	80.5	1.6	95
Richest	92.4	0.0	88
<b>Total</b>	<b>87.4</b>	<b>0.7</b>	<b>592</b>
[1] MICS indicator 7.1; MDG indicator 2.3 ( ) Based on 25-49 unweighted cases.			

### School Readiness

Pre-school education attendance in an organised learning or child education programme is important for the readiness of children to start formal schooling. Table ED.2 shows the proportion of children in the first grade of primary school who attended pre-school the previous year. Overall, 77 per cent of children who are currently attending the first grade of primary school attended pre-school the previous year in Kisii County. The proportion among males is 72 per cent whereas among females it is 84 per cent.

**Table ED.2: School readiness**

Percentage of children attending first grade of primary school who attended pre-school the previous year, Kisii County, 2011			
		Percentage of children attending first grade who attended preschool in previous year [1]	Number of children attending first grade of primary school
<b>Sex</b>	Male	71.7	119
	Female	84.1	93
<b>Area</b>	Urban	(*)	6
	Rural	77.1	206
<b>Mother's education</b>	None	(80.5)	31
	Primary	77.4	135
	Secondary +	74.1	46
<b>Wealth index quintiles</b>	Poorest	72.0	70
	Second	78.1	66
	Middle	(87.0)	34
	Fourth	(74.8)	25
	Richest	(*)	17
<b>Total</b>		<b>77.1</b>	<b>212</b>
1 MICS indicator 7.2			
(*) Not shown, based on less than 25 unweighted cases.			
() Based on 25-49 unweighted cases.			

### 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

Table ED.3 shows primary school entry of children who are of primary school age 6 in Kisii County. The data shows that 19 per cent of all children are attending the first grade of primary school, 19 per cent in males and 18 per cent in females. The results further indicate that 20 per cent of children of primary school entry age have entered grade 1 in rural areas. There is no major difference associated with mother's education and grade 1 entry in primary school. For instance, 18 per cent and 17 per cent of children age 6 whose mothers have at least secondary school education or higher and for mothers with primary education, respectively.

**Table ED.3: Primary school entry**

Percentage of children of primary school entry age entering grade 1 (net intake rate), Kisii County, 2011			
		Percentage of children of primary school entry age entering grade 1 [1]	Number of children of primary school entry age
<b>Sex</b>	Male	19.3	120
	Female	18.0	113
<b>Area</b>	Urban	(10.6)	28
	Rural	19.8	205
<b>Mother's education</b>	None	(28.5)	25
	Primary	17.2	137
	Secondary +	18.2	72
<b>Wealth index quintiles</b>	Poorest	20.9	57
	Second	16.0	62
	Middle	(17.8)	41
	Fourth	(22.0)	45
	Richest	(15.9)	27
<b>Total</b>		<b>21.0</b>	<b>1012</b>

[1] MICS indicator 7.3

( ) Based on 25-49 unweighted cases.

Primary school entry age is defined at the country level (usually based on UNESCO's ISCED classification).

Table ED.4 provides the percentage of children of primary school age 6 to 11 years who are attending primary or secondary school<sup>8</sup>; 74 per cent of children in this age group are in school. However, 26 per cent of the children are out of school when they are expected to be participating in school. In urban areas, 75 per cent of children attend school while in rural areas attendance is at 61 per cent.

Net attendance ratios for male and female children are 75 per cent and 76 per cent respectively in rural areas and 64 per cent and 59 per cent respectively in urban areas (64 per cent and 59 per cent respectively). The net attendance ratio ranges from 21 per cent in children who are six years old at the beginning of the school year to 97 per cent in children who are eleven years at beginning of school year.

8 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 (adjusted net attendance ratio), Kisii County, 2011							
		Male		Female		Total	
		Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted)	Number of children	Net attendance ratio (adjusted) [1]	Number of children
<b>Area</b>	Urban	63.8	46	59.3	69	61.1	115
	Rural	75.1	592	75.8	520	75.4	1112
<b>Age at beginning of school year</b>	6	21.4	120	20.1	113	20.8	233
	7	60.3	111	63.6	107	61.9	218
	8	86.6	97	85.4	89	86.0	186
	9	90.0	99	93.3	93	91.6	192
	10	98.9	108	98.4	88	98.7	196
	11	98.7	102	96.1	98	97.4	200
<b>Mother's education</b>	None	76.1	71	85.4	76	80.9	147
	Primary	72.7	383	70.9	355	71.8	739
	Secondary +	76.8	183	75.0	157	76.0	340
<b>Wealth index quintiles</b>	Poorest	72.9	183	70.4	170	71.7	353
	Second	76.6	189	74.5	164	75.6	353
	Middle	74.0	112	75.5	84	74.6	196
	Fourth	66.5	78	78.4	88	72.8	166
	Richest	80.3	76	73.0	83	76.5	159
<b>Total</b>		<b>74.3</b>	<b>638</b>	<b>73.9</b>	<b>589</b>	<b>74.1</b>	<b>1226</b>

[1] MICS indicator 7.4; MDG indicator 2.1

The secondary school net attendance ratio is presented in Table ED.5<sup>9</sup>. About 70 per cent of the children of secondary school age are attending primary school when they should be attending secondary school while the remaining 7 per cent are not attending school at all. The results further show that Secondary school attendance is dependent on area of residence, education of the mother, age of the child and household social economic status. About 36 per cent of children of secondary school age are attending secondary school or higher in urban areas contrasted to only 22 per cent in rural areas. For children whose mothers have no education at all, the proportion of children who attend secondary school is 22 per cent and is 26 per cent for children whose mothers have secondary school education or higher. About 32 per cent of children who reside in households in the highest wealth quintile attend secondary school, while the proportion is 17 per cent in households in the lowest wealth quintile

For both sexes, the proportion of children that attends secondary school generally increases with increasing age at school, with majority for both groups starting secondary school at 17 years of age. The proportion of male children attending secondary school y ranges from 20 per cent where the mother has no education to 26 per cent where the mother has attained secondary education or higher.

<sup>9</sup> 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, Kisii County, 2011											
	Male			Female			Total				
	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children	Net attendance ratio (adjusted) [1]	Per cent attending primary school	Number of children		
<b>Area</b>											
	Urban	33.4	58.2	59	(38.2)	(61.8)	48	35.6	59.8	107	
	Rural	21.1	72.7	434	22.2	70.3	456	21.7	71.5	890	
<b>Age at beginning of school year</b>	12	2.2	95.0	106	0.0	100.0	95	1.2	97.3	201	
	13	4.0	95.1	87	1.0	99.0	83	2.6	97.0	170	
	14	14.4	81.2	75	14.1	83.8	106	14.2	82.8	180	
	15	19.6	74.8	77	26.4	63.4	66	22.8	69.5	143	
	16	50.7	40.2	70	51.9	41.4	76	51.3	40.8	147	
	17	57.0	25.2	77	60.1	13.5	77	58.5	19.4	155	
	None	19.8	71.8	63	23.5	72.4	63	21.7	72.1	126	
<b>Mother's education</b>	Primary	18.6	76.4	259	18.9	78.1	264	18.7	77.3	523	
	Secondary +	23.0	77.0	111	29.3	69.7	112	26.2	73.4	223	
	Mother not in household	41.8	36.1	61	33.9	30.2	64	37.8	33.1	124	
	Poorest	14.4	81.8	118	20.0	75.7	132	17.3	78.6	250	
<b>Wealth index quintiles</b>	Second	20.1	69.1	128	15.2	75.4	150	17.4	72.5	277	
	Middle	26.5	68.9	109	26.6	65.3	80	26.6	67.4	190	
	Fourth	32.7	60.9	68	30.2	63.1	66	31.5	62.0	134	
	Richest	25.2	69.5	69	38.2	56.9	76	32.0	62.9	145	
	<b>Total</b>			<b>493</b>		<b>23.7</b>	<b>69.5</b>	<b>503</b>		<b>70.2</b>	<b>996</b>

[1] MICS indicator 7.5

( ) Based on 25-49 unweighted cases.

The percentage of children entering first grade who eventually reach the last grade of primary school is presented in Table ED.6. Of all children starting grade one, the majority of them (85 per cent) will eventually reach grade 8. It is noted that this number includes children that repeat grades and eventually move up to reach last grade. Progression between different grades shows high progression levels (over 95 per cent) in most grades. As a result of the high progression rates, there are minimal changes between proportion progressing to the next grade and the demographic characteristics such as area of residence, level of mother's education and wealth quintiles. The exception is observed among those who reach grade 8 out of those who enter grade 1. Eighty six per cent of female and 84 per cent of male children who entered grade 1 reach grade 8, respectively. In the urban areas 88 per cent of children reach grade 8 whereas 85 per cent of children in rural areas reach grade 8 of those who enrolled in grade 1. About 100 per cent of children born in the households in the richest quintile reach grade 8 and 72 per cent of children born in households in the lowest wealth quintile.

**Table ED.6: Children reaching last grade of primary school**

<b>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), Kisii County, 2011</b>									
		Per cent attending grade 1 last year who are in grade 2 this year	Per cent attending grade 2 last year who are attending grade 3 this year	Per cent attending grade 3 last year who are attending grade 4 this year	Per cent attending grade 4 last year who are attending grade 5 this year	Per cent attending grade 5 last year who are attending grade 6 this year	Per cent attending grade 6 last year who are attending grade 7 this year	Per cent attending grade 7 last year who are attending grade 8 this year	Per cent who reach grade 8 of those who enter grade 1 [1]
<b>Sex</b>	Male	99.1	100.0	99.0	100.0	98.2	95.2	91.2	83.6
	Female	98.7	100.0	100.0	99.4	98.3	97.6	91.2	85.9
<b>Area</b>	Rural	100.0	100.0	100.0	100.0	100.0	100.0	87.7	87.7
	Urban	98.8	100.0	99.4	99.6	98.1	96.3	91.5	84.6
<b>Mother's education</b>	None	94.6	100.0	95.3	100.0	100.0	93.9	87.8	74.3
	Primary	99.2	100.0	100.0	100.0	100.0	96.9	95.5	91.9
	Secondary +	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Mother not in household	n/a	n/a	100.0	100.0	n/a	84.4	80.9	n/a
<b>Wealth index quintiles</b>	Poorest	98.2	100.0	100.0	100.0	96.1	100.0	76.7	72.4
	Second	98.3	100.0	100.0	100.0	97.3	98.1	93.6	87.9
	Middle	100.0	100.0	100.0	98.2	100.0	94.7	92.7	86.2
	Fourth	100.0	100.0	95.1	100.0	100.0	84.4	85.5	68.7
	Richest	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Total</b>		<b>98.9</b>	<b>100.0</b>	<b>99.5</b>	<b>99.7</b>	<b>98.3</b>	<b>96.5</b>	<b>91.2</b>	<b>84.9</b>

[1] MICS indicator 7.6; MDG indicator 2.2

The primary completion rate is the ratio of the total number of students, regardless of age, entering the last grade of primary school for the first time, to the number of children of the primary graduation age at the beginning of the current (or most recent) school year. The primary school completion rate and transition rate to secondary education are presented in Table ED.7. The results for Kisii County show that the primary school completion rate is 73 per cent. The data indicate that school completion rate for children are likely to be associated with the child's gender and mother's level of education in Kisii County. The primary school completion rate among boys is 76 per cent whereas it is 70 per cent among girls. There is no major difference between proportion of completion rates in rural and urban areas. Primary school completion rate ranges from 34 per cent for children whose mother have no education to 74 per cent for children whose mothers have secondary school education or higher.

The results further indicate that about 73 per cent of the children transit to secondary school from primary level of education. The transition rate for female children is 80 per cent and that of male students is 66 per cent. The transition rate to secondary school is 76 per cent for children residing in rural areas of Kisii County and 51 per cent for children residing in the urban areas.

**Table ED.7: Primary school completion and transition to secondary school**

Primary school completion rates and transition rate to secondary school, Kisii County, 2011					
Primary school completion rates and transition rate to secondary school, Kisii County, 2011		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
<b>Sex</b>	Male	75.6	87	65.6	46
	Female	69.5	83	80.1	44
<b>Area</b>	Rural	72.5	158	76.1	79
	Urban	(*)	13	(*)	12
<b>Mother's education</b>	None	(33.9)	30	(*)	12
	Primary	53.7	90	(72.8)	33
	Secondary +	73.9	50	(*)	13
	Mother not in household	-	0	(*)	18
<b>Wealth index quintiles</b>	Poorest	(33.3)	46	(*)	22
	Second	72.6	51	(95.8)	27
	Middle	(66.3)	33	(*)	14
	Fourth	(*)	13	(*)	17
	Richest	(107.3)	28	(*)	10
<b>Total</b>		<b>72.6</b>	<b>170</b>	<b>72.7</b>	<b>91</b>
[1] MICS indicator 7.7					
[2] MICS indicator 7.8					
(*) Not shown, based on less than 25 unweighted cases.					
() Based on 25-49 unweighted cases.					

The ratio of girls to boys attending primary and secondary education is shown 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 last ratios provide an erroneous description of the GPI mainly because in most of the cases, the majority of over-aged children attending primary education tend to be boys.

The table shows that gender parity for primary school is 1.01. The Kisii County primary school GPI indicates that there is no difference in attendance between girls and boys attending primary school. The GPI for primary school is 1.02 for children residing in rural areas and 0.93 for children residing in urban areas. The GPI for schools in rural areas is 1.01 and 1.43 for those residing in urban areas. The primary schools adjusted NAR for girls and boys are 80 per cent and 79 per cent respectively.

For secondary school, girls have an adjusted NAR of 36 per cent compared to boys (35 per cent). The secondary school NAR for boys and girls residing in households with the richest quintiles is 45 per cent and 52 per cent respectively.

**Table ED.8: Education gender parity**

Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, Kisii, Nyanza Province, Kenya, 2011							
		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]
<b>Area</b>	Rural	81.3	79.8	1.02	33.5	32.8	1.02
	Urban	68.8	73.9	0.93	68.7	46.2	1.49
<b>Mother's education</b>	None	89.5	80.6	1.11	44.7	41.0	1.09
	Primary	77.4	78.2	0.99	30.7	29.3	1.05
	Secondary +	80.3	81.1	0.99	48.8	39.4	1.24
	Mother not in household	.	.	.	33.9	40.6	0.84
<b>Wealth index quintiles</b>	Poorest	77.6	78.8	0.98	33.8	25.6	1.32
	Second	80.4	80.2	1.00	22.6	28.4	0.80
	Middle	81.0	79.2	1.02	38.3	37.8	1.01
	Fourth	83.4	71.5	1.17	50.3	42.5	1.18
	Richest	78.3	85.9	0.91	52.4	45.0	1.16
<b>Total</b>		<b>79.8</b>	<b>79.3</b>	<b>1.01</b>	<b>36.4</b>	<b>34.6</b>	<b>1.05</b>
[1] MICS indicator 7.9; MDG indicator 3.1							
[2] MICS indicator 7.10; MDG indicator 3.1							

## XI. Child Protection

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### 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 5 years of age whose birth is registered.

Details on birth registration by selected characteristics are presented in Table CP.1. The results show that for Kisii County, births of over half the population of children under five years have been registered (56 per cent).

Though over half the children under 5 were registered, a high percentage do not have a birth certificate (41 per cent). Only 6 per cent of children registered have birth certificates seen by interviewers. Not all children who are registered may have a birth certificate because some certificates may have been lost or never issued. For those not registered, 8 per cent of the mothers/caretakers state they have knowledge of how to register births though did not register their children's birth.

Disparities exist by gender of the child and area of residence. Birth registration was 53 per cent among female children and 59 per cent among male children. The proportion of children registered was 73 per cent in urban areas and 55 per cent in rural areas.

The data in Table CP.1 –shows that ranges from 80 per cent children registration for children residing in the richest households to 45 per cent for children in households in the lowest wealth quintile.

**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, Kisii County, 2011								
		Children under age 5 whose birth is registered with civil authorities				Number of children	Children under age 5 whose birth is not registered	
		Has birth certificate		No birth certificate	Total registered [1]		Per cent of children whose mother/caretaker knows how to register birth	Number of children without birth registration
		Seen	Not seen					
<b>Sex</b>	Male	7.7	9.2	42.0	58.9	572	10.3	235
	Female	4.8	8.1	40.5	53.4	562	5.6	262
<b>Area</b>	Urban	21.0	20.7	31.3	73.1	89	(*)	24
	Rural	5.0	7.6	42.1	54.7	1046	7.5	473
<b>Age</b>	0-11 months	4.8	4.4	46.0	55.2	198	8.1	89
	12-23 months	6.6	11.5	46.4	64.5	187	8.8	66
	24-35 months	8.5	10.3	42.1	60.8	250	6.8	98
	36-47 months	5.8	7.4	36.4	49.6	241	5.9	122
	48-59 months	5.4	9.6	37.5	52.5	258	9.7	122
<b>Mother's education</b>	None	6.2	12.3	46.6	65.1	82	(0.0)	29
	Primary	3.9	7.3	37.8	49.1	647	8.5	330
	Secondary+	10.2	9.5	45.9	65.5	402	7.7	139
	Missing/DK	(*)	(*)	(*)	(*)	3	(*)	0
<b>Wealth index quintiles</b>	Poorest	2.0	4.8	38.1	45.0	333	3.8	183
	Second	3.8	9.2	45.5	58.5	312	4.6	129
	Middle	6.0	7.8	43.0	56.7	175	17.2	76
	Fourth	8.3	10.5	36.4	55.2	185	15.5	83
	Richest	20.7	15.7	43.5	79.9	130	(0.0)	26
<b>Total</b>		<b>6.3</b>	<b>8.7</b>	<b>41.2</b>	<b>56.2</b>	<b>1135</b>	<b>7.8</b>	<b>497</b>

[1] MICS indicator 8.1  
 (\*) Not shown, based on less than 25 unweighted cases.  
 () Based on 25-49 unweighted cases.

## 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 MICS questionnaire, a number of questions addressed the issue of child labour, that is, children 5-14 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 5-11: 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.

The proportion of children involved in child labour varies by the child's gender, age, area of residence, gender, household wealth status and mother's education level. In Kisii County, almost half (47 per cent) of children aged 5-14 years are engaged in child labour.

The proportion of children involved in child labour by gender is 45 per cent and 49 per cent for male and female children respectively. 32 per cent and 48 per cent of children living in urban and rural areas respectively are involved in child labour.

The main child labour activity the younger group of 5-11 year old children is involved in is family businesses, an economic activity for at least one hour or household chores less than 28 hours (all about 63 per cent). For the older age group of 12-14 years, the main activity is household chores less where they spent 28 hours working in family business (81 per cent). High proportion of the older children is also involved in family businesses (75 per cent). Similar proportions of the older children (12-14 years) and younger counterparts (5-11 years) are involved in paid and unpaid labour - all accounting for 1 per cent.

**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, Kisii County, 2011**

	Percentage of children age 5-11 involved in										Percentage of children age 12-14 involved in										Total child labour [1]	Num-ber of children age 5-14 years
	Economic activity					House- hold chores less than 28 hours	House- hold chores for 28 hours or more	Child labour	Number of children age 5-11	Economic activity					House- hold chores less than 28 hours	House- hold chores for 28 hours or more	Child labour					
	Working outside household		Paid work	Unpaid work	Eco- nomic activ- ity for at least one hour					Working outside household		Paid work	Unpaid work	Eco- nomic activ- ity for 14 hours or more								
	Working for fam- ily busi- ness	Working for fam- ily business								Working for fam- ily business	Working for fam- ily business											
<b>Sex</b>																						
Male	0.3	0.8	59.2	59.4	57.0	0.1	59.6	758	2.0	0.0	67.8	65.2	2.6	75.4	0.8	3.5	268	44.9	1026			
Female	1.1	1.4	65.8	65.9	66.5	0.7	66.4	706	0.5	1.9	81.1	77.7	3.7	85.4	1.2	4.8	284	48.8	989			
<b>Residence</b>																						
Urban	1.0	4.2	46.6	47.2	53.4	0.0	47.2	126	2.1	8.5	59.9	59.0	2.1	61.4	0.0	2.1	62	32.3	189			
Rural	0.7	0.8	63.9	64.0	62.4	0.4	64.4	1337	1.1	0.0	76.5	73.2	3.3	83.0	1.1	4.4	490	48.3	1826			
<b>School attendance</b>																						
Yes	0.7	1.1	62.8	63.0	62.8	0.4	63.4	1394	1.0	1.0	75.0	71.9	3.2	81.1	0.8	4.0	546	46.7	1940			
No	0.0	1.1	53.4	53.4	38.4	0.0	53.4	69	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	6	50.5	75			
<b>Mother's education</b>																						
None	0.7	0.0	59.2	59.2	53.8	0.6	59.2	179	4.5	0.0	71.8	68.8	3.0	78.1	0.0	3.0	85	41.1	263			
Primary	1.0	1.0	66.2	66.5	63.3	0.4	66.9	892	0.9	1.0	79.6	76.3	3.3	83.5	1.8	5.0	316	50.7	1207			
Secondary+	0.0	1.7	55.3	55.5	61.6	0.3	55.8	391	0.0	1.3	66.0	63.5	3.1	75.7	0.0	3.1	152	41.0	543			
Missing/DK	(*)	(*)	(*)	(*)	(*)	(*)	(*)	1	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	1		
<b>Wealth index quintile</b>																						
Poorest	0.7	1.1	69.3	69.6	65.8	0.8	70.1	421	2.0	0.0	83.3	77.3	6.0	89.9	0.8	6.8	140	54.3	561			
Second	1.5	0.8	63.8	63.8	60.9	0.0	63.8	423	0.8	0.0	78.1	76.5	1.6	80.9	2.1	3.6	161	47.2	584			
Middle	0.0	1.1	62.5	63.3	60.5	0.5	63.8	233	0.0	0.8	76.2	73.9	3.1	83.5	0.0	3.1	90	46.9	324			
Fourth	0.6	0.5	62.4	62.4	60.5	0.6	62.9	211	3.4	0.0	74.5	71.2	3.3	68.5	1.6	4.9	72	48.1	284			
Richest	0.0	2.2	42.0	42.0	56.1	0.0	42.0	175	0.0	5.1	53.3	51.8	1.5	71.9	0.0	1.5	88	28.4	263			
<b>Total</b>	<b>0.7</b>	<b>1.1</b>	<b>62.4</b>	<b>62.6</b>	<b>61.6</b>	<b>0.4</b>	<b>62.9</b>	<b>1463</b>	<b>1.2</b>	<b>1.0</b>	<b>74.7</b>	<b>71.6</b>	<b>3.2</b>	<b>80.6</b>	<b>1.0</b>	<b>4.2</b>	<b>552</b>	<b>46.8</b>	<b>2015</b>			

[1] MICS indicator 8.2

(\*) Not shown, based on less than 25 unweighted cases.

## Child labour and School Attendance

Table CP.3 presents the percentage of children age 5-14 years classified as student labourers or as labourer students by selected characteristics. Student labourers are children attending school but at the same time also involved in child labour activities at the time of the surveys. More specifically, of the 96 per cent of the children 5-14 years of age attending school, almost half (47 per cent) are also involved in child labour activities (student labourers). On the other hand, out of the 47 per cent of child labourers, the majority of them were attending school (96 per cent).

The proportion of student labourers varies by the children's gender, age and area of residence. About 45 per cent of male children are student labourers and 48 per cent of female children age 5-14 years. 31 per cent of students in urban areas and 48 per cent in rural areas are student labourers. Younger children ages 5-11 years are far much more likely to be student labourers (63 per cent) compared to their older counterparts of age 12-14 years (4 per cent). Also, the proportion of student labourers by wealth status of the households ranges from 54 per cent of children age 5-14 years residing in the poorest households dropping to 28 per cent of children residing in the richest households.

**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, Kisii County, 2011								
		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
<b>Sex</b>	Male	44.9	95.8	1026	96.3	461	45.1	983
	Female	48.8	96.7	989	95.7	482	48.3	957
<b>Area</b>	Urban	32.3	96.2	189	93.5	61	31.4	181
	Rural	48.3	96.3	1826	96.1	882	48.2	1758
<b>Age</b>	5-11 years	62.9	95.3	1463	96.0	920	63.4	1394
	12-14 years	4.2	98.9	552	95.2	23	4.0	546
<b>Mother's education</b>	None	41.1	94.7	263	92.2	108	40.1	249
	Primary	50.7	95.7	1207	95.8	612	50.8	1155
	Secondary+	41.0	98.3	543	98.1	223	41.0	534
	Missing/DK	(*)	(*)	(*)	(*)	1	(*)	1
<b>Wealth index quintiles</b>	Poorest	54.3	93.0	561	91.7	304	53.6	521
	Second	47.2	97.1	584	98.4	276	47.9	567
	Middle	46.9	98.6	324	98.8	152	47.0	319
	Fourth	48.1	97.4	284	98.3	137	48.5	277
	Richest	28.4	97.3	263	94.1	75	27.5	256
<b>Total</b>		<b>46.8</b>	<b>96.3</b>	<b>2015</b>	<b>96.0</b>	<b>943</b>	<b>46.7</b>	<b>1940</b>
[1] MICS indicator 8.3								
[2] MICS indicator 8.4								
(*) Not shown, based on less than 25 unweighted cases.								

## Child Discipline

As stated in A World Fit for Children, "children must be protected against any acts of violence ..." and the Millennium Declaration calls for the protection of children against abuse, exploitation and violence. In the Kisii County MICS survey, mothers/caretakers of children age 2-14 years were asked a series of questions on the various ways parents use to discipline their children when they misbehave. Note

that for the child discipline module, one child aged 2-14 per household was selected randomly during fieldwork. Out of these questions, the two indicators used to describe aspects of child discipline are: 1) the number of children 2-14 years that experience psychological aggression as punishment or minor physical punishment or severe physical punishment; and 2) the number of parents/caretakers of children 2-14 years of age that believe that in order to raise their children properly, they need to physically punish them.

**Table CP.4: Child discipline**

Percentage of children age 2-14 years according to method of disciplining the child, Kisii County, 2011									
		Percentage of children age 2-14 years who experienced:					Number of children age 2-14 years	Respondent believes that the child needs to be physically punished	Respondents to the child discipline module
		Only non-violent discipline	Psychological aggression	Physical punishment		Any violent discipline method [1]			
				Any	Severe				
<b>Sex</b>	Male	5.5	71.6	81.5	18.4	90.6	1384	72.8	573
	Female	8.3	71.3	76.3	16.1	87.7	1384	70.9	557
<b>Area</b>	Rural	6.3	71.5	80.3	16.5	90.0	2523	71.6	1029
	Urban	12.8	71.2	64.0	25.0	80.6	245	74.7	101
<b>Age</b>	2-4 years	6.2	69.3	84.0	18.7	91.3	747	71.5	350
	5-9 years	6.7	72.5	84.0	20.0	91.5	1004	76.0	379
	10-14 years	7.7	72.1	70.1	13.5	85.2	1017	68.2	400
<b>Education of household head</b>	None	9.5	70.1	70.7	11.3	86.5	403	69.0	208
	Primary	7.6	72.7	80.1	18.8	89.4	1470	74.1	569
	Secondary +	4.6	70.3	80.2	17.6	89.7	878	69.9	349
	Missing/DK	(*)	(*)	(*)	(*)	(*)	16	(*)	4
<b>Respondent's education</b>	None	14.6	72.5	68.6	10.5	85.4	255	77.0	139
	Primary	5.9	73.1	82.1	20.0	90.7	1589	73.6	597
	Secondary +	6.5	68.2	76.1	14.5	87.4	918	67.3	392
	Missing/DK	(*)	(*)	(*)	(*)	(*)	6	(*)	1
<b>Wealth index quintiles</b>	Poorest	6.5	76.3	80.9	17.5	91.3	781	70.5	319
	Second	4.7	72.0	81.0	20.4	91.6	808	72.3	317
	Middle	9.5	66.4	75.1	12.8	85.6	431	76.6	180
	Fourth	9.1	69.1	79.0	15.4	85.0	401	64.7	164
	Richest	7.4	68.4	74.2	17.1	87.5	347	75.7	150
<b>Total</b>		<b>6.9</b>	<b>71.5</b>	<b>78.9</b>	<b>17.3</b>	<b>89.1</b>	<b>2768</b>	<b>72</b>	<b>1130</b>
[1] MICS indicator 8.5									
(*) Not shown, based on less than 25 unweighted cases.									

In Kisii County, more than 89 per cent of the children aged 2-14 years are subjected to at least one form of violent discipline method by their mothers/caretakers. This high prevalence may be accounted for as 72 per cent of mothers/caretakers believe that children should be physically punished.

The prevalence of violent child discipline by gender is 88 per cent for female children and 91 per cent for male children. 81 per cent of children in urban areas and 90 per cent in rural areas had experienced violent discipline. Only 7 per cent of children in Kisii County are subjected to non-violent discipline methods, 72 per cent experience psychological aggression, 22 per cent receive mild physical punishment and 17 per cent are subjected to severe physical punishment

## Early Marriage and Polygyny

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 hopes 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. Other international agreements related to child marriage are the Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages and the African Charter on the Rights and Welfare of the Child and the Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa. Child marriage was also identified by the Pan-African Forum against the Sexual Exploitation of Children as a type of commercial sexual exploitation of children.

Young married girls are a unique, though often invisible, group. They are required to perform heavy amounts of domestic work, are under pressure to demonstrate fertility, and are 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. The demand for this young wife to reproduce and the power imbalance resulting from the age differential leads to very low condom use among such couples. The percentage of women married at various ages is provided and that of women in a polygynous union are provided in Table CP.5.

Table CP.5 shows that 11 per cent of 15-49 year old women in Kisii County are married before their 15th birthday whereas 37 per cent of women age 20-49 years married/in union are married before age 18. The results also show that about 15 per cent of adolescent girls' ages 15-19 years are presently married/in union. None of women in the 15-49 years age group in Kisii county are in polygynous marriage/union.

The results show that women age 15-49 who were married before age 15 and residing in households that fall in the poorest quintile, compared to their richer counterparts (15 per cent and 6 per cent respectively). Though there is no clear association between proportion married by age 15 and age 18, and different levels of education, the data shows that the lowest proportion of those who are married have secondary education or higher - 3 per cent of women age 15-19 years married before age 15, and 23 per cent of women age 20-49 years married before age 18. The data also shows that the smallest proportion of adolescent girls currently married is lowest amongst those with secondary education or higher (15 per cent).

**Table CP.5: 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, Nyanza Province, Kenya, 2011a															
	County	Area	Age	Education	Wealth index quintiles	Total	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
	KISII	Urban	15-19	None	Poorest	10.8	10.8	1404	13.0	37.4	1141	15.5	264	9.6	909
		Rural	20-24	Primary	Second	11.6	11.6	1241	14.0	39.2	998	15.0	242	8.8	813
			25-29	Secondary +	Middle	4.6	5.3	164	5.3	24.9	142	21.1	21	16.2	96
			30-34		Fourth	1.3	.	264	.	.	0	15.5	264	7.3	41
			35-39		Richest	8.4	8.4	328	8.4	27.3	328	.	0	1.9	209
			40-44			11.6	11.6	252	11.6	36.0	252	.	0	5.8	203
			45-49			13.1	13.1	181	13.1	42.6	181	.	0	16.9	151
						17.7	17.7	161	17.7	38.9	161	.	0	15.8	135
						22.3	22.3	105	22.3	52.1	105	.	0	18.5	80
						13.7	13.7	113	13.7	45.9	113	.	0	7.3	89
						6.1	6.4	111	6.4	27.2	107	.0	5	12.1	71
						17.2	20.4	732	20.4	49.9	602	16.5	130	10.5	505
						3.3	4.2	561	4.2	22.5	432	15.1	129	7.6	333
						15.3	19.0	350	19.0	48.3	283	12.8	68	13.0	217
						11.4	13.6	382	13.6	37.6	312	14.9	71	5.9	249
						9.3	10.8	243	10.8	33.6	188	19.4	55	8.3	152
						8.3	10.1	216	10.1	35.4	178	18.0	37	12.0	143
						6.2	7.4	213	7.4	25.9	180	13.0	33	9.8	149
						<b>10.8</b>	<b>13.0</b>	<b>1404</b>	<b>13.0</b>	<b>37.4</b>	<b>1141</b>	<b>15.5</b>	<b>264</b>	<b>9.6</b>	<b>909</b>

[1] MICS indicator 8.6

[2] MICS indicator 8.7

[3] MICS indicator 8.8

[4] MICS indicator 8.9

(\*) Not shown, based on less than 25 un-weighted cases.

( ) Based on 25-49 un-weighted cases.

## Trends in Early Marriage

Table CP.6 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 age 15 and 18 by different age groups allows us to see the trends in early marriage over time.

Overall, in Kisii County, about 1 out of 10 (11 per cent) women age 15-49 years are married by age 15, and about 2 out of 5 (37 per cent) of women age 20-49 years are married before age 18. The proportion of women age 15-49 years married before age 15 is 12 per cent and is 39 per cent for women age 20-49 years who were married before age 18 and residing in rural areas.

The proportion married early ages by current age show a declining trend in early marriage. For instance, amongst those age 15-49 years married before age 15, 1 per cent are in the 15-19 years age group compared to 22 per cent in the 40-44 years age bracket. Similarly, for the women age 20-49 years married by their 18th birthday, 27 per cent are in the 20-24 years age category compared to 46 per cent in the 45 to 49 age category.

The data shows a similar trend in the rural areas for the two age groups - 1 per cent of 15-19 year old is married before age 15 compared to 15 per cent of 45-49 year old women whereas 31 per cent of women age 20-24 is married before age 18 compared to 53 per cent of 40-44 year old women.

## Spousal Age Difference

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.7 presents the results of the age difference between husbands and wives.

Overall, the biggest proportion (53 per cent) of women population age 20-24 years is currently married/in union with a husband/partner who is 0-4 years older while 3 per cent of women aged 20-24 years have partners/husbands who are younger than them. Almost 1 out of 10 (9 per cent) of women age 20-24 years are married to men who are older than them by ten years or more.

**Table CP.6: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, Kisii County, 2011												
Age	Rural				Urban				All			
	Percent- age of women married before age 15	Number of women age 15-49	Percent- age of women married before age 18	Number of women age 20-49	Percent- age of women married before age 15	Number of women age 15-49	Percent- age of women married before age 18	Number of women age 20-49	Percent- age of women married before age 15	Number of women age 15-49	Percent- age of women married before age 18	Number of women age 20-49
15-19	1.4	242	NA	0	(*)	21	NA	0	1.3	264	NA	0
20-24	9.2	279	31.0	279	(3.5)	49	(6.5)	49	8.4	328	27.3	328
25-29	12.8	222	37.8	222	(2.5)	30	(22.7)	30	11.6	252	36.0	252
30-34	13.7	161	40.5	161	(8.6)	20	(59.1)	20	13.1	181	42.6	181
35-39	18.7	134	41.2	134	(12.3)	27	(27.5)	27	17.7	161	38.9	161
40-44	23.3	101	52.9	101	(*)	4	(*)	4	22.3	105	52.1	105
45-49	15.2	102	46.6	102	(*)	11	(*)	11	13.7	113	45.9	113
<b>Total</b>	<b>11.6</b>	<b>1241</b>	<b>39.2</b>	<b>998</b>	<b>4.6</b>	<b>164</b>	<b>24.9</b>	<b>142</b>	<b>10.8</b>	<b>1404</b>	<b>37.4</b>	<b>1141</b>

(\*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

**Note:** Figures in the total row are based on women age 15-49 and 20-49 for marriage before age 15 and age 18, respectively

**Table CP.7: Spousal age difference**

		Percentage of currently married/in union women age 15-19 and 20-24 years according to the age difference with their husband or partner, Kisii County, 2011				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							
		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				
<b>Area</b>	Rural	(48.3)	(33.2)	(12.2)	(6.4)	(100.0)	36	2.5	54.9	31.2	9.0	2.5	54.9	31.2	9.0	2.5	100.0	185
	Urban	(*)	(*)	(*)	(*)	(*)	5	(10.8)	(43.3)	(33.5)	(12.4)	(0.0)	(0.0)	(*)	(*)	(*)	(*)	(100.0)
<b>Age</b>	15-19	(43.0)	(40.6)	(10.8)	(5.7)	(100.0)	41	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	0
	20-24	(*)	(*)	(*)	(*)	(*)	0	3.5	53.5	31.4	9.4	2.2	53.5	31.4	9.4	2.2	100.0	209
<b>Education</b>	None	(*)	(*)	(*)	(*)	(*)	0	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	11
	Primary	(*)	(*)	(*)	(*)	(*)	21	5.0	44.5	35.6	13.7	1.2	44.5	35.6	13.7	1.2	100.0	107
	Secondary +	(*)	(*)	(*)	(*)	(*)	20	2.1	64.7	24.1	5.5	3.7	64.7	24.1	5.5	3.7	100.0	91
<b>Wealth index quintiles</b>	Poorest	(*)	(*)	(*)	(*)	(*)	9	(3.1)	(66.8)	(24.9)	(5.2)	(0.0)	(66.8)	(24.9)	(5.2)	(0.0)	(100.0)	46
	Second	(*)	(*)	(*)	(*)	(*)	11	1.4	57.0	32.0	7.2	2.4	57.0	32.0	7.2	2.4	100.0	53
	Middle	(*)	(*)	(*)	(*)	(*)	11	(0.0)	(25.6)	(45.0)	(19.0)	10.4	(25.6)	(45.0)	(19.0)	10.4	(100.0)	32
	Fourth	(*)	(*)	(*)	(*)	(*)	7	(5.8)	(53.0)	(31.0)	(10.2)	(0.0)	(53.0)	(31.0)	(10.2)	(0.0)	(100.0)	43
	Richest	(*)	(*)	(*)	(*)	(*)	4	(7.3)	(56.9)	(27.5)	(8.3)	(0.0)	(56.9)	(27.5)	(8.3)	(0.0)	(100.0)	35
<b>Total</b>		<b>(43.0)</b>	<b>(40.6)</b>	<b>(10.8)</b>	<b>(5.7)</b>	<b>(100.0)</b>	<b>41</b>	<b>3.5</b>	<b>53.5</b>	<b>31.4</b>	<b>9.4</b>	<b>2.2</b>	<b>53.5</b>	<b>31.4</b>	<b>9.4</b>	<b>2.2</b>	<b>100.0</b>	<b>209</b>

[1] MICS indicator 8.10a

[2] MICS indicator 8.10b

(\*) Not shown, based on less than 25 unweighted cases.

() Based on 25-49 unweighted cases.

## Female Genital Mutilation/Cutting

Female genital mutilation/cutting (FGM/C) is the partial or total removal of the female external genitalia or other injury to the female genital organs. FGM/C is always traumatic with immediate complications including excruciating pain, shock, urine retention, ulceration of the genitals and injury to adjacent tissue. Other complications include septicaemia, infertility, obstructed labour, and even death. The procedure is generally carried out on girls between the ages of 4 and 14. It is also done to infants, women who are about to be married and, sometimes, to women who are pregnant with their first child or who have just given birth. It is often performed by traditional practitioners, including midwives and barbers, without anaesthesia, using scissors, razor blades or broken glass.

FGM/C is a fundamental violation of human rights. In the absence of any perceived medical necessity, it subjects girls and women to health risks and has life-threatening consequences. Among those rights violated are the rights to the highest attainable standard of health and to bodily integrity. Furthermore, it could be argued that girls (under 18) cannot be said to give informed consent to such a potentially damaging practice as FGM/C.

Female genital cutting or circumcision is widely practiced in many Kenyan communities despite the fact that it is illegal in Kenya. Within the Kisii community, it is almost universal - 96 per cent of women have undergone the procedure. This is higher than the national estimate of 27 per cent and Nyanza Province's estimate of 34 per cent, both reported in the 2008/09 KDHS. Among the Kisii community in Nyanza Province, FGM/C is carried out as a means to improve the daughter's marriage prospects; to confer respect and a sense of belonging and it prepares a girl for marriage (Njue & Askew, 2004).

Table CP.8 presents the prevalence of FGM/C among women and the type and extent of the procedure. Overall, the prevalence of FGM amongst women in Kisii County is almost universal at 94 per cent. Majority (89 per cent) of the women report that they had flesh removed during the procedure, particularly those who reside in rural areas (91 per cent). There are substantial variation differences between proportion of women who have undergone FGM/C and area of residence - 81 per cent in urban areas compared to 96 per cent in rural areas. Though the prevalence rate of FGM/C is very high, women who have no education are least likely to have undergone FGM/C (85 per cent). Women from the richest households are least likely to have undergone the procedure (77 per cent) compared to those from the poorest (98 per cent).

**Table CP.8: Female genital mutilation/cutting (FGM/C) among women**

Percentage distribution of women age 15-49 years by FGM/C status, Kisii County, 2011									
		Per cent distribution of women age 15-49 years:					Total	Percent- age who had any form of FGM/C [1]	Number of women aged 15-49 years
		No FGM/C	Who had FGM/C						
			Had flesh removed	Were nicked	Were sewn closed	Form of FGM/C not determined			
<b>Area</b>	Urban	18.6	70.1	6.0	0.5	4.9	100.0	81.4	164
	Rural	3.9	91.3	2.6	1.0	1.1	100.0	96.1	1241
<b>Age</b>	15-19	6.8	88.6	1.6	1.4	1.6	100.0	93.2	264
	20-24	6.8	87.5	1.9	1.3	2.6	100.0	93.2	328
	25-29	4.1	90.8	4.0	0.5	0.5	100.0	95.9	252
	30-34	7.3	87.1	2.1	0.7	2.9	100.0	92.7	181
	35-39	3.9	90.8	3.8	1.5	0.0	100.0	96.1	161
	40-44	3.5	89.4	6.0	0.0	1.1	100.0	96.5	105
	45-49	5.1	88.5	5.3	0.0	1.1	100.0	94.9	113
<b>Education</b>	None	14.8	78.3	4.6	0.0	2.4	100.0	85.2	111
	Primary	4.5	88.6	3.8	1.1	2.0	100.0	95.5	732
	Secondary +	5.3	91.2	1.7	1.0	0.8	100.0	94.7	561
<b>Wealth index quintiles</b>	Poorest	1.7	93.5	3.2	1.2	0.4	100.0	98.3	350
	Second	3.1	92.9	1.4	1.2	1.3	100.0	96.9	382
	Middle	2.5	91.5	4.1	0.9	1.0	100.0	97.5	243
	Fourth	2.9	91.7	1.8	0.3	3.3	100.0	97.1	216
	Richest	23.1	67.9	5.8	0.6	2.7	100.0	76.9	213
<b>Total</b>		<b>5.6</b>	<b>88.8</b>	<b>3.0</b>	<b>0.9</b>	<b>1.5</b>	<b>100.0</b>	<b>94.4</b>	<b>1404</b>

[1] MICS indicator 8.12

## Approval of Female Genital Mutilation/Cutting

Table CP.9 presents the woman's attitudes towards FGM/C. Almost all women age 15-49 years have heard of FGM/C in Kisii County. The proportion of those who have knowledge within the different baseline characteristics was comparable.

Regarding opinion as to whether the practice should be continued or discontinued, majority of the women believe that the practise should be discontinued (63 per cent), and a further 30 per cent have reported that they would like the FGM/C practise to continue. The percentage of those who want FGM/C practise to continue varied slightly by area of residence - 29 per cent in urban areas compared to 31 per cent in rural areas. The largest proportions of those who want continuation of FGM/C have experienced FGM/C (31 per cent).

There is no clear pattern between proportion of women who want FGM/C to continue, and the different age groups, level of education or wealth quintiles. Even so, it seems like the biggest percentage of those who do not want FGM/C to continue are those who are 45-49 years of age (20 per cent), or those who have attained secondary education or higher (23 per cent) or those who reside in households that fall in the richest quintile (20 per cent).

**Table CP.9: Approval of female genital mutilation/cutting (FGM/C)**

Percentage of women age 15-49 years who have heard of FGM/C, and per cent distribution of women according to attitudes towards whether the practice of FGM/C should be continued, Kisii County, 2011									
		Percentage of women who have heard of FGM/C	Number of women aged 15-49 years	Per cent distribution of women who believe the practice of FGM/C should be:					Number of women age 15-49 years who have heard of FGM/C
				Continued [1]	Dis-continued	Depends	Don't know/ Missing	Total	
<b>Area</b>	Urban	99.2	164	28.6	69.1	0.0	2.3	100.0	162
	Rural	99.8	1241	30.6	61.6	5.7	2.1	100.0	1238
<b>Age</b>	15-19	100.0	264	27.8	66.0	4.1	2.1	100.0	264
	20-24	99.2	328	35.1	58.3	3.6	3.0	100.0	325
	25-29	100.0	252	30.3	60.7	6.6	2.4	100.0	252
	30-34	99.5	181	33.6	59.6	4.8	2.0	100.0	181
	35-39	100.0	161	29.6	63.3	5.7	1.3	100.0	161
	40-44	100.0	105	28.0	68.6	3.4	0.0	100.0	105
	45-49	100.0	113	20.4	68.0	8.9	2.7	100.0	113
<b>Education</b>	None	100.0	111	30.1	66.8	1.1	2.0	100.0	111
	Primary	99.5	732	35.8	56.4	5.2	2.6	100.0	728
	Secondary +	100.0	561	23.3	69.6	5.6	1.5	100.0	561
<b>FGM/C experience</b>	No FGM/C	95.4	79	12.1	84.1	0.0	3.7	100.0	76
	Had FGM/C	100.0	1325	31.4	61.3	5.3	2.1	100.0	1325
<b>Wealth index quintiles</b>	Poorest	99.6	350	35.2	56.9	6.9	1.1	100.0	349
	Second	99.8	382	31.9	59.8	5.9	2.3	100.0	381
	Middle	100.0	243	29.6	63.8	4.1	2.5	100.0	243
	Fourth	100.0	216	30.6	63.7	3.2	2.5	100.0	216
	Richest	99.4	213	20.0	73.8	3.4	2.8	100.0	212
<b>Total</b>		<b>99.7</b>	<b>1404</b>	<b>30.3</b>	<b>62.5</b>	<b>5.0</b>	<b>2.1</b>	<b>100.0</b>	<b>1401</b>

1 MICS indicator 8.11

### Attitudes toward Domestic Violence

A number of questions were asked of women age 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 that 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 are found in Table CP.10.

**Table CP.10: 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, Kisii County, 2011								
		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]	
<b>Residence</b>	Urban	21.9	40.3	22.5	23.3	10.3	50.4	164
	Rural	40.8	52.5	36.4	31.1	9.5	66.4	1241
<b>Age</b>	15-19	30.5	43.4	33.6	28.9	12.2	57.6	264
	20-24	39.7	51.2	32.4	27.8	7.4	62.5	328
	25-29	32.5	48.1	38.4	30.4	10.4	63.8	252
	30-34	42.7	52.6	32.9	26.5	7.0	67.1	181
	35-39	42.0	52.8	32.9	28.8	9.4	62.7	161
	40-44	49.9	62.7	42.2	41.9	10.0	79.8	105
	45-49	45.4	58.9	34.7	36.7	12.6	72.4	113
<b>Marital/ Union status</b>	Currently married/in union	41.0	53.3	36.9	31.9	9.7	67.1	909
	Formerly married/in union	46.6	59.5	38.6	32.5	8.5	71.1	134
	Never married/in union	29.5	42.2	27.8	25.0	9.8	55.4	362
<b>Education</b>	None	29.9	39.4	20.9	21.4	5.5	53.4	111
	Primary	43.7	59.5	41.7	35.4	11.8	73.0	732
	Secondary +	33.6	42.3	28.5	25.1	7.6	55.6	561
<b>Wealth index quintiles</b>	Poorest	43.2	57.5	41.4	30.7	10.1	68.8	350
	Second	39.3	48.8	35.9	31.6	9.3	66.5	382
	Middle	42.6	57.8	32.7	29.4	13.2	68.6	243
	Fourth	45.0	61.7	36.0	35.2	8.7	72.6	216
	Richest	18.2	25.8	22.9	22.7	6.2	41.0	213
<b>Total</b>		<b>38.6</b>	<b>51.0</b>	<b>34.8</b>	<b>30.2</b>	<b>9.6</b>	<b>64.5</b>	<b>1404</b>

1 MICS indicator 8.14

Overall, a large proportion (65 per cent) of women aged 15-49 years feel that their husband/partner has a right to hit or beat them for at least one of a variety of reasons mentioned in Table CP.10. Attitudes towards domestic violence vary between rural and urban areas - 50 per cent of women in urban areas feel domestic violence is justified compared to 66 per cent of women in rural areas. Women formerly married/in unions are most likely to accept domestic violence (71 per cent) compared to those who have never been married/in union (55 per cent) or those who are currently married/in union (67 per cent). There is no clear pattern observed by age of women, level of education or wealth quintiles. Stating this, it appears that the biggest proportion of women who justify domestic violence are those between age 40-44 years (80 per cent) or have up to primary education (73 per cent).

The most common reasons reported for justifying the wife beating are 'if she neglects the children' (51 per cent), 'if goes out without telling him' (39 per cent), 'if she argues with him' (35 per cent), 'if she refuses sex with him' (30 per cent), and 'If she burns the (10 per cent).

## **XII. Child Protection HIV/AIDS, Sexual Behaviour, and Orphans**

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### **Knowledge about HIV Transmission and Misconceptions about HIV/AIDS**

One of the most important prerequisites 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 protecting 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. The HIV module was administered to women 15-49 years of age.

One indicator which is both an MDG and UNGASS indicator is the percentage of young women who have comprehensive and correct knowledge of HIV prevention and transmission. In Kisii County MICS, all women who have heard of AIDS were asked whether they knew of the three main ways of HIV prevention - having only one faithful uninfected partner, using a condom every time, and abstaining from sex. The results are presented in Table HA.1.

In Kisii County, almost all of the interviewed women ages 15-49 years have heard of AIDS, with the proportion of women who have heard of AIDS comparable across all demographic background characteristics. However, only 23 per cent of women know of the three ways of preventing HIV transmission. Nine out of ten (90 per cent) women knew of having only one faithful uninfected sex partner, 80 per cent knew of using a condom every time, and 87 per cent know of abstaining from sex as the main ways of preventing HIV transmission. In comparison to the national level, the proportions reported in the 2008/09 KDHS were all higher than these latest Kisii County estimates, i.e. 94 per cent of women aged 15-49 years knew that HIV transmission can be prevented by having only one faithful uninfected sex partner, 81 per cent knew of using a condom every time, and 92 per cent knew of abstaining from sex.

In Kisii County, women in urban areas (28 per cent) are slightly more likely to know of the three ways of HIV prevention than their rural counterparts (23 per cent). The proportion of those with knowledge on the three ways of HIV prevention amongst women who have been married/in union or those never married/in union is comparable, at about 23 per cent. There is a slight variation in the proportion of women who know of all three ways of HIV prevention across wealth quintiles, with those from richest households having more knowledge, compared to their counterparts from the poorest households. There is, however, no considerable variation between knowledge of all three ways of HIV prevention and a woman's age or their level of education.

The proportion of women aged 15-49 years who know of the main ways of preventing HIV transmission (having only one faithful uninfected sex partner and using a condom every time) is 74 per cent. The proportion of women in rural areas (x who know both ways of preventing HIV transmission is 75 per cent whereas the proportion for their urban counterparts is 65 per cent. 75 per cent of women who were ever married/ in union and 70 of women who have never been married/ in union know the ways of preventing HIV infections. Of the women aged 15-49 years, those in the 25-29 years age bracket are most likely (80 per cent) to know both ways of preventing HIV transmission. However, there is no major variation in the proportion of women who know both ways of preventing HIV transmission based on a woman's education status or household wealth status.

**Table HA.1: Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive 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 Kisii County, 2011														
Area	Percent- age who have heard of AIDS	Percentage who know transmission can be prevented by:			Percent- age of women who know both ways	Percent- age of women who know all three ways	Percentage who know that a healthy look- ing person can have the AIDS virus	Percentage who know that HIV cannot be transmitted by:			Percentage who reject the two most common miscon- ceptions and know that a healthy look- ing person can have the AIDS virus	Percentage with com- prehensive knowledge [1]	Number of women	
		Having only one faithful sex partner	Using a condom every time	By ab- staining				Mosqui- to bites	Super- natural means	Sharing food with someone with AIDS				
<b>Area</b>														
	Rural	99.9	91.4	79.4	86.6	74.9	68.7	92.4	78.5	82.2	92.5	70.2	55.7	1241
	Urban	100.0	79.9	77.0	85.8	64.6	58.9	98.3	80.9	84.2	90.7	73.7	53.7	164
<b>Age</b>														
	15-24	99.9	89.9	75.1	83.3	70.5	62.5	91.4	83.0	86.5	92.7	73.2	54.8	592
	25-29	100.0	90.6	86.4	89.2	80.0	75.1	95.4	77.5	81.5	91.1	69.4	58.3	252
	30-39	100.0	90.6	81.8	88.9	75.4	70.0	94.1	81.3	83.6	92.4	74.2	59.2	343
	40-49	100.0	88.7	77.2	88.6	72.5	68.4	93.1	64.8	70.8	92.1	59.0	47.9	218
<b>Marital status</b>														
	Ever married/in union	100.0	90.2	80.8	86.6	75.2	68.6	94.4	77.7	80.6	92.1	70.0	55.7	1043
	Never married/in union	99.8	89.7	74.2	86.4	69.6	64.3	89.1	82.0	87.8	92.8	72.3	54.6	362
<b>Education</b>														
	None	100.0	88.6	83.2	91.2	74.6	69.6	95.1	85.4	87.2	95.3	81.4	63.1	111
	Primary	99.9	88.3	79.0	86.2	72.6	67.1	89.8	72.2	76.5	89.7	61.3	48.8	732
	Secondary +	100.0	92.6	78.5	86.0	75.0	67.7	96.9	86.1	89.3	94.9	80.5	62.6	561
<b>Wealth index quintiles</b>														
	Poorest	100.0	92.5	76.4	85.9	74.0	68.6	89.9	74.7	80.1	91.3	63.7	49.8	124
	Second	100.0	92.0	80.8	87.6	77.2	70.9	92.3	80.7	80.1	90.8	72.2	59.0	146
	Middle	99.7	87.8	82.1	86.3	74.6	67.4	94.1	75.6	80.0	93.0	68.7	55.5	123
	Fourth	100.0	89.3	75.7	83.6	68.3	61.0	93.3	78.7	84.7	92.3	70.5	52.0	118
	Richest	100.0	85.9	80.7	88.9	71.6	66.4	98.1	85.8	91.0	95.6	81.1	61.8	112
<b>Total</b>		<b>99.9</b>	<b>90.0</b>	<b>79.1</b>	<b>86.5</b>	<b>73.7</b>	<b>67.5</b>	<b>93.0</b>	<b>78.8</b>	<b>82.5</b>	<b>92.3</b>	<b>70.6</b>	<b>55.5</b>	<b>1404</b>

[1] MICS indicator 9.1

[2] Know having one uninfected faithful partner and condom use every time

**Table HA.2: Knowledge about HIV transmission, misconceptions about HIV/AIDS, and comprehensive knowledge about HIV 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, Nyanza Province, Kenya, 2011a														
	Percentage who have heard of AIDS	Percentage who know transmission can be prevented by:			Percentage of women who know both ways	Percentage of women who know all three 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	By abstaining				Mosquito bites	Super-natural means	Sharing food with someone with AIDS				
<b>Area</b>	Rural	99.9	90.4	75.3	83.4	71.6	64.0	90.8	83.5	86.6	93.7	74.1	55.9	521
	Urban	100.0	86.3	74.0	82.4	62.7	51.5	96.1	79.6	86.3	85.5	66.8	47.3	71
<b>Age</b>	15-19	99.7	90.2	73.7	83.2	69.3	62.2	87.7	82.2	88.4	94.1	71.1	53.1	264
	20-24	100.0	89.7	76.3	83.4	71.5	62.8	94.4	83.8	85.1	91.7	74.9	56.3	328
<b>Marital status</b>	Ever married/in union	100.0	89.7	77.9	80.6	73.2	62.7	92.2	83.7	83.9	92.9	73.2	55.9	273
	Never married/in union	99.8	90.1	72.8	85.7	68.3	62.3	90.8	82.5	88.8	92.6	73.3	53.9	318
<b>Education</b>	None	(100.0)	(85.9)	(76.3)	(89.9)	(64.5)	(59.1)	(100.0)	(90.2)	(93.6)	(90.2)	(84.8)	(53.7)	27
	Primary	99.7	85.7	75.2	81.1	68.4	61.0	86.4	79.1	81.6	90.5	65.7	48.6	272
	Secondary +	100.0	94.2	74.9	84.7	73.1	64.3	95.3	86.1	90.5	95.1	79.2	60.8	292
	Poorest	100.0	90.8	75.4	80.7	72.0	65.9	87.1	77.3	84.1	92.7	65.2	49.5	141
<b>Wealth index quintiles</b>	Second	100.0	92.3	78.2	83.9	76.1	67.0	92.6	89.2	87.1	91.3	79.6	62.4	159
	Middle	99.3	85.8	76.5	83.1	69.9	59.4	93.6	76.4	87.1	94.9	70.1	50.3	108
	Fourth	100.0	90.7	69.7	83.1	63.9	56.6	88.2	84.1	85.1	91.5	71.6	54.1	95
	Richest	100.0	88.3	73.5	87.0	66.1	59.1	96.9	88.2	90.3	94.0	80.0	56.2	88
<b>Total</b>		<b>99.9</b>	<b>89.9</b>	<b>75.1</b>	<b>83.3</b>	<b>70.5</b>	<b>62.5</b>	<b>91.4</b>	<b>83.0</b>	<b>86.5</b>	<b>92.7</b>	<b>73.2</b>	<b>54.8</b>	<b>592</b>

[1] MICS indicator 9.2; MDG indicator 6.3

( ) Based on 25-49 unweighted cases.

The results for women age 15-24 who knew of the three main ways of HIV prevention - having only one faithful uninfected partner, using a condom every time, and abstaining from sex are separately presented in Table HA.2. At least 1 out of 4 (26 per cent) young women know of the three ways of HIV prevention. Nine out of ten (90 per cent) young women know of having only one faithful uninfected sex partner, 3 out of 4 (75 per cent) know of using a condom every time, and about 4 out of 5 (83 per cent) know of abstaining from sex as the main ways of preventing HIV transmission. Young women in urban areas are more likely (42 per cent) to know of the three ways of HIV prevention compared to their rural counterparts (24 per cent). Knowledge of the three ways of preventing HIV transmission ranges from 21 per cent for women from the poorest households to 34 per cent for those from the richest households. The proportion of women who know all three ways of HIV prevention is comparable across status of marriage (ever been married/in union or never married/in union). There is, however, no major difference between knowledge of the three ways of HIV prevention and woman's age.

Seventy one per cent of young women aged 15-24 years know of the two main ways of HIV prevention. 72 per cent of young women in rural areas and their 63 per cent of their urban counterparts know of the two main ways of HIV prevention. However, there is no major variation in knowledge of the two main ways of HIV prevention between women aged 15-19 and 20-24 years. Young women who have ever married/in union are more likely to know of the two main ways of HIV prevention than those never married/in union (73 per cent compared with 68 per cent).

Table HA.1 and HA.2 also present the per cent of women who can correctly identify misconceptions concerning HIV. The indicator is based on the two most common and relevant misconceptions i.e. that HIV can be transmitted by mosquito bites and supernatural means. The table also provides information on whether women know that HIV cannot be transmitted by sharing food with someone with AIDS. Majority of the women aged 15-49 years interviewed (71 per cent) reject the two most common misconceptions. Seventy-nine (79) per cent of women age 15-49 years knows that HIV cannot be transmitted by mosquito bites, 83 per cent of women know that HIV cannot be transmitted by supernatural means and 93 per cent of women aged between 15-49 years know that a healthy-looking person can be infected.

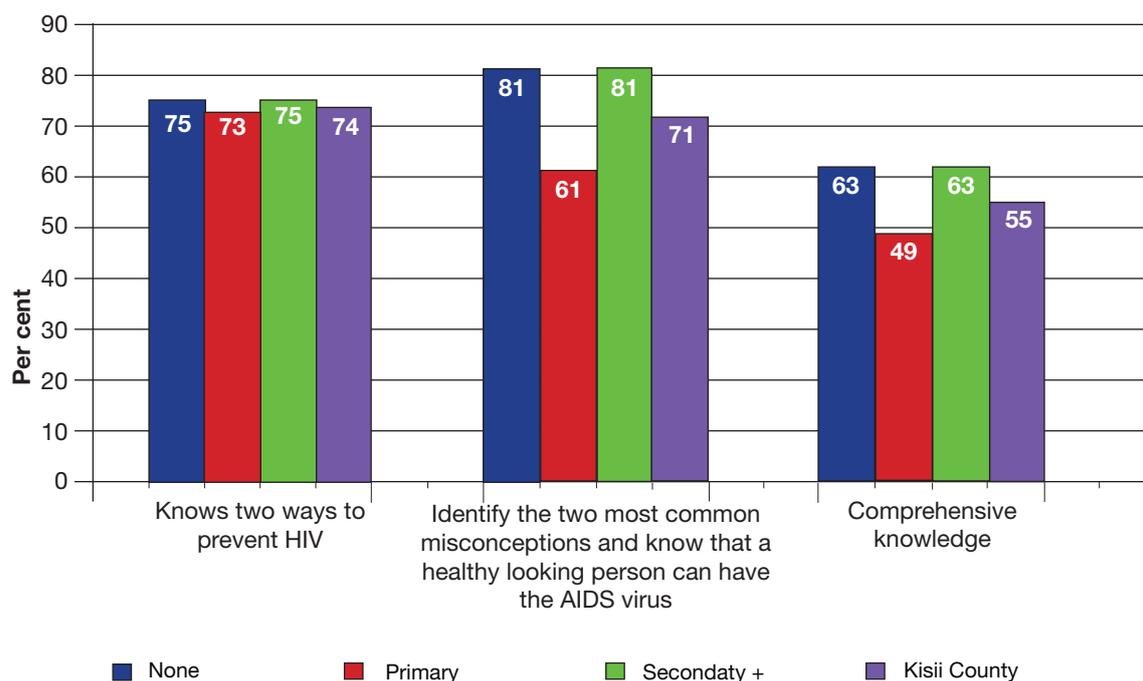
Women from urban areas aged 15-49 years are more likely to reject the two most common misconceptions and know that a healthy looking person can have the AIDS virus (74 per cent). The proportions are comparable between women who have ever been married/in union and those never married/in unions (70 and 72 per cent, respectively).

There is no major difference observed between rejection of the two most common misconceptions and knowledge that a healthy looking person can have the AIDS virus across the different age groups, level of education and household wealth index.

Women who have comprehensive knowledge about HIV prevention include women who know of the two ways of HIV prevention (having only one faithful uninfected partner and using a condom every time, who know that a healthy looking person can have the AIDS virus, and who reject the two most common misconceptions. Tables HA.1 and HA.2 present the findings on the percentage of women with comprehensive knowledge. Comprehensive knowledge of HIV prevention methods and transmission is still fairly low, 56 per cent, amongst women age 15-49 years in Kisii County.

There is a major variation in the proportions of women with comprehensive knowledge of HIV prevention methods and transmission and a woman's education status as shown in Figure HA.1. Similarly, there is a major variation in comprehensive knowledge of HIV prevention methods and transmission and a woman's age or household wealth. The proportion of women with comprehensive knowledge of HIV transmission is 54 per cent and 56 per cent in rural and urban areas respectively.

**Figure HA.1: Percentage of women who have comprehensive knowledge of HIV/AIDS transmission by level of education, Kisii County, 2011**



Among younger women aged 15-24 years, the proportion of women with comprehensive knowledge of HIV prevention and transmission is 55 per cent. Young women in rural areas are slightly more likely (56 per cent) to have comprehensive knowledge than their urban counterparts (47 per cent). As observed among women aged 15-49 years, there is major variation observed for comprehensive knowledge of HIV prevention methods and transmission across levels of household wealth index. Women of age 20-24 years are more likely to have comprehensive knowledge than the 15-19 year olds. Among young women, the proportion of women who have comprehensive knowledge does not vary much across marital status.

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 reduce the chance of infection of the baby. Women should know that HIV can be transmitted during pregnancy, delivery, and through breastfeeding. The level of knowledge among women age 15-49 years concerning mother-to-child transmission is presented in Table HA.3. Overall, 96 per cent 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 per cent, while 4 per cent of women did not know of any specific way.

Knowledge of all three ways of mother-to-child transmission is highest (65 per cent) among women aged 40-49 years. Knowledge of all the three ways of preventing mother to child transmission ranges from 53 per cent among women with secondary education or higher to 60 per cent among women with no education. There is no major difference in knowledge of all three ways of mother-to-child transmission between women in urban and rural areas or marital status. Moreover, there is no major variation for women with knowledge of all three ways of mother-to-child transmission across household wealth index.

**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, Kisii County, 2011								
		Percentage who know HIV can be transmitted from mother to child	Per cent who know HIV can be transmitted:				Does not know any of the specific means	Number of women
			During pregnancy	During delivery	By breast-feeding	All three means [1]		
<b>Area</b>	Urban	97.3	62.3	83.6	81.3	53.4	2.7	164
	Rural	96.3	64.2	83.4	82.8	55.9	3.7	1241
<b>Age group</b>	15-24	97.2	62.4	81.6	84.6	54.0	2.6	592
	25+	95.7	65.1	84.7	81.2	56.9	4.3	813
<b>Age group</b>	15-19	96.9	59.4	80.6	84.5	51.4	2.8	264
	20-24	97.5	64.7	82.5	84.8	56.1	2.5	328
	25-29	95.8	62.7	84.1	80.5	55.0	4.2	252
	30-39	95.5	62.9	83.6	77.2	53.0	4.5	343
	40-49	96.2	71.4	87.2	88.5	65.0	3.8	218
<b>Marital status</b>	Ever married/in union	96.4	64.4	83.8	81.8	55.7	3.6	1043
	Never married/in union	96.4	62.5	82.5	85.1	55.4	3.3	362
<b>Education</b>	None	97.8	66.7	89.2	85.9	60.0	2.2	111
	Primary	95.8	67.2	81.0	82.4	56.8	4.1	732
	Secondary +	96.8	59.2	85.5	82.4	53.3	3.2	561
<b>Wealth index quintiles</b>	Poorest	95.0	66.6	82.9	81.7	58.4	5.0	350
	Second	96.7	59.8	82.3	84.5	53.6	3.3	382
	Middle	96.4	71.7	80.6	84.0	59.3	3.3	243
	Fourth	96.5	65.3	86.1	81.0	56.5	3.5	216
	Richest	97.9	56.9	86.9	81.2	49.8	2.1	213
<b>Total</b>		<b>96.4</b>	<b>64.0</b>	<b>83.4</b>	<b>82.7</b>	<b>55.7</b>	<b>3.6</b>	<b>1404</b>

[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 Kisii County, almost all (97 per cent) of women who have heard of AIDS agree with at least one accepting attitude. The least common accepting attitude is 'would not want to keep HIV status of a family member a secret' (44 per cent). Similarly, accepting attitudes on all four indicators among women in Kisii County remain low (27 per cent).

There are minimal variations in the percentage of women who express accepting attitudes in all four indicators across levels of the household wealth index. For example, the proportion is 24 per cent among those from the poorest households and 30 per cent in the richest households. There is no major variation in accepting attitudes towards people living with HIV/AIDS between women in urban and rural areas or between ever married or in union and never married women. Similarly, there is no major variation in the proportion of women expressing accepting attitudes on all four indicators and a woman's education.

**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, Kisii County, 2011								
		Per cent of women who:						Number of women who have heard of AIDS
		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]	
<b>Area</b>	Rural	92.3	78.1	79.1	32.2	98.4	20.1	4970
	Urban	97.0	79.7	85.5	28.1	99.7	19.9	922
<b>Age</b>	15-24	83.5	73.0	78.3	45.2	97.1	26.0	591
	15-19	84.6	74.1	77.0	44.3	96.8	27.6	263
	20-24	82.7	72.1	79.3	46.0	97.4	24.7	328
	25-29	86.4	69.9	81.5	45.7	96.8	30.3	252
	30-39	92.2	77.2	78.7	40.8	97.5	28.3	343
	40-49	91.2	70.7	75.1	43.6	96.3	24.2	218
<b>Marital status</b>	Ever married/in union	88.4	73.8	77.6	43.2	97.1	26.5	1043
	Never married/in union	84.4	70.9	81.1	46.1	96.9	28.6	361
<b>Education</b>	None	85.3	87.3	85.4	43.5	97.4	30.5	111
	Primary	85.4	64.1	70.5	45.6	95.2	23.9	731
	Secondary +	90.4	82.0	87.6	42.0	99.3	30.5	561
<b>Wealth index quintiles</b>	Poorest	83.1	66.4	74.4	42.6	95.4	23.7	350
	Second	88.6	72.7	76.8	42.2	95.6	25.5	382
	Middle	86.3	73.7	76.7	48.1	97.0	29.0	242
	Fourth	91.8	76.4	80.2	47.4	99.1	30.1	216
	Richest	89.0	80.8	88.5	41.2	100.0	30.2	213
<b>Total</b>		<b>87.4</b>	<b>73.1</b>	<b>78.5</b>	<b>44.0</b>	<b>97.0</b>	<b>27.1</b>	<b>1404</b>

[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 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. About 95 per cent of women knew where to be tested, while 55 per cent have actually been tested. Women in urban areas have a slight edge in knowing where to be tested, and are slightly more likely to have been tested (60 per cent) than those living in rural areas (54 per cent). The proportion of women who have ever been tested increases with age of women, as well as with improving levels of household wealth index. For example, among women from the poorest households, only 48 per cent have even been tested versus 61 per cent for those from the richest households. At the County levels, the proportion of those tested is lowest in Nyamira County, and highest in Siaya County (60 per cent).

**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 and percentage of women who have ever been tested, Kisii County, 2011				
		Percentage of women who:		Number of women
		Know a place to get tested [1]	Have ever been tested	
<b>Residence</b>	Urban	100.0	67.4	164
	Rural	94.3	54.3	1241
<b>Age</b>	15-19	88.4	41.7	264
	20-24	95.5	45.4	328
	25-29	96.7	53.9	252
	30-34	97.5	70.9	181
	35-39	97.9	71.5	161
	40-44	96.9	63.8	105
	45-49	94.3	68.9	113
<b>Marital status</b>	Ever married/in union	96.3	58.6	1043
	Never married/in union	91.0	47.6	362
<b>Education</b>	None	98.0	76.6	111
	Primary	93.2	52.6	732
	Secondary+	96.5	55.8	561
<b>Wealth index quintiles</b>	Poorest	92.9	51.4	350
	Second	95.2	56.5	382
	Middle	94.4	53.0	243
	Fourth	95.1	53.8	216
	Richest	98.3	67.0	213
<b>Total</b>		<b>94.9</b>	<b>55.8</b>	<b>1404</b>
[1] MICS indicator 9.5				

Table HA.6 presents the findings for Knowledge of a place for HIV testing among sexually active young women. 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.

**Table HA.6: Knowledge of a 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, Kisii County, 2011							
		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 and have been told result [1]	
<b>Area</b>	Rural	62.0	521	95.3	38.1	35.6	323
	Urban	(67.3)	(71)	(100.0)	(70.7)	(70.7)	48
<b>Age</b>	15-19	39.0	264	97.5	46.4	42.4	103
	20-24	81.6	328	95.4	40.8	39.2	268
<b>Marital status</b>	Ever married/ in union	98.7	273	94.4	38.7	36.2	270
	Never married/ in union	31.6	318	100.0	52.2	50.6	101
<b>Education</b>	None	(*)	27	(*)	(*)	(*)	20
	Primary	66.7	272	95.1	38.6	34.0	182
	Secondary +	57.6	292	96.4	42.7	42.7	168
<b>Wealth index quintiles</b>	Poorest	65.3	141	93.9	41.8	35.9	92
	Second	55.9	159	97.2	32.7	32.7	89
	Middle	60.2	108	92.7	41.4	41.4	65
	Fourth	66.9	95	98.7	33.2	28.7	63
	Richest	68.8	88	97.8	67.9	67.9	61
<b>Total</b>		<b>62.6</b>	<b>592</b>	<b>95.9</b>	<b>42.3</b>	<b>40.1</b>	<b>370</b>
[1] MICS indicator 9.7							
(*) Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

Sixty-three (63) per cent of women aged 15-24 years had sex in the last 12 months preceding the survey. Among these, 96 per cent of women reported knowing a place for testing, but only 42 per cent of them have ever been tested. Almost a third (32 per cent) of young women who have never been married/in union had sex in the last 12 months preceding the survey. However, the proportion of young women who have ever been tested is higher among those who have never been married/in union (52 per cent) than those who have ever been married/union (39 per cent). The proportion of women aged 20-24 years who had sex in the last 12 months preceding the survey is higher (82 per cent) when compared to those aged 15-19 years (39 per cent). However, the proportion of those age 20-24 years reporting having ever been tested is slight lower (41 per cent) than for their younger counterparts (41 per cent). There no major variations on the proportion of women who reported sex in the last 12 month across wealth quintiles and also in the proportion of those who have ever been tested. For example, among women from the poorest households, 42 per cent report having been tested compared to 68 per cent among those from the richest households.

Among women 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. A high proportion (90 per cent) of women who gave birth in the last two years received antenatal care from a health care professional during the last pregnancy. Although all the women received HIV counselling during antenatal care, only 79 per cent were offered an HIV test and were tested for HIV during antenatal care.

**Table HA.7: HIV counselling 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, Kisii County, 2011							
		Per cent 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	
<b>Area</b>	Urban	(87.5)	(71.7)	(71.7)	(78.0)	(71.7)	35
	Rural	89.8	81.1	80.2	88.5	80.0	335
<b>Young women</b>	15-24	93.8	81.8	80.6	93.0	80.6	191
<b>Age</b>	15-19	(88.2)	(81.3)	(78.4)	(85.3)	(78.4)	47
	20-24	95.6	81.9	81.3	95.5	81.3	144
	25-29	89.5	84.5	83.9	87.0	83.2	105
	30-34	(84.7)	(79.6)	(79.6)	(84.7)	(79.6)	39
	35-49	(72.0)	(59.0)	(59.0)	(62.6)	(59.0)	35
<b>Marital status</b>	Ever married/in union	90.2	80.8	80.4	88.4	80.2	327
	Never married/in union	(84.5)	(75.1)	(75.1)	(81.3)	(72.0)	43
<b>Education</b>	None	(*)	(*)	(*)	(*)	(*)	18
	Primary	88.5	76.8	75.8	84.7	75.4	211
	Secondary +	92.5	85.9	85.5	93.0	84.5	141
<b>Wealth index quintiles</b>	Poorest	84.4	73.0	71.8	82.0	71.8	110
	Second	90.2	77.5	77.5	87.8	76.6	88
	Middle	92.9	86.0	85.0	93.1	85.0	64
	Fourth	92.7	91.1	89.7	93.5	89.7	62
	Richest	(91.7)	(79.7)	(79.7)	(84.5)	(79.7)	46
<b>Total</b>		<b>89.6</b>	<b>80.2</b>	<b>79.4</b>	<b>87.5</b>	<b>79.2</b>	<b>370</b>
[1] MICS indicator 9.8							
[2] MICS indicator 9.9							
(*) Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases.							

The proportion of women who were offered an HIV test and were tested for HIV during antenatal care, and received the results in Kisii county is 79 per cent. Generally, the proportion of women who were offered an HIV test and were tested for HIV during antenatal care and received the results seems to increase with increasing levels of household wealth index. For example, about 72 per cent of women from the poorest wealth index households were offered an HIV test and were tested for HIV during antenatal care, and received the results, versus 90 per cent for those from the fourth highest wealth index households.

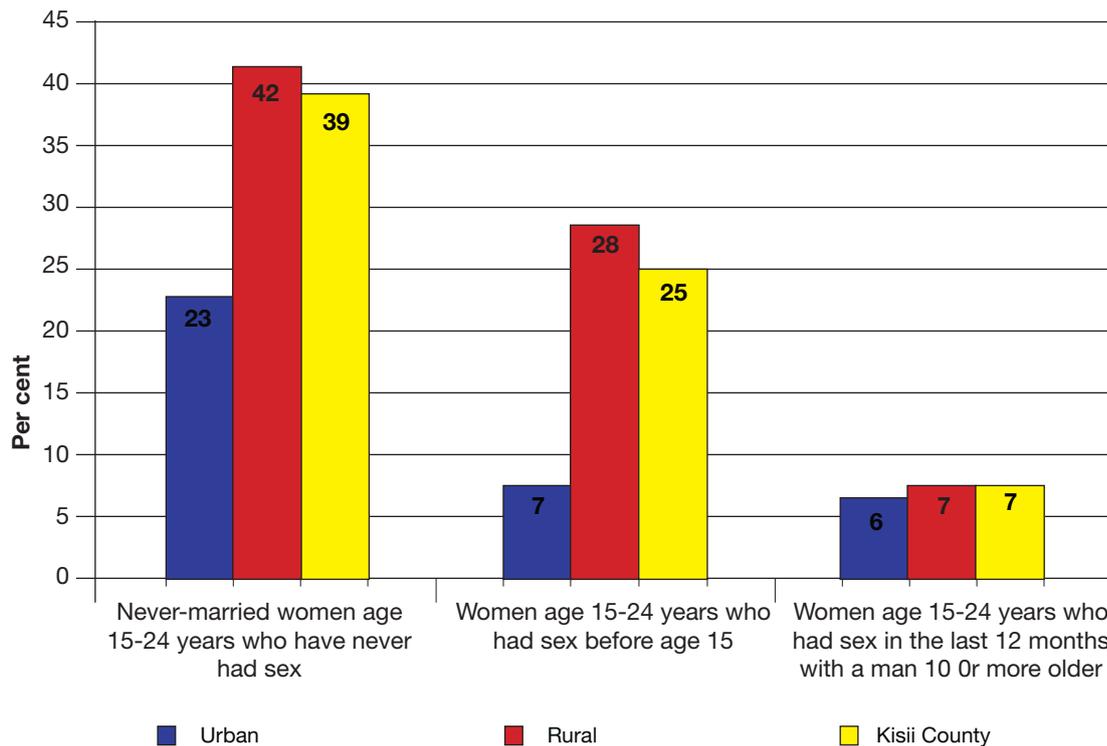
## Sexual Behaviour Related to HIV Transmission

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 tailored module was administered to women aged 15-24 years of age 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. The frequency of sexual behaviours that increase the risk of HIV infection among women is presented in Table HA.8 and Figure HA.2.

**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, Kisii County, 2011							
		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
<b>Area</b>	Urban	(23.0)	40	6.5	71	(6.4)	48
	Rural	41.8	278	27.7	521	7.3	323
<b>Age</b>	15-19	49.8	218	29.6	264	4.3	103
	20-24	17.0	100	21.6	328	8.3	268
<b>Marital status</b>	Ever married/in union	.	0	28.6	273	9.9	270
	Never married/in union	39.4	318	22.2	318	0.0	101
<b>Education</b>	None	(*)	15	(0.0)	27	(*)	20
	Primary	49.6	127	37.4	272	10.6	182
	Secondary +	33.3	176	16.1	292	4.4	168
<b>Wealth index quintiles</b>	Poorest	40.1	76	31.8	141	4.0	92
	Second	46.4	92	25.4	159	5.1	89
	Middle	26.9	61	32.0	108	13.1	65
	Fourth	(42.8)	43	18.3	95	9.2	63
	Richest	(37.7)	47	13.2	88	6.8	61
<b>Total</b>		<b>39.4</b>	<b>318</b>	<b>25.2</b>	<b>592</b>	<b>7.2</b>	<b>370</b>
[1] MICS indicator 9.10							
[2] MICS indicator 9.11							
[3] MICS indicator 9.12							
(*) Not shown, based on less than 25 unweighted cases.							
() Based on 25-49 unweighted cases							

**Figure HA.2 Sexual behaviour that increases risk of HIV infection residence, Kisii County, 2011**



Slightly more than a third (39 per cent) of young women aged 15-24 years who have never married have never had sex. One out of four (25 per cent) young women aged 15-24 years reporting having had sex before age 15.

The proportion of women aged 15-19 years who had had sex before age 15 was 30 per cent and 22 per cent among those aged 20-24 years. Young women in rural areas (28 per cent) are four times as likely to have had sex before age 15 than their urban counterparts (7 per cent). Similarly 27 per cent of young women who have ever been married/in union report to have had sex before age 15 and 22 per cent of those who have never been married/in union. There is some slight variations in the proportion of women who have had sex before age 15 across household wealth index. For example, among those from the poorest households nearly 32 per cent had sex before 15 years compared to 13 per cent among those from the richest households.

Seven per cent of young women aged 15-24 years have had sex in the last 12 months with a man 10 or more years older. All young women who have had sex in the last 12 months with a man 10 or more years older have ever been married/in union.

Sexual behaviour and condom use during sex with more than one partner was assessed in all women and separately for women age 15-24 years of age who had sex with such a partner in the previous year (Tables HA.9 and HA.10). About 2 per cent of women 15-49 years report having sex with more than one partner in the last 12 months. Of these, only 41 per cent used a condom the last time they had sex. The proportion of women who have had sex with more than one partner in the last year is comparable in urban and rural areas (3 per cent and 2 per cent respectively).

**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, Kisii County, 2011							
		Percentage of women who:			Number of women age 15-49 years	Per cent of women age 15-49 years who had more than one sexual partner in the last 12 months, who also reported that a condom was used the last time they had sex [2]	Number of women age 15-49 years who had more than one sexual partner in the last 12 months
		Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months [1]			
<b>Area</b>	Urban	94.3	68.9	2.9	164	(*)	5
	Rural	90.4	76.3	1.8	1241	(*)	22
<b>Age</b>	15-19	58.9	39.0	2.8	264	(*)	7
	20-24	94.8	81.6	3.3	328	(*)	11
	25-29	99.2	89.7	2.5	252	(*)	6
	30-34	100.0	90.3	1.3	181	(*)	2
	35-39	99.1	85.6	0.0	161	.	0
	40-44	100.0	73.2	0.0	105	.	0
	45-49	100.0	74.3	0.0	113	.	0
<b>Marital status</b>	Ever married/ in union	100.0	90.7	1.4	1043	(*)	15
	Never married/ in union	64.4	31.4	3.3	362	(*)	12
<b>Education</b>	None	96.7	72.7	0.0	111	.	0
	Primary	91.2	79.0	1.4	732	(*)	10
	Secondary +	89.2	71.3	2.9	561	(*)	16
<b>Wealth index quintiles</b>	Poorest	91.3	76.2	2.2	350	(*)	8
	Second	88.3	74.9	2.2	382	(*)	8
	Middle	92.7	72.8	1.5	243	(*)	4
	Fourth	91.4	73.8	1.8	216	(*)	4
	Richest	91.7	79.7	1.6	213	(*)	3
<b>Total</b>		<b>90.8</b>	<b>75.4</b>	<b>1.9</b>	<b>1404</b>	<b>(41.1)</b>	<b>27</b>
[1] MICS indicator 9.13 [2] MICS indicator 9.14 (*) Not shown, based on less than 25 un-weighted cases. (.) Based on 25-49 un-weighted cases.							

Overall, 79 per cent of young women aged 15-24 have ever had sex, 63 per cent had sex in the last 12 months preceding the survey and 3 per cent had sex with more than one partner in the same period as shown in Table HA.10.

**Table HA.10: Sex with multiple partners among 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, Kisii County, 2011							
		Percentage of women who:			Number of women age 15-24 years	Per cent of women age 15-24 years who had more than one sexual partner in the last 12 months, who also reported that a condom was used the last time they had sex [2]	Number of women age 15-24 years who had more than one sexual partner in the last 12 months
		Ever had sex	Had sex in the last 12 months	Had sex with more than one partner in last 12 months [1]			
<b>Area</b>	Urban	86.9	67.3	4.3	71	(*)	3
	Rural	77.7	62.0	2.9	521	(*)	15
<b>Age</b>	15-19	58.9	39.0	2.8	264	(*)	7
	20-24	94.8	81.6	3.3	328	(*)	11
<b>Marital status</b>	Ever married/in union	100.0	98.7	2.3	273	(*)	6
	Never married/in union	60.6	31.6	3.7	318	(*)	12
<b>Education</b>	None	(86.3)	(75.0)	(0.0)	27	.	0
	Primary	76.8	66.7	2.5	272	(*)	7
	Secondary +	79.9	57.6	3.9	292	(*)	11
<b>Wealth index quintiles</b>	Poorest	78.5	65.3	4.8	141	(*)	7
	Second	73.2	55.9	2.9	159	(*)	5
	Middle	85.0	60.2	2.1	108	(*)	2
	Fourth	80.5	66.9	2.8	95	(*)	3
	Richest	80.0	68.8	2.0	88	(*)	2
<b>Total</b>		<b>78.8</b>	<b>62.6</b>	<b>3.1</b>	<b>592</b>	<b>(*)</b>	<b>18</b>

(\*) Not shown, based on less than 25 unweighted cases.  
 ( ) Based on 25-49 unweighted cases

Tables HA.11 presents the 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.

About 3 per cent of young women aged 15-24 years have had sex with a non-marital, non-cohabiting partner in the last 12 months preceding the survey. There is no major variation in the proportion of women who have had sex with a non-marital, non-cohabiting partner in the last 12 months preceding the survey across the age groups.

**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, Kisii County, 2011**

		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	Percentage of women age 15-24 years who had sex with a non-marital, non-cohabiting partner in the last 12 months, who also reported that a condom was used the last time they had sex with such a partner [2]	Number of women age 15-49 years who had more than one sexual partner in the last 12 months
		Ever had sex	Had sex in the last 12 months					
<b>Area</b>	Urban	86.9	67.3	71	(3.1)	48	(*)	1
	Rural	77.7	62.0	521	3.4	323	(*)	11
<b>Age</b>	15-19	58.9	39.0	264	2.4	103	(*)	2
	20-24	94.8	81.6	328	3.8	268	(*)	10
<b>Marital status</b>	Ever married/in union	100.0	98.7	273	1.8	270	(*)	5
	Never married/in union	60.6	31.6	318	7.8	101	(*)	8
<b>Education</b>	None	(86.3)	(75.0)	27	(*)	20	.	0
	Primary	76.8	66.7	272	3.6	182	(*)	7
	Secondary +	79.9	57.6	292	3.6	168	(*)	6
<b>Wealth index quintiles</b>	Poorest	78.5	65.3	141	4.3	92	(*)	4
	Second	73.2	55.9	159	5.1	89	(*)	5
	Middle	85.0	60.2	108	4.0	65	(*)	3
	Fourth	80.5	66.9	95	0.0	63	.	0
	Richest	80.0	68.8	88	2.4	61	(*)	1
<b>Total</b>		<b>78.8</b>	<b>62.6</b>	<b>592</b>	<b>3.4</b>	<b>370</b>	<b>(*)</b>	<b>13</b>

[1] MICS indicator 9.15

[2] MICS indicator 9.16; MDG indicator 6.2

(\*) Not shown, based on less than 25 un-weighted cases.

(.) Based on 25-49 un-weighted cases.

## Orphans

As the HIV epidemic progresses, more and more children are becoming orphaned and vulnerable because of AIDS. Children who are orphaned or in vulnerable households may be at increased risk of neglect or exploitation if the parents are not available to assist them. 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. Orphans are defined as children under age 18 who have lost one or both parents.

The frequency of children living with neither parent, mother only, and father only is presented in Table HA.12. More than half (55 per cent) of children aged 0-17 years in Kisii County live with both parents. The 2007 estimate from the Kenya AIDS indicator Survey (KAIS) was 47 per cent for Nyanza and 52 per cent nationally. There is, no major difference between the proportions of male and female children who live with both parents.

The proportion of children who live with both parents in urban and rural areas is similar (54 per cent). The proportion of children living with both parents decreases with increasing age of child, from 59 per cent among children age 0-4 years to 45 per cent among children aged 15-17 years. However, the proportion of children living with both parents does not vary much across household wealth index.

Fifteen per cent of children aged below 18 years are not living with a biological parent. Additionally, the proportion of children not living with a biological parent increases with increasing age of a child. The proportions of children not living with a biological parent based on the gender is comparable (15per cent).

About 1 in 10 (11 per cent) children aged 0-17 years have one or both parents' dead. The proportion of children with one or both parent dead varies with age and residence of a child. Similarly, the proportion of children who have one or both parents' dead increases with increasing age of a child (ranges from 5 per cent in children aged 0-4 years to 21 per cent among children aged 15-17 years).

There are minimal differences in the proportion of children who have one or both parents dead across levels of household wealth index.

**Table HA.12: Children's living arrangements and orphanhood**

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, Kisii County, 2011															
	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	
<b>Sex</b>															
	Male	55.6	1.3	1.6	11.0	0.7	19.3	6.3	0.9	1.0	2.2	100.0	14.5	11.1	1821
	Female	53.5	1.8	1.6	10.8	1.1	20.1	6.5	0.6	0.7	3.4	100.0	15.3	11.8	1776
<b>Area</b>															
	Urban	54.2	1.8	1.0	5.2	1.0	16.0	14.4	0.5	2.4	3.5	100.0	9.0	20.6	323
	Rural	54.6	1.5	1.7	11.5	0.9	20.1	5.6	0.7	0.7	2.7	100.0	15.5	10.5	3274
<b>Age</b>															
	0-4 years	58.7	1.0	0.8	6.8	0.0	25.3	3.1	0.3	0.2	3.7	100.0	8.6	5.2	1138
	5-9 years	56.0	2.1	1.6	12.4	0.2	18.4	6.5	0.2	0.6	2.1	100.0	16.3	10.9	1066
	10-14 years	52.7	1.4	1.9	13.3	1.9	16.0	8.7	1.4	0.8	2.0	100.0	18.6	14.8	949
	15-17 years	44.7	1.6	3.0	12.6	2.7	16.6	9.7	1.5	3.7	3.8	100.0	19.9	21.3	444
<b>Wealth index quintiles</b>															
	Poorest	50.6	1.7	1.5	12.0	0.2	18.5	10.0	1.6	0.8	3.0	100.0	15.5	14.7	1002
	Second	59.1	0.9	1.4	11.2	1.0	19.4	2.8	0.0	0.4	3.9	100.0	14.4	6.4	1013
	Middle	54.0	0.6	1.4	12.4	1.3	18.7	6.5	1.1	1.3	2.7	100.0	15.7	11.3	599
	Fourth	51.9	3.0	2.0	10.1	1.5	26.3	3.0	0.2	0.8	1.0	100.0	16.6	10.4	531
	Richest	57.1	2.1	2.0	6.6	0.9	16.7	10.3	0.6	1.7	1.9	100.0	11.6	16.9	453
<b>Total</b>		<b>54.6</b>	<b>1.5</b>	<b>1.6</b>	<b>10.9</b>	<b>0.9</b>	<b>19.7</b>	<b>6.4</b>	<b>0.7</b>	<b>0.9</b>	<b>2.8</b>	<b>100.0</b>	<b>14.9</b>	<b>11.4</b>	<b>3598</b>

[1] MICS indicator 9.17

[2] MICS indicator 9.18

One of the measures developed for the assessment of the status of orphaned children relative to their peers looks at the school attendance of children aged 10-14 years who have lost both parents versus children whose parents are alive (and who live with at least one of these parents). If children whose parents have died do not have the same access to school as their peers, then families and schools are not ensuring that these children's rights are being met.

In Kisii County, 2 per cent of children aged 10-14 years have lost both parents with no major differences across gender of child (Table HA.13). Ninety-nine per cent of children who are non-orphans are attending school. Because of the low numbers of orphans, the estimates for the proportion of orphans attending school were not estimated. Consequently the orphans to non-orphan school attendance ratio are not available by background characteristics.

**Table HA.13: School attendance of orphans and non-orphans**

School attendance of children age 10-14 years by orphanhood, Kisii County, 2011									
		Percent- age of children whose mother and father have died (orphans)	Percent- age of children of whom both par- ents are alive and child is living with at least one parent (non- orphans)	Number of children age 10-14 years	Percent- age of children who are orphans and are attending school [1]	Total number of orphan children age 10-14 years	Percent- age of children who are non- orphans and are attending school [2]	Total number of non- orphan children age 10-14 years	Orphans to non- orphans school at- tendance ratio
<b>Sex</b>	Male	1.0	73.2	478	(*)	5	98.9	350	(*)
	Female	2.8	66.8	470	(*)	13	100.0	314	(*)
<b>Area</b>	Urban	3.3	70.5	97	(*)	3	95.3	68	(*)
	Rural	1.7	70.0	852	(*)	15	99.9	596	(*)
<b>Total</b>		<b>1.9</b>	<b>70.1</b>	<b>949</b>	<b>(*)</b>	<b>18</b>	<b>99.4</b>	<b>665</b>	<b>1.01</b>
[1] MICS indicator 9.19; MDG indicator 6.4									
[2] MICS indicator 9.20; MDG indicator 6.4									
(*) Not shown, based on less than 25 unweighted cases.									

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## Appendix A. Sample Design

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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 Kisii County Multiple Indicator Cluster Survey was to produce statistically reliable estimates of most indicators, at the county level, for urban and rural areas. The urban and rural areas within Kisii County were identified as the main 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 Kisii County MICS was calculated as 1250 households. For the calculation of the sample size, the key indicator used was the underweight prevalence among children aged 0-4 years. The following formula was used to estimate the required sample size for this indicator:

$$n = \frac{[4 (r) (1-r) (f) (1.1)]}{[(0.13r)^2 (p) (nh)]}$$

Where

- $n$  is the required sample size, expressed as number of households
- 4 is a factor to achieve the 95 per cent level of confidence
- $r$  is the predicted or anticipated prevalence (coverage rate) of the indicator
- 1.1 is the factor necessary to raise the sample size by 10 per cent for non-response
- $f$  is the shortened symbol for *deff* (design effect)
- $0.13r$  is the margin of error to be tolerated at the 95 per cent level of confidence, defined as 13 per cent of  $r$  (relative sampling error of  $r$ )
- $p$  is the proportion of the total population upon which the indicator,  $r$ , is based
- $nh$  is the average household size.

For the calculation,  $r$  (underweight prevalence) was assumed to be 30.9 per cent as per the 2008/9 KDHS. The value of *deff* (design effect) was taken as 1.4 based on the 2008-09 KDHS,  $p$  (percentage of children aged 0-59 months in Nyanza) was taken as 15 per cent and  $n_h$  (average household size in Kisii County) was taken as [6.2] households. Both  $p$  and  $n_h$  were based on the results from the 2009 Kenya Population Census. The margin of error to be tolerated at the 95 per cent level of confidence was fixed at  $0.13r$ .

The resulting number of households from this exercise was 1250. The average number of households selected per cluster for the Kisii County MICS was determined as 25 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 85 sample clusters would need to be selected in each region.

Equal allocation of the total sample size to the six regions was used. Therefore, 50 clusters were allocated to each region, with the final sample size calculated at 7500 households (50 clusters \* 6 counties \* 25 sample households per cluster). In each county, the clusters (primary sampling units) were distributed to urban and rural domains, proportional to the size of urban and rural populations in that region. 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**

County	Total	Population (2009 Estimates)			Number of Clusters		
		Rural	Urban	Peri-urban	Urban	Rural	Total
Siaya	833984	745922	66605	21457	5	45	50
Kisumu	952828	461145	291625	200053	27	23	50
Homa Bay	955203	820029	62981	72193	7	43	50
Migori	907743	603728	125434	178581	18	32	50
<b>Kisii</b>	<b>1142032</b>	<b>917260</b>	<b>87884</b>	<b>136888</b>	<b>11</b>	<b>39</b>	<b>50</b>
Nyamira	592324	516335	23618	52371	7	43	50
<b>Total</b>					<b>75</b>	<b>225</b>	<b>300</b>

### Sampling Frame and Selection of Clusters

The 2009 census frame was used for the selection of clusters. Census enumeration 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 2009 Population Census. The first stage of sampling was thus completed by selecting the required number of enumeration areas from Kisii County, separately by urban and rural strata.

### Listing Activities

The sampling team created a stand-alone statistical frame for each of the Nyanza counties based on the 2009 census EAs for the purpose of MICS 4. To create the sampling frame, a complete listing of the selected EAs was undertaken by identifying and mapping all existing structures and households. The listing process ensured that the EAs had one measure of size (MoS). One MoS was defined as an EA having an average of 100 households. Prior to undertaking the fieldwork that informed the development of the frame, office processing of the EAs in the selected districts was done so that each EA with less than 50 households is amalgamated with the most convenient adjoining one. On the other hand, the EAs with more than 149 households were segmented during household listing and eventually one segment scientifically selected and developed into a cluster. From this master frame, households were selected to participate in the MICS4 main survey.

The listing and mapping teams were oriented in a 4 day training program in Kisumu, which included class room sessions and field practice. The training was facilitated by experts from KNBS and UNICEF. The listing and mapping team consisted of 12 teams; each having a lister and a mapper. The teams were led by a Supervisor, overseen by the District Statistical Officer (DSO) on a daily basis, who also attended the 4 days training programme. The county team was led by a county coordinator who was in charge of managing all the quality assurance activities of the teams in each county. One team was given two days to list an EA. The whole exercise of listing was also monitored by the UNICEF independent team that included a consultant.

### Selection of Households

Lists of households were prepared by the listing teams in the field for each enumeration area. The households were then sequentially numbered from 1 to n (the total number of households in each enumeration area) at the KNBS Office, where the selection of 25 households in each enumeration area was carried out using random systematic selection procedures.

## Calculation of Sample Weights

The Kisii County Multiple Indicator Cluster Survey sample is not self-weighting. Essentially, by allocating equal numbers of households to each of the regions, different sampling fractions were used in each region since the size of the regions 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  $f_{hi}$ , 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  $p_{shi}$  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:

$$RR_h = \text{Number of interviewed households in stratum } h / \text{Number of occupied households listed in stratum } h$$

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 Kisii County Multiple Indicator Cluster Survey are shown in Table HH.1 in this report.

Similarly, the adjustment for non-response at the individual level (women and under-5 children) for each stratum is equal to the inverse value of:

$$RR_n = \text{Completed women's (or under-5's) questionnaires in stratum } h / \text{Eligible women (or under-5s) in stratum } h$$

The non-response adjustment factors for women's and under-5's questionnaires are applied to the adjusted household weights. Numbers of eligible women and under-5 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-5's questionnaires.

Sample weights were appended to all data sets and analyses were performed by weighting each household, woman or under-5 with these sample weights.

## Appendix B. List of Personnel Involved in the Survey

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### Survey Director

A.K Kilele, Director General, KNBS 2011

### Technical Co-ordinators

James Gatungu, KNBS  
Macdonald Obudho, KNBS  
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### Research Assistants

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Joanne Bosworth

## Appendix C. Estimates of Sampling Errors

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The sample of respondents selected in the Kisii County Multiple Indicator Cluster 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 (*deff*) is used to show the efficiency of the sample design in relation to the precision. A *deff* value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a *deff* 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. Three of the selected indicators are based on households, 8 are based on household members, 13 are based on women, and 15 are based on children under 5. 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.1 shows the calculated sampling errors for selected domains

**Table SE.1: Calculated sampling errors for selected domains**

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deff), square root of design effects (deff) and confidence intervals for selected indicators, Country, Year										
	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deff)	Weighted count	Unweighted count	Confidence limits	
									r - 2se	r + 2se
<b>HOUSEHOLDS</b>	Iodized salt consumption	0.876	0.013	0.015	1.899	1.378	1455	1136	0.849	0.903
<b>HOUSEHOLD MEMBERS</b>	Use of improved drinking water sources	0.615	0.027	0.044	3.577	1.891	6851	1161	0.561	0.669
	Use of improved sanitation	0.127	0.017	0.134	3.021	1.738	6851	1161	0.093	0.161
	Secondary school net attendance ratio (adjusted)	0.359	0.027	0.076	1.584	1.259	625	490	0.304	0.413
	Child labour	0.468	0.018	0.039	2.124	1.457	2015	1598	0.432	0.504
	Prevalence of children with at least one parent dead	0.114	0.013	0.117	5.019	2.240	3598	2863	0.088	0.141
	School attendance of non-orphans	0.994	0.005	0.005	2.093	1.447	665	528	0.984	1.000
	Violent discipline	0.891	0.013	0.014	1.523	1.234	2772	900	0.866	0.917

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deff) and confidence intervals for selected indicators, Country, Year											
	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deff)	Weighted count	Unweighted count	Confidence limits		
									r - 2se	r + 2se	
<b>WOMEN</b>	Pregnant women	0.068	0.008	0.117	1.073	1.036	1404	1078	0.052	0.083	
	Pregnant women sleeping under insecticide-treated nets (ITNs)	3.19	0.711	0.109	2.023	1.422	95	70	0.556	0.866	
	Intermittent preventive treatment for malaria	3.2	0.379	0.031	1.064	1.032	331	259	0.316	0.441	
	Early childbearing	5.2	0.321	0.034	1.269	1.127	328	245	0.254	0.389	
	Contraceptive prevalence	5.3	0.542	0.015	0.673	0.820	909	704	0.512	0.573	
	Antenatal care coverage - at least once by skilled personnel	5.5a	0.896	0.015	0.652	0.807	370	290	0.867	0.925	
	Antenatal care coverage - at least four times by any provider	5.5b	0.356	0.031	0.086	1.184	1.088	370	290	0.294	0.417
	Skilled attendant at delivery	5.7	0.611	0.045	2.462	1.569	370	290	0.521	0.701	
	Institutional deliveries	5.8	0.578	0.047	2.612	1.616	370	290	0.484	0.672	
	Caesarean section	5.9	0.075	0.019	0.252	1.494	1.222	370	290	0.037	0.113
	Literacy rate among young women	7.1	0.880	0.020	0.023	1.770	1.330	592	453	0.840	0.921
	Marriage before age 18	8.7	0.374	0.017	0.047	1.124	1.060	1141	870	0.339	0.409
	Polygyny	8.9	0.0959	0.01179	0.123	1.128	1.062	909	704	0.073	0.119
	Comprehensive knowledge about HIV prevention among young people	9.2	0.549	0.032	0.059	1.885	1.373	592	453	0.484	0.613
	Knowledge of mother-to-child transmission of HIV	9.3	0.557	0.023	0.041	2.225	1.492	1404	1078	0.511	0.602
	Accepting attitudes towards people living with HIV	9.4	0.271	0.015	0.055	1.189	1.090	1404	1077	0.241	0.300
	Women who have been tested for HIV and who have been told the results	9.6	0.547	0.021	0.039	1.932	1.390	1404	1078	0.505	0.589
Sexually active young women who have been tested for HIV and know the results	9.7	0.423	0.033	0.077	1.244	1.115	370	284	0.358	0.489	
Sex before age 15 among young women	9.11	0.252	0.019	0.075	0.866	0.931	592	453	0.214	0.290	
Condom use with non-regular partners	9.16	0.702	0.002	0.002	0.000	0.009	13	9	0.699	0.705	

Standard errors, coefficients of variation, design effects (deff), square root of design effects (deff) and confidence intervals for selected indicators, Country, Year											
	MICS Indicator	Value (r)	Standard error (se)	Coefficient of variation (se/r)	Design effect (deff)	Square root of design effect (deff)	Weighted count	Unweighted count	Confidence limits		
									r - 2se	r + 2se	
<b>UNDER-5s</b>	Underweight prevalence	2.1a	0.147	0.011	0.077	0.903	0.950	1105	873	0.124	0.170
	Stunting prevalence	2.2a	0.263	0.016	0.061	1.163	1.078	1105	873	0.231	0.295
	Wasting prevalence	2.3a	0.034	0.006	0.162	0.809	0.899	1105	873	0.023	0.045
	Exclusive breastfeeding under 6 months	2.6	0.416	0.060	0.143	0.979	0.989	88	68	0.297	0.536
	Age-appropriate breastfeeding	2.14	0.592	0.031	0.053	1.215	1.102	385	304	0.530	0.655
	Tuberculosis immunization coverage	-	1.000	0.000	0.000	.	.	187	149	1.000	1.000
	Received polio immunization	-	0.910	0.020	0.022	0.746	0.864	187	149	0.869	0.950
	Received DPT immunization	-	0.950	0.015	0.016	0.695	0.834	187	149	0.921	0.980
	Received measles immunization	-	0.968	0.021	0.021	2.054	1.433	187	149	0.927	1.000
	Diarrhoea in last two weeks	-	0.146	0.020	0.134	2.746	1.657	1135	897	0.107	0.185
	Illness with cough in the previous 2 weeks	-	0.080	0.012	0.145	1.626	1.275	1135	897	0.057	0.103
	Fever in last two weeks	-	0.129	0.016	0.122	1.966	1.402	1135	897	0.097	0.160
	Oral rehydration therapy with continued feeding	3.8	0.421	0.032	0.075	0.543	0.737	165	133	0.358	0.484
	Antibiotic treatment of suspected pneumonia	3.1	0.403	0.044	0.110	0.555	0.745	91	69	0.315	0.492
	Children under age 5 sleeping under insecticide-treated nets (ITNs)	3.15	0.786	0.018	0.023	1.805	1.343	1135	897	0.749	0.823
	Anti-malarial treatment of children under age 5	3.18	0.143	0.028	0.193	0.706	0.840	146	115	0.088	0.198
Support for learning	6.1	0.458	0.032	0.070	1.651	1.285	499	401	0.394	0.522	
Attendance to early childhood education	6.7	0.446	0.024	0.054	0.952	0.975	499	401	0.397	0.494	
Birth registration	8.1	0.562	0.023	0.041	1.958	1.399	1135	897	0.515	0.608	

## Appendix D: Data Quality Tables

Table DQ.1: Age distribution of household population

Single-year age distribution of household population by sex, Kisii County ,Kenya, 2011							
		Sex				Missing	
		Male		Female			
		Number	Per cent	Number	Per cent	Number	Per cent
Age	0	86	2.6	112	3.2	0	0.0
	1	103	3.1	81	2.3	0	0.0
	2	113	3.4	132	3.7	0	0.0
	3	129	3.9	120	3.4	0	0.0
	4	140	4.2	122	3.4	0	0.0
	5	120	3.6	117	3.3	0	0.0
	6	120	3.6	113	3.2	0	0.0
	7	111	3.4	107	3.0	0	0.0
	8	97	2.9	89	2.5	0	0.0
	9	99	3.0	93	2.6	0	0.0
	10	108	3.3	88	2.5	0	0.0
	11	102	3.1	98	2.8	0	0.0
	12	106	3.2	95	2.7	0	0.0
	13	87	2.6	83	2.3	0	0.0
	14	75	2.3	106	3.0	0	0.0
	15	77	2.3	66	1.9	0	0.0
	16	70	2.1	76	2.2	0	0.0
	17	77	2.3	77	2.2	0	0.0
	18	95	2.9	78	2.2	0	0.0
	19	61	1.9	47	1.3	0	0.0
	20	52	1.6	76	2.1	0	0.0
	21	42	1.3	77	2.2	0	0.0
	22	74	2.2	81	2.3	0	0.0
	23	38	1.2	62	1.8	0	0.0
	24	58	1.8	66	1.9	0	0.0
	25	59	1.8	69	2.0	0	0.0
	26	54	1.6	55	1.6	0	0.0
	27	38	1.1	51	1.4	0	0.0
	28	38	1.1	46	1.3	0	0.0
	29	30	0.9	43	1.2	0	0.0
	30	44	1.3	40	1.1	0	0.0
	31	15	0.4	41	1.1	0	0.0
	32	46	1.4	42	1.2	0	0.0
	33	28	0.9	48	1.3	0	0.0
	34	19	0.6	26	0.7	0	0.0
	35	37	1.1	31	0.9	0	0.0
	36	11	0.3	37	1.0	0	0.0
	37	23	0.7	42	1.2	0	0.0
	38	43	1.3	24	0.7	0	0.0
	39	30	0.9	31	0.9	0	0.0
	40	37	1.1	21	0.6	0	0.0

		Sex				Missing	
		Male		Female			
		Number	Per cent	Number	Per cent	Number	Per cent
Age	41	17	0.5	25	0.7	0	0.0
	42	26	0.8	21	0.6	0	0.0
	43	17	0.5	27	0.8	0	0.0
	44	12	0.4	14	0.4	0	0.0
	45	25	0.7	28	0.8	0	0.0
	46	11	0.3	18	0.5	0	0.0
	47	8	0.2	26	0.7	0	0.0
	48	18	0.6	24	0.7	0	0.0
	49	15	0.5	20	0.6	0	0.0
	50	29	0.9	31	0.9	0	0.0
	51	30	0.9	41	1.1	0	0.0
	52	14	0.4	26	0.7	0	0.0
	53	22	0.7	20	0.6	0	0.0
	54	9	0.3	23	0.6	0	0.0
	55	19	0.6	28	0.8	0	0.0
	56	14	0.4	11	0.3	0	0.0
	57	17	0.5	19	0.5	0	0.0
	58	20	0.6	16	0.5	0	0.0
	59	17	0.5	12	0.3	0	0.0
	60	20	0.6	30	0.8	0	0.0
	61	11	0.3	16	0.4	0	0.0
	62	13	0.4	7	0.2	0	0.0
	63	10	0.3	6	0.2	0	0.0
	64	11	0.3	8	0.2	0	0.0
	65	8	0.2	17	0.5	0	0.0
	66	5	0.2	11	0.3	0	0.0
	67	2	0.1	5	0.2	0	0.0
	68	9	0.3	2	0.1	0	0.0
	69	4	0.1	4	0.1	0	0.0
	70	14	0.4	15	0.4	0	0.0
71	4	0.1	4	0.1	0	0.0	
72	1	0.0	10	0.3	0	0.0	
73	8	0.2	3	0.1	0	0.0	
74	5	0.1	3	0.1	0	0.0	
75	5	0.2	9	0.2	0	0.0	
76	1	0.0	4	0.1	0	0.0	
77	0	0.0	1	0.0	0	0.0	
78	4	0.1	2	0.1	2	100.0	
79	3	0.1	1	0.0	0	0.0	
80+	30	0.9	46	1.3	0	0.0	
DK/missing	0	0.0	2	0.1	0	0.0	
<b>Total</b>		<b>3301</b>	<b>100.0</b>	<b>3548</b>	<b>100.0</b>	<b>2</b>	<b>100.0</b>

**Table DQ.2: Age distribution of eligible and interviewed women**

<b>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, Kisii County, 2011</b>					
		Household population of women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed (Completion rate)
		Number	Number	Per cent	
<b>Age</b>	10-14	470	NA	NA	NA
	15-19	345	258	18.8	74.8
	20-24	363	321	23.4	88.5
	25-29	264	247	18.0	93.4
	30-34	196	178	12.9	90.6
	35-39	166	158	11.5	95.2
	40-44	106	103	7.5	96.6
	45-49	117	111	8.0	95.0
	50-54	140	NA	NA	NA
<b>Total (15-49)</b>		<b>1557</b>	<b>1375</b>	<b>100.0</b>	<b>88.3</b>

NA: Not Applicable

**Table DQ.3: Age distribution of under-5s in household and under-5 questionnaires**

<b>Household population of children age 0-7, children age 0-4 whose mothers/caretakers were interviewed, and percentage of under-5 children whose mothers/caretakers were interviewed, by single ages, Kisii County, 2011</b>					
		Household population of children 0-7 years	Interviewed under-5 children		Percentage of eligible under-5s interviewed (Completion rate)
		Number	Number	Per cent	
<b>Age</b>	0	198	193	17.3	97.7
	1	184	183	16.4	99.6
	2	245	242	21.6	98.7
	3	250	244	21.9	98.0
	4	263	254	22.7	96.6
	5	237	NA	NA	NA
	6	233	NA	NA	NA
	7	218	NA	NA	NA
<b>Total (0-4)</b>		<b>1138</b>	<b>1116</b>	<b>100.0</b>	<b>98.0</b>

NA: Not Applicable

**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, Kisii County, 2011						
		Household population of women age 15-49 years		Interviewed women age 15-49 years		Percent of eligible women interviewed (Completion rates)
		Number	Per cent	Number	Per cent	
<b>Area</b>	Rural	1367	87.8	1215	88.3	88.8
	Urban	189	12.2	160	11.7	84.7
<b>Household size</b>	1-3	1074	69.0	232	16.9	94.4
	4-6	371	23.8	701	51.0	88.6
	7+	112	7.2	442	32.1	85.0
<b>Education of household head</b>	None	274	17.6	221	16.1	80.7
	Primary	770	49.5	696	50.6	90.4
	Secondary +	508	32.7	455	33.1	89.5
	Missing/DK	4	0.3	3	0.2	64.5
<b>Wealth index quintiles</b>	Poorest	376	24.1	343	25.0	91.3
	Second	415	26.6	374	27.2	90.3
	Middle	266	17.1	238	17.3	89.5
	Fourth	242	15.6	211	15.4	87.2
	Richest	259	16.6	208	15.2	80.6
<b>Total</b>		<b>1557</b>	<b>100.0</b>	<b>1375</b>	<b>100.0</b>	<b>88.3</b>

**Table DQ.5: Completion rates for under-5 questionnaires by socio-economic characteristics of households**

Household population of under-5 children, under-5 questionnaires completed, and percentage of under-5 children for whom interviews were completed, by selected socio-economic characteristics of the household, Kisii County, 2011						
		Household population of under-5 children		Interviewed under-5 children		Per cent of eligible under-5s with completed under-5 questionnaires (Completion rates)
		Number	Per cent	Number	Per cent	
<b>Area</b>	Rural	1048	92.1	1029	92.2	98.1
	Urban	90	7.9	88	7.8	96.9
<b>Household size</b>	1-3	149	13.1	125	11.2	98.3
	4-6	642	56.4	621	55.6	97.8
	7+	348	30.6	371	33.2	98.3
<b>Education of household head</b>	None	156	13.7	150	13.4	95.9
	Primary	602	52.9	593	53.2	98.6
	Secondary +	371	32.6	365	32.7	98.4
	Missing/DK	9	0.8	8	0.7	84.0
<b>Wealth index quintiles</b>	Poorest	331	29.1	328	29.3	98.9
	Second	313	27.5	307	27.5	98.1
	Middle	176	15.5	172	15.4	97.7
	Fourth	185	16.2	182	16.3	98.2
	Richest	133	11.7	128	11.5	96.2
<b>Total</b>		<b>1138</b>	<b>100.0</b>	<b>1116</b>	<b>100.0</b>	<b>98.0</b>

**Table DQ.6: Completeness of reporting**

<b>Percentage of observations that are missing information for selected questions and indicators, Kisii County, 2011</b>		
	Per cent with missing/ incomplete information*	Number of cases
Age	0.0	5422
Salt testing	0.4	1483
Starting time of interview	0.4	1483
Ending time of interview	0.3	1483
Woman's date of birth		
Only month	33.4	1404
Both month and year	0.2	1404
Date of first birth		
Only month	1.0	1104
Both month and year	0.0	1104
Completed years since first birth	0.0	1104
Date of last birth		
Only month	0.8	1104
Both month and year	0.0	1104
Date of first marriage/union		
Only month	4.8	1043
Both month and year	1.9	1043
Age at first marriage/union	0.3	1043
Age at first intercourse	0.0	466
Time since last intercourse	0.0	466
Starting time of interview	0.3	1404
Ending time of interview	0.2	1404
Date of birth		
Only month	0.5	1135
Both month and year	0.0	1135
Anthropometric measurements		
Weight	1.8	1135
Height	1.8	1135
Both weight and height	1.8	1135
Starting time of interview	0.5	1135
Ending time of interview	0.4	1135

**Table DQ.7: Completeness of information for anthropometric indicators**

Distribution of children under 5 by completeness of information for anthropometric indicators, Kisii County, 2011									
		Valid weight and date of birth	Reason for exclusion from analysis				Total	Per cent of children excluded from analysis	Number of children under 5
			Weight not measured	Incomplete date of birth	Weight not measured, incomplete date of birth	Flagged cases (outliers)			
<b>Weight by age</b>	<6 months	97.1	0.0	0.0	0.0	0.0	100.0	0.0	68
	6-11 months	100.0	0.0	0.0	0.0	0.0	100.0	0.0	87
	12-23 months	99.3	0.0	0.0	0.0	0.0	100.0	0.0	149
	24-35 months	99.0	0.0	0.0	0.0	0.0	100.0	0.0	192
	36-47 months	96.9	0.0	0.5	0.0	0.0	100.0	0.5	196
	48-59 months	95.1	0.0	2.0	0.0	0.0	100.0	2.0	205
<b>Total</b>		<b>97.7</b>	<b>0.0</b>	<b>0.6</b>	<b>0.0</b>	<b>0.0</b>	<b>100.0</b>	<b>0.6</b>	<b>897</b>

**Table DQ.8: Heaping in anthropometric measurements**

Distribution of weight and height/length measurements by digits reported for decimals, Kisii County, 2011					
		Weight		Height	
		Number	Per cent	Number	Per cent
<b>Digits</b>	0	83	9.4	233	26.4
	1	80	9.1	65	7.4
	2	94	10.7	86	9.8
	3	94	10.7	72	8.2
	4	92	10.4	53	6.0
	5	82	9.3	136	15.4
	6	84	9.5	86	9.8
	7	90	10.2	76	8.6
	8	88	10.0	47	5.3
	9	94	10.7	27	3.1
	0 or 5	165	18.7	369	41.9
<b>Total</b>		<b>881</b>	<b>100.0</b>	<b>881</b>	<b>100.0</b>

**Table DQ.9: Observation of bednets and places for hand washing**

Percentage of bednets in all households interviewed observed by the interviewer, and percentage of places for handwashing observed by the interviewer in all interviewed households, Kisii County, 2011								
		Percentage of bednets observed by interviewer	Total number of bednets	Observation of places for handwashing: Observed	Place for handwashing not in dwelling	No permission to see	Total	Number of households interviewed
<b>Area</b>	Rural	74.4	2176	3.2	96.5	0.1	100.0	954
	Urban	69.8	329	5.9	93.5	0.6	100.0	169
<b>Wealth index quintiles</b>	Poorest	74.3	653	0.6	99.0	0.0	100.0	313
	Second	74.4	426	3.7	96.3	0.0	100.0	191
	Middle	74.4	537	5.7	94.3	0.0	100.0	230
	Fourth	80.4	465	2.4	97.6	0.0	100.0	211
	Richest	63.3	424	7.9	91.0	1.1	100.0	178
<b>Total</b>		<b>73.8</b>	<b>2505</b>	<b>3.7</b>	<b>96.1</b>	<b>0.2</b>	<b>100.0</b>	<b>1123</b>

**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, Kisii County, 2011								
		Woman does not have health card	Woman has health card		Missing/DK	Total	Per cent 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)				
<b>Area</b>	Rural	15.7	60.3	21.0	3.0	100.0	74.2	267
	Urban	21.7	43.5	30.4	4.3	100.0	58.8	23
<b>Wealth index quintiles</b>	Poorest	18.4	52.9	25.3	3.4	100.0	67.6	87
	Second	18.6	60.0	18.6	2.9	100.0	76.4	70
	Middle	9.3	74.1	16.7	0.0	100.0	81.6	54
	Fourth	14.9	61.7	19.1	4.3	100.0	76.3	47
	Richest	18.8	43.8	31.3	6.3	100.0	58.3	32
<b>Total</b>		<b>16.2</b>	<b>59.0</b>	<b>21.7</b>	<b>3.1</b>	<b>100.0</b>	<b>73.1</b>	<b>290</b>

**Table DQ.11: Observation of under-5s birth certificates**

Percent distribution of children under 5 by presence of birth certificates, and percentage of birth calendar seen, Kisii County, 2011								
		Child does not have birth certificate	Child has birth certificate		Missing/DK	Total	Per cent 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]				
<b>Area</b>	Rural	85.9	4.9	7.8	1.2	100.0	38.7	838
	Urban	59.3	20.3	20.3	0.0	100.0	50.0	59
<b>Child's age</b>	0	90.8	3.9	4.6	0.0	100.0	46.2	153
	1	81.9	7.4	10.7	0.0	100.0	40.7	149
	2	81.8	7.3	9.9	1.0	100.0	42.4	192
	3	84.3	5.6	7.6	2.0	100.0	42.3	198
	4	82.9	5.4	9.8	2.0	100.0	35.5	205
<b>Total</b>		<b>84.2</b>	<b>5.9</b>	<b>8.6</b>	<b>1.1</b>	<b>100.0</b>	<b>40.8</b>	<b>897</b>

**Table DQ.12: Observation of vaccination cards**

Percent distribution of children under 5 by presence of a vaccination card, and the percentage of vaccination cards seen by the interviewers, Kisii County, 2011								
		Child has vaccination card			Missing/ DK	Total	Per cent of vaccination cards seen by the interviewer (1)/ (1+2)*100	Number of children under age 5
		Has, Seen by the interviewer (1)	Has, not seen by the interviewer (2)	Child has no vaccination card				
<b>Area</b>	Rural	66.6	26.3	7.2	0.0	100.0	71.7	838
	Urban	39.0	50.8	8.5	1.7	100.0	43.4	59
<b>Child's age</b>	0	88.2	7.8	3.9	0.0	100.0	91.8	153
	1	83.2	14.1	2.7	0.0	100.0	85.5	149
	2	66.7	27.6	5.7	0.0	100.0	70.7	192
	3	54.5	34.8	10.6	0.0	100.0	61.0	198
	4	42.0	46.3	11.2	0.5	100.0	47.5	205
<b>Total</b>		<b>64.8</b>	<b>27.9</b>	<b>7.2</b>	<b>0.1</b>	<b>100.0</b>	<b>69.9</b>	<b>897</b>

**Table DQ.13: Presence of mother in the household and the person interviewed for the under-5 questionnaire**

Distribution of children under five by whether the mother lives in the same household, and the person interviewed for the under-5 questionnaire, Kisii County, 2011							
		Mother in the household	Mother not in the household			Total	Number of children under 5
		Mother interviewed	Father interviewed	Other adult female interviewed	Other adult male interviewed		
<b>Age</b>	0	98.6	0.0	1.4	0.0	100.0	198
	1	93.9	0.7	5.5	0.0	100.0	184
	2	87.2	0.0	12.3	0.5	100.0	245
	3	83.9	0.5	14.7	0.9	100.0	250
	4	86.4	0.3	12.6	0.7	100.0	263
<b>Total</b>		<b>89.4</b>	<b>0.3</b>	<b>9.9</b>	<b>0.5</b>	<b>100.0</b>	<b>1138</b>

**Table DQ.14: Selection of children age 2-14 years for the child discipline module**

Percent of households with at least two children age 2-14 years where correct selection of one child for the child discipline module was performed, Kisii County, 2011			
		Per cent of households where correct selection was performed	Number of households with 2 or more children age 2-14 years
<b>Area</b>	Rural	98.0	597
	Urban	100.0	41
<b>Number of households by number of children 2-14</b>	2	99.6	248
	3	97.5	199
	4	96.9	191
<b>Total</b>		<b>98.1</b>	<b>638</b>

**Table DQ.15: School attendance by single age**

Age at beginning of school year		Distribution of household population age 5-24 by educational level and educational level and grade attended in the current (or most recent) school year, Kisii County, 2011																	Number of household members				
		Not attending school	Preschool/ kindergarten	Primary								Post primary					Secondary	Higher		DK	Total		
				1	2	3	4	5	6	7	8	1	2	3	4	DK							
5	14.3	78.4	6.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	100.0	237	5
6	6.6	72.5	12.0	6.8	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	233	6
7	3.4	34.7	30.9	20.4	9.0	0.6	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	218	7
8	0.8	13.2	25.7	36.8	18.2	3.8	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	186	8
9	3.2	5.3	9.5	32.7	23.5	19.2	5.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	192	9
10	1.3	0.0	10.2	13.5	24.9	27.6	18.2	3.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	196	10
11	0.0	1.3	2.9	9.6	16.2	31.9	21.9	11.1	3.2	0.6	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	200	11
12	0.6	0.0	0.9	3.0	10.5	23.9	22.4	22.1	12.0	2.5	0.0	0.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0	201	12
13	0.4	0.0	0.0	1.4	2.6	12.3	21.6	23.3	23.2	12.6	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0	170	13
14	2.4	0.0	0.7	0.6	2.0	4.2	9.6	15.9	27.5	22.2	0.0	0.0	0.0	14.2	0.0	0.0	0.0	0.0	0.0	0.6	100.0	180	14
15	7.7	0.0	2.5	1.1	0.0	0.0	5.4	13.7	30.1	16.7	0.0	0.0	0.0	22.8	0.0	0.0	0.0	0.0	0.0	0.0	100.0	143	15
16	7.9	0.0	0.8	0.0	1.3	2.3	5.7	0.7	19.5	10.4	0.0	0.0	0.0	51.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	147	16
17	22.1	0.0	1.5	0.0	0.8	0.0	0.0	1.6	8.3	7.1	1.2	0.0	0.0	57.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	155	17
18	33.6	0.0	0.0	0.4	0.0	0.8	0.6	1.8	3.4	2.8	0.4	0.0	0.0	52.1	3.9	0.0	0.0	0.0	0.0	0.0	100.0	173	18
19	34.2	0.0	0.0	0.0	0.0	0.0	1.2	1.1	9.7	1.9	0.0	0.0	0.0	44.8	7.1	0.0	0.0	0.0	0.0	0.0	100.0	108	19
20	60.2	0.0	0.0	0.0	0.9	0.0	0.0	1.0	0.9	2.1	0.9	0.0	0.0	27.1	6.9	0.0	0.0	0.0	0.0	0.0	100.0	128	20
21	71.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	16.8	8.0	1.0	0.0	0.0	0.0	0.0	100.0	118	21
22	71.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	13.1	0.0	0.0	0.0	0.0	0.0	100.0	155	22
23	81.3	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	1.1	1.1	0.0	1.1	3.9	10.9	0.0	0.0	0.0	0.0	0.0	100.0	101	23
24	85.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	6.3	7.0	0.0	0.0	0.0	0.0	0.0	100.0	124	24

**Table DQ.16: Sex ratio at birth among children ever born and living**

<b>Sex ratio (number of males per 100 females) among children ever born (at birth), children living, and deceased children, by age of women, Kisii County, 2011</b>											
		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	31	32	1.0	31	29	1.1	0	3	0.0	208
	20-24	183	174	1.1	171	165	1.0	12	9	1.3	245
	25-29	269	264	1.0	253	249	1.0	16	15	1.1	193
	30-34	284	264	1.1	267	248	1.1	17	16	1.1	141
	35-39	328	294	1.1	290	262	1.1	38	32	1.2	123
	40-44	238	224	1.1	198	200	1.0	40	24	1.7	82
	45-49	279	252	1.1	223	216	1.0	56	36	1.6	86
Total		<b>1612</b>	<b>1504</b>	<b>1.1</b>	<b>1433</b>	<b>1369</b>	<b>1.0</b>	<b>179</b>	<b>135</b>	<b>1.1</b>	<b>1078</b>

## Appendix E: Additional Tables

Table NU.A1. Feeding patterns by age

Percent distribution of children age 0-23 months by feeding pattern, Kisii county, 2011										
		Infant feeding patterns							Total	Number of children
		Exclusively breastfed	Breastfed and plain water only	Breastfed and non-milk liquids	Breastfed and other milk / formula	Breastfed and complementary foods	Weaned (not breastfed)			
Age	0-1	54.3	29.9	7.4	8.5	0.0	0.0	100.0	16	
	2-3	36.3	26.3	13.4	24.0	0.0	0.0	100.0	10	
	4-5	50.3	0.0	33.5	16.3	0.0	0.0	100.0	19	
	6-7	32.6	0.0	11.6	0.0	42.7	13.1	100.0	23	
	8-9	28.0	15.4	23.5	11.8	10.2	11.1	100.0	12	
	10-11	48.9	0.0	0.0	0.0	51.1	0.0	100.0	9	
	12-13	0.0	6.0	26.4	0.0	67.7	0.0	100.0	20	
	14-15	0.0	0.0	13.4	10.8	75.8	0.0	100.0	18	
	16-17	0.0	0.0	14.9	9.2	69.0	6.9	100.0	17	
	18-19	0.0	0.0	0.0	8.5	82.6	9.0	100.0	14	
	20-21	0.0	0.0	4.7	0.0	88.1	7.3	100.0	24	
	22-23	0.0	0.0	8.0	12.9	72.1	7.0	100.0	17	
	24-25	0.0	0.0	0.0	6.0	88.5	5.5	100.0	19	
	26-27	0.0	0.0	0.0	0.0	71.0	29.0	100.0	22	
	28-29	0.0	0.0	6.4	0.0	76.5	17.1	100.0	19	
	30-31	0.0	0.0	0.0	0.0	89.3	10.7	100.0	11	
32-33	0.0	0.0	6.7	0.0	62.5	30.8	100.0	18		
34-35	0.0	0.0	0.0	9.6	44.2	46.2	100.0	12		

## Appendix F: MICS4 Indicators - Numerators and Denominators

MICS4 INDICATOR		Module <sup>10</sup>	Numerator	Denominator	MDG <sup>11</sup>
<b>1. MORTALITY</b>					
1.1	Under-five mortality rate	CM	Probability of dying by exact age 5 years		MDG 4.1
1.2	Infant mortality rate	CM	Probability of dying by exact age 1 year		MDG 4.2
<b>2. NUTRITION</b>					
2.1a 2.1b	Underweight prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median weight for age of the WHO standard	Total number of children under age 5	MDG 1.8
2.2a 2.2b	Stunting prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median height for age of the WHO standard	Total number of children under age 5	
2.3a 2.3b	Wasting prevalence	AN	Number of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standard deviations (severe) from the median weight for height of the WHO standard	Total number of children under age 5	
2.5	Early initiation of breastfeeding	MN	Number of women with a live birth in the 2 years preceding the survey who put the newborn infant to the breast within 1 hour of birth	Total number of women with a live birth in the 2 years preceding the survey	
2.6	Exclusive breastfeeding under 6 months	BF	Number of infants under 6 months of age who are exclusively breastfed <sup>12</sup>	Total number of infants under 6 months of age	
2.7	Continued breastfeeding at 1 year	BF	Number of children age 12-15 months who are currently breastfeeding	Total number of children age 12-15 months	
2.8	Continued breastfeeding at 2 years	BF	Number of children age 20-23 months who are currently breastfeeding	Total number of children age 20-23 months	

<sup>10</sup> Some indicators are constructed by using questions in several modules. In such cases, only the module(s) which contains most of the necessary information is indicated.

<sup>11</sup> MDG indicators as of February 2010.

<sup>12</sup> Infants receiving breast milk, and not receiving any other fluids or foods, with the exception of oral rehydration solution, vitamins, mineral supplements and medicines.

MICS4 INDICATOR		Module <sup>10</sup>	Numerator	Denominator	MDG <sup>11</sup>
2.13	Minimum meal frequency	BF	Number of children age 6-23 months receiving solid, semi-solid and soft foods (plus milk feeds for non-breastfed children) the minimum times <sup>13</sup> or more, according to breastfeeding status, during the previous day	Total number of children age 6-23 months	
2.15	Milk feeding frequency for non-breastfed children	BF	Number of non-breastfed children age 6-23 months who received at least 2 milk feedings during the previous day	Total number of non-breastfed children age 6-23 months	
2.16	Iodized salt consumption	SI	Number of households with salt testing 15 parts per million or more of iodide/iodate	Total number of households in which salt was tested or with no salt	
2.17	Vitamin A supplementation (children under age 5)	IM	Number of children age 6-59 months who received at least one high-dose vitamin A supplement in the 6 months preceding the survey	Total number of children age 6-59 months	
2.18	Low-birthweight infants	MN	Number of last live births in the 2 years preceding the survey weighing below 2,500 grams at birth	Total number of last live births in the 2 years preceding the survey	
2.19	Infants weighed at birth	MN	Number of last live births in the 2 years preceding the survey who were weighed at birth	Total number of last live births in the 2 years preceding the survey	
<b>3. CHILD HEALTH</b>					
3.1	Tuberculosis immunization coverage <sup>14</sup>	IM	Number of children age 12-23 months who received BCG vaccine before their first birthday	Total number of children age 12-23 months	
3.2	Polio immunization coverage	IM	Number of children age 12-23 months who received OPV3 vaccine before their first birthday	Total number of children age 12-23 months	
3.3	Immunization coverage for diphtheria, pertussis and tetanus (DPT)	IM	Number of children age 12-23 months who received DPT3 vaccine before their first birthday	Total number of children age 12-23 months	
3.4	Measles immunization coverage	IM	Number of children age 12-23 months who received measles vaccine before their first birthday	Total number of children age 12-23 months	MDG 4.3
3.6	Yellow fever immunization coverage	IM	Number of children age 12-23 months who received yellow fever vaccine before their first birthday	Total number of children age 12-23 months	

<sup>13</sup> Breastfeeding children: Solid, semi-solid, or soft foods, two times for infants age 6-8 months, 3 times for children 9-23 months; Non-breastfeeding children: Solid, semi-solid, or soft foods, or milk feeds, four times for children age 6-23 months.

<sup>14</sup> Age groups used in indicators 3.1 to 3.6 are applicable when basic immunization schedules are used (with measles administered at 9 months). For the calculation of indicators when different schedules are used, see MICS4 manual for detailed descriptions.

MICS4 INDICATOR		Module <sup>10</sup>	Numerator	Denominator	MDG <sup>11</sup>
3.7	Neonatal tetanus protection	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who were given at least two doses of tetanus toxoid vaccine within the appropriate interval <sup>15</sup> prior to giving birth	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
3.8	Oral rehydration therapy with continued feeding	CA	Number of children under age 5 with diarrhoea in the previous 2 weeks who received ORT (ORS packet or recommended homemade fluid or increased fluids) and continued feeding during the episode of diarrhoea	Total number of children under age 5 with diarrhoea in the previous 2 weeks	
3.9	Care-seeking for suspected pneumonia	CA	Number of children under age 5 with suspected pneumonia in the previous 2 weeks who were taken to an appropriate health provider	Total number of children under age 5 with suspected pneumonia in the previous 2 weeks	
3.10	Antibiotic treatment of suspected pneumonia	CA	Number of children under age 5 with suspected pneumonia in the previous 2 weeks who received antibiotics	Total number of children under age 5 with suspected pneumonia in the previous 2 weeks	
3.11	Solid fuels	HC	Number of household members in households that use solid fuels as the primary source of domestic energy to cook	Total number of household members	
3.12	Household availability of insecticide-treated nets (ITNs) <sup>16</sup>	TN	Number of households with at least one insecticide treated net (ITN)	Total number of households	
3.14	Children under age 5 sleeping under any type of mosquito net	TN	Number of children under age 5 who slept under any type of mosquito net the previous night	Total number of children under age 5	
3.15	Children under age 5 sleeping under insecticide-treated nets (ITNs)	TN	Number of children under age 5 who slept under an insecticide-treated mosquito net (ITN) the previous night	Total number of children under age 5	MDG 6.7
3.18	Anti-malarial treatment of children under age 5	ML	Number of children under age 5 reported to have had fever in the previous 2 weeks who received any antimalarial treatment	Total number of children under age 5 reported to have had fever in the previous 2 weeks	MDG 6.8
3.19	Pregnant women sleeping under insecticide-treated nets (ITNs)	TN	Number of pregnant women who slept under an insecticide-treated net (ITN) the previous night	Total number of pregnant women	

<sup>15</sup> See MICS4 manual for a detailed description.

<sup>16</sup> An ITN is (a) a factory treated net which does not require any treatment, (b) a pretreated net obtained within the past 12 months, or (c) a net that has been soaked with insecticide within the past 12 months.

MICS4 INDICATOR		Module <sup>10</sup>	Numerator	Denominator	MDG <sup>11</sup>
3.20	Intermittent preventive treatment for malaria	MN	Number of women age 15-49 years who received at least 2 doses of SP/Fansidar to prevent malaria during antenatal care visits for their last pregnancy leading to a live birth in the 2 years preceding the survey	Total number of women age 15-49 years who have had a live birth in the 2 years preceding the survey	
3.21	Place for handwashing	HW	Number of households with a designated place for hand washing where water and soap are present	Total number of households	
3.22	Availability of soap	HW	Number of households with soap anywhere in the dwelling	Total number of households	
<b>4. WATER AND SANITATION</b>					
4.1	Use of improved drinking water sources	WS	Number of household members using improved sources of drinking water	Total number of household members	MDG 7.8
4.2	Water treatment	WS	Number of household members using unimproved drinking water who use an appropriate treatment method	Total number of household members in households using unimproved drinking water sources	
4.3	Use of improved sanitation facilities	WS	Number of household members using improved sanitation facilities	Total number of household members	MDG 7.9
4.4	Safe disposal of child's faeces	CA	Number of children age 0-2 years whose (last) stools were disposed of safely	Total number of children age 0-2 years	
<b>5. REPRODUCTIVE HEALTH</b>					
5.1	Adolescent birth rate	CM	Age-specific fertility rate for women age 15-19 years	MDG 5.4	
5.3	Contraceptive prevalence rate	CP	Number of women age 15-49 years currently married or in union who are using (or whose partner is using) a (modern or traditional) contraceptive method	Total number of women age 15-49 years who are currently married or in union	MDG 5.3
5.4	Unmet need <sup>17</sup>	UN	Number of women age 15-49 years who are currently married or in union who are fecund and want to space their births or limit the number of children they have and who are not currently using contraception	Total number of women age 15-49 years who are currently married or in union	MDG 5.6
5.5a 5.5b	Antenatal care coverage	MN	Number of women age 15-49 years who were attended during pregnancy in the 2 years preceding the survey (a) at least once by skilled personnel (b) at least four times by any provider	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.5

<sup>17</sup> See MICS4 manual for a detailed description.

MICS4 INDICATOR		Module <sup>10</sup>	Numerator	Denominator	MDG <sup>11</sup>
5.7	Skilled attendant at delivery	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who were attended during childbirth by skilled health personnel	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	MDG 5.2
5.8	Institutional deliveries	MN	Number of women age 15-49 years with a live birth in the 2 years preceding the survey who delivered in a health facility	Total number of women age 15-49 years with a live birth in the 2 years preceding the survey	
<b>6. CHILD DEVELOPMENT</b>					
6.1	Support for learning	CE	Number of children age 36-59 months with whom an adult has engaged in four or more activities to promote learning and school readiness in the past 3 days	Total number of children age 36-59 months	
6.2	Father's support for learning	CE	Number of children age 36-59 months whose father has engaged in one or more activities to promote learning and school readiness in the past 3 days	Total number of children age 36-59 months	
6.3	Learning materials: children's books	CE	Number of children under age 5 who have three or more children's books	Total number of children under age 5	
6.5	Inadequate care	CE	Number of children under age 5 left alone or in the care of another child younger than 10 years of age for more than one hour at least once in the past week	Total number of children under age 5	
6.6	Early child development Index	CE	Number of children age 36-59 months who are developmentally on track in literacy-numeracy, physical, social-emotional, and learning domains	Total number of children age 36-59 months	
6.7	Attendance to early childhood education	CE	Number of children age 36-59 months who are attending an early childhood education programme	Total number of children age 36-59 months	
<b>7. LITERACY AND EDUCATION</b>					
7.1	Literacy rate among young women	WB	Number of women age 15-24 years who are able to read a short simple statement about everyday life or who attended secondary or higher education	Total number of women age 15-24 years	MDG 2.3
7.3	Net intake rate in primary education	ED	Number of children of school-entry age who enter the first grade of primary school	Total number of children of school-entry age	
7.4	Primary school net attendance ratio (adjusted)	ED	Number of children of primary school age currently attending primary or secondary school	Total number of children of primary school age	MDG 2.1
7.5	Secondary school net attendance ratio (adjusted)	ED	Number of children of secondary school age currently attending secondary school or higher	Total number of children of secondary-school age	

MICS4 INDICATOR		Module <sup>10</sup>	Numerator	Denominator	MDG <sup>11</sup>
7.7	Primary completion rate	ED	Number of children (of any age) attending the last grade of primary school (excluding repeaters)	Total number of children of primary school completion age (age appropriate to final grade of primary school)	
7.9	Gender parity index (primary school)	ED	Primary school net attendance ratio (adjusted) for girls	Primary school net attendance ratio (adjusted) for boys	MDG 3.1
7.10	Gender parity index (secondary school)	ED	Secondary school net attendance ratio (adjusted) for girls	Secondary school net attendance ratio (adjusted) for boys	MDG 3.1
<b>8. CHILD PROTECTION</b>					
8.1	Birth registration	BR	Number of children under age 5 whose births are reported registered	Total number of children under age 5	
8.2	Child labour	CL	Number of children age 5-14 years who are involved in child labour	Total number of children age 5-14 years	
8.3	School attendance among child labourers	ED - CL	Number of children age 5-14 years who are involved in child labour and are currently attending school	Total number of children age 5-14 years involved in child labour	
8.4	Child labour among students	ED - CL	Number of children age 5-14 years who are involved in child labour and are currently attending school	Total number of children age 5-14 years attending school	
8.5	Violent discipline	CD	Number of children age 2-14 years who experienced psychological aggression or physical punishment during the past month	Total number of children age 2-14 years	
8.6	Marriage before age 15	MA	Number of women age 15-49 years who were first married or in union by the exact age of 15	Total number of women age 15-49 years	
8.7	Marriage before age 18	MA	Number of women age 20-49 years who were first married or in union by the exact age of 18	Total number of women age 20-49 years	
8.8	Young women age 15-19 years currently married or in union	MA	Number of women age 15-19 years who are currently married or in union	Total number of women age 15-19 years	
8.9	Polygyny	MA	Number of women age 15-49 years who are in a polygynous union	Total number of women age 15-49 years who are currently married or in union	
8.10a 8.10b	Spousal age difference	MA	Number of women currently married or in union whose spouse is 10 or more years older, (a) for women age 15-19 years, (b) for women age 20-24 years	Total number of women currently married or in union (a) age 15-19 years, (b) age 20-24 years	
8.11	Approval for female genital mutilation/cutting (FGM/C)	FG	Number of women age 15-49 years favouring the continuation of female genital mutilation/cutting (FGM/C)	Total number of women age 15-49 years who have heard of FGM/C	

MICS4 INDICATOR		Module <sup>10</sup>	Numerator	Denominator	MDG <sup>11</sup>
8.12	Prevalence of female genital mutilation/cutting (FGM/C) among women	FG	Number of women age 15-49 years who report to have undergone any form of female genital mutilation/cutting (FGM/C)	Total number of women age 15-49 years	
8.13	Prevalence of female genital mutilation/cutting (FGM/C) among girls	FG	Number of girls age 0-14 years who have undergone any form of female genital mutilation/cutting (FGM/C), as reported by mothers	Total number of girls age 0-14 years	
8.14	Attitudes towards domestic violence	DV	Number of women who state that a husband/partner is justified in hitting or beating his wife in at least one of the following circumstances: (1) she goes out without telling him, (2) she neglects the children, (3) she argues with him, (4) she refuses sex with him, (5) she burns the food	Total number of women age 15-49 years	
<b>9. HIV/AIDS, SEXUAL BEHAVIOUR AND ORPHANS</b>					
9.1	Comprehensive knowledge about HIV prevention	HA	Number of women age 15-49 years who correctly identify two ways of preventing HIV infection <sup>18</sup> , know that a healthy looking person can have HIV, and reject the two most common misconceptions 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 age 15-24 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	Total number of women age 15-24 years	MDG 6.3
9.3	Knowledge of mother-to-child transmission of HIV	HA	Number of women age 15-49 years who correctly identify all three means <sup>19</sup> of mother-to-child transmission of HIV	Total number of women age 15-49 years	
9.4	Accepting attitudes towards people living with HIV	HA	Number of women age 15-49 years expressing accepting attitudes on all four questions <sup>20</sup> toward people living with HIV	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	Number of women age 15-49 years who state knowledge of a place to be tested for HIV	Total number of women age 15-49 years	

18 Using condoms and limiting sex to one faithful, uninfected partner.

19 Transmission during pregnancy, during delivery, and by breastfeeding.

20 Women (1) who think that a female teacher with the AIDS virus should be allowed to teach in school, (2) who would buy fresh vegetables from a shopkeeper or vendor who has the AIDS virus, (3) who would not want to keep it as a secret if a family member became infected with the AIDS virus, and (4) who would be willing to care for a family member who became sick with the AIDS virus,

MICS4 INDICATOR		Module <sup>10</sup>	Numerator	Denominator	MDG <sup>11</sup>
9.6	Women who have been tested for HIV and know the results	HA	Number of women age 15-49 years who have been tested for HIV in the 12 months preceding the survey and who know their results	Total number of women age 15-49 years	
9.8	HIV counselling during antenatal care	HA	Number of women age 15-49 years who gave birth in the 2 years preceding the survey and received antenatal care, reporting that they received counselling on HIV during antenatal care	Total number of women age 15-49 years who gave birth in the 2 years preceding the survey	
9.9	HIV testing during antenatal care	HA	Number of women age 15-49 years who gave birth in the 2 years preceding the survey and received antenatal care, reporting that they were offered and accepted an HIV test during antenatal care and received their results	Total number of women age 15-49 years who gave birth in the 2 years preceding the survey	
9.10	Young women who have never had sex	SB	Number of never married women age 15-24 years who have never had sex	Total number of never married women age 15-24 years	
9.11	Sex before age 15 among young women	SB	Number of women age 15-24 years who have had sexual intercourse before age 15	Total number of women age 15-24 years	
9.12	Age-mixing among sexual partners	SB	Number of women age 15-24 years who had sex in the 12 months preceding the survey with a partner who was 10 or more years older than they were	Total number of women age 15-24 years who have had sex in the 12 months preceding the survey	
9.13	Sex with multiple partners	SB	Number of women age 15-49 years who have had sexual intercourse with more than one partner in the 12 months preceding the survey	Total number of women age 15-49 years	
9.15	Sex with non-regular partners	SB	Number of sexually active women age 15-24 years who have had sex with a non-marital, non-cohabiting partner in the 12 months preceding the survey	Total number of women age 15-24 years who have had sex in the 12 months preceding the survey	
9.16	Condom use with non-regular partners	SB	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	MDG 6.2
9.17	Children's living arrangements	HL	Number of children age 0-17 years not living with a biological parent	Total number of children age 0-17 years	
9.18	Prevalence of children with at least one parent dead	HL	Number of children age 0-17 years with at least one dead parent	Total number of children age 0-17 years	

## Appendix G: Questionnaires

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- a) Household Questionnaire
- b) Individual Women's Questionnaire
- c) Children under 5 years Questionnaire

HOUSEHOLD INFORMATION PANEL		HH
HH-A. Province Name & Code: _____	HH-B. County Name & Code: _____	
HH-C. District Name & Code: _____		
HH1. Cluster number: _____	HH2. Household number: _____	
HH3. Interviewer name and number: Name _____	HH4. Supervisor (name and number): Name _____	
HH5. Day/Month/Year of interview: _____ / _____ / _____		
HH6. Area: Urban.....2 Rural.....1		
HH8. Name of head of household: _____		
<i>After all questionnaires for the household have been completed, fill in the following information:</i>		
HH9. Result of household interview: 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: _____ Line No: _____	
	HH11. Total number of household members:	
HH12. No of women age 15-49 years: _____	HH13. No of women age 15-49 years forms completed: _____	
HH14. No of children under age 5: _____	HH15. No of under-5 questionnaires completed: _____	
Interviewer/editor/supervisor notes: <i>Use this space to record notes about the interview with this household, such as call-back times, incomplete individual interview forms, number of attempts to re-visit, etc.</i>		
HH16. Field edited by (Name and number): Name: _____	HH17. Data entry clerk(Name and number): Name: _____	

## INTRODUCTION

WE ARE FROM KENYA NATIONAL BUREAU OF STATISTICS (KNBS). WE ARE CONDUCTING A FAMILY HEALTH AND EDUCATION SURVEY. I WOULD LIKE TO TALK TO YOU ABOUT THIS. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE IDENTIFIED. MAY I START NOW?

*IF PERMISSION IS GIVEN, BEGIN THE INTERVIEW.*

HOUSEHOLD LISTING FORM										HL				
<p>HL0. 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)</p> <p>Then ask: ARE THERE ANY OTHERS WHO LIVE HERE, EVEN IF THEY ARE NOT AT HOME NOW? (THESE MAY INCLUDE CHILDREN IN SCHOOL OR AT WORK). If yes, complete listing.</p> <p>Then, ask questions starting with HL5 for each person at a time. Add a continuation sheet if there is not enough room on this page.</p> <p>Tick here if continuation sheet used</p>														
Record time	the													
Hour	-													
Minutes	-													
HL1. Line no	HL2. Name	HL3. WHAT IS THE RELATIONSHIP OF (name) TO THE HEAD OF THE HOUSEHOLD?	HL4. IS (name) MALE OR FEMALE? 1 Male 2 Fem	HL5. HOW OLD IS (name)? Probe: HOW OLD WAS (name) ON HIS/HER LAST BIRTHDAY? Record age in completed years	ELIGIBILITY FOR WOMEN'S INTERVIEW HL6. Circle Line no. if woman is age 15-49	MOTHER OR CARETAKER OF CHILD 5-14 HL7. For each child age 5-14: WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? Record line no. of mother/ caretaker	ELIGIBILITY FOR UNDER-5 INTERVIEW HL8. For each child under 5: WHO IS THE MOTHER OR PRIMARY CARETAKER OF THIS CHILD? Record line no. of mother/ caretaker	Ask if age 18-59 years HL8A. HAS (name) BEEN VERY SICK FOR AT LEAST 3 MONTHS DURING THE PAST 12 MONTHS? 1 Yes 2 No 8 DK →HL11	Ask if age 0-17 years HL9. IS (name's) NATURAL MOTHER ALIVE? 1 Yes 2 No 8 DK →HL11	HL10. If alive: DOES (name) NATURAL MOTHER LIVE IN THIS HOUSEHOLD? Record line no. of mother or 00 for 'no'	HL10A. If mother does not live in household: HAS (name's) MOTHER BEEN VERY SICK FOR AT LEAST 3 MONTHS IN THE PAST 12 MONTHS?	HL11. IS (name's) NATURAL FATHER ALIVE? 1 Yes 2 No 8 DK → Next Line	HL12. If alive: DOES (name) NATURAL FATHER LIVE IN THIS HOUSEHOLD? Record line no. of father or 00 for 'no'	HL12A. If father does not live in household: HAS (name's) FATHER BEEN VERY SICK FOR AT LEAST 3 MONTHS IN THE PAST 12 MONTHS?
Line	Name	Relation	M	F	Age	Mother	Mother	Y N DK	Y N DK	Mother	Y N DK	Y N DK	Father	Y N DK
01		01	1	2	01			128	128		128	128		128
02			1	2	02			128	128		128	128		128
03			1	2	03			128	128		128	128		128
04			1	2	04			128	128		128	128		128
05			1	2	05			128	128		128	128		128
06			1	2	06			128	128		128	128		128
07			1	2	07			128	128		128	128		128
08			1	2	08			128	128		128	128		128
09			1	2	09			128	128		128	128		128
10			1	2	10			128	128		128	128		128
11			1	2	11			128	128		128	128		128

12		1	2			12			128		128		128		128
13		1	2			13			128		128		128		128
14		1	2			14			128		128		128		128
15		1	2			15			128		128		128		128

ARE THERE ANY OTHER PERSONS LIVING HERE – EVEN IF THEY ARE NOT MEMBERS OF YOUR FAMILY OR DO NOT HAVE PARENTS LIVING IN THIS HOUSEHOLD? INCLUDING CHILDREN AT WORK OR AT SCHOOL? If yes, insert name and complete form.

*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 line number and other identifying information in the information panel of the Women's Questionnaire.*

*For each child under age 5, write his/her name and line number AND the line number of his/her mother or caretaker in the information panel of the 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
- 02 = Wife or Husband
- 03 = Son or Daughter
- 04 = Son or Daughter In-Law
- 05 = Grandchild 06 = Parent
- 07 = Parent-In-Law
- 08 = Brother or Sister
- 09 = Brother or Sister-In-Law
- 10 = Uncle/Aunt
- 11 = Niece/Nephew
- 12 = Other Relative
- 14 = Adopted/Foster/Stepchild
- 15 = Not Related
- 98 = Don't Know

EDUCATION										ED											
For household members age 5 and above										For household members age 5-24 years											
ED1. Line no.	ED1A. Name and age	ED2. HAS (name) EVER ATTENDED SCHOOL, PRESCHOOL OR ANY NON-FORMAL EDUCATION? 1 Yes → ED3 2 No → Next Line	ED3. WHAT IS THE HIGHEST LEVEL OF SCHOOL (name) ATTENDED? WHAT IS THE HIGHEST GRADE (STANDARD/FORM/CLASS) (name) COMPLETED AT THIS LEVEL? Level: 0 Preschool 1 Primary 2 Post-Primary/Vocational 3 Secondary, A level 4 Higher 6 Non-formal education 8 DK Grade/Standard/Form/Class: 98 DK If less than 1 grade, enter 00 If Level=0 or 6, leave Grade blank	ED4. DURING THE CURRENT (2011) SCHOOL YEAR, DID (name) ATTEND SCHOOL, PRESCHOOL OR NON-FORMAL EDUCATION AT ANY TIME? 1 Yes 2 No → ED7	ED5. SINCE LAST (day of the week), HOW MANY DAYS DID (name) ATTEND SCHOOL? Insert number of days. Exclude the day of interview. 8 DK 9 School closed	ED6. DURING THIS SCHOOL YEAR, WHICH LEVEL AND GRADE (STANDARD/FORM/CLASS) IS (name) ATTENDING? Level: 0 Preschool 1 Primary 2 Post-Primary/Vocational 3 Secondary, A level 4 Higher 6 Non-formal education 8 DK Grade/Standard/Form/Class: 98 DK If Level=0 or 6, leave Grade blank	ED7. DID (name) ATTEND SCHOOL, PRESCHOOL OR NON-FORMAL EDUCATION AT ANY TIME DURING THE PREVIOUS SCHOOL YEAR, THAT IS 2010? 1 Yes 2 No → Next Line 8 DK → Next Line	ED8. DURING THE PREVIOUS SCHOOL YEAR, WHICH LEVEL AND GRADE (STANDARD/FORM/CLASS) DID (name) ATTEND? Level: 0 Preschool 1 Primary 2 Post-Primary/Vocational 3 Secondary, A level 4 Higher 6 Non-formal education 8 DK Grade/Standard/Form/Class: 98 DK If Level=0 or 6, leave Grade blank	Line	Name	Age	Yes	No	Days	Level	Grade	Y	N	DK	Level	Grade
01		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2	8	0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
02		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
03		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
04		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
05		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
06		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
07		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
08		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
09		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
10		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
11		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
12		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
13		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
14		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	
15		1	2 → Next Line	0 1 2 3 4 6 8	1	2	0 1 2 3 4 6 8	1	2		0 1 2 3 4 6 8						1	2	8	0 1 2 3 4 6 8	

WATER AND SANITATION		WS
WS1. WHAT IS THE MAIN SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD?	Piped water	
	Piped into dwelling .....	11 → WS5
	Piped into compound, yard or plot.....	12 → WS5
	Piped to neighbor .....	
	Piped to water kiosk.....	
	Public tap/standpipe.....	
	Tubewell/Borehole.....	
	Dug well	
	Protected well.....	
	Unprotected well.....	
	Water from spring	
	Protected spring .....	→ WS3
	Unprotected spring.....	
	Rainwater collection.....	
Tanker-truck.....		
Cart with small tank/drum .....		
Surface water (river, stream, dam, lake, pond, canal, irrigation channel).....		
Bottled water .....		
Other ( <i>specify</i> ) .....	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 → WS5
	Piped into yard or plot .....	12 → WS5
	Piped to neighbor .....	
	Piped to water kiosk.....	
	Public tap/standpipe.....	
	Tubewell/Borehole.....	
	Dug well	
	Protected well.....	
	Unprotected well.....	
	Water from spring	
	Protected spring .....	
	Unprotected spring.....	
	Rainwater collection.....	
Tanker-truck.....		
Cart with small tank/drum .....		
Surface water (river, stream, dam, lake, pond, canal, irrigation channel).....		
Other ( <i>specify</i> ) .....		
WS3. HOW LONG DOES IT TAKE TO GO THERE, GET WATER, AND COME BACK?	No. of minutes .....	
	Water on premises .....	995 → WS5
	DK .....	998
WS4. WHO USUALLY GOES TO THIS SOURCE TO COLLECT THE WATER FOR YOUR HOUSEHOLD?  <i>Probe:</i> IS THIS PERSON UNDER AGE 15? WHAT SEX?	Adult woman (15+ years).....	1
	Adult man (15+ years) .....	2
	Female child (under 15).....	3
	Male child (under 15).....	4
	DK .....	8

WS5. DO YOU TREAT YOUR WATER IN ANY WAY TO MAKE IT SAFER TO DRINK?	Yes ..... 1 No ..... 2 DK ..... 8	2—►WS7 8—►WS7
WS6. WHAT DO YOU USUALLY DO TO THE WATER TO MAKE IT SAFER TO DRINK?  <i>Probe:</i> ANYTHING ELSE?  <i>Record all items mentioned.</i>	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 (a) ..... X DK ..... Z	
WS7. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE?  <i>If “flush” or “pour flush”, probe:</i> WHERE DOES IT FLUSH TO?  <i>If necessary, ask permission to observe the facility.</i>	Flush/pour flush Flush to piped sewer system ..... 11 Flush to septic tank ..... 12 Flush to pit (latrine) ..... 13 Flush to somewhere else ..... 14 Flush to unknown place/not sure/DK where ..... 15 Ventilated Improved Pit latrine (VIP) ..... 21 Pit latrine with slab ..... 22 Pit latrine without slab/open pit ..... 23 Composting toilet ..... 31 Bucket ..... 41 Hanging toilet/hanging latrine ..... 51 No facilities or bush or field or ocean ..... 95  Other ( <i>specify</i> ) ..... 96	95—►NEXT MODULE
WS8. DO YOU SHARE THIS FACILITY WITH OTHER HOUSEHOLDS?	Yes ..... 1 No ..... 2	2—►NEXT MODULE
WS8A. DO YOU SHARE THIS FACILITY ONLY WITH 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
WS9. HOW MANY HOUSEHOLDS IN TOTAL USE THIS TOILET FACILITY?	No. of households (if less than 10) ..... 0 __  Ten or more households ..... 10 DK ..... 98	

HOUSEHOLD CHARACTERISTICS		HC
HC1A. WHAT IS THE RELIGION OF THE HEAD OF THIS HOUSEHOLD?	Roman Catholic..... 1 Protestant and Other Christian..... 2 Muslim ..... 3 No Religion ..... 4  Others ( <i>specify</i> )..... 6	
HC2. HOW MANY ROOMS IN THIS HOUSEHOLD ARE USED FOR SLEEPING?	No. of rooms..... _ _	
HC3. MAIN MATERIAL OF THE DWELLING FLOOR:  <i>Record observation.</i>	Natural floor Earth/sand ..... 11 Dung ..... 12 Rudimentary floor Wood planks ..... 21 Palm/bamboo ..... 22 Finished floor Parquet or polished wood ..... 31 Vinyl or asphalt strips..... 32 Ceramic tiles ..... 33 Cement ..... 34 Carpet ..... 35  Other ( <i>specify</i> ) ..... 96	
HC4. MAIN MATERIAL OF THE ROOF.  <i>Record observation.</i>	Natural roofing No Roof..... 11 Grass/Thatch/Makuti ..... 12 Dung/Mud..... 13 Rudimentary Roofing Corrugated iron (Mabati)..... 21 Tin cans ..... 22 Finished roofing Asbestos sheet ..... 31 Concrete ..... 32 Tiles..... 33  Other ( <i>specify</i> ) ..... 96	
HC5. MAIN MATERIAL OF THE WALLS.  <i>Record observation.</i>	Natural walls No walls ..... 11 Cane/palm/trunks ..... 12 Dirt ..... 13 Rudimentary walls Bamboo with mud ..... 21 Stone with mud..... 22 Uncovered adobe ..... 23 Plywood ..... 24 Cardboard..... 25 Reused wood..... 26 Finished walls Cement ..... 31 Stone with lime/cement ..... 32 Bricks ..... 33 Cement blocks..... 34 Covered adobe ..... 35 Wood planks/shingles..... 36  Other ( <i>specify</i> ) ..... 96	2—►WS7 8—►WS7

<p>HC6. WHAT TYPE OF FUEL DOES YOUR HOUSEHOLD MAINLY USE FOR COOKING?</p>	<p>Electricity ..... 01  Liquefied Petroleum Gas (LPG) ..... 02  Natural gas ..... 03  Biogas ..... 04  Kerosene ..... 05</p> <p>Coal / Lignite ..... 06  Charcoal ..... 07  Wood ..... 08  Straw/shrubs/grass ..... 09  Animal dung ..... 10  Agricultural crop residue ..... 11</p> <p>Other (<i>specify</i>) ..... 96</p> <p>No food cooked in household ..... 97</p>	<p>01—►HC9  02—►HC9  03—►HC9  04—►HC9  05—►HC9</p> <p>97—►HC9</p>																																																
<p>HC8. IS THE COOKING USUALLY DONE IN THE INDOOR LIVING SPACE, IN A SEPARATE KITCHEN/BUILDING, OR OUTDOORS?</p>	<p>In a room used for living/sleeping ..... 1  In a separate room used as kitchen ..... 2  In a separate building used as kitchen ..... 3  Outdoors ..... 4</p> <p>Other (<i>specify</i>) ..... 6</p>																																																	
<p>HC9. DOES YOUR HOUSEHOLD HAVE:</p> <p>A. ELECTRICITY?  B. RADIO?  C. COLOR TELEVISION?  D. B&amp;W TELEVISION?  E. MOBILE TELEPHONE?  F. NON-MOBILE TELEPHONE?  G. REFRIGERATOR?  H. BLENDER OR MIXER?  I. WATER HEATER?  J. WASHING MACHINE?  K. COMPUTER?  L. INTERNET CONNECTION?  M. VCR, VCD OR DVD?  N. AIR CONDITIONER?  O. SEWING MACHINE?</p>	<table border="0"> <thead> <tr> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> </tr> </thead> <tbody> <tr><td>Electricity.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Radio.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Color Television.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>B&amp;W Television.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Mobile Telephone.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Non-Mobile Telephone.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Refrigerator.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Blender or Mixer.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Water Heater.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Washing Machine.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Computer.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Internet connection.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>VCR, VCD or DVD.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Air Conditioner.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Sewing Machine.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> </tbody> </table>		Yes	No	Electricity.....	1	2	Radio.....	1	2	Color Television.....	1	2	B&W Television.....	1	2	Mobile Telephone.....	1	2	Non-Mobile Telephone.....	1	2	Refrigerator.....	1	2	Blender or Mixer.....	1	2	Water Heater.....	1	2	Washing Machine.....	1	2	Computer.....	1	2	Internet connection.....	1	2	VCR, VCD or DVD.....	1	2	Air Conditioner.....	1	2	Sewing Machine.....	1	2	
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<p>HC10. DOES ANY MEMBER OF YOUR HOUSEHOLD OWN:</p> <p>A. A WATCH?  B. A BICYCLE?  C. A MOTORCYCLE OR SCOOTER?  D. AN ANIMAL-DRAWN CART?  E. A CAR OR TRUCK?  F. A BOAT WITH A MOTOR?</p>	<table border="0"> <thead> <tr> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> </tr> </thead> <tbody> <tr><td>Watch.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Bicycle.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Motorcycle/Scooter.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Animal drawn-cart.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Car/Truck.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Boat with motor.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> </tbody> </table>		Yes	No	Watch.....	1	2	Bicycle.....	1	2	Motorcycle/Scooter.....	1	2	Animal drawn-cart.....	1	2	Car/Truck.....	1	2	Boat with motor.....	1	2																												
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<p>HC10A. DO YOU OR SOMEONE LIVING IN THIS HOUSEHOLD OWN THIS DWELLING, OR DO YOU RENT THIS DWELLING?</p>	<p>Own ..... 1  Rent ..... 2  Rent free/squatter/other ..... 3</p>																																																	
<p>HC11. DOES ANY MEMBER OF THIS HOUSEHOLD OWN ANY LAND THAT CAN BE USED FOR AGRICULTURE?</p>	<p>Yes ..... 1  No ..... 2</p>	<p>2—►HC13</p>																																																

<p>HC12. HOW MANY ACRES OF AGRICULTURAL LAND DO MEMBERS OF THIS HOUSEHOLD OWN?</p> <p><i>If less than 1, record "00". If more than 97, record '97'. If unknown, record '98'.</i></p>	<p>Acres ..... — —</p>	
<p>HC13. DOES THIS HOUSEHOLD OWN ANY LIVESTOCK, HERDS, OR FARM ANIMALS?</p>	<p>Yes..... 1 No ..... 2</p>	<p>2—►NEXT MODULE</p>
<p>HC14. HOW MANY OF THE FOLLOWING ANIMALS DOES THIS HOUSEHOLD HAVE?</p> <p>A. LOCAL CATTLE (INDIGENOUS)? B. MILK COWS OR BULLS? C. HORSES, DONKEYS, OR MULES? D. GOATS? E. SHEEP? F. CHICKENS?</p> <p><i>If none, record '00'. If more than 97, record '97'. If unknown, record '98'.</i></p>	<p>Cattle ..... — — Milk cows or bulls..... — — Horses, donkeys, or mules..... — — Goats ..... — — Sheep ..... — — Chickens..... — —</p>	

INDOOR RESIDUAL SPRAYING		IR
IR1. AT ANY TIME IN THE PAST 12 MONTHS, HAS ANYONE SPRAYED THE INTERIOR WALLS OF YOUR DWELLING AGAINST MOSQUITOES?	Yes..... 1 No ..... 2	2—▶NEXT MODULE
IR2. HOW MANY MONTHS AGO WAS THE HOUSE SPRAYED?  <i>If less than one month, record "00".</i>	Months ago ..... — —	
IR3. WHO SPRAYED THE HOUSE?	Government worker/program..... 1 Private company ..... 2 Household member..... 3  Other ( <i>specify</i> ) ..... 6 DK ..... 8	

ITN		TN
TN1. DOES YOUR HOUSEHOLD HAVE ANY MOSQUITO NETS THAT CAN BE USED WHILE SLEEPING?	Yes ..... 1 No ..... 2	2 → NEXT MODULE
TN2. HOW MANY MOSQUITO NETS DOES YOUR HOUSEHOLD HAVE?	Months ago ..... _ _	
<p>TN2A. Ask the respondent to show you the nets in the household. If unable to observe the net(s), ask the respondent to determine the brand/type of net.</p> <p>If more than 3 nets, use additional questionnaire(s). Tick here if additional questionnaire is used [ ]</p>		

	1 <sup>ST</sup> NET	2 <sup>ND</sup> NET	3 <sup>RD</sup> NET
TN3. Mosquito net observed?	Observed ..... 1 Not observed ..... 2	Observed ..... 1 Not observed ..... 2	Observed ..... 1 Not observed ..... 2
TN4. HOW MANY MONTHS AGO DID YOUR HOUSEHOLD OBTAIN THE MOSQUITO NET?  <i>If less than one month, record "00"</i>	Months ago ..... _ _ 37+ months ago ..... 95 Not sure ..... 98	Months ago ..... _ _ 37+ months ago ..... 95 Not sure ..... 98	Months ago ..... _ _ 37+ months ago ..... 95 Not sure ..... 98
TN5. Observe or ask the brand/type of mosquito net	Long-lasting treated nets Perma Net ..... 11 Olyset ..... 12 Supernet ..... 13 Other (specify) ..... 16 DK brand ..... 18  Pre-treated nets Supanet ..... 21 Other (specify) ..... 26 DK brand ..... 28  Other net (specify) ..... 31  DK brand/type ..... 98	Long-lasting treated nets Perma Net ..... 11 Olyset ..... 12 Supernet ..... 13 Other (specify) ..... 16 DK brand ..... 18  Pre-treated nets Supanet ..... 21 Other (specify) ..... 26 DK brand ..... 28  Other net (specify) ..... 31  DK brand/type ..... 98	Long-lasting treated nets Perma Net ..... 11 Olyset ..... 12 Supernet ..... 13 Other (specify) ..... 16 DK brand ..... 18  Pre-treated nets Supanet ..... 21 Other (specify) ..... 26 DK brand ..... 28  Other net (specify) ..... 31  DK brand/type ..... 98
TN5A. WHERE DID YOU GET THE MOSQUITO NET?  _____ (Name of place)	Public sector Govt. hospital ..... 11 Govt. health centre... 12 Govt. health post/ Dispensary ..... 13 Village hlth worker .... 14 Mobile/outreach clinic ..... 15 Other public (specify) ..... 16  Private medical sector Private hospital/clinic 21 Private physician ..... 22 Private pharmacy .... 23 Mobile clinic ..... 24 Other private medical (specify) ..... 26  Other source Relative or friend ..... 31 Shop ..... 32 Trad. practitioner .... 33  Other (specify) ..... 96 DK ..... 98	Public sector Govt. hospital ..... 11 Govt. health centre... 12 Govt. health post/ Dispensary ..... 13 Village hlth worker .... 14 Mobile/outreach clinic ..... 15 Other public (specify) ..... 16  Private medical sector Private hospital/clinic 21 Private physician ..... 22 Private pharmacy .... 23 Mobile clinic ..... 24 Other private medical (specify) ..... 26  Other source Relative or friend ..... 31 Shop ..... 32 Trad. practitioner .... 33  Other (specify) ..... 96 DK ..... 98	Public sector Govt. hospital ..... 11 Govt. health centre... 12 Govt. health post/ Dispensary ..... 13 Village hlth worker .... 14 Mobile/outreach clinic ..... 15 Other public (specify) ..... 16  Private medical sector Private hospital/clinic 21 Private physician ..... 22 Private pharmacy .... 23 Mobile clinic ..... 24 Other private medical (specify) ..... 26  Other source Relative or friend ..... 31 Shop ..... 32 Trad. practitioner .... 33  Other (specify) ..... 96 DK ..... 98

TN5B. HOW MUCH DID YOU PAY FOR THE MOSQUITO NET?	Shillings ..... _ _ _ _ Free ..... 9995 DK ..... 9998	Shillings ..... _ _ _ _ Free ..... 9995 DK ..... 9998	Shillings ..... _ _ _ _ Free ..... 9995 DK ..... 9998
TN6. Check TN5 for type of net	[ ] Long-lasting → TN10 [ ] Pretreated → TN8 [ ] Else → Continue	[ ] Long-lasting → TN10 [ ] Pretreated → TN8 [ ] Else → Continue	[ ] Long-lasting → TN10 [ ] Pretreated → TN8 [ ] Else → Continue
TN7. WHEN YOU GOT THE NET, WAS IT TREATED WITH AN INSECTICIDE TO KILL OR REPEL MOSQUITOS?	Yes ..... 1 No ..... 2 DK/Not sure ..... 8	Yes ..... 1 No ..... 2 DK/Not sure ..... 8	Yes ..... 1 No ..... 2 DK/Not sure ..... 8
TN8. SINCE YOU GOT THE MOSQUITO NET, WAS IT EVER SOAKED OR DIPPED IN A LIQUID TO KILL OR REPEL MOSQUITOS?	Yes ..... 1 No ..... 2 → TN10 DK/Not sure ..... 8 → TN10	Yes ..... 1 No ..... 2 → TN10 DK/Not sure ..... 8 → TN10	Yes ..... 1 No ..... 2 → TN10 DK/Not sure ..... 8 → TN10
TN9. HOW MANY MONTHS AGO WAS THE NET LAST SOAKED OR DIPPED?  <i>If less than one month, record "00"</i>	Months ago ..... _ _ More than 24 mo. ago .95 Not sure ..... 98	Months ago ..... _ _ More than 24 mo. ago .95 Not sure ..... 98	Months ago ..... _ _ More than 24 mo. ago .95 Not sure ..... 98
TN10. DID ANYONE SLEEP UNDER THIS MOSQUITO NET LAST NIGHT?	Yes ..... 1 No ..... 2 → TN12 DK/Not sure ..... 8 → TN12	Yes ..... 1 No ..... 2 → TN12 DK/Not sure ..... 8 → TN12	Yes ..... 1 No ..... 2 → TN12 DK/Not sure ..... 8 → TN12
TN11. WHO SLEPT UNDER THIS MOSQUITO NET LAST NIGHT?  <i>Record the person's line number from the household listing form</i>  <i>If someone not in the household list slept under the mosquito net, record "00"</i>	Name ..... Line no ..... _ _ Name ..... Line no ..... _ _ Name ..... Line no ..... _ _ Name ..... Line no ..... _ _	Name ..... Line no ..... _ _ Name ..... Line no ..... _ _ Name ..... Line no ..... _ _ Name ..... Line no ..... _ _	Name ..... Line no ..... _ _ Name ..... Line no ..... _ _ Name ..... Line no ..... _ _ Name ..... Line no ..... _ _
TN12.	<i>Go back to TN3 for next net. If no more nets, go to next module</i>	<i>Go back to TN3 for next net. If no more nets, go to next module</i>	<i>Go back to TN3 for next net. If no more nets, go to next module</i>

ORPHANED & VULNERABLE CHILDREN		OV																				
<p>OV1. Check HL5: any children 0-17?</p> <p><input type="checkbox"/> Yes → Continue to OV2</p> <p><input type="checkbox"/> No → Child Labour Module</p>																						
<p>OV2. I WOULD LIKE YOU TO THINK BACK OVER THE PAST 12 MONTHS. HAS ANY USUAL MEMBER OF YOUR HOUSEHOLD DIED IN THE LAST 12 MONTHS?</p>	<p>Yes..... 1</p> <p>No ..... 2</p>	2 → OV5																				
<p>OV3. (OF THOSE WHO DIED IN THE PAST 12 MONTHS) WERE ANY OF THESE PEOPLE BETWEEN THE AGES OF 18 AND 59?</p>	<p>Yes..... 1</p> <p>No ..... 2</p>	2 → OV5																				
<p>OV4. (OF THOSE WHO DIED IN THE PAST 12 MONTHS AND WERE BETWEEN THE AGES OF 18 AND 59) WERE ANY OF THESE PEOPLE VERY SICK FOR 3 OF THE 12 MONTHS BEFORE HE/SHE DIED?</p>	<p>Yes..... 1</p> <p>No ..... 2</p>	1 → OV8																				
<p>OV5. Return to the Household Listing and check the following:</p> <p>OV5A. Check HL9 and HL11.</p> <p><input type="checkbox"/> At least one mother or father dead. → Go to OV8</p> <p><input type="checkbox"/> No mother or father dead</p>																						
<p>OV5B. Check HL8A.</p> <p><input type="checkbox"/> At least one adult aged 18-59 very sick 3 of last 12 months → Go to OV8</p> <p><input type="checkbox"/> No adult aged 18-59 very sick 3 of last 12 months</p>																						
<p>OV5C. Check HL10A and HL12A.</p> <p><input type="checkbox"/> At least one mother or father very sick 3 of last 12 months → Go to OV8</p> <p><input type="checkbox"/> No mother or father very sick 3 of last 12 months → Go to Child Labour Module</p>																						
<p>OV8. List all children aged 0-17 below. Record names, line numbers and ages of all children, beginning with the first child and continue in order in which listed in the household listing module. Use an additional questionnaire if there are more than 4 children age 0-17 in the household. Ask all questions for one child before moving to the next child.</p> <p style="text-align: right;"><i>Tick here if additional questionnaire is used</i> <input type="checkbox"/></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>1<sup>ST</sup> CHILD</th> <th>2<sup>ND</sup> CHILD</th> <th>3<sup>RD</sup> CHILD</th> <th>4<sup>TH</sup> CHILD</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Name (from HL2)</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td style="text-align: center;">Line number (from HL1)</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td style="text-align: center;">Age (from HL5)</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>				1 <sup>ST</sup> CHILD	2 <sup>ND</sup> CHILD	3 <sup>RD</sup> CHILD	4 <sup>TH</sup> CHILD	Name (from HL2)	_____	_____	_____	_____	Line number (from HL1)	_____	_____	_____	_____	Age (from HL5)	_____	_____	_____	_____
	1 <sup>ST</sup> CHILD	2 <sup>ND</sup> CHILD	3 <sup>RD</sup> CHILD	4 <sup>TH</sup> CHILD																		
Name (from HL2)	_____	_____	_____	_____																		
Line number (from HL1)	_____	_____	_____	_____																		
Age (from HL5)	_____	_____	_____	_____																		
<p>I WOULD LIKE TO ASK YOU ABOUT ANY FORMAL, ORGANIZED HELP OR SUPPORT THAT YOUR HOUSEHOLD MAY HAVE RECEIVED FOR (name) AND FOR WHICH YOU DID NOT HAVE TO PAY. BY FORMAL ORGANIZED SUPPORT I MEAN HELP PROVIDED BY SOMEONE WORKING FOR A PROGRAM. THIS PROGRAM COULD BE GOVERNMENT, PRIVATE, RELIGIOUS, CHARITY, OR COMMUNITY-BASED. REMEMBER THIS SHOULD BE SUPPORT FOR WHICH YOU DID NOT PAY.</p>																						

OV10. NOW I WOULD LIKE TO ASK YOU ABOUT THE SUPPORT YOUR HOUSEHOLD RECEIVED FOR <i>(name)</i> . IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY MEDICAL SUPPORT FOR <i>(name)</i> , SUCH AS MEDICAL CARE, SUPPLIES OR MEDICINE?	Yes..... 1 No..... 2 DK..... 8			
OV11. IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY EMOTIONAL OR PSYCHOLOGICAL SUPPORT FOR <i>(name)</i> , SUCH AS COMPANIONSHIP, COUNSELING FROM A TRAINED COUSELOR, OR SPIRITUAL SUPPORT, WHICH YOU RECEIVED AT HOME?	Yes..... 1 No..... 2 —►OV13 DK..... 8			
OV12. DID YOUR HOUSEHOLD RECEIVE ANY OF THIS SUPPORT IN THE PAST 3 MONTHS?	Yes..... 1 No..... 2 DK..... 8			
OV13. IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY MATERIAL SUPPORT FOR <i>(name)</i> , SUCH AS CLOTHING, FOOD OR FINANCIAL SUPPORT?	Yes..... 1 No..... 2 —►OV15 DK..... 8			
OV14. DID YOUR HOUSEHOLD RECEIVE ANY OF THIS SUPPORT IN THE PAST 3 MONTHS?	Yes..... 1 No..... 2 DK..... 8			
OV15. IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY SOCIAL SUPPORT FOR <i>(name)</i> , SUCH AS HELP IN HOUSEHOLD WORK, TRAINING FOR A CAREGIVER, OR LEGAL SERVICES?	Yes..... 1 No..... 2 —►OV17 DK..... 8			
OV16. DID YOUR HOUSEHOLD RECEIVE ANY OF THIS SUPPORT IN THE PAST 3 MONTHS?	Yes..... 1 No..... 2 DK..... 8			
OV17. <i>Check OV8 for age of child:</i>	[ ] Age 0-4 —►Next child  [ ] Age 5-17 —► OV18	[ ] Age 0-4 —►Next child  [ ] Age 5-17 —► OV18	[ ] Age 0-4 —►Next child  [ ] Age 5-17 —► OV18	[ ] Age 0-4 —►Next child  [ ] Age 5-17 —► OV18
OV18. IN THE LAST 12 MONTHS, HAS YOUR HOUSEHOLD RECEIVED ANY SUPPORT FOR <i>(name's)</i> SCHOOLING, SUCH AS ALLOWANCE, FREE ADMISSION, BOOKS OR SUPPLIES?	Yes..... 1 No..... 2 DK..... 8			

**CHILD LABOUR**

**CL**

To be administered for children in the household age 5 through 14 years. For household members below age 5 or above age 14, leave rows blank.  
 NOW I WOULD LIKE TO ASK ABOUT ANY WORK CHILDREN IN THIS HOUSEHOLD MAY DO.

CL1. Line no.	CL2. Name and age	CL3. DURING THE PAST WEEK, DID (name) DO ANY KIND OF WORK FOR SOMEONE WHO IS NOT A MEMBER OF THIS HOUSEHOLD?  If yes: PROBE FOR (PAY IN CASH OR KIND) OR UNPAID?  1 Yes, for pay (cash or kind) 2 Yes, unpaid 3 No → CL5			CL4. If yes: 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		CL5. DURING THE PAST WEEK, DID (name) FETCH WATER OR COLLECT FIREWOOD FOR HOUSEHOLD USE?  1 Yes 2 No → To CL7		CL6. If yes: SINCE LAST (day of the week), ABOUT HOW MANY HOURS DID HE/SHE FETCH WATER OR COLLECT FIREWOOD FOR HOUSEHOLD USE?		CL7. DURING THE PAST WEEK, DID (name) DO ANY PAID OR UNPAID WORK ON A FAMILY FARM OR IN A FAMILY BUSINESS OR SELLING GOODS?  Include work for a business run by the child, alone or with one or more partners.  1 Yes 2 No → CL9		CL8. If yes: SINCE LAST (day of the week), ABOUT HOW MANY HOURS DID HE/SHE DO THIS WORK FOR HIS/HER FAMILY OR HIMSELF/HERSELF?		CL9. 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 Line		CL10. If yes: SINCE LAST (day of the week), ABOUT HOW MANY HOURS DID HE/SHE SPEND DOING THESE CHORES?	
		PAID	UNPAID	NO	NO. HOURS	YES	NO	NO. HOURS	YES	NO	NO. HOURS	YES	NO	NO. HOURS	YES	NO	NO. HOURS	
01		1	2	3		1	2			1	2			1	2			
02		1	2	3		1	2			1	2			1	2			
03		1	2	3		1	2			1	2			1	2			
04		1	2	3		1	2			1	2			1	2			
05		1	2	3		1	2			1	2			1	2			
06		1	2	3		1	2			1	2			1	2			
07		1	2	3		1	2			1	2			1	2			
08		1	2	3		1	2			1	2			1	2			
09		1	2	3		1	2			1	2			1	2			
10		1	2	3		1	2			1	2			1	2			
11		1	2	3		1	2			1	2			1	2			
12		1	2	3		1	2			1	2			1	2			
13		1	2	3		1	2			1	2			1	2			
14		1	2	3		1	2			1	2			1	2			
15		1	2	3		1	2			1	2			1	2			

## CHILD DISCIPLINE

**Table 1: children Aged 2-14 YEARS ELIGIBLE for child Discipline questions**

Review the household listing and list each of the children aged 2-14 years below in order according to their line number (HL1). Do not include other household members outside of the age range 2-14 years. Record the line number, name, sex, and age for each child. Then record the total number of children aged 2-14 in the box provided (CD7).

CD1. Rank no.	CD2. Line no. from HL1	CD3. Name from HL2.	CD4. Sex from HL4.		CD5. Age from HL5.
RANK	LINE	NAME	M	F	AGE
1			1	2	
2			1	2	
3			1	2	
4			1	2	
5			1	2	
6			1	2	
7			1	2	
8			1	2	

<b>CD7.</b>	<b>TOTAL CHILDREN AGED 2-14 YEARS</b>	_____
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If there is only one child age 2-14 years in the household, then skip table 2 and go to CD9; write down the rank number of the child and continue with CD11

**Table 2: selection of random child for child Discipline questions**

Use this table to select one child between the ages of 2 and 14 years, if there is more than one child in that age range in the household. Look for the last digit of the household number from the cover page. This is the number of the row you should go to in the table below. Check the total number of eligible children (2-14) in CD7 above. This is the number of the column you should go to. Find the box where the row and the column meet and circle the number that appears in the box. This is the rank number of the child about whom the questions will be asked. Record the rank number in CD9 below. Finally, record the line number and name of the selected child in CD11 on the next page.

CD8.	TOTAL NUMBER OF ELIGIBLE CHILDREN IN THE HOUSEHOLD							
Last digit of the household number	1	2	3	4	5	6	7	8+
0	1	2	2	4	3	6	5	4
1	1	1	3	1	4	1	6	5
2	1	2	1	2	5	2	7	6
3	1	1	2	3	1	3	1	7
4	1	2	3	4	2	4	2	8
5	1	1	1	1	3	5	3	1
6	1	2	2	2	4	6	4	2
7	1	1	3	3	5	1	5	3
8	1	2	1	4	1	2	6	4
9	1	1	2	1	2	3	7	5

<b>CD9. Record the rank number of the selected child</b>	Rank number of child _____
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CHILD DISCIPLINE		CD
Identify eligible child aged 2 to 14 in the household using the tables on the preceding page, according to your instructions.		
<b>CD11.</b> Write name and line no. of the child selected for the module from CD3 and CD2, based on the rank number in CD9.	Name _____ Line _____	
<b>CD12.</b> ALL ADULTS USE CERTAIN WAYS TO TEACH CHILDREN THE RIGHT BEHAVIOUR OR TO ADDRESS A BEHAVIOUR PROBLEM. I WILL READ VARIOUS METHODS THAT ARE USED AND I WANT YOU TO TELL ME IF YOU OR ANYONE ELSE IN YOUR HOUSEHOLD HAS USED THIS METHOD WITH (name) IN THE PAST MONTH.		
<b>CD12A.</b> TOOK AWAY PRIVILEGES, FORBADE SOMETHING (name) LIKED OR DID NOT ALLOW HIM/HER TO LEAVE HOUSE).	Yes .....1 No .....2	
<b>CD12B.</b> EXPLAINED WHY SOMETHING (THE BEHAVIOR) WAS WRONG.	Yes .....1 No .....2	
<b>CD12C.</b> SHOOK HIM/HER.	Yes .....1 No .....2	
<b>CD12D.</b> SHOUTED, YELLED AT OR SCREAMED AT HIM/HER.	Yes .....1 No .....2	
<b>CD12E.</b> GAVE HIM/HER SOMETHING ELSE TO DO.	Yes .....1 No .....2	
<b>CD12F.</b> SPANKED, HIT OR SLAPPED HIM/HER ON THE BOTTOM WITH BARE HAND.	Yes .....1 No .....2	
<b>CD12G.</b> HIT HIM/HER ON THE BOTTOM OR ELSEWHERE ON THE BODY WITH SOMETHING LIKE A BELT, HAIRBRUSH, STICK OR OTHER HARD OBJECT.	Yes .....1 No .....2	
<b>CD12H.</b> CALLED HIM/HER DUMB, LAZY, OR ANOTHER NAME LIKE THAT.	Yes .....1 No .....2	
<b>CD12I.</b> HIT OR SLAPPED HIM/HER ON THE FACE, HEAD OR EARS.	Yes .....1 No .....2	
<b>CD12J.</b> HIT OR SLAPPED HIM/HER ON THE HAND, ARM, OR LEG.	Yes .....1 No .....2	
<b>CD12K.</b> BEAT HIM/HER UP WITH AN IMPLEMENT (HIT OVER AND OVER AS HARD AS ONE COULD).	Yes .....1 No .....2	
<b>CD13.</b> DO YOU BELIEVE THAT IN ORDER TO BRING UP (RAISE, EDUCATE) (name) PROPERLY, YOU NEED TO PHYSICALLY PUNISH HIM/HER?	Yes .....1 No .....2 Don't know/no opinion .....8	

**DISABILITY** **DA**

To be administered for 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. Line no.	DA2. Child's name and age	DA3. COMPARED WITH OTHER CHILDREN, DOES OR DID (name) HAVE ANY SERIOUS DELAY IN SITTING, STANDING, OR WALKING?	DA4. COMPARED WITH OTHER CHILDREN, DOES (name) HAVE DIFFICULTY SEEING, EITHER IN THE DAYTIME OR AT NIGHT?	DA5. DOES (name) APPEAR TO HAVE DIFFICULTY HEARING? (USES HEARING AID, HEARS WITH DIFFICULTY, COMPLETELY DEAF?)	DA6. WHEN YOU TELL (name) TO DO SOMETHING, DOES HE/SHE SEEM TO UNDERSTAND WHAT YOU ARE SAYING?	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?	DA8. DOES (name) SOMETIMES HAVE FITS, BECOME RIGID, OR LOSE CONSCIOUSNESS?	DA9. DOES (name) LEARN TO DO THINGS LIKE OTHER CHILDREN HIS/HER AGE?	DA10. DOES (name) SPEAK AT ALL (CAN HE/SHE MAKE HIM OR HERSELF UNDERSTOOD IN WORDS; CAN SAY ANY RECOGNIZABLE WORDS)?	DA11. (For 3-9 year olds): IS (name)'S SPEECH IN ANY WAY DIFFERENT FROM NORMAL (NOT CLEAR ENOUGH TO BE UNDERSTOOD BY OTHER IMMEDIATE FAMILY)?	DA12. (For 2-year olds): CAN (name) NAME AT LEAST ONE OBJECT (FOR EXAMPLE, AN ANIMAL, A TOY, A CUP, A SPOON)?	DA13. COMPARED WITH OTHER CHILDREN OF THE SAME AGE, DOES (name) APPEAR IN ANY WAY MENTALLY BACKWARD, DULL OR SLOW?		
LINE	NAME	AGE	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
01			1	2	1	2	1	2	1	2	1	2	1	2
02			1	2	1	2	1	2	1	2	1	2	1	2
03			1	2	1	2	1	2	1	2	1	2	1	2
04			1	2	1	2	1	2	1	2	1	2	1	2
05			1	2	1	2	1	2	1	2	1	2	1	2
06			1	2	1	2	1	2	1	2	1	2	1	2
07			1	2	1	2	1	2	1	2	1	2	1	2
08			1	2	1	2	1	2	1	2	1	2	1	2
09			1	2	1	2	1	2	1	2	1	2	1	2
10			1	2	1	2	1	2	1	2	1	2	1	2
11			1	2	1	2	1	2	1	2	1	2	1	2
12			1	2	1	2	1	2	1	2	1	2	1	2
13			1	2	1	2	1	2	1	2	1	2	1	2
14			1	2	1	2	1	2	1	2	1	2	1	2
15			1	2	1	2	1	2	1	2	1	2	1	2

HANDWASHING FACILITY		HW
HW1. WE WOULD LIKE TO SEE THE PLACE WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS? MAY I SEE THIS PLACE?	Place for hand washing observed ..... 1 No specific place for hand washing ..... 2 No permission to see ..... 3	2—►HW5 3—►HW5
HW1A. Place where household members most often wash their hands?  <i>Ask to see and observe. Record only one hand washing place. This is the hand washing place most often used by household members. Estimate the distance of "within 10 paces".</i>	Inside Toilet facility ..... 01 Kitchen/Cooking place ..... 02 Within 10 paces of Both toilet and kitchen..... 03 Toilet facility (but farther from kitchen)..... 04 Kitchen (but farther from toilet facility)..... 05 Elsewhere Elsewhere in home or yard ..... 06 Elsewhere outside the yard..... 07  Other (specify) ..... 96	
HW2. Water available at the place for hand washing?  <i>If there is a tap or pump at the specific place for hand washing, open the tap or operate the pump to see if water is coming out. If there is a bucket, basin or other type of water container, examine to see whether water is present in the container. Record observation.</i>	Water available ..... 1 Water not available..... 2	
HW3. Soap or detergent present at the specific place for hand washing?  <i>Record observation. Circle all that apply.</i>	Bar soap ..... A Detergent (powder/liquid/paste)..... B Liquid soap..... C None ..... Y	A—►NEXT MODULE B—►NEXT MODULE C—►NEXT MODULE D—►NEXT MODULE
HW5. DO YOU HAVE ANY SOAP OR DETERGENT IN YOUR HOUSEHOLD FOR WASHING HANDS?	Yes ..... 1 No ..... 2	2—►NEXT MODULE
HW6. CAN YOU PLEASE SHOW IT TO ME?  <i>Record observation. Circle all that apply</i>	Bar soap ..... A Detergent (powder/liquid/paste)..... B Liquid soap..... C Not able/Does not want to show..... Y	

SALT IODIZATION		SI	
SI1. WE WOULD LIKE TO CHECK WHETHER THE SALT USED IN YOUR HOUSEHOLD IS IODIZED. MAY I SEE A SAMPLE OF THE SALT USED TO COOK THE MAIN MEAL EATEN BY MEMBERS OF YOUR HOUSEHOLD LAST NIGHT?  MAY I TEST A SAMPLE OF THIS SALT?  <i>Once you have examined the salt, circle number that corresponds to test outcome.</i>	Not iodized 0 PPM .....	1	
	Less than 15 PPM .....	2	
	15 PPM or more .....	3	
	No salt in home .....	6	
	Salt not tested .....	7	

SI1A. Record the time.	Hour and minutes	__ : __
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SI2. *Does any eligible woman age 15-49 reside in the household?*  
*Check household listing, column HL6. You should have a questionnaire with the Information Panel filled in for each eligible woman.*

Yes. —▶ *Go to women's Questionnaire to administer the questionnaire to the first eligible woman.. If this woman has a child under age 5, continue to interview her on her under-5 child(ren)*

No. —▶ *Continue.*

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SI3. *Does any child under the age of 5 reside in the household?*  
*Check household listing, column HL8. You should have a questionnaire with the Information Panel filled in for each eligible child.*

Yes. —▶ *Go to Under-5 Questionnaire 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 tally the number of interviews completed on the cover page.*

**REMARKS AND OBSERVATIONS**

SUPERVISOR

FIELD EDITOR

FIELD MONITORS/CO-ORDINATORS

OFFICE EDITOR



# QUESTIONNAIRE FOR CHILDREN UNDER FIVE



<b>UNDER-FIVE CHILD INFORMATION PANEL</b>		<b>UF</b>
<p><i>This questionnaire is to be administered to all mothers or caretakers (see household listing, column HL8) who care for a child that lives with them and is under the age of 5 years (see household listing, column HL5). A separate questionnaire should be used for each eligible child. Fill in the cluster and household number, and names and line numbers of the child and the mother/caretaker in the space below. Insert your own name and number, and the date.</i></p>		
UF-A. Province Name & Code: _____	UF-B. County Name & Code: _____	
UF-C. District Name & Code: _____		
UF1. Cluster number: ___ ___ ___	UF2. Household number: ___ ___ ___	
UF3. Child's Name: _____	UF4. Child's Line Number: _____	
UF5. Mother's/Caretaker's Name: _____	UF6. Mother's/Caretaker's Line Number: _____	
UF7. Interviewer name and number: _____	UF8. Day/Month/Year of interview: ___ / ___ / _____	
<p><i>Repeat greeting if not already read to this respondent:</i></p> <p>WE ARE FROM KENYA NATIONAL BUREAU OF STATISTICS (KNBS). WE ARE WORKING ON A PROJECT CONCERNED WITH FAMILY HEALTH AND EDUCATION. I WOULD LIKE TO TALK TO YOU ABOUT THIS. THE INTERVIEW USUALLY TAKES AROUND 20-25 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND YOUR ANSWERS WILL NEVER BE IDENTIFIED. ALSO, YOU ARE NOT OBLIGED TO ANSWER ANY QUESTION YOU DON'T WANT TO, AND YOU MAY WITHDRAW FROM THE INTERVIEW AT ANY TIME. MAY I START NOW?</p> <p><i>If permission is given, begin the interview. If the respondent does not agree to continue, thank him/her and go to the next interview. Discuss this result with your supervisor for a future revisit.</i></p>		
UF9. Result of interview 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	
<p><i>Interviewer/editor/supervisor notes: Use this space to record notes about the interview with this household, such as call-back times, incomplete individual interview forms, number of attempts to re-visit, etc.</i></p>		
UF91. Supervisor (name and number): Name _____	UF92. Field edited by (name and number): Name _____	
UUF93. Data Entry (name and number): Name _____		

UF9A. <i>Record the time.</i>	Hour and minutes..... __ __ : __ __	
<p>UF10. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT THE HEALTH OF EACH CHILD UNDER THE AGE OF 5 IN YOUR CARE, WHO LIVES WITH YOU NOW.</p> <p>NOW I WANT TO ASK YOU ABOUT <i>(name)</i>. IN WHAT MONTH AND YEAR WAS <i>(name)</i> BORN?</p> <p><i>Probe:</i> WHAT IS HIS/HER BIRTHDAY?</p> <p><i>If the mother/caretaker knows the exact birth date, also enter the day; otherwise, circle 98 for day</i></p> <p><b>MONTH AND YEAR MUST BE RECORDED.</b></p>	<p>Date of birth:</p> <p>Day ..... __ __</p> <p>DK day ..... 98</p> <p>Month..... __ __</p> <p>Year ..... __ __ __ __</p>	
<p>UF11. HOW OLD WAS <i>(name)</i> AT HIS/HER LAST BIRTHDAY?</p> <p><i>Record age in completed years.</i></p>	Age in completed years.....__	

BIRTH REGISTRATION AND EARLY LEARNING		BR
BR1. DOES ( <i>name</i> ) HAVE A BIRTH CERTIFICATE? MAY I SEE IT?	Yes, seen ..... 1 Yes, not seen ..... 2 No ..... 3 DK ..... 8	1 → BR5
BR2. HAS ( <i>name's</i> ) BIRTH BEEN NOTIFIED OR REGISTERED WITH THE CIVIL AUTHORITIES?	Yes ..... 1 No ..... 2 DK ..... 8	1 → BR5 8 → BR4
BR3. WHY IS ( <i>name's</i> ) BIRTH NOT REGISTERED?	Costs too much ..... 1 Must travel too far ..... 2 Did not know it should be registered ..... 3 Did not want to pay fine ..... 4 Does not know where to register ..... 5  Other ( <i>specify</i> ) ..... 6 DK ..... 8	
BR4. DO YOU KNOW HOW TO REGISTER YOUR CHILD'S BIRTH?	Yes ..... 1 No ..... 2	
BR5. Check age of child in UF11: Child is 3 or 4 years old?  [ ] Yes. → Continue with BR6  [ ] No. → Go to BR8		
BR6. DOES ( <i>name</i> ) 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 → BR8 8 → BR8
BR7. SINCE ( <i>day of the week</i> ), EXCLUDING TODAY, ABOUT HOW MANY HOURS DID ( <i>name</i> ) ATTEND?	No. of hours..... _ _	

<p>BR8. IN THE PAST 3 DAYS, DID YOU OR ANY HOUSEHOLD MEMBER OVER 15 YEARS OF AGE ENGAGE IN ANY OF THE FOLLOWING ACTIVITIES WITH <i>(name)</i>:</p> <p><i>For each item:</i>  <i>If yes, ask: WHO ENGAGED IN THIS ACTIVITY WITH (name) - THE MOTHER, THE CHILD'S FATHER OR ANOTHER ADULT MEMBER OF THE HOUSEHOLD (INCLUDING THE CARETAKER/ RESPONDENT)?</i>  <i>Circle all that apply.</i></p> <p>BR8A. READ BOOKS, LOOK AT PICTURE BOOKS, OR TELL STORIES TO/WITH <i>(name)</i>?  BR8D. TAKE <i>(name)</i> OUTSIDE THE HOME, COMPOUND, YARD OR ENCLOSURE?  BR8E. PLAY WITH <i>(name)</i>?  BR8F. NAME, COUNT, OR DRAW THINGS TO/WITH <i>(name)</i>?</p>	<table border="1"> <thead> <tr> <th></th> <th>Mother</th> <th>Father</th> <th>Other</th> <th>No one</th> </tr> </thead> <tbody> <tr> <td>Books/Stories</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Take outside</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Play with</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> <tr> <td>Name/count</td> <td>A</td> <td>B</td> <td>X</td> <td>Y</td> </tr> </tbody> </table>		Mother	Father	Other	No one	Books/Stories	A	B	X	Y	Take outside	A	B	X	Y	Play with	A	B	X	Y	Name/count	A	B	X	Y	
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CHILD DEVELOPMENT		CE																
<p>CE2. HOW MANY CHILDREN'S BOOKS OR PICTURE BOOKS DO YOU HAVE FOR <i>(name)</i>?</p> <p>If 'none' enter 0</p>	<p>Number of children's books .....0 __</p> <p>Ten or more books ..... 10</p>	1 → BR5																
<p>CE3. I AM INTERESTED IN LEARNING ABOUT THE THINGS THAT <i>(name)</i> PLAYS WITH WHEN HE/SHE IS AT HOME.</p> <p>WHAT DOES <i>(name)</i> PLAY WITH?</p> <p>DOES HE/SHE PLAY WITH?</p> <p>HOUSEHOLD OBJECTS OR OBJECTS FOUND OUTSIDE (SUCH AS BOWLS OR POTS, STICKS, ROCKS, ANIMAL SHELLS OR LEAVES)?</p> <p>HOMEMADE TOYS (SUCH AS DOLLS, CARS, OR OTHER TOYS MADE AT HOME)?</p> <p>TOYS THAT CAME FROM A SHOP?</p> <p><i>If the respondent says "YES" to the categories above, then probe to learn specifically what the child plays with to ascertain the response</i></p>	<table border="0"> <thead> <tr> <th></th> <th>Y</th> <th>N</th> <th>DK</th> </tr> </thead> <tbody> <tr> <td>Household objects or outside objects</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Homemade toys</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Toys that came from a shop</td> <td>1</td> <td>2</td> <td>8</td> </tr> </tbody> </table>		Y	N	DK	Household objects or outside objects	1	2	8	Homemade toys	1	2	8	Toys that came from a shop	1	2	8	
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<p>CE4. 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.</p> <p>ON HOW MANY DAYS IN THE PAST WEEK WAS <i>(name)</i>:</p> <p>LEFT ALONE?</p> <p>LEFT IN THE CARE OF ANOTHER CHILD (THAT IS, SOMEONE LESS THAN 10 YEARS OLD)?</p> <p><i>If 'none' enter 0</i></p>	<p>Number of days left alone .....</p> <p>Number of days left with other child .....</p>																	
<p>CE5. Check UF11: Age of child 3 or 4?</p> <p><input type="checkbox"/> Age 0, 1 or 2 → Go to Next Module</p> <p><input type="checkbox"/> Age 3 or 4 → Continue with CE6</p>																		

<p>CE6. 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.</p> <p>CAN (<i>name</i>) IDENTIFY/NAME AT LEAST TEN LETTERS OF THE ALPHABET?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	
<p>CE7. CAN (<i>name</i>) ATTACH SOUNDS TO MOST OR MORE THAN HALF OF THE LETTERS?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	
<p>CE8. CAN (<i>name</i>) READ AT LEAST FOUR SIMPLE, ONE-SYLLABLE, POPULAR WORDS?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	
<p>CE9. IS (<i>name</i>) INTERESTED IN NUMBERS, COUNTING, SORTING OR ADDING?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	
<p>CE10. DOES (<i>name</i>) KNOW THE NAME AND RECOGNIZE THE SYMBOL OF ALL NUMBERS FROM 1 TO 10 MOST OF THE TIME?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	
<p>CE11. WHEN YOU COMPARE TWO NUMBERS UP TO 10, DOES (<i>name</i>) KNOW WHICH ONE IS BIGGER MOST OF THE TIME?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	
<p>CE12. IS (<i>name</i>) ABLE TO USE AND MANIPULATE SMALL OBJECTS AND TOYS?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	
<p>CE13. IS (<i>name</i>) SOMETIMES TOO TIRED, SLEEPY OR SICK TO PLAY?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	
<p>CE14. IS (<i>name</i>) SOMETIMES TOO HUNGRY TO PLAY?</p>	<p>Yes ..... 1  No ..... 2  DK ..... 8</p>	

<p>CE15. DOES (<i>name</i>) DO EVERYDAY ROUTINE ACTIVITIES WITHOUT BEING REMINDED? ACTIVITIES SUCH AS BRUSHING TEETH, TIDYING UP AFTER PLAY OR A MEAL, OR HELPING WITH CHORES?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time ..... 1  Sometimes ..... 2  Rarely or never ..... 3  DK ..... 8</p>	
<p>CE16. DOES (<i>name</i>) FOLLOW SIMPLE DIRECTIONS ON HOW TO DO SOMETHING CORRECTLY?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time ..... 1  Sometimes ..... 2  Rarely or never ..... 3  DK ..... 8</p>	
<p>CE17. IS (<i>name</i>) ABLE TO WORK ON A TASK, INCLUDING PLAY TASKS, BY HIMSELF/HERSELF?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time ..... 1  Sometimes ..... 2  Rarely or never ..... 3  DK ..... 8</p>	
<p>CE18. DOES (<i>name</i>) PLAY WITH SIBLINGS OR OTHER CHILDREN FOR A CONSIDERABLE TIME WITHOUT GETTING INTO TROUBLE?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time ..... 1  Sometimes ..... 2  Rarely or never ..... 3  DK ..... 8</p>	
<p>CE19. DOES (<i>name</i>) SHOW RESPECT FOR OTHER CHILDREN?</p> <p><i>Probe:</i>  DOES (<i>name</i>) LISTEN TO WHAT ANOTHER CHILD HAS TO SAY AND RECOGNIZE THAT HE OR SHE MAY BE DIFFERENT OR WANT DIFFERENT THINGS?</p> <p><i>If yes: WOULD YOU SAY OFTEN OR SOMETIMES?</i></p>	<p>Often/Most of the time ..... 1  Sometimes ..... 2  Rarely or never ..... 3  DK ..... 8</p>	
<p>CE20. WHAT IS (<i>name</i>)'S ABILITY TO GET ALONG WITH OTHER CHILDREN? WOULD YOU SAY IT IS VERY GOOD, AVERAGE, OR POOR/BAD?</p>	<p>Very good ..... 1  Average ..... 2  Poor/Bad ..... 3  DK ..... 8</p>	

<p>CE21. HOW OFTEN DOES (<i>name</i>) BULLY OTHER CHILDREN OR IS MEAN TO OTHER CHILDREN?</p> <p><i>Probe:</i> DOES (<i>name</i>) OFTEN MAKE OTHER CHILDREN AFRAID OF HIM/HER, OR SAY MEAN/BAD WORDS TO OTHER CHILDREN?</p> <p><i>If yes:</i> WOULD YOU SAY OFTEN OR SOMETIMES?</p>	<p>Often/Most of the time ..... 1  Sometimes ..... 2  Rarely or never ..... 3</p> <p>DK ..... 8</p>	
<p>CE22. HOW OFTEN DOES (<i>name</i>) KICK, BITE, OR HIT OTHER CHILDREN OR ADULTS?</p> <p><i>If yes:</i> WOULD YOU SAY OFTEN OR SOMETIMES?</p>	<p>Often/Most of the time ..... 1  Sometimes ..... 2  Rarely or never ..... 3</p> <p>DK ..... 8</p>	
<p>CE23. DOES (<i>name</i>) OFTEN GET VERY EASILY/QUICKLY DISTRACTED?</p> <p><i>If yes:</i> WOULD YOU SAY OFTEN OR SOMETIMES?</p>	<p>Often/Most of the time ..... 1  Sometimes ..... 2  Rarely or never ..... 3</p> <p>DK ..... 8</p>	

VITAMIN A		VA
VA1. HAS ( <i>name</i> ) EVER RECEIVED A VITAMIN A CAPSULE (SUPPLEMENT) LIKE THIS ONE?  <i>Show capsule or dispenser for different doses – 100,000 IU for those 6-11 months old (Blue), 200,000 IU for those 12-59 months old.(Red)</i>	Yes..... 1 No ..... 2  DK ..... 8	2—►NEXT MODULE  8—►NEXT MODULE
VA2. HOW MANY MONTHS AGO DID ( <i>name</i> ) TAKE THE LAST DOSE?	Months ago ..... __ __ DK ..... 98	
VA3. WHERE DID ( <i>name</i> ) GET THIS LAST DOSE?	On routine visit to health facility ..... 1 Sick child visit to health facility ..... 2 National Immunization Day campaign..... 3  Other ( <i>specify</i> ) ..... 6 DK ..... 8	

BREASTFEEDING		BF																																																																															
BF1. HAS ( <i>name</i> ) EVER BEEN BREASTFED?	Yes .....1 No .....2  DK .....8	2 → BF3  8 → BF3																																																																															
BF2. IS HE/SHE STILL BEING BREASTFED?	Yes .....1 No .....2  DK .....8																																																																																
<p>BF3. I WOULD LIKE TO ASK YOU ABOUT LIQUIDS THAT (<i>name</i>) MAY HAVE HAD YESTERDAY DURING THE DAY OR THE NIGHT. I AM INTERESTED IN WHETHER (<i>name</i>) HAD THE ITEM EVEN IF IT WAS COMBINED WITH OTHER FOODS.</p> <p>DID (<i>name</i>) DRINK OR EAT ANY (<i>item from list</i>): YESTERDAY, DURING THE DAY OR NIGHT?</p> <p><i>Read each item aloud and record response before proceeding to the next item. Ask the number of times the child had infant formula, milk, yogurt and solid, semi-solid foods.</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%; text-align: center;">Y</th> <th style="width: 10%; text-align: center;">N</th> <th style="width: 10%; text-align: center;">DK</th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>BF3A. VITAMIN OR MINERAL SUPPLEMENTS?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3B. ORS (ORAL REHYDRATION SOLUTION)?</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> <td></td> </tr> <tr> <td>BF3C. PLAIN WATER?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3D. INFANT FORMULA?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td>2 OR 8 → BF3E</td> </tr> <tr> <td>BF3D1. HOW MANY TIMES DID (<i>name</i>) HAVE INFANT FORMULA?</td> <td colspan="3" style="text-align: center;">Number of times..... _ _ _</td> <td></td> </tr> <tr> <td>BF3E. MILK SUCH AS TINNED, POWDERED, OR FRESH ANIMAL MILK?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td>2 OR 8 → BF3F</td> </tr> <tr> <td>BF3E1. HOW MANY TIMES DID (<i>name</i>) DRINK TINNED, POWDERED OR FRESH ANIMAL MILK?</td> <td colspan="3" style="text-align: center;">Number of times..... _ _ _</td> <td></td> </tr> <tr> <td>BF3F. JUICE OR JUICE DRINKS?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3G. SOUP?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3H. ANY OTHER LIQUIDS?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3I. YOGURT?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td>2 OR 8 → BF3J</td> </tr> <tr> <td>BF3I1. HOW MANY TIMES DID (<i>name</i>) HAVE YOGURT?</td> <td colspan="3" style="text-align: center;">Number of times..... _ _ _</td> <td></td> </tr> <tr> <td>BF3J. THIN PORRIDGE?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td></td> </tr> <tr> <td>BF3K. SOLID OR SEMI-SOLID (MUSHY) FOOD?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> <td>2 OR 8 → BF3L</td> </tr> <tr> <td>BF3K1. HOW MANY TIMES DID (<i>name</i>) EAT SOLID, SEMI-SOLID (MUSHY) FOODS?</td> <td colspan="3" style="text-align: center;">Number of times..... _ _ _</td> <td></td> </tr> </tbody> </table>		Y	N	DK		BF3A. VITAMIN OR MINERAL SUPPLEMENTS?	1	2	8		BF3B. ORS (ORAL REHYDRATION SOLUTION)?	2	8			BF3C. PLAIN WATER?	1	2	8		BF3D. INFANT FORMULA?	1	2	8	2 OR 8 → BF3E	BF3D1. HOW MANY TIMES DID ( <i>name</i> ) HAVE INFANT FORMULA?	Number of times..... _ _ _				BF3E. MILK SUCH AS TINNED, POWDERED, OR FRESH ANIMAL MILK?	1	2	8	2 OR 8 → BF3F	BF3E1. HOW MANY TIMES DID ( <i>name</i> ) DRINK TINNED, POWDERED OR FRESH ANIMAL MILK?	Number of times..... _ _ _				BF3F. JUICE OR JUICE DRINKS?	1	2	8		BF3G. SOUP?	1	2	8		BF3H. ANY OTHER LIQUIDS?	1	2	8		BF3I. YOGURT?	1	2	8	2 OR 8 → BF3J	BF3I1. HOW MANY TIMES DID ( <i>name</i> ) HAVE YOGURT?	Number of times..... _ _ _				BF3J. THIN PORRIDGE?	1	2	8		BF3K. SOLID OR SEMI-SOLID (MUSHY) FOOD?	1	2	8	2 OR 8 → BF3L	BF3K1. HOW MANY TIMES DID ( <i>name</i> ) EAT SOLID, SEMI-SOLID (MUSHY) FOODS?	Number of times..... _ _ _				
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BF3L. DID ( <i>name</i> ) DRINK ANYTHING FROM A BOTTLE WITH A NIPPLE YESTERDAY DURING THE DAY OR NIGHT?	Yes .....1 No .....2  DK .....8																																																																																

CARE OF ILLNESS		CA
CA1. HAS ( <i>name</i> ) HAD DIARRHOEA IN THE LAST TWO WEEKS, THAT IS, SINCE (day of the week) OF THE WEEK BEFORE LAST?  <i>Diarrhoea is determined as perceived by mother or caretaker, or as three or more loose or watery stools per day, or blood in stool.</i>	Yes ..... 1 No ..... 2  DK ..... 8	2 → CA5  8 → CA5
CA1A. WAS THERE BLOOD IN THE STOOLS?	Yes ..... 1 No ..... 2  DK ..... 8	
CA2. DURING THIS LAST EPISODE OF DIARRHOEA, DID ( <i>name</i> ) DRINK ANY OF THE FOLLOWING:  <i>Read each item aloud and record response before proceeding to the next item.</i>		
	Yes      No      DK	
CA2A. A FLUID MADE FROM A SPECIAL PACKET CALLED ORS?	A. Fluid from ORS packet ..... 1      2      8	
CA2B. HOMEMADE SUGAR AND SALT SOLUTION?	B. Sugar and salt solution ..... 1      2      8	
CA2C. A PRE-PACKAGED ORS FLUID FOR DIARRHOEA?	C. Pre-packaged ORS fluid ..... 1      2      8	
CA2D. WAS ANYTHING (ELSE) GIVEN TO TREAT THE DIARRHOEA?	Yes ..... 1 No ..... 2  DK ..... 8	2 → CA3  8 → CA3
CA2E. WHAT (ELSE) WAS GIVEN TO TREAT THE DIARRHOEA?  <i>Probe:</i> ANYTHING ELSE?  <i>Record all treatments given</i>	Pill or Syrup Antibiotic ..... A Antimotility ..... B Zinc ..... C Other (Not antibiotic, antimotility or zinc) ..... D Unknown pill or syrup ..... E  Injection Antibiotic ..... F Non-antibiotic ..... G Unknown injection ..... H  Intravenous ..... I Home remedy/herbal medicine ..... J  Other ( <i>specify</i> ) ..... X	
CA2F. Check CA2E: Zinc given?  <input type="checkbox"/> Yes. → Continue with CA2G  <input type="checkbox"/> No. → Go to CA3		

CA2G. HOW MANY TIMES WAS (name) GIVEN ZINC?	Number of times..... _ _	
CA3. DURING (name's) ILLNESS, DID HE/SHE DRINK MUCH LESS, ABOUT THE SAME, OR MORE THAN USUAL?	Much less or none ..... 1 About the same (or somewhat less) ..... 2 More ..... 3 DK ..... 8	
CA4. DURING (name's) ILLNESS, DID HE/SHE EAT LESS, ABOUT THE SAME, OR MORE FOOD THAN USUAL?  <i>If "less", probe: MUCH LESS OR A LITTLE LESS?</i>	None ..... 1 Much less ..... 2 Somewhat less ..... 3 About the same ..... 4 More ..... 5 DK ..... 8	
CA4B. WHERE DID YOU GET THE ORS PACKET FROM?  _____ (Name of place)	Public Sector Government hospital ..... 21 Government health center ..... 22 Government dispensary ..... 23 Other public ( <i>specify</i> ) ..... 26  Private medical sector Mission hospital/clinic ..... 31 Private hospital/clinic ..... 32 Nursing/maternity home ..... 33 Pharmacy ..... 34 Other private medical ( <i>specify</i> ) ..... 36  Mobile clinic ..... 41 Community health worker ..... 42  Other source Shop ..... 51 Traditional practitioner ..... 52 Relative/friend ..... 53  Other ( <i>specify</i> ) ..... 96 DK ..... 98	
CA4C. HOW MUCH DID YOU PAY FOR THE ( <i>local name for ORS packet from CA2A</i> )?	Shillings ..... _ _ _ _ Free ..... 9995 DK ..... 9998	
CA5. HAS (name) HAD AN ILLNESS WITH A COUGH AT ANY TIME IN THE LAST TWO WEEKS, THAT IS, SINCE ( <i>day of the week</i> ) OF THE WEEK BEFORE LAST?	Yes ..... 1 No ..... 2 DK ..... 8	2—►CA12 8—►CA12
CA6. WHEN (name) HAD AN ILLNESS WITH A COUGH, DID HE/SHE BREATHE FASTER THAN USUAL WITH SHORT, QUICK BREATHS OR HAVE DIFFICULTY BREATHING?	Yes ..... 1 No ..... 2 DK ..... 8	2—►CA12 8—►CA12

<p>CA7. WERE THE SYMPTOMS DUE TO A PROBLEM IN THE CHEST OR A BLOCKED NOSE?</p>	<p>Problem in chest ..... 1  Blocked nose..... 2  Both..... 3  Other (<i>specify</i>) ..... 6  DK ..... 8</p>	<p>2—►CA12  6—►CA12</p>
<p>CA8. DID YOU SEEK ADVICE OR TREATMENT FOR THE ILLNESS OUTSIDE THE HOME?</p>	<p>Yes..... 1  No ..... 2  DK ..... 8</p>	<p>2—►CA12 8—►CA12</p>
<p>CA9. FROM WHERE DID YOU SEEK CARE?</p> <p><i>Probe:</i>  ANYWHERE ELSE?</p> <p><i>Circle all providers mentioned, but do NOT prompt with any suggestions.</i></p> <p><i>If source is hospital, health center, or clinic, write the name of the place below. Probe to identify the type of source and circle the appropriate code.</i></p> <p>_____</p> <p>(Name of place)</p>	<p>Public Sector  Government hospital .....C  Government health center .....D  Government dispensary.....E  Other public (<i>specify</i>) .....F</p> <p>Private medical sector  Mission hospital/clinic .....G  Private hospital/clinic.....H  Nursing/maternity home .....I  Pharmacy.....J  Other private medical (<i>specify</i>) .....K</p> <p>Mobile clinic .....L  Community health worker .....M</p> <p>Other source  Shop .....O  Traditional practitioner .....P  Relative/friend.....Q  Other (<i>specify</i>) .....X</p>	
<p>CA10. WAS (<i>name</i>) GIVEN MEDICINE TO TREAT THIS ILLNESS?</p>	<p>Yes..... 1  No ..... 2  DK ..... 8</p>	<p>2—►CA12 8—►CA12</p>
<p>CA11. WHAT MEDICINE WAS (<i>name</i>) GIVEN?</p> <p><i>Probe:</i>  ANYTHING ELSE?</p> <p><i>Circle all medicines given.</i></p>	<p>Antibiotic .....A  Paracetamol/Panadol/Acetaminophen .....P  Aspirin .....Q  Ibuprofen.....R  Other (<i>specify</i>) .....X  DK .....Z</p>	
<p>CA11A. Check CA11: Antibiotic given?</p> <p>[ ] Yes.—► Continue with CA11B</p> <p>[ ] No.—► Go to CA12</p>		

<p>CA11B. WHERE DID YOU GET THE ANTIBIOTIC?</p> <hr/> <p>(Name of place)</p>	<p>Public Sector</p> <p>Government hospital ..... 21</p> <p>Government health center ..... 22</p> <p>Government dispensary..... 23</p> <p>Other public (<i>specify</i>) ..... 26</p> <p>Private medical sector</p> <p>Mission hospital/clinic ..... 31</p> <p>Private hospital/clinic..... 32</p> <p>Nursing/maternity home ..... 33</p> <p>Pharmacy..... 34</p> <p>Other private medical (<i>specify</i>) ..... 36</p> <p>Mobile clinic ..... 41</p> <p>Community health worker ..... 42</p> <p>Other source</p> <p>Shop ..... 51</p> <p>Traditional practitioner ..... 52</p> <p>Relative/friend..... 53</p> <p>Other (<i>specify</i>) ..... 96</p> <p>DK ..... 98</p>	
<p>CA11C. HOW MUCH DID YOU PAY FOR THE ANTIBIOTIC?</p>	<p>Shillings ..... _ _ _ _</p> <p>Free ..... 9995</p> <p>DK ..... 9998</p>	
<p>CA12. Check UF11: Child aged under 3?</p> <p>[ ] Yes. —► Continue with CA13</p> <p>[ ] No. —► Go to Next Module</p>		
<p>CA13. THE LAST TIME (<i>name</i>) PASSED STOOLS, WHAT WAS DONE TO DISPOSE OF THE STOOLS?</p>	<p>Child used toilet/latrine..... 01</p> <p>Put/rinsed into toilet or latrine ..... 02</p> <p>Put/rinsed into drain or ditch..... 03</p> <p>Thrown into garbage (solid waste) ..... 04</p> <p>Buried ..... 05</p> <p>Left in the open ..... 06</p> <p>Other (<i>specify</i>) ..... 96</p> <p>DK ..... 98</p>	

MALARIA		ML
ML1. IN THE LAST TWO WEEKS, THAT IS, SINCE ( <i>day of the week</i> ) OF THE WEEK BEFORE LAST, HAS ( <i>name</i> ) BEEN ILL WITH A FEVER?	Yes ..... 1 No ..... 2 DK ..... 8	2 → NEXT MODULE 8 → NEXT MODULE
ML2. WAS ( <i>name</i> ) SEEN AT A HEALTH FACILITY DURING THIS ILLNESS?	Yes ..... 1 No ..... 2 DK ..... 8	2 → ML6 8 → ML6
ML3. DID ( <i>name</i> ) TAKE MEDICINE FOR FEVER OR MALARIA THAT WAS PROVIDED OR PRESCRIBED AT THE HEALTH FACILITY?	Yes ..... 1 No ..... 2 DK ..... 8	2 → ML5 8 → ML5
ML4. WHAT MEDICINE DID ( <i>name</i> ) TAKE THAT WAS PROVIDED OR PRESCRIBED AT THE HEALTH FACILITY?  <i>Probe:</i> ANYTHING ELSE?  <i>Circle all medicines mentioned.</i>	Anti-malarials: SP/Fansidar ..... A Chloroquine ..... B Amodiaquine ..... C Quinine ..... D Artemisinin-based combinations ..... E Other anti-malarial ( <i>specify</i> ) ..... H  Other medications: Paracetamol/Panadol/Acetaminophen ..... P Aspirin ..... Q Ibuprofen ..... R  Other ( <i>specify</i> ) ..... X DK Z	
ML5. WAS ( <i>name</i> ) GIVEN MEDICINE FOR THE FEVER OR MALARIA BEFORE BEING TAKEN TO THE HEALTH FACILITY?	Yes ..... 1 No ..... 2 DK ..... 8	1 → ML7 2 → ML8 8 → ML8
ML6. WAS ( <i>name</i> ) GIVEN MEDICINE FOR FEVER OR MALARIA DURING THIS ILLNESS?	Yes ..... 1 No ..... 2 DK ..... 8	2 → ML8 8 → ML8
ML7. WHAT MEDICINE WAS ( <i>name</i> ) GIVEN?  <i>Circle all medicines given. Ask to see the medication if type is not known. If type of medication is still not determined, show typical anti-malarials to respondent.</i>	Anti-malarials: SP/Fansidar ..... A Chloroquine ..... B Amodiaquine ..... C Quinine ..... D Artemisinin-based combinations ..... E Other anti-malarial ( <i>specify</i> ) ..... H  Other medications: Paracetamol/Panadol/Acetaminophen ..... P Aspirin ..... Q Ibuprofen ..... R  Other ( <i>specify</i> ) ..... X DK Z	

<p>ML8. Check ML4 and ML7: Anti-malarial mentioned (codes A - H)?</p> <p>[ ] Yes. → Continue with ML9</p> <p>[ ] No. → Go to Next Module</p>		
<p>ML9. HOW LONG AFTER THE FEVER STARTED DID (name) FIRST TAKE (name of anti-malarial from ML4 or ML7)?</p> <p>If multiple anti-malarials mentioned in ML4 or ML7, name all anti-malarial medicines mentioned.</p> <p>Record the code for the day on which the first anti-malarial was given.</p>	<p>Same day ..... 0</p> <p>Next day ..... 1</p> <p>2 days after the fever..... 2</p> <p>3 days after the fever..... 3</p> <p>4 or more days after the fever ..... 4</p> <p>DK ..... 8</p>	
<p>ML9A. WHERE DID YOU GET THE (name of anti-malarial from ML4 or ML7)?</p> <p>If more than one anti-malarial is mentioned in ML4 or ML7, refer to the first anti-malarial given for the fever (the anti-malarial given on the day recorded in ML9).</p> <p>_____</p> <p>(Name of place)</p>	<p>Public Sector</p> <p>Government hospital ..... 21</p> <p>Government health center ..... 22</p> <p>Government dispensary..... 23</p> <p>Other public (specify) ..... 26</p> <p>Private medical sector</p> <p>Mission hospital/clinic ..... 31</p> <p>Private hospital/clinic..... 32</p> <p>Nursing/maternity home ..... 33</p> <p>Pharmacy..... 34</p> <p>Other private medical (specify) ..... 36</p> <p>Mobile clinic ..... 41</p> <p>Community health worker ..... 42</p> <p>Other source</p> <p>Shop ..... 51</p> <p>Traditional practitioner ..... 52</p> <p>Relative/friend..... 53</p> <p>Other (specify) ..... 96</p> <p>DK ..... 98</p>	
<p>ML9B. HOW MUCH DID YOU PAY FOR THE (name of anti-malarial from ML4 or ML7)?</p> <p>Refer to the same anti-malarial as in ML9A above</p>	<p>Shillings ..... _ _ _ _</p> <p>Free ..... 9996</p> <p>DK ..... 9998</p>	

IMMUNIZATION										IM
<i>If an immunization card is available, copy the dates in IM2-IM8B for each type of immunization or vitamin A dose recorded on the card. IM10-IM18 will only be asked when a card is not available or not shown.</i>										
IM1. IS THERE A VACCINATION CARD FOR (name)?		Yes, seen ..... 1 Yes, not seen ..... 2 No ..... 3							2 → IM10 3 → IM10	
(a) Copy dates for each vaccination from the card. (b) <b>Write '44' in day column</b> if card shows that vaccination was given but no date recorded.		Date of Immunization								
		DAY		MONTH		YEAR				
IM2.	BCG	BCG								
IM3A.	POLIO AT BIRTH	OPV0								
IM3B.	POLIO 1	OPV1								
IM3C.	POLIO 2	OPV2								
IM3D.	POLIO 3	OPV3								
IM4A.	DPT1-HepB + Hib: 1	(Pentavalent-1) DPT1								
IM4B.	DPT1-HepB + Hib: 2	(Pentavalent-2) DPT2								
IM4C.	DPT1-HepB + Hib: 3	(Pentavalent-3) DPT3								
IM6.	MEASLES	MEASLES								
IM7.	YELLOW FEVER	YF								
IM8A.	VITAMIN A (1) (Last but one)	VITA1								
IM8B.	VITAMIN A (2) (Most recent)	VITA2								
IM9. IN ADDITION TO THE VACCINATIONS AND VITAMIN A CAPSULES SHOWN ON THIS CARD, DID (name) RECEIVE ANY OTHER VACCINATIONS – INCLUDING VACCINATIONS RECEIVED IN CAMPAIGNS OR IMMUNIZATION DAYS? <i>Record 'Yes' only if respondent mentions BCG, OPV 0-3, DPT 1-3, Hepatitis B 1-3, Measles, Yellow Fever vaccine(s), or Vitamin A supplements</i>		Yes ..... 1 <i>(Probe for vaccinations and write '66' in the corresponding day column on IM2 to IM8B.)</i> No ..... 2 DK ..... 8							1 → IM19 2 → IM19 8 → IM19	
IM10. HAS (name) EVER RECEIVED ANY VACCINATIONS TO PREVENT HIM/HER FROM GETTING DISEASES, INCLUDING VACCINATIONS RECEIVED IN A CAMPAIGN OR IMMUNIZATION DAY?		Yes ..... 1 No ..... 2 DK ..... 8							2 → IM19 8 → IM19	

IM11. HAS ( <i>name</i> ) EVER BEEN GIVEN A BCG VACCINATION AGAINST TUBERCULOSIS – THAT IS, AN INJECTION IN THE ARM OR SHOULDER THAT CAUSED A SCAR?	Yes..... 1 No ..... 2 DK ..... 8	
IM12. HAS ( <i>name</i> ) EVER BEEN GIVEN ANY POLIO VACCINATION, THAT IS, VACCINATION DROPS IN THE MOUTH TO PROTECT HIM/HER FROM GETTING DISEASES?	Yes..... 1 No ..... 2 DK ..... 8	2—►IM15 8—►M15
IM13. HOW OLD WAS HE/ SHE WHEN THE FIRST DOSE WAS GIVEN – WITHIN THE TWO WEEKS AFTER BIRTH OR LATER?	Just after birth (within two weeks)..... 1 Later ..... 2	
IM14. HOW MANY TIMES HAS HE/SHE BEEN GIVEN THESE DROPS?	No. of times..... _ _	
IM15. HAS ( <i>name</i> ) EVER BEEN GIVEN “DPT VACCINATION INJECTIONS” – THAT IS, AN INJECTION IN THE THIGH OR BUTTOCKS – TO PREVENT HIM/HER FROM GETTING TETANUS, WHOOPING COUGH, DIPHTHERIA? (SOMETIMES GIVEN AT THE SAME TIME AS POLIO)	Yes..... 1 No ..... 2 DK ..... 8	2—►IM17 8—►IM17
IM16. HOW MANY TIMES?	No. of times..... _ _	
IM17. HAS ( <i>name</i> ) EVER BEEN GIVEN “MEASLES VACCINATION INJECTIONS” – THAT IS, A SHOT IN THE ARM AT THE AGE OF 9 MONTHS OR OLDER - TO PREVENT HIM/HER FROM GETTING MEASLES?	Yes..... 1 No ..... 2 DK ..... 8	
IM18. HAS ( <i>name</i> ) EVER BEEN GIVEN “YELLOW FEVER VACCINATION INJECTIONS” – THAT IS, A SHOT IN THE ARM AT THE AGE OF 9 MONTHS OR OLDER - TO PREVENT HIM/ HER FROM GETTING YELLOW FEVER? (SOMETIMES GIVEN AT THE SAME TIME AS MEASLES)	Yes..... 1 No ..... 2 DK ..... 8	↓

IM19. Please tell me if ( <i>name</i> ) has participated in any of the following campaigns, national immunization days and/or vitamin A or child health days:				
		Y	N	DK
IM19A. National Immunization Day in 2010?	National Imm Day 2010 .....	1	2	8
IM19B. Malezibora, in May 2010?	Malezibora May 2010 .....	1	2	8
IM19C. Malezibora, in November 2010?	Malezibora Nov 2010 .....	1	2	8

UT2. Record the time.	Hour and minutes    __ __ : __ __
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<p>IM20. Does another eligible child reside in the household for whom this respondent is mother/caretaker? Check household listing, column HL8.</p> <p>[ ] Yes. —► End the current questionnaire and then Go to Under-5 Questionnaire to administer the questionnaire for the next eligible child.</p> <p>[ ] No. —► End the interview with this respondent by thanking him/her for his/her cooperation. If this is the last eligible child in the household, go on to ANTHROPOMETRY MODULE.</p>
--

ANTHROPOMETRY MODULE		NA	
<p>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.</p>			
AN0A. Measurer's identification code.	Measurer code .....	— —	
AN0B. Result of measurement	Measured.....	1	
	Not present.....	2	2—►ANS5
	Refused .....	3	3—►ANS5
	Other (specify) .....	6	6—►ANS5
AN1. Child's weight	Kilograms (kg) .....	[ ] [ ] . [ ]	
AN2. Child's length or height.	Length (cm)		
	Lying down .....	1 [ ] [ ] [ ] . [ ]	
Check age of child in UF11:			
[ ] Child under 2 years old. —► Measure length (lying down).			
[ ] Child age 2 or more years. —► Measure height (standing up).	Height (cm)		
	Standing up .....	2 [ ] [ ] [ ] . [ ]	
AN3. WHETHER THE CHILD IS HAVING OEDEMA? (OBSERVE AND RECORD)	Checked		
	Oedema present .....	1	
	Oedema not present.....	2	
	Unsure .....	3	
	Not checked (specify reason) .....	7	

AN5. 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.

## REMARKS AND OBSERVATIONS

SUPERVISOR

FIELD EDITOR

FIELD MONITORS/CO-ORDINATORS

OFFICE EDITOR

