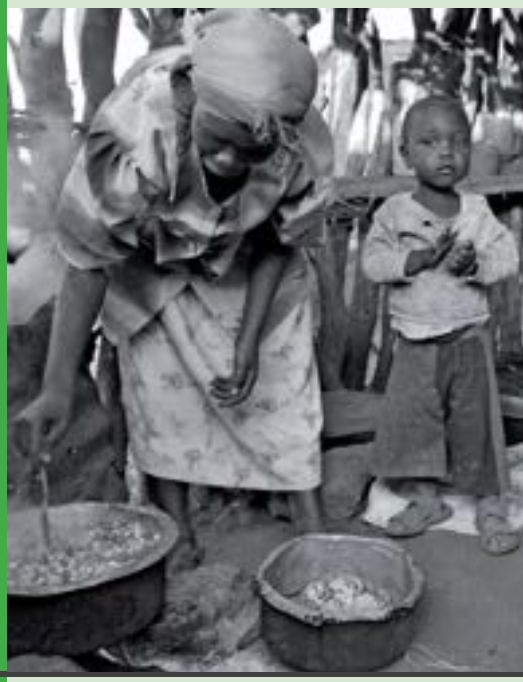
Kenya
Eastern Province
Tharaka District



Monitoring the situation of children and women

Multiple Indicator Cluster Survey 2008

Kenya National Bureau of Statistics

United Nations Children's Fund

MICS

Kenya
Eastern Province
Tharaka District



Monitoring the situation of children and women

Multiple Indicator Cluster Survey 2008

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The Tharaka district Multiple Indicator Cluster Survey (MICS), Eastern Province of Kenya was carried out by the Kenya National Bureau of Statistics (KNBS). Financial and technical support was provided by the United Nations Children's Fund (UNICEF).

The survey was conducted as part of the third round of MICS3 surveys, carried out around the world in more than 50 countries, in 2005-2006, following the first two rounds of MICS surveys that were conducted between 1995 and 2000. Survey tools were based on the models and standards developed by the global MICS project, designed to collect information on the situation of children and women in countries around the world. Additional information on the global MICS project may be obtained from www.childinfo.org

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List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
BCG	Bacillus Calmette Guérin (Tuberculosis)
CSPro	Census and Survey Processing System
DPT	Diphtheria Pertussis Tetanus
EPI	Expanded Programme on Immunization
FGM/C	Female genital mutilation/cutting
GPI	Gender Parity Index
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus
IDD	Iodine Deficiency Disorders
ITN	Insecticide Treated Net
IUD	Intrauterine Device
KNBS	Kenya National Bureau of Statistics
LAM	Lactational Amenorrhea Method
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MOH	Ministry Of Health
NAR	Net Attendance Rate
ORT	Oral rehydration treatment
ppm	Parts Per Million
SPSS	Statistical Package for Social Sciences
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
WFFC	World Fit for Children
WHO	World Health Organization

Foreword

The Tharaka Multiple Indicator Cluster Survey (MICS) 2008 is one of a few district level sample surveys conducted in the district. The survey covered 1,200 households selected using appropriate statistical procedures.

The objective of the district level MICS was to provide estimates relating to the well being of children and women at district level, to enable policymakers, planners, researchers and program managers take actions based on credible evidence. In MICS 2008, information on specific areas such as, reproductive health, child mortality, child health, nutrition, child protection, water and sanitation, education, and HIV/AIDS and orphans was collected.

The results indicate a high incidence of stunting. Infant and child mortality in Tharaka district is moderately high. The proportion of fully immunized children under five was low.

I wish to acknowledge the efforts of various organizations and individuals who contributed immensely towards the success of the MICS survey. First, I would like to acknowledge the technical and financial assistance from the United Nations Children's Fund (UNICEF). I also commend the hard work and dedication of the Kenya National Bureau of Statistics (KNBS) and UNICEF staff in successfully completing the survey and making results available.

Finally, I am grateful to the respondents who generously gave their time to provide the information and allowing the survey teams to measure the weights and heights of children below 5 years of age.



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Executive Summary

The Tharaka District Multiple Indicator Survey (MICS) is a representative sample survey drawn using the 1999 Census of Kenya Enumeration Areas (EAs) as the sampling frame. The 50 EAs were sampled using the probability proportional to size (PPS) sampling methodology, and information from a total of 1,200 households were collected using structured questionnaires. The Tharaka MICS is the largest household sample survey ever conducted in the district.

The survey used a two stage design and at the EA level, households were stratified into two, one strata with households having a child below 3 years and the other with no children below 3 years at the time of household listing[1]. The stratification at EA level was done to reduce the standard errors of children and women based estimates. The data was collected by two teams comprising of 5 members each (1 supervisor, 1 editor/measurer and 3 investigators).

The survey was implemented by the Kenya National Bureau of Statistics (KNBS), with the support from UNICEF Kenya. The summary of findings from the survey is presented below.

Child Mortality

The under-five mortality rate and the infant mortality rate were calculated using the birth history data for the 10 year period preceding the survey. The under-five mortality rate is 67 per 1,000 live births and infant mortality rate is 45 per 1,000 live births.

Nutritional Status and Breast-feeding

The proportion of undernourished (severely or moderately underweight) children age 6-59 months in Tharaka was 21 per cent. Proportions of stunted and wasted children were 29 and six per cent, respectively.

Children who are timely breastfed (given breast milk within an hour of birth) were 70 per cent and 38 per cent of those aged 0-5 months are exclusively breastfed.

The proportion of children weighed at the time of birth stood at 56 per cent.

The households that were using iodized salt for cooking were 94 per cent.

Immunization

The children age 12-23 months who received full vaccination (BCG, 3 doses of Polio, 3 doses of DPT+HepB+Hib and measles) before reaching age 12 months were62 per cent.

BCG was reportedly given to 94 per cent of children aged 12-23 months while measles vaccine was received by 76 per cent.

The mothers who gave birth during the two years preceding the survey and received tetanus toxoid (TT) injection were 72 per cent.

Care of illness

The reported prevalence of diarrhoea during the last two weeks preceding the survey for children aged 0-59 months stood at 14 per cent. During this period, 47 per cent of children with diarrhoea received oral re-hydration therapy and eight per cent reported home management of diarrhoea.

There were children reported to have had suspected pneumonia and of this 52 per cent sought treatment and 49 per cent were given antibiotic treatment.

[1] The household listing was carried out by three teams, each team comprised of a lister and mapper.

Malaria prevention

In Tharaka district, 72 per cent of the households have at least one insecticide treated mosquito net, and 52 per cent of children below 5 years sleep under a treated net.

Twenty per cent of children under five with fever during two weeks preceding the survey were given an anti-malarial treatment.

Seventy one per cent of women who had given birth during two years preceding the survey reported having taken medicine to prevent malaria during pregnancy.

Water and sanitation

The proportion of Tharaka population using drinking water from an improved source was 22 per cent and 54 per cent are reportedly treating the drinking water. Forty seven per cent of the households take more than an hour to get drinking water, with 71 per cent of the women engaged in this activity.

Twenty two per cent of the population is using improved sanitation facilities and in 90 per cent cases, child stool is disposed safely.

Reproductive health

The total fertility rate in Tharaka for the 3-year preceding the survey is 5.1 children per woman. Teenage pregnancy is 10 per cent, i.e., proportion of women aged between 15-19 years who have begun child bearing.

Ninety one per cent of mothers who gave birth in the past 2 years had an antenatal check-up, however 48 per cent are assisted during delivery by unskilled personnel.

Education

About 83 per cent of the primary school entry age children are attending primary school. The net primary school attendance rate is 86 per cent and that of secondary is only 11 per cent. Female adult literacy rate in Tharaka is 81 per cent.

Child protection

Only 36 per cent of children under-five in Tharaka have their births registered. Slightly higher than one in every five (20 per cent) children age 5-14 years in Tharaka are engaged in child labour. A very high proportion (91 per cent) of children age 2-14 years received any psychological or physical punishment during one month prior to the survey.

Female genital mutilation / cutting (FGM/C) and domestic violence

Seventy one per cent women aged between 15-49 years in Tharaka had some form of FGM/C. Among the daughters, 14 per cent had some form of FGM/C, of whom five per cent had an extreme form of FGM/C.

Only five per cent of women who have heard of FGM/C believe that the practice should be continued.

Fifty nine per cent of the women in Tharaka district support wife beating under various circumstances. For example, 32 per cent of women believe that a husband can beat his wife if she goes out without telling him. Another 47 per cent would support wife beating if she neglected children.

HIV and AIDS

The percentage of women aged between 15-24 years in Tharaka who have comprehensive knowledge about HIV prevention was 22 per cent. The proportion of women with knowledge about mother-to-child transmission of HIV was more than 90 per cent.

Fifty nine per cent of women aged 15-49 years reported that they had been tested for HIV. Seventy seven per cent of women who delivered a child in the last 2 years received counselling on prevention of mother-to-child transmission of HIV and 85 per cent had the HIV test done.

Orphans and vulnerable children

Seven per cent of the children below18 years are not living with any biological parent. Ten and six per cent of the children in the same age group are vulnerable and orphans, respectively.

Summary Table of Findings

Multiple Indicator Cluster Surveys (MICS) and Millennium Development Goals (MDG) Indicators, Tharaka district, Eastern Province, Kenya, 2008

Topic	MICS Indicator Number	MDG Indicator Number	Indicator	Value & Unit	
CHILD MORTALITY					
Child mortality	1	13	Under-five mortality rate	67	per thousand
	2	14	Infant mortality rate	45	per thousand
NUTRITION					
Nutritional status			Underweight prevalence (below -2 SD)	21.1	per cent
			Stunting prevalence (below -2 SD)	28.7	per cent
			Wasting prevalence (below -2 SD)	5.6	per cent
Breastfeeding	45		Timely initiation of breastfeeding	70.6	per cent
	15		Exclusive breastfeeding rate	39.7	per cent
	16		Continued breastfeeding rate		
			at 12-15 months	96.1	per cent
			at 20-23 months	65.3	per cent
	17		Timely complementary feeding rate	73.2	per cent
	18		Frequency of complementary feeding	53.9	per cent
	19		Adequately fed infants	40.9	per cent
Salt iodization	41		Iodized salt consumption	93.5	per cent
Vitamin A	42		Vitamin A supplementation (under-fives)	34.4	per cent
	43		Vitamin A supplementation (post-partum mothers)	47.4	per cent
Low birth weight	9		Low birth weight infants	8.2	per cent
	10		Infants weighed at birth	55.5	per cent
CHILD HEALTH					
Immunization	25		Tuberculosis immunization coverage (by 12 months)	94.0	per cent
	26		Polio immunization coverage (by 12 months)	76.3	per cent
	27		DPT immunization coverage (by 12 months)	82.6	per cent
	28	15	Measles immunization coverage (by 12 months)	76.4	per cent
	31		Fully immunized children (by 12 months)	61.9	per cent
Tetanus toxoid	32		Neonatal tetanus protection	70.7	per cent
Care of illness	33		Use of oral rehydration therapy (ORT)	32.7	per cent
	34		Home management of diarrhoea	8.0	per cent
	35		Received ORT or increased fluids, and continued feeding	16.2	per cent
	23		Care seeking for suspected pneumonia	52.2	per cent
	22		Antibiotic treatment of suspected pneumonia	48.5	per cent
Solid fuel use	24	29	Solid fuels	99.6	per cent
Malaria	36		Households having insecticide-treated nets (ITNs)	72.3	per cent
	37	22	Under-fives sleeping under insecticide-treated nets	52.2	per cent
	38		Under-fives sleeping under mosquito nets	52.6	per cent
	39	22	Antimalarial treatment (under-fives)	27.1	per cent
	40		Intermittent preventive malaria treatment (pregnant women)	70.8	per cent

Topic	MICS Indicator Number	MDG Indicator Number	Indicator	Value & Unit	
ENVIRONMENT					
Water and Sanitation	11	30	Use of improved drinking water sources	22.1	per cent
	13		Water treatment	54.2	per cent
	12	31	Use of improved sanitation facilities	18.0	per cent
	14		Disposal of child's faeces	90.3	per cent
REPRODUCTIVE HEALTH					
Contraception and unmet need	21	19c	Contraceptive prevalence	37.6	per cent
	98		Unmet need for family planning	3.2	per cent
Maternal and newborn health	20		Antenatal care	90.1	per cent
	44		Content of antenatal care		
			Blood test taken	84.9	per cent
			Blood pressure measured	87.7	per cent
			Urine specimen taken	64.0	per cent
			Weight measured	90.0	per cent
	4	17	Skilled attendant at delivery	52.2	per cent
	5		Institutional deliveries	52.1	per cent
			Total fertility rate	5.1	Rate
EDUCATION					
Education	52		Pre-school attendance	24.6	per cent
	53		School readiness	89.0	per cent
	54		Net intake rate in primary education	45.2	per cent
	55	6	Net primary school attendance rate	85.8	per cent
	56		Net secondary school attendance rate	11.4	per cent
			Adult literacy rate (female)	81.1	Per cent
CHILD PROTECTION					
Birth registration	62		Birth registration	35.9	per cent
Child labour	71		Child labour	19.5	per cent
	72		Labourer students	94.6	per cent
	73		Student labourers	19.6	per cent
Child discipline	74		Any psychological/physical punishment	88.1	per cent
Early marriage and polygyny	67		Marriage before age 15	5.8	per cent
			Marriage before age 18	25.1	per cent
	68		Young women aged 15-19 currently married/in union	8.5	per cent
Female genital mutilation/ Cutting	66		Approval for FGM/C	5.0	per cent
	63		Prevalence of female genital mutilation/cutting (FGM/C)	71.3	per cent
	64		Prevalence of extreme form of FGM/C	5.8	per cent
	65		FGM/C prevalence among daughters	13.5	per cent
Domestic violence	100		Attitudes towards domestic violence	59.3	per cent
HIV/AIDS, SEXUAL BEHAVIOUR, AND ORPHANED AND VULNERABLE CHILDREN					
HIV/AIDS knowledge and attitudes	82	19b	Comprehensive knowledge about HIV prevention among young people	21.8	per cent
	89		Knowledge of mother- to-child transmission of HIV	97.2	per cent
	86		Attitude towards people with HIV/AIDS	80.9	per cent
	87		Women who know where to be tested for HIV	87.1	per cent
	88		Women who have been tested for HIV	58.5	per cent
	90		Counselling coverage for the prevention of mother-to-child transmission of HIV	76.8	per cent

Topic	MICS Indicator Number	MDG Indicator Number	Indicator	Value & Unit	
	91		Testing coverage for the prevention of mother-to-child transmission of HIV	84.8	per cent
Support to orphaned and vulnerable children	75		Prevalence of orphans	9.9	per cent
	78		Children's living arrangements	6.9	per cent
	76		Prevalence of vulnerable children	5.9	per cent
	77	20	School attendance of orphans versus non-orphans	0.9	ratio
	81		External support to children orphaned and made vulnerable by HIV/AIDS	42.2	per cent

Introduction 1

1.1 Background

This report is based on the Tharaka district Multiple Indicator Cluster Survey, conducted in 2008 by the Kenya National Bureau of Statistics. The survey provides valuable information on the situation of children and women in Tharaka district and was informed largely by the need 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. All the above 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 Box 1 below).

Box 1: A Commitment to Action: National and International Reporting Responsibilities

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

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

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

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

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

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

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

Kenya is committed to improving the welfare of its people particularly children and women who tend to be more vulnerable to social-economic hardships. With regard to children, the Government of Kenya (GOK) formulated the National Programme 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 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 district will be helpful in appraising national programmes such as the Medium Term Plan (MTP) 2008-2012, Kenya Education Sector Support Programme (KESSP) 2005-2010, and Vision 2030 among other programmes.

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.

Results from the MICS 2008 for Tharaka district of Eastern Province are presented in this report.

1.2 Survey Objectives

The 2008 Tharaka district Multiple Indicator Cluster Survey had the following as its primary objectives:

- To provide up-to-date information for assessing the situation of children and women in Tharaka District;
- To furnish data needed for monitoring progress toward goals established in the Millennium Declaration, the goals of A World Fit For Children (WFFC), and other internationally agreed upon goals, as a basis for future action; and
- To contribute to the improvement of data and monitoring systems in Kenya and to strengthen technical expertise in the design, implementation, and analysis within such systems.

Sample and Survey Methodology 2

2.1 Sample Design

The sample for the Tharaka district Multiple Indicator Cluster Survey (MICS) was designed to provide estimates on a large number of indicators on the situation of children and women at the district level, and was selected in two stages. At the district level, 50 clusters (census enumeration areas) were selected with probability proportional to size. Household listings were then drawn up within the selected enumeration areas, followed by the stratification of households into two groups. The first stratum had children below 3 years of age while the second did not have children below 3 years of age. A systematic sample of 16 households from the first stratum and 8 households from the second stratum was drawn using a random start. The sample was stratified and but not self-weighted. However, for reporting the results, sample weights are used. A more detailed description of the sample design can be found in Appendix A.

2.2 Questionnaires

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

The Household Questionnaire included the following modules:

- Household Listing
- Education
- Water and Sanitation
- Malaria-related questions
- Child Labour
- Child Discipline
- Salt Iodization

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

- Child Mortality
- Tetanus Toxoid
- Maternal and Newborn Health
- Marriage and Union
- Contraception
- Attitudes Towards Domestic Violence
- Female Genital Mutilation/Cutting
- HIV knowledge

The Questionnaire for children under five was administered to mothers or caretakers of children under 5 years of age[2] living in the households. Normally, the questionnaire was administered to mothers of under-5 children; in cases where 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:

- Birth Registration and Early Learning
- Child Development

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

- Vitamin A
- Breastfeeding
- Care of Illness
- Malaria
- Immunization
- Anthropometry

The questionnaires are based on the MICS 3 model questionnaire[3]. From the MICS 3 model English version, the questionnaires were translated into Kiswahili, Borana, Kamba, Meru, and Embu languages.

In addition to the administration of questionnaires, fieldwork teams tested the salt used for cooking in the households for iodine content, and measured the weights and heights of children aged between 0-59 months. Details and findings of these measurements are provided in the respective sections of the report.

2.3 Training and Fieldwork

Training for the fieldwork was conducted in two parts, 3 days training for the mapping and listing teams and 12 days training for the main survey teams in June 2008. 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 one full day in practice interviewing in different locations of Embu district.

The household listing was carried out by 3 teams. Each team comprised a lister and mapper. These three teams were supervised by the District Statistical Officer (DSO) and the whole listing operation was being monitored by the district co-ordinator from the KNBS headquarters.

The data were collected by 2 teams; each comprised 3 interviewers, one driver, one editor/measurer and a supervisor. Fieldwork began towards the end of June 2008 and ended in August 2008.

2.4 Data Processing

Data were entered using the CSPro software. In order to ensure quality control, all questionnaires were double entered and internal consistency checks performed, with the whole process being monitored by two supervisors. Procedures and standard programs developed under the global MICS 3 project and adapted to the modified questionnaire were used throughout. Data processing began simultaneously with data collection in July 2008 and was completed in September 2008. Data were analysed using the Statistical Package for Social Sciences (SPSS) software program, and the model syntax and tabulation plans developed by UNICEF were customized for this purpose.

[3] The model MICS3 questionnaire can be found at www.childinfo.org, or in UNICEF, 2006.

Sample Coverage and Household Characteristics 3

3.1 Sample Coverage

Of the 1,200 households selected for the sample, 1,195 were found to be occupied. Among these, 1,135 were successfully interviewed yielding a household response rate of 95 per cent. In the interviewed households, 1,296 women (aged 15-49) were identified. Information was collected from 1,195 women in these households, yielding a response rate of 92 per cent. In addition, 1,169 children under age five were listed in the household questionnaire. Questionnaires were completed for 1,149 of these children, which corresponds to a response rate of 98 per cent. Overall response rates of 88 and 93 per cent were realised for the women's and under-5's interviews respectively (see Table 3.1).

Table 3.1 (HH.1): Results of household and individual interviews

Number of households, women, and children under 5 by results of the interviews, and household, women's and under-five's response rates, MICS Tharaka district, 2008

Number of households	
Sampled (H_s)	1,200
Occupied (H_o)	1,195
Interviewed (H_i)	1,135
Response rate (H_r)	95.0
Number of women	
Eligible (W_e)	1,296
Interviewed (W_i)	1,195
Response rate (W_r)	92.2
Overall response rate (W_{or})	**87.6**
Number of children under 5	
Eligible (C_e)	1,169
Information collected (C_i)	1,149
Response rate (C_r)	98.3
Overall response rate (C_{or})	**93.4**

$H_r = H_i / H_o$ (where H_o is HH8 = 1, 2, 3 or 6)
$W_r = W_i / W_e$; $W_{or} = W_r$ X H_r
$C_r = C_i / C_e$; $C_{or} = C_r$ X H_r
Note: This table is un-weighted, however all other tables presented in this report are weighted unless mentioned otherwise.

3.2 Characteristics of Households

The age and sex distribution of the survey population is provided in Table 3.2 (HH.2). The distribution is also used to produce the population pyramid in Figure 3.1. In the 1,100 households successfully interviewed in the survey, 5,494 household members were listed. Among these, 2,722 were males and 2,772 were females. The population pyramid shows a high proportion of the elderly (70+). The proportions of females in the 15-19 and 40-44 age brackets are also less than those of males in the same age categories.

The age distribution in Table 3.2 (HH.2) shows that; 44 per cent of the population is below 15 years of age; 51 per cent is aged between 15 and 64 years; and those aged 65 years and above are about five per cent. The child population aged 0-17 years is 50 per cent. This highlights a high dependency ratio and underlines the need for interventions targeting the well-being of children.

Table 3.2 (HH.2): Household age distribution by sex

Percentage distribution of the household population by five-year age groups and dependency age groups, and number of children aged 0-17 years, by sex, MICS Tharaka district, 2008

	Males		Females		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Age						
0-4	415	15.3	413	14.9	828	15.1
5-9	417	15.3	410	14.8	827	15.0
10-14	357	13.1	386	13.9	743	13.5
15-19	324	11.9	244	8.8	568	10.3
20-24	251	9.2	256	9.2	507	9.2
25-29	183	6.7	210	7.6	393	7.2
30-34	155	5.7	175	6.3	330	6.0
35-39	122	4.5	154	5.6	276	5.0
40-44	110	4.0	80	2.9	189	3.4
45-49	75	2.8	104	3.7	179	3.3
50-54	68	2.5	86	3.1	153	2.8
55-59	58	2.1	67	2.4	124	2.3
60-64	45	1.7	53	1.9	99	1.8
65-69	28	1.0	37	1.3	66	1.2
70+	97	3.6	95	3.4	192	3.5
Missing/DK	15	(*)	4	(*)	20	(*)
Dependency age groups						
<15	1189	43.7	1208	43.6	2398	43.6
15-64	1391	51.1	1428	51.5	2819	51.3
65+	126	4.6	132	4.8	258	4.7
Missing/DK	15	(*)	4	(*)	20	(*)
Children aged 0-17	1384	50.8	1374	49.6	2758	50.2
Adults 18+/Missing/DK	1338	49.2	1398	50.4	2737	49.8
Total	**2722**	**100**	**2772**	**100**	**5494**	**100**

Table 3.3 (HH.3) provides basic background information on the households such as mean household size, sex of the household head and number of household members. The weighted and un-weighted numbers of total households are equal, since sample weights were normalized (see Appendix A).

Figure 3.2: Age and Sex distribution of household population, MICS Tharaka district, 2008

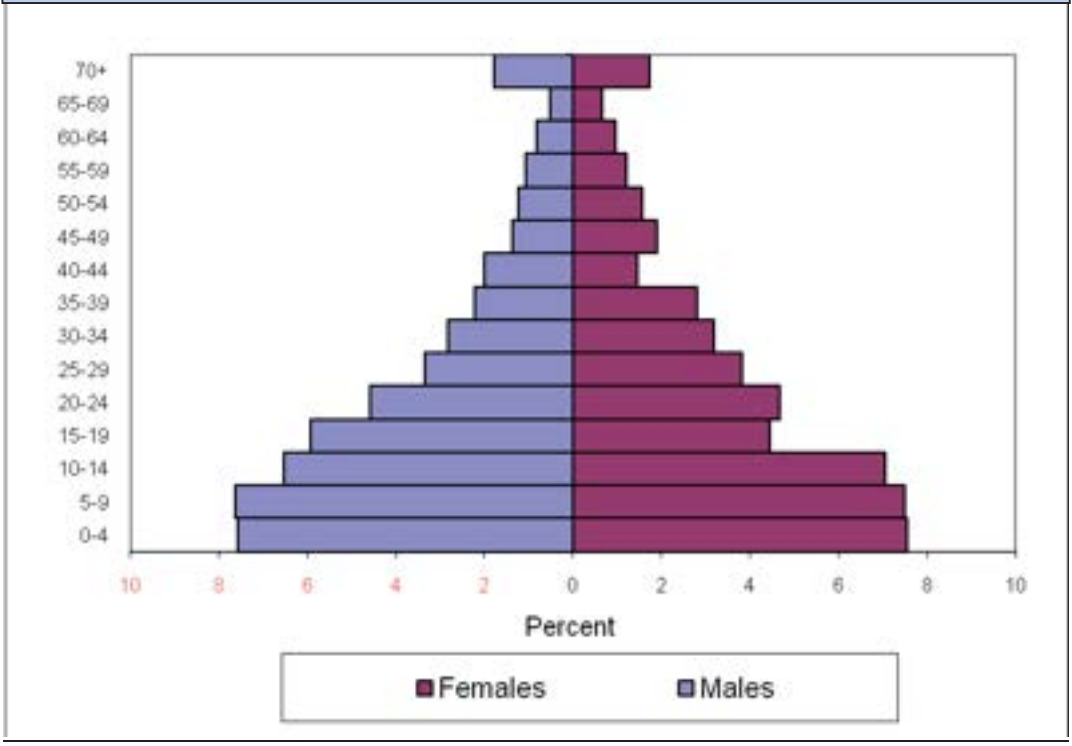


Table 3.3 (HH.3): Household composition

Percentage distribution of households by selected characteristics, MICS Tharaka district, 2008

Characteristic	Weighted percentage	Number of households	
		Weighted	Un-weighted
Sex of household head			
Male	74.7	848	895
Female	25.3	287	240
Number of household members			
1	5.5	63	39
2-3	25.1	284	245
4-5	33.2	377	389
6-7	23.3	264	294
8-9	9.5	108	125
10+	3.4	39	43
Mean household size	4.84	NA	NA
Total	**100**	**1135**	**1135**
At least one child aged < 18 years	79.1	1135	1135
At least one child aged < 5 years	50.8	1135	1135
At least one woman aged 15-49 years	79.3	1152	1152

In Tharaka district, 25 per cent of the households are headed by females, 51 per cent have at least one child below 5 years of age, and 79 per cent have at least one child below 18 years of age. About four out of five households have at least one woman in the reproductive age group 15-49 years. The mean household size in Tharaka district is 4.8 persons.

3.3 Characteristics of Female Respondents

Table 3.4 (HH.4) provides information on the background characteristics of female respondents aged 15-49 years. The total number of weighted and un-weighted observations is equal, since sample weights have been normalized (standardized). In addition to providing useful information on the background characteristics of women, the table also shows the number of observations by background characteristics. These categories are used in the subsequent tabulations in this report.

The table includes information on the distribution of women according to age, marital status, motherhood status, education[4] and wealth index[5]. Overall, 59 per cent of the women aged 15-49 years in Tharaka district were currently married and another 28 per cent were never married or in union. Seventy two per cent have ever given birth, while 78 per cent have primary level of education. The household wealth index categories shows that 45 and 44 per cent of women belong to low and medium wealth index categories, respectively.

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

[5] Principal components analysis was performed by using information on the ownership of household goods and amenities (assets) to assign weights to each household asset, and obtain wealth scores for each household in the sample. (The assets used in these calculations were as follows: number of sleeping rooms, type of floor, type of roof, type of walls, type of fuel used for cooking, electricity, radio, television, telephone (mobile or land line), refrigerator, computer, internet connection, watch, bicycle, motorcycle or scooter, animal drawn cart, car or truck, boat with motor, source of drinking water and type of sanitation). Each household was then weighted by the number of household members, and the household population was divided into three groups, based on the wealth scores of households they were living in. 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, and the wealth scores calculated are applicable for only the particular data set they are based on. Further information on the construction of the wealth index can be found in Rutstein and Johnson, 2004, and Filmer and Pritchett, 2001.

Table 3.4 (HH.4): Women's background characteristics

Percentage distribution of women aged 15-49 years by background characteristics, MICS Tharaka district, 2008

Characteristic	Weighted percentage	Number of women	
		Weighted	Un-weighted
Age			
15-19	18.4	220	179
20-24	19.0	227	255
25-29	17.5	209	244
30-34	15.0	179	200
35-39	14.0	167	156
40-44	6.7	80	79
45-49	9.5	114	82
Marital/Union status			
Currently married/in union	59.3	708	786
Formerly married/in union	12.5	149	134
Never married/in union	28.2	337	275
Motherhood status			
Ever gave birth	72.0	861	943
Never gave birth	28.0	334	252
Education			
None	10.0	120	113
Primary	78.4	936	942
Secondary +	11.4	136	138
Non-standard curriculum	0.2	2	2
Wealth index			
Low	44.7	534	546
Medium	43.7	523	498
High	11.6	139	151
Total	**100.0**	**1195**	**1195**

3.4 Characteristics of Children below five years

Some background characteristics of children under 5 are presented in Table 3.5 (HH.5). These include distribution of children by sex, age in months, mother's or caretaker's education and household wealth index. More or less the same number of male and female children under 5 years was found in the sample.

About 10 per cent of children below 5 years are less than 6 months. Seventy eight per cent of the children belong to mothers having primary education and 11 per cent of children belong to mothers with no education. The distribution of children below 5 years by the household wealth index shows that 48 per cent of children belong to low wealth index households.

Table 3.5 (HH.5): Children's background characteristics

Percentage distribution of children under five years of age by background characteristics, MICS Tharaka district, 2008

Characteristic	Weighted percentage	Number of under-5 children	
		Weighted	Un-weighted
Sex			
Male	50.3	578	596
Female	49.7	571	553
Age			
< 6 months	10.1	117	125
6-11 months	9.2	105	108
12-23 months	22.3	256	270
24-35 months	21.1	243	256
36-47 months	18.2	210	190
48-59 months	19.1	219	200
Mother's education			
None	11.5	132	124
Primary	78.2	898	898
Secondary +	10.2	118	126
Non-standard curriculum	.1	1	1
Wealth index			
Low	48.1	553	559
Medium	41.0	471	462
High	10.9	125	128
Total	**100**	**1149**	**1149**

Child Mortality 4

One of the overarching goals of the Millennium Development Goals (MDGs) and A World Fit for Children (WFFC) is to reduce infant and under-five mortality. Specifically, the MDGs call for the reduction in under-five mortality by two-thirds by 2015. Monitoring progress towards this goal is an important but challenging 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. However, the Tharaka district MICS utilized 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 between 15-49 years includes the number of children ever born and living by sex, and date of birth of each child born. If the child was not alive at the time of the survey, information on age of the child at the time of death was obtained. This method is also used for the Demographic and Health Surveys (DHS) worldwide including the Kenya Demographic Health Survey (KDHS), which allows comparison of the mortality rates with those of MICS.

Infant mortality rate (IMR) is the probability of dying before the first birthday while the under-five mortality rate (U5MR) is the probability of dying before the fifth birthday. Neonatal mortality rate is the probability of dying before one month of life while post neonatal mortality rate is the probability of dying between one month and one year of life. Child mortality rate refers to the probability of dying between one and five years 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 some of 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 underestimates the mortality levels.

4.1 Levels of Childhood Mortality

Table 4.1 (CM.03) provides estimates of childhood mortality for the ten-year period preceding the survey by sex of the child. This permits monitoring of changes in childhood mortality rates. The IMR is estimated at 45 per thousand live births, while the under-5 mortality rate (U5MR) is 67 per thousand live births. These estimates have been calculated based on births during the ten-year period preceding the survey.

Table 4.1: Child mortality

Infant, neonatal, post-neonatal, child and under-five mortality rates for 10-year period preceding the survey, MICS Tharaka district, 2008

Periods of analysis of 10 years	Neonatal mortality rate	Post-neonatal mortality rate	Infant mortality rate	Child mortality rate	Under-five mortality rate
0-9	16	29	45	23	67
10-19	34	38	71	50	118

Nutrition 5

Children's nutritional status is a reflection of their overall health. Children who are well cared for and have access to an adequate food supply are not prone to repeated illnesses, and are likely to reach their maximum growth potential.

Malnutrition is associated with more than half of all children 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 are 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 World Fit for Children goal is to reduce the prevalence of malnutrition among children below five years of age by at least one-third by 2010, with special attention to children under 2 years of age. A reduction in the prevalence of malnutrition will assist in the attainment of the goal towards reduction in child mortality.

5.1 Nutritional Status

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 the WHO/CDC/NCHS reference, which is recommended for use by UNICEF and the World Health Organization. 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 less than two standard deviations below the median of the reference population are considered moderately or severely underweight while those whose weight-for-age is less than three standard deviations below the median are classified as severely underweight.

Height-for-age is a measure of linear growth. 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. Children whose height-for-age is less 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 less than three standard deviations below the median are classified as severely stunted.

Finally, children whose weight-for-height is less than two standard deviations below the median of the reference population are classified as moderately or severely wasted, while those who fall less than three standard deviations below the median are 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.

During the MICS, weights and heights of all children aged between 6-59 months were measured using anthropometric equipment recommended by UNICEF (UNICEF, 2006). Findings in this section are based on the results of these measurements.

Table 5.1 (NU.1) shows percentages of children classified into each of these categories, based on the anthropometric measurements that were taken during fieldwork and selected background characteristics. Additionally, the table includes the percentage of children who are overweight, which takes into account those children whose weight for height is 2 standard deviations above the median of the reference population.

More than one in five (21 per cent) children aged between 6-59 months in Tharaka district are moderately and severely underweight and four per cent are classified as severely underweight. Twenty nine per cent are moderately and severely stunted or too short for their age and seven per cent are severely stunted or too short for their age. Six per cent of children aged between 6-59 months are moderately and severely wasted (below -2SD median weight-for-height).

The proportion of stunted children declines with increasing levels of mother's education. The prevalence of underweight, stunting, and wasting is marginally different between boys and girls. As shown in Figure 5.1, the age pattern shows that child's malnutrition as measured by the entire three indices peak at the 12-23 months period. This pattern may be related to the age at which many children cease to be breastfed and are exposed to contamination in water, food, and environment. Malnutrition among children generally decreases with increasing levels of the household wealth index.

Table 5.1 (NU.1): Child malnourishment

Percentage of children aged 6-59 months who are severely or moderately malnourished, MICS Tharaka district, 2008

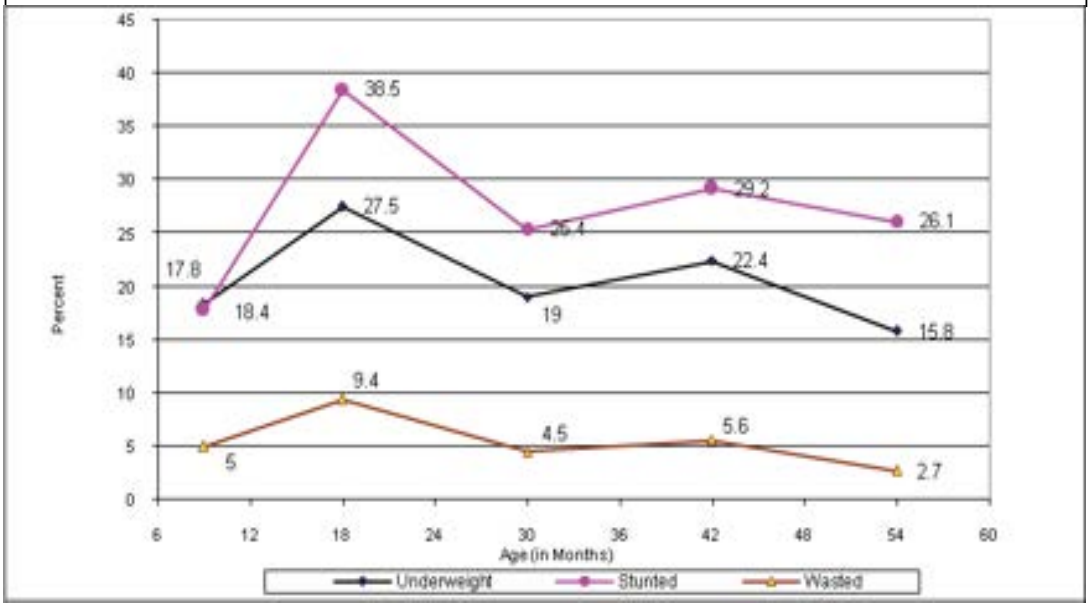
	Weight-for-age		Height-for-age		Weight-for-height			
	per cent below		per cent below		per cent below		per cent above	Number of children aged
Characteristic	-2 SD	-3 SD	-2 SD	-3 SD	-2 SD	-3 SD	2 SD	6-59 months
Sex								
Male	20.7	3.2	28.6	5.6	6.4	0.5	1.9	489
Female	21.4	4.0	28.8	8.4	4.8	0.9	1.3	481
Age								
< 6months	(*)	(*)	(*)	(*)	(*)	(*)	(*)	9
6-11 months	20.0	2.6	18.4	2.8	5.5	0.7	3.2	100
12-23 months	27.5	6.9	38.5	11.6	9.4	1.7	3.0	239
24-35 months	19.0	3.4	25.4	4.1	4.5	0.8	0.8	229
36-47 months	22.4	1.7	29.2	7.8	5.6	0.0	1.5	196
48-59 months	15.8	2.5	26.1	6.5	2.7	0.0	0.0	196
Mother's education								
None	21.2	2.0	33.4	8.4	6.2	1.6	0.8	108
Primary	21.7	4.2	29.2	6.9	6.0	0.6	1.7	763
Secondary +	16.0	0.7	19.2	6.3	1.9	0.0	1.6	99
Wealth index								
Low	22.2	3.6	32.1	8.6	5.3	0.7	1.0	457
Medium	21.4	3.7	28.4	5.5	6.2	0.8	2.1	409
High	15.1	3.4	15.0	5.8	4.6	0.0	2.4	104
Total	**21.1**	**3.6**	**28.7**	**7.0**	**5.6**	**0.7**	**1.6**	**970**

Columns 1 and 2 refer to children whose weight-for-age z-scores (i.e., the exact number of standard deviations from the median) fall below 2 standard deviations (moderately underweight) and 3 standard deviations (severely underweight) from the median weight-for-age of the NCHS reference population. Columns 3 and 4 refer to children whose height-for-age z-scores fall below -2 standard deviations (moderately stunted or short for their age) and -3 standard deviations (severely stunted or short for their age) from the median height-for-age of the reference population. Stunted children are considered as chronically undernourished. Columns 5 and 6 refer to children whose weight-for-height z-scores fall -2 standard deviations (moderately wasted) or -3 standard deviations (severely wasted) from the weight-for-height of the reference population. Wasting is usually the result of a recent nutritional deficiency. The table also 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.

The percentage 'below -2 standard deviations' includes those who fall -3 standard deviations below the median.

Children whose height or weights are missing are excluded from the calculations. If height and weight data are missing for more than 10 per cent of under-five children, caution should be exercised in the interpretation of the results. In addition, children for whom the indices are out of range are omitted.

Figure 5.1: Percentage of children aged 6-59 months who are undernourished, Tharaka District, 2008



5.2 Breastfeeding

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 often switch to infant formula, which can contribute to growth faltering and micronutrient malnutrition, in addition to being unsafe if clean water is not readily available. A World Fit for Children goal states that children should be exclusively breastfed for 6 months and continue to be breastfed with safe, appropriate and adequate complementary feeding for up to 2 years of age and beyond.

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 those aged 6-8 months; 3 times per day for those aged 9-11 months.

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

The indicators for the recommended child feeding practices are as follows:

- Exclusive breastfeeding rate (< 4 months &< 6 months)
- Timely complementary feeding rate (6-9 months)
- Continued breastfeeding rate (12-15 & 20-23 months)
- Timely initiation of breastfeeding (within 1 hour of birth)
- Frequency of complementary feeding (6-11 months)
- Adequately fed infants (0-11 months)

Table 5.2 (NU.2) provides the proportion of women who started breastfeeding their infants within one hour of birth, and women who started breastfeeding within one day of birth (which includes those who started within one hour). A higher proportion of mothers with no education start breastfeeding their new born within one hour of birth (73 per cent) compared with mothers with secondary or higher education (69 per cent). A similar pattern is observed with respect to mother's education for the proportion of women who start breastfeeding their child within one day. The proportion of mothers initiating breastfeeding within one day was more equitably distributed across levels of the household wealth index.

Table 5.2 (NU.2): Initial breastfeeding

Percentage of women aged 15-49 years with a birth in the two years preceding the survey who breastfed their baby within one hour of birth and within one day of birth, MICS Tharaka district, 2008

Characteristic	Percentage who started breastfeeding within one hour of birth	Percentage who started breastfeeding within one day of birth	Number of women with a live birth in the two years preceding the survey
Months since birth			
< 6 months	64.9	91.8	75
6-11 months	70.3	91.3	90
12-23 months	72.8	94.7	186
More than 23 months	(*)	(*)	12
Mother's education			
None	73.3	96.0	35
Primary	70.6	93.6	298
Secondary +	(68.5)	(88.9)	31
Wealth index			
Low	73.7	93.6	169
Medium	67.2	92.7	149
High	70.5	94.9	46
Total	**70.6**	**93.4**	**364**

Tables 5.3a (NU.3) and 5.3b (NU.3) present breastfeeding information based on the reports provided by mothers/caretakers regarding 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 tables show exclusive breastfeeding of infants during the first six months of life (segregated into 0-3 months and 0-5 months), as well as complementary feeding of children aged 6-9 months and continued breastfeeding of children at 12-15 and 20-23 months of age.

According to Table 5.3a (NU.3), the proportion of children aged less than six months who were exclusively breastfed is 26 per cent. Table 5.3b (NU.3) indicates that at age 6-9 months, 73 per cent of children are receiving breast milk and solid or semi-solid foods. By age 12-15 months, 96 per cent of children are still being breastfed and by age 20-23 months, 65 per cent are still breastfeeding. Girls were more likely to be exclusively breastfed than boys during 0-3 months of age. However, from 6-9 months and beyond, a higher proportion of boys than girls are breastfed. Exclusive breastfeeding during the 0-5 months by mothers appears to increase with increasing levels of the mother's education.

Table 5.3a (NU.3): Breastfeeding

Percentage of living children according to breastfeeding status at each age group, MICS Tharaka district, 2008

Characteristic	Children age 0-3 months		Children age 0-5 months	
	Percentage exclusively breastfed	Number of children	Percentage exclusively breastfed	Number of children
Sex				
Male	(31.7)	30	18.8	54
Female	(46.4)	36	34.3	50
Mother's education				
None	(*)	6	(*)	12
Primary	38.1	53	25.7	80
Secondary +	(*)	7	(*)	12
Wealth index				
Low	(37.0)	31	21.5	56
Medium	(43.9)	25	31.7	35
High	(*)	10	(*)	13
Total	**39.7**	**66**	**26.3**	**104**

Note: Breastfeeding status is based on mother's or caretaker's reports of children's consumption in the 24 hours prior to the interview. Exclusive breastfeeding refers to children who receive only breast milk, or breast milk and vitamins, mineral supplements, or medicine.
(*); figure based on < 25 un-weighted cases
(); figures based on 25-49 un-weighted cases.

Figure 5.2 shows the percentage distribution of children aged below 3 years by feeding pattern and age group. Most children are receiving liquids or foods other than breast milk even when exclusive breastfeeding should be the mode of feeding. By the end of the sixth month, the proportion of exclusively breastfed children is below five per cent. There is evidence of breastfeeding of children alongside complementary feeding well into the third year.

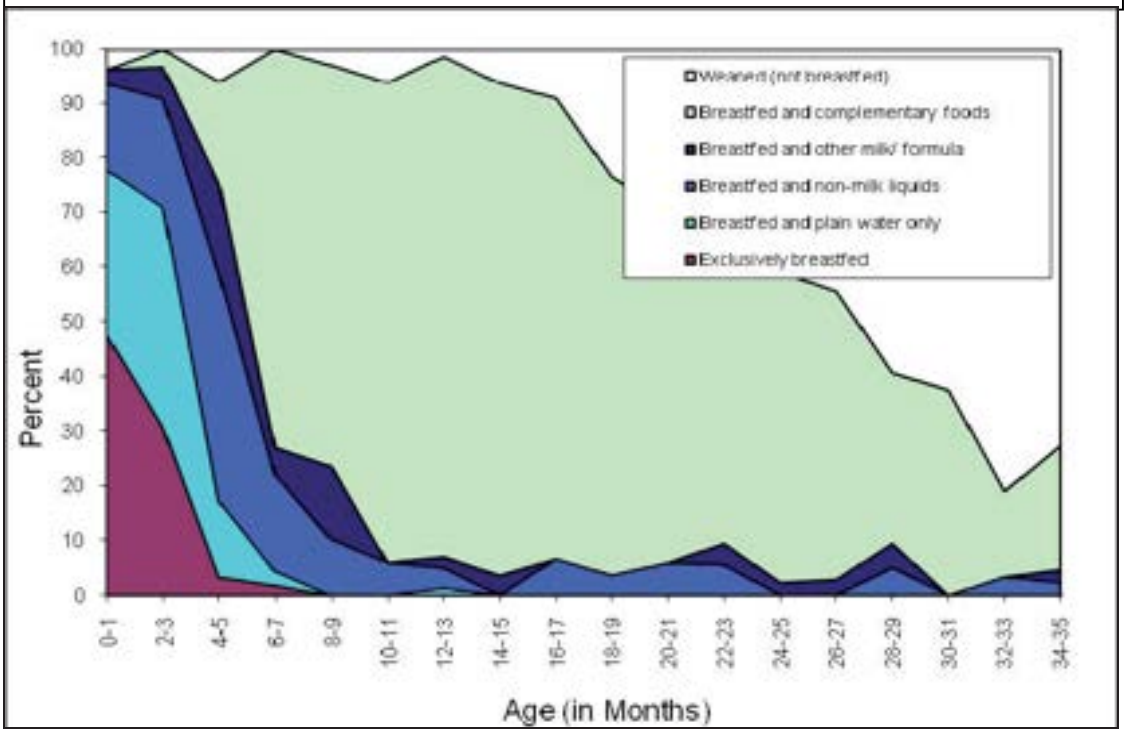
Table 5.3b (NU.3): Complementary feeding

Percentage of living children according to breastfeeding status at each age group, MICS Tharaka district, 2008

Characteristic	Children age 6-9 months: Percentage receiving breast milk and solid/ mushy food	Children age 6-9 months: Number of children	Children age 12-15 months: Percentage breastfed	Children age 12-15 months: Number of children	Children age 20-23 months: Percentage breastfed	Children age 20-23 months: Number of children
Sex						
Male	74.7	46	96.6	47	70.7	36
Female	71.2	35	95.7	53	61.5	50
Mother's education						
None	(*)	6	(*)	6	(*)	10
Primary	79.9	64	97.3	84	59.9	64
Secondary +	(*)	10	9(*)	10	(*)	12
Wealth index						
Low	76.1	37	98.5	45	63.4	37
Medium	66.1	33	96.4	45	66.3	37
High	(*)	11	(*)	10	(*)	13
Total	**73.2**	**80**	**96.1**	**100**	**65.3**	**86**

(*):Figure based on < 25 un-weighted cases
( ):Figures based on 25-49 un-weighted cases.

Figure 5.2: Infant feeding patterns by age: Per cent distribution of children aged below3 years by feeding pattern and age group, MICS Tharaka District, 2008



The adequacy of infant feeding in children below12 months is provided in Table 5.4 (NU.4). Different criteria of adequate feeding are used depending on the age of the child. For infants aged between 0-5 months, exclusive breastfeeding is considered as adequate feeding. Infants aged between 6-8 months are

considered to be adequately fed if they are receiving breast milk and complementary food at least two times per day, while infants aged between 9-11 months are considered to be adequately fed if they are receiving breast milk and eating complementary food at least three times a day. Among children aged between 0-5 months, 26 per cent are currently exclusively breastfed. Among children aged between 6-8 months, 61 per cent are receiving breast milk and complementary food. Only 54 per cent of children aged between 6-11 months are adequately fed. Adequate feeding among all infants (aged between 0-11) drops to 41 per cent. Overall, more male children are fed adequately than their female counterparts, except for the exclusive breastfeeding among 0-5 months old. The proportion of 0-11 month old infants who are appropriately fed is higher in the high wealth index strata (45 per cent).

Table 5.4 (NU.4): Adequately fed infants

Percentage of infants under 6 months of age exclusively breastfed, percentage of infants 6-11 months who are breastfed and who ate solid/semi-solid food at least the minimum recommended number of times yesterday and percentage of infants adequately fed, MICS Tharaka district, 2008

	Percentage of infants					
Characteristic	0-5 months exclusively breastfed	6-8 months who received breast milk and complementary food at least 2 times in prior 24 hours	9-11 months who received breast milk and complementary food at least 3 times in prior 24 hours	6-11 months who received breast milk and complementary food at least the minimum recommended number of times per day	0-11 months who were appropriately fed	Number of infants aged 0-11 months
Sex						
Male	18.8	64.7	55.7	60.5	41.7	120
Female	34.3	54.8	37.5	45.6	40.0	102
Mother's education						
None	(*)	(*)	(*)	(*)	(*)	24
Primary	25.7	68.9	45.5	56.9	42.5	174
Secondary +	(43.3)	(60.1)	(51.9)	(57.0)	(50.4)	24
Wealth index						
Low	21.5	64.8	56.2	60.5	40.7	111
Medium	31.7	52.8	37.2	45.5	39.8	83
High	(32.5)	(74.9)	(43.7)	(57.6)	(45.4)	27
Total	**26.3**	**60.7**	**47.1**	**53.9**	**40.9**	**222**

(*): Figure based on < 25 un-weighted cases
( ): Figures based on 25-49 un-weighted cases.

5.3 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 results in poor school performance, reduced intellectual ability, and impaired work capacity. Adequacy of iodine is monitored by the indicator "percentage of households consuming adequately iodized salt (>15 parts per million)".

Table 5.5 shows that in about 95 per cent of households, salt used for cooking was tested for iodine content by using salt test kits and testing for the presence of potassium iodide. In 94 per cent of households, salt was found to be adequately iodized, that is, the salt contained 15 parts per million (ppm) or more of iodine. Very little variation is observed in the consumption pattern of iodized salt by the background characteristics of the household.

Table 5.5 (NU.5): Iodized salt consumption

Percentage of households consuming adequately iodized salt, MICS Tharaka district, 2008

Characteristic	Percentage of households in which salt was tested	Number of households interviewed	Percentage of households with Salt test result: No salt	< 15 PPM	15+ PPM	Total	Number of households in which salt was tested or with no salt
Wealth index							
Low	92.4	520	5.7	1.8	92.5	100	510
Medium	95.7	478	2.7	3.3	94.1	100	470
High	98.5	137	1.0	3.8	95.2	100	136
Total	**94.5**	**1135**	**3.9**	**2.7**	**93.5**	**100**	**1116**

5.4 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. However, the amount of vitamin A readily available to the body from these sources varies widely. In the developing countries, 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 intake is 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 may be a contributing factor to a high incidence 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 six 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 percentage of children aged 6-59 months receiving at least one high dose vitamin A supplement in the last six months.

Based on UNICEF/WHO guidelines, the Ministry of Health, Government of Kenya recommends that children aged between 6-11 months be given one high dose vitamin A capsules and children aged between 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.

Table 5.6 (NU.6) shows information for children's vitamin A supplementation by selected background characteristics such as sex, age of child, mother's education and the household's wealth index. Within the six months prior to the survey, 34 per cent of children aged between 6-59 months received a high dose vitamin A supplement. About 20 per cent did not receive the supplement in the last 6 months. Fourteen per cent of children received a vitamin A supplement at some time in the past but their mother/caretaker was unable to specify when. Vitamin A supplementation coverage is lower among female children.

There is a consistent decline in vitamin A supplementation with the age of children. For example, supplementation in the last six months declines from 58 per cent among children aged between 6-11 months to 20 per cent among children aged between 48-59 months. The mother's level of education is related to the likelihood of receiving vitamin A supplementation. Mothers with higher levels of education have higher proportions of children having received vitamin A supplementation in the last six months. Vitamin A supplementation by levels of household wealth index also shows a similar trend i.e., vitamin A supplementation coverage increases with increasing levels of the household wealth index.

Table 5.6 (NU.6): Children's vitamin A supplementation

Percentage distribution of children aged 6-59 months by whether they have received a high dose vitamin A supplement in the last 6 months, MICS Tharaka district, 2008

Characteristic	Percentage of children who received vitamin A: Within last 6 months	Prior to last 6 months	Not sure when	Not sure if received vitamin A	Never received vitamin A	Total	Number of children aged 6-59 months
Sex							
Male	31.3	31.8	16.1	0.6	20.3	100.0	524
Female	30.3	37.0	12.7	0.2	19.9	100.0	520
Age							
6-11 months	60.4	4.3	2.4	1.2	31.7	100.0	105
12-23 months	42.7	29.4	7.9	0.0	20.0	100.0	256
24-35 months	23.8	44.2	17.4	0.0	14.6	100.0	243
36-47 months	20.7	39.6	17.9	0.5	21.3	100.0	210
48-59 months	19.7	40.7	21.8	0.8	17.0	100.0	219
Mother's education							
None	22.0	32.2	18.3	1.9	25.5	100.0	120
Primary	30.9	34.7	13.5	0.2	20.6	100.0	818
Secondary +	39.6	33.5	17.1	0.0	9.8	100.0	106
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	100.0	1
Wealth index							
Low	29.4	33.3	13.8	0.7	22.8	100.0	497
Medium	30.0	35.3	14.7	0.2	19.8	100.0	436
High	39.9	35.5	15.8	0.0	8.9	100.0	112
Total	**30.8**	**34.4**	**14.4**	**0.4**	**20.1**	**100**	**1045**

(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases.

Table 5.7 shows post-partum mother's vitamin A supplementation by levels of mother's education and household wealth index. About 47 per cent of mothers with a birth in the previous two years before the survey received vitamin A supplement within eight weeks of the birth. Vitamin A coverage shows a comparable performance with the level of education of the mother. Forty four per cent of mothers with no education received vitamin A compared with 48 and 42 per cent among women with primary and secondary or higher education, respectively.

Table 5.7 (NU.7): Post-partum mothers' vitamin A supplementation

Percentage of women aged 15-49 years with a live birth in the 2 years preceding the survey by whether they received a high dose vitamin A supplement before the infant was 8 weeks old, MICS Tharaka district, 2008

Characteristic	Received vitamin A supplement*	Not sure if received vitamin A	Number of women aged 15-49 years
Education			
None	43.6	0.0	35
Primary	48.4	0.4	298
Secondary +	(42.2)	(1.6)	31
Wealth index			
Low	40.2	0.0	169
Medium	55.4	0.9	149
High	47.8	1.0	46
Total	**47.4**	**0.5**	**364**

The numerator includes all women who say they received a vitamin A dose in the first two months after their last birth (even if their last birth was less than two months prior to the interview). The denominator includes women who had a live birth in the two years preceding the date of interview.
( ); figures based on 25-49 un-weighted cases

5.5 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 an increased risk of dying during their early months and years. Those who survive have impaired immune function and increased risk of disease. They are likely to remain undernourished, with reduced muscle strength, throughout their lives, and suffer a higher incidence of diabetes and heart disease in later life. Children born underweight also tend to have a lower IQ and cognitive abilities which affect their performance in school and their work capacities as adults.

In the developing world, low birth weight stems primarily from the mother's poor health and nutrition. Three factors that have the most impact include; the mother's poor nutritional status before conception, short stature (due mostly to under nutrition and infections during her childhood), and poor nutrition during 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 may be biased because the majority of newborns are not delivered in facilities.

The reported birth weights usually cannot be used to estimate the prevalence of low birth weight because many infants are not weighed at birth. 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[6].

Table 5.8 (NU.8) shows the incidence of low birth weight by the education level of mother and her household wealth index in Tharaka district. Overall, 56 per cent of births were weighed at birth and approximately eight per cent were estimated to weigh less than 2500 grams. Eighty two per cent of the children whose mothers have secondary and above level of education were weighed at birth. There is a noticeable increasing trend in the proportion of children weighed at birth with increasing levels of the household wealth index.

Table 5.8 (NU.8): Low birth weight infants

Percentage of live births in the 2 years preceding the survey that weighed below 2500 grams at birth, MICS Tharaka district, 2008

Characteristic	Percentage of live births:		Number of live births
	Below 2500 grams	Weighed at birth	
Mother's education			
None	7.1	53.3	35
Primary	8.7	53.0	298
Secondary +	(4.4)	(81.6)	31
Wealth index			
Low	10.5	41.4	169
Medium	6.5	61.7	149
High	7.1	86.7	46
Total	**8.2**	**55.5**	**364**

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

5.6 Food Relief

As a result of the periodic food shortages occasioned by drought, the country has over time become a net food importer. These food imports which include cereals such as maize, rice and wheat are meant for commercial purposes. In addition, the country obtains food aid which is distributed through the provincial administration to sections of the population who may be affected by drought. The government, through the National Cereals & Produce Board (NCPB), also maintains strategic reserves of about 3 million bags of maize which is mainly for relief purposes. Tharaka district is generally semi-arid and hence has from time to time benefited from food relief. As shown in Table 5.9 (NU.9), fifty per cent of the population in Tharaka district are registered for food relief, and four per cent registered for the food distribution program. Among those registered, five per cent received food supplies within the last one week, another four per cent received between one week and one month before the survey, five per cent received between 1-3 months, and the remaining 85 per cent received supply of food after 6 months. In the district, none of the households reported selling the free food they received.

Table 5.9 (NU.9): Food relief

Percentage of households registered as beneficiary of food distribution program, and of those registered time of last receipt of food and whether meeting their full requirement or not, Tharaka district, 2008

Characteristic	Percentage households registered as beneficiary of food distribution	Total number of households	Percentage of households by time last receipt of food distribution					Percentage of households reporting sufficient supply	Household registered as food beneficiary
			Within one week	Between 1 week and one month	Between 1-3 months	After 6 months	Total per cent		
Wealth index									
Low	(6.7)	(520)	(6.0)	(6.0)	(2.1)	(85.9)	(100.0)	(0.9)	35
Medium	3.2	478	(*)	(*)	(*)	(*)	(*)	(*)	15
High	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	0
Total	**4.4**	**1135**	**5.3**	**4.1**	**5.3**	**85.4**	**100.0**	**0.5**	**50**

Child health 6

6.1 Immunization

The fourth Millennium Development Goal (MDG) is to reduce child mortality by two thirds between 1990 and 2015. Immunization plays a key role towards the achievement of 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 not reached by routine immunization and as a result, vaccine-preventable diseases cause more than 2 million deaths every year.

A World Fit for Children goal is to achieve full immunization of children under 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 Expanded Programme on Immunizations (KEPI) and the *Malezi Bora* (a comprehensive initiative to protect children's health in Kenya) campaigns are playing key roles in this regard.

In Kenya, and in accordance with the Ministry of Health guidelines, a child should receive a BCG vaccination to protect him/her against tuberculosis, three doses of DPT to protect against diphtheria, pertussis and tetanus and three doses of polio vaccine by the age of 12 months. The measles vaccine should be administered by the age of 9 months. This is in accordance with the UNICEF and WHO guidelines.

In MICS, mothers or care givers of children below five years of age were asked to provide vaccination cards and interviewers copied vaccination information from the cards onto the questionnaire. However, information about children with no immunization cards were obtained using a set of structured direct questions on immunization. The immunization coverage shown in this report includes information from cards as well as recall, unless mentioned otherwise.

Table 6.1 (CH.1) show vaccination coverage rates among children 12-23 months who received each of the vaccinations by source of information. The denominator for the table comprises children aged between 12-23 months so that only children who are old enough to be fully vaccinated are included. In the top panel, 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 bottom panel, 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.

Ninety four per cent of the children aged between 12-23 months received a BCG vaccination by the age of 12 months, while 92 per cent received the first dose of DPT. The percentage declines marginally for subsequent doses of DPT to 83 per cent for the third dose. Similarly, 91 per cent of children received polio 1 by age 12 months and this declines to 76 per cent by the third dose. The coverage for measles vaccine by 12 months, at 76 per cent, is lower than for the other vaccines. This is primarily because, although 67 per cent of children received the vaccine, only 62 per cent received it by their first birthday. As a result, the proportion of children who have received all the recommended vaccinations by their first birthday is 62 per cent in Tharaka district.

Table 6.1 (CH.1): Vaccinations among children

Percentage of children aged 12-23 months immunized against childhood diseases at any time before the survey and before the first birthday, MICS Tharaka district, 2008

Vaccinated at any time before the survey	Percentage of children who received:											Number of children aged 12-23 months
	BCG	DPT1	DPT2	DPT3	Polio0	Polio1	Polio2	Polio3	Measles	All*	None	
According to:												
Vaccination card	80.3	79.4	77.1	73.7	61.9	80.2	76.9	71.4	65.2	61.1	0.4	256
Mother's report	13.7	13.0	11.8	10.5	6.0	11.7	8.7	6.0	14.1	5.6	3.9	256
Either	94.0	92.4	89.0	84.2	67.9	91.9	85.6	77.3	79.3	66.7	4.3	256
Vaccinated by 12 months of age	94.0	92.0	88.1	82.6	67.5	91.2	85.2	76.3	76.4	61.9	4.3	256

Total number of 12-23 month olds vaccinated with BCG, (OPV3, DPT3, Measles, HepB, or HiB) before 12 months, as validated by card or mother's recall. To estimate the number of children without a card to have received vaccine before 1st 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 1st birthday.

*Children who received 'all' vaccinations are those who have received 3 doses of DPT, 3 doses of Polio (excluding Polio 0), BCG, and Measles.

Table 6.2 (CH.2) shows vaccination coverage rates among children aged 12-23 months by background characteristics. Overall, 82 per cent of children had health cards. 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. 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. The coverage of BCG, DPT1 and Polio1 is near universal in Tharaka district. However, the coverage of DPT3 and Polio3 drops by 17 per cent and 24 per cent respectively. The measles vaccination was received by 79 per cent of children aged between 12-23 months. Overall, 67 per cent of children aged between 12-23 months are fully vaccinated. That is, they have received BCG, 3 doses of DPT, 3 doses of Polio and measles vaccines. There is no differential in the immunization coverage among boys and girls. The percentage fully immunized increases with increasing levels of the household wealth index.

Table 6.2 (CH.2): Vaccinations by background characteristics

Percentage of children aged 12-23 months currently vacicnated against childhood diseases, MICS Tharaka district 2008

Characteristic	Percentage of children who received:											Percentage with health card	Number of children aged 12-23 months
	BCG	DPT1	DPT2	DPT3	Polio0	Polio1	Polio2	Polio3	Measles	All	None		
Sex													
Male	93.3	92.3	87.0	81.8	68.1	91.9	84.3	75.9	78.3	67.1	3.8	80.7	124
Female	94.6	92.6	90.9	86.5	67.7	92.0	86.8	78.7	80.3	66.3	4.7	84.0	132
Mother's education													
None	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	20
Primary	94.3	92.9	88.8	83.3	68.8	91.9	85.4	78.0	79.2	67.0	3.6	84.4	211
Secondary +	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	25
Wealth index													
Low	90.7	86.4	82.0	76.1	59.4	89.1	82.1	73.5	72.9	62.2	6.1	82.0	113
Medium	96.2	97.0	93.5	89.7	74.3	93.1	87.2	82.0	83.3	70.7	3.0	83.9	112
High	(97.9)	(97.9)	(97.9)	(93.7)	(75.1)	(97.9)	(92.3)	(74.4)	(88.4)	(68.1)	(2.1)	(78.6)	31
Total	**94.0**	**92.4**	**89.0**	**84.2**	**67.9**	**91.9**	**85.6**	**77.3**	**79.3**	**66.7**	**4.3**	**82.4**	**256**

Note: The calculation is the same as the top panel of Table 6.1 (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.
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

6.2 Tetanus Toxoid

One of the MDG targets is to reduce by three quarters the maternal mortality ratio (MMR), with one strategy being to eliminate maternal tetanus. Another goal is to reduce the incidence of neonatal tetanus to less than 1 case of neonatal tetanus per 1,000 live births. A World Fit for Children goal is to eliminate maternal and neonatal tetanus by 2015.

Prevention of maternal and neonatal tetanus requires that all pregnant women receive at least two doses of tetanus toxoid vaccine. However, if women have not received two doses of the vaccine during 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 last 3 years;
- Received at least 3 doses, the last within the last 5 years;
- Received at least 4 doses, the last within the last 10 years; and
- Received at least 5 doses during lifetime.

Table 6.3 (CH.3) shows the protection status from tetanus of women who have had a live birth within the last 12 months. Overall, 64 per cent of women who had a child birth during 2 years preceding the survey had adequate protection against tetanus. In Tharaka district, the proportion of women who received tetanus for protection was comparable across levels of mother's education. The percentage vaccinated against tetanus was 72 per cent among women with no education and 71 per cent for mothers with primary education, and 68 per cent among women with secondary or higher education, although the estimate was based on few observations. The percentage vaccinated against tetanus was comparable for women from low and middle wealth index households, and much higher among women from high wealth index households (83 per cent).

Table 6.3 (CH.3): Neonatal tetanus protection

Percentage of mothers with a birth in the last 12 months protected against neonatal tetanus, MICS Tharaka district, 2008

Characteristic	Percentage of mothers with a birth in the last 12 months who:				Number of mothers
	Received at least 2 doses during last pregnancy	Received at least 2 doses, last within prior 3 years	Received at least 3 doses, last within prior 5 years	Are protected against tetanus*	
Age					
15-19	(*)	(*)	(*)	(*)	15
20-24	65.0	6.4	0.0	71.4	88
25-29	67.7	6.3	0.0	73.9	107
30-34	64.7	6.6	0.0	71.3	74
35-49	56.8	8.3	0.0	65.1	79
Education					
None	64.3	7.4	0.0	71.6	35
Primary	64.7	5.8	0.3	70.8	298
Secondary +	(52.9)	(15.3)	(0.0)	(68.2)	31
Wealth index					
Low	62.5	5.4	0.0	68.0	169
Medium	60.8	9.1	0.0	69.9	149
High	76.9	3.9	2.1	82.9	46
Total	**63.7**	**6.7**	**0.3**	**70.7**	**364**

(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

6.3 Oral Rehydration Treatment

Diarrhoea is one of the leading causes 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 the deaths 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, A 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 or increased fluids) AND continued feeding

In the MICS questionnaire, mothers (or caretakers) were asked to report whether their child 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 amount the child usually ate and drank.

Table 6.4 shows ORS treatment by background characteristics. It also shows the percentage of children receiving various types of recommended liquids during the episode of diarrhoea. Overall, 13 per cent of children below five years had diarrhoea in the two weeks preceding the survey. The peak of diarrhoea prevalence occurs in the weaning period, among children aged between 6-23 months. Thirty three per cent received fluids from ORS packets; 26 per cent received pre-packaged ORS fluids, and about 13 per cent received recommended homemade fluids. Close to one in two (47 per cent) children with diarrhoea received one or more of the recommended home treatments (i.e., were treated with ORS or RHF), while 53 per cent received no treatment.

Table 6.4 (CH.4): Oral rehydration treatment

Percentage of children aged 0-59 months with diarrhoea in the last two weeks and treatment with oral rehydration solution (ORS) or other oral rehydration treatment (ORT), Tharaka district, Eastern Province, 2008

Characteristic	Had diarrhoea in last two weeks	Number of children aged 0-59 months	Fluid from ORS packet	Recommended homemade fluid	Pre-packaged ORS fluid	No treatment	ORT use rate *	Number of children aged 0-59 months with diarrhoea
Sex								
Male	14.3	578	33.3	15.4	32.4	51.9	48.1	83
Female	11.2	571	31.9	9.6	18.3	55.2	44.8	64
Age								
0-11 months	30.8	118	35.7	10.6	20.3	55.7	44.3	36
12-23 months	21.7	256	36.7	15.2	24.2	55.2	44.8	56
24-35 months	9.5	240	(*)	(*)	(*)	(*)	(*)	23
36-47 months	6.2	210	(*)	(*)	(*)	(*)	(*)	13
48-59 months	2.6	218	(*)	(*)	(*)	(*)	(*)	6
Mother's education								
None	8.0	132	43.3	20.6	34.5	49.0	51.0	11
Primary	13.8	898	34.5	12.8	25.5	52.5	47.5	124
Secondary +	9.6	118	5.6	.0	29.3	70.7	29.3	11
Non-standard curriculum	100.0	(*)	(*)	(*)	(*)	(*)	(*)	1
Wealth index								
Lowest	14.2	553	31.8	13.9	25.2	53.3	46.7	79
Middle	12.4	471	35.2	13.6	29.5	49.7	50.3	58
Upper	7.9	125	25.4	.0	15.5	74.6	25.4	10
Total	12.8	1149	32.7	12.9	26.3	53.3	46.7	147

Note: The percentages receiving various treatments will not add to 100 since some children may have received more than one type of treatment. The ORT use rate includes those who received oral rehydration salts from a packet or any appropriate household solution or pre-packaged ORS fluid

(*); figure based on < 25 un-weighted cases

( ); figures based on 25-49 un-weighted cases

Table 6.5 (CH.5) provides information on home management of diarrhoea by background characteristics such as sex, age of child in months, mother's education and wealth index. Among children who had diarrhoea during the two weeks preceding the survey, 28 per cent drank more than usual while 72 per cent drank the same or less. Thirty one per cent ate somewhat less, same or more (continued feeding), but 69 per cent ate much less or ate almost nothing. A higher proportion of boys (19 per cent) received ORT or increased fluids and continued feeding than girls.

Table 6.5 (CH.5): Home management of diarrhoea

Percentage of children aged 0-59 months with diarrhoea in the last two weeks who took increased fluids and continued to feed during the episode, Tharaka district, 2008

Characteristic	Had diarrhoea in last two weeks	Number of children aged 0-59 months	Children with diarrhoea who:				Home management of diarrhea	Received ORT or increased fluids AND continued feeding	Number of children aged 0-59 months with diarrhoea
			Drank more	Drank the same or less	Ate somewhat less, same or more	Ate much less or none			
Sex									
Male	14.3	578	27.7	72.3	33.9	66.1	8.4	18.5	83
Female	11.2	571	28.7	71.3	28.3	71.7	7.5	13.1	64
Age									
0-11 months	19.3	192	25.5	74.5	21.8	78.2	7.9	9.7	37
12-23 months	25.2	260	36.2	63.8	34.1	65.9	6.9	17.3	66
24-35 months	9.6	248	(*)	(*)	(*)	(*)	(*)	(*)	24
36-47 months	6.2	210	(*)	(*)	(*)	(*)	(*)	(*)	13
48-59 months	3.2	238	(*)	(*)	(*)	(*)	(*)	(*)	8
Mother's education									
None	8.0	132	8.8	91.2	16.9	83.1	0.0	9.2	11
Primary	13.8	898	30.9	69.1	32.2	67.8	9.4	17.6	124
Secondary +	9.6	118	17.7	82.3	31.0	69.0	0.0	0.0	11
Non-standard curriculum	(*)	1	(*)	(*)	(*)	(*)	(*)	(*)	1
Wealth index									
Low	14.2	553	22.0	78.0	28.0	72.0	7.6	15.4	79
Medium	12.4	471	34.5	65.5	33.8	66.2	9.8	19.9	58
High	7.9	125	(*)	(*)	(*)	(*)	(*)	(*)	10
Total	**12.8**	**1149**	**28.1**	**71.9**	**31.4**	**68.6**	**8.0**	**16.2**	**147**

( ); figures based on 25-49 un-weighted cases
(*); figures based < 25 un-weighted cases

6.4 Care Seeking and Antibiotic Treatment of Pneumonia

Pneumonia is among the leading causes 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 (ARI).

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 6.6 (CH.6) presents care seeking for suspected pneumonia by background characteristics. The prevalence of suspected pneumonia in children aged between 0-59 months that were reported to have had symptoms of pneumonia during the two weeks preceding the survey stood at nine per cent. Among these children with symptoms of pneumonia, 52 per cent were taken to an appropriate health service provider. Among those who went to an appropriate service provider, 32 per cent went to a public facility, 22 per cent to a private facility (private hospital/clinic and pharmacy) and a negligible proportion were taken to other sources, such as a shop. The differentials in the treatment pattern by different characteristics show that a higher proportion of male children are taken to an appropriate health service provider compared with female children, i.e. 55 per cent versus 49 per cent, respectively. Children from high wealth index households were more likely to receive care from an appropriate health service provider. The lowest proportion of children taken to any appropriate health service provider were from medium wealth index households (40 per cent).

Table 6.7 (CH.7) presents the use of antibiotics for the treatment of suspected pneumonia in under-5 children by sex, age of child in months, mother's education and household wealth index. In Tharaka district, 49 per cent of children below five years with suspected pneumonia received an antibiotic during the two weeks prior to the survey. The proportion of antibiotics usage decreased with increasing levels of mother's education.

Table 6.6: Care seeking for suspected pneumonia

Percentage of children aged 0-59 months with suspected pneumonia in the last two weeks taken to a health provider, MICS Tharaka district, 2008

Characteristic	Had acute respiratory infection[1]	Number of children aged 0-59 months	Children with suspected pneumonia who were taken to: Public sources: Govt. Hospital	Public sources: Govt. health centre	Private sources: Private hospital/ clinic	Private sources: Pharmacy	Other source: Shop	Any appropriate provider	Number of children aged 0-59 months with suspected pneumonia
Sex									
Male	9.1	578	24.3	16.1	14.6	0.0	2.5	55.0	52
Female	8.8	571	(12.8)	(9.5)	(26.9)	(1.8)	(0.0)	(49.2)	50
Age									
0-11 months	8.3	192	(*)	(*)	(*)	(*)	(*)	(*)	16
12-23 months	11.9	260	(17.2)	(22.0)	(24.5)	(3.0)	(0.0)	(61.5)	31
24-35 months	10.6	248	(13.5)	(9.5)	(26.7)	(0.0)	(0.0)	(52.1)	26
36-47 months	6.8	210	(*)	(*)	(*)	(*)	(*)	(*)	14
48-59 months	6.3	238	30.1	6.0	4.5	0.0	8.7	40.6	15
Mother's education									
None	10.0	132	(*)	(*)	(*)	(*)	(*)	(*)	13
Primary	8.8	898	16.5	14.3	18.3	0.0	1.7	50.0	79
Secondary +	9.0	118	(*)	(*)	(*)	(*)	(*)	(*)	11
Wealth index									
Low	10.5	553	25.1	15.5	18.5	1.6	0.0	56.7	58
Medium	7.7	471	(5.0)	(9.4)	(21.5)	(0.0)	(3.6)	(39.5)	36
High	6.6	125	(*)	(*)	(*)	(*)	(*)	(*)	8
Total	**8.9**	**1149**	**18.7**	**12.9**	**20.7**	**0.9**	**1.3**	**52.2**	**103**

Note: The percentages taken to various providers may not add to 100 since some children may have been taken to see more than one type of provider.
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

Table 6.7 (CH.7): Antibiotic treatment of pneumonia

Percentage of children aged 0-59 months with suspected pneumonia in the last two weeks prior to the survey who received antibiotic treatment, MICS Tharaka district, 2008

Characteristic	Percentage of children with suspected pneumonia who received antibiotics	Number of children with suspected pneumonia
Sex		
Male	47.0	52
Female	(50.1)	50
Age		
0-11 months	(*)	16
12-23 months	(47.4)	31
24-35 months	(42.9)	26
36-47 months	(*)	14
48-59 months	(*)	15
Mother's education		
None	(*)	13
Primary	46.7	79
Secondary +	(*)	11
Wealth index		
Low	55.9	58
Medium	(37.7)	36
High	(*)	8
Total	**48.5**	**103**

( ); figures based on 25-49 un-weighted cases
(*); figures based < 25 un-weighted cases

The mothers' knowledge of the danger signs is an important determinant of care-seeking behaviour. Issues related to knowledge of danger signs of pneumonia are presented in Table 6.8 (CH.7A). Overall, 22 per cent of women know of the two danger signs of pneumonia – fast and difficult breathing. The most commonly identified symptom for taking a child to a health facility by the mother/caretaker is developing fever (68 per cent). Thirty three per cent of mothers/caretaker identified becoming sicker and 30 per cent of mothers identified drinking poorly as symptoms for taking children immediately to a health care provider. In Tharaka district, it is surprising that the proportion of mothers who recognize the two danger signs of pneumonia declines with increasing levels of household wealth index. On the other hand, it is encouraging that the proportion of mothers who recognize the two danger signs do not vary much by levels of mother's education.

Table 6.8 (CH.7A): Knowledge of the two danger signs of pneumonia

Percentage of mothers/caretakers of children aged 0-59 months by knowledge of types of symptoms for taking a child immediately to a health facility, and percentage of mothers/caretakers who recognize fast and difficult breathing as signs for seeking care immediately, MICS Tharaka district, 2008

Characteristic	Percentage of mothers/caretakers who think that a child should be taken immediately to a health facility if the child:								Mothers/ caretakers who recognize the two danger signs of pneumonia*	Number of mothers/ caretakers of children aged 0-59 months
	Is not able to drink or breastfeed	Becomes sicker	Develops a fever	Has fast breathing	Has difficulty breathing	Has blood in stool	Is drinking poorly	Has other symptoms		
Mother's education										
None	28.3	54.5	70.5	29.7	38.8	32.6	16.7	19.0	20.9	132
Primary	40.2	53.8	67.4	29.8	36.4	31.5	23.7	22.8	22.0	898
Secondary +										
Non-standard curriculum	38.5 (*)	42.6 (*)	72.8 (*)	29.7 (*)	37.0 (*)	30.5 (*)	19.0 (*)	31.1 (*)	21.3 (*)	118 1
Wealth index										
Low	40.0	53.9	67.4	30.6	38.1	29.6	19.6	23.3	23.5	553
Medium	34.7	52.4	68.3	29.3	36.1	34.9	24.1	24.4	21.1	471
High	47.4	48.4	73.0	27.2	32.5	27.0	28.6	19.3	16.7	125
Total	**38.6**	**52.7**	**68.4**	**29.7**	**36.7**	**31.5**	**22.4**	**23.3**	**21.8**	**1149**

* Percentage of mothers/caretakers who state fast AND difficult breathing as signs for taking a child to a health facility immediately
Note: The percentages may not add to 100 since some mothers/caretakers may have indicated more than one symptom.
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

6.5 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 (CO), polyaromatic hydrocarbons, sulphur dioxide (SO_2), and other toxic elements. Use of solid fuels increases the risks of acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, and possibly tuberculosis, low birth weight, cataracts, and asthma. The primary indicator is the proportion of the population using solid fuels as the primary source of domestic energy for cooking.

Information regarding solid fuel use by background characteristics such as education level of the household head and wealth index is shown in Table 6.9 (CH.8). Virtually all households (100 per cent) use solid fuels for cooking in Tharaka district. Differentials with respect to household wealth index show that 98 per cent of households from the high wealth index use solid fuels compared with almost all households from low or medium wealth index households. The table shows that the overall usage of solid fuels is attributed to the high usage of wood for cooking purposes.

Table 6.9 (CH.9): Solid fuel use

Percentage distribution of households according to type of cooking fuel, and percentage of households using solid fuels for cooking, MICS Tharaka district, Eastern Province, Kenya 2008

Characteristic	Percentage of households using:							
	Kerosene	Charcoal	Wood	Straw, shrubs, grass	Other source	Total	Solid fuels for cooking*	Number of house-holds
Education of household head								
None	0.0	4.1	95.7	0.2	0.0	100.0	100.0	294
Primary	0.0	3.0	96.9	0.0	0.1	100.0	99.9	715
Secondary +	1.6	6.0	89.6	0.0	0.0	100.0	96.9	116
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	(*)	(*)	10
Wealth index								
Low	0.0	0.1	99.6	0.0	0.0	100.0	100.0	520
Medium	0.0	3.5	95.7	0.0	0.1	100.0	99.5	478
High	1.3	18.3	79.7	0.3	0.3	100.0	98.3	137
Total	**0.2**	**3.7**	**95.6**	**0.0**	**0.1**	**100.0**	**99.6**	**1135**

(*); figures based < 25 un-weighted cases

6.6 Malaria

Malaria contributes to anaemia in children and is a common cause of school absenteeism. Preventive measures, especially the use of mosquito nets treated with insecticide(ITNs), can dramatically reduce malaria mortality rates among children. In areas where malaria is common, international recommendations suggest treating any fever in children as if it were malaria and immediately giving the child a full course of recommended anti-malarial tablets. 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, while younger children should continue breastfeeding.

The Tharaka district MICS had questions on the availability and use of bed nets, both at household level and among children under five years of age, as well as anti-malarial treatment, and intermittent preventive therapy for malaria. Results for availability of insecticide treated nets (ITN) by education level of the household head and wealth index are shown in Table 6.10 (CH.10). The survey results indicate that 72 per cent of households have at least one insecticide treated net. Forty three per cent of the households reported to have two or more mosquito nets and the mean number of nets per households in the district is two. As shown in Figure 6.2, the differentials by household characteristics indicate that the proportion of households that use mosquito nets increases with increasing educational levels of the head of the household as well as by increasing levels of the household wealth index. For example, 62 per cent of the households headed by a household head member with no education have a mosquito net compared with 86 per cent among those headed by a member who is educated up to secondary or above.

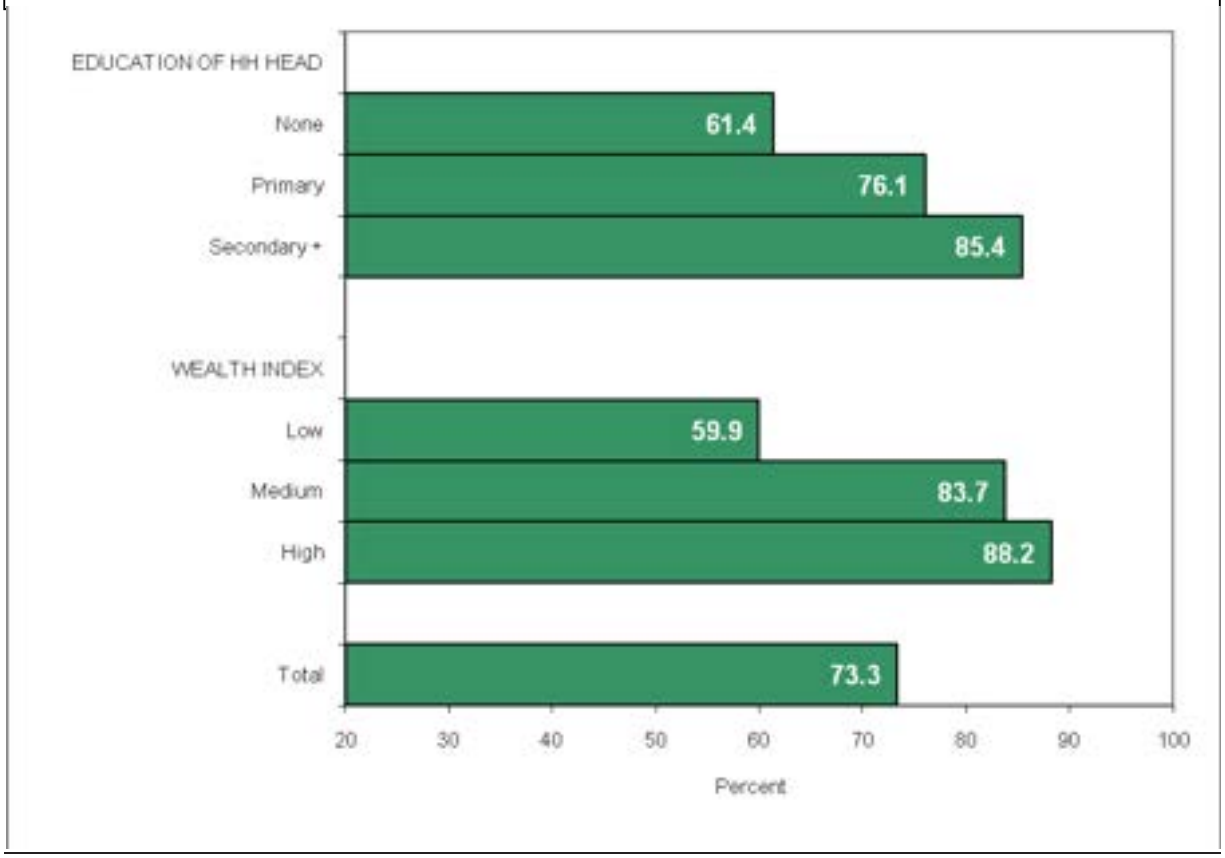
Table 6.10 (CH.10): Availability of insecticide treated nets

Percentage of households with at least one insecticide treated net (ITN), MICS Tharaka district, 2008

Characteristic	Percentage of households with			Mean number of mosquito nets per household	Number of households
	At least one mosquito net	Two or more mosquito nets	At least one insecticide treated net (ITN)		
Education of household head					
None	61.5	31.9	61.3	2.0	291
Primary	75.4	44.5	74.9	2.0	713
Secondary +	85.8	59.8	84.5	2.4	122
Non-standard curriculum	(*)	(*)	(*)	(*)	10
Wealth index					
Low	60.2	26.4	60.0	1.7	522
Medium	82.5	53.0	81.2	2.1	472
High	88.7	70.2	88.2	2.8	142
Total	**73.0**	**42.9**	**72.3**	**2.0**	**1136**

(*); figures based on< 25 un-weighted cases

Figure 6.1: Percentage of households with at least one mosquito net, Tharaka, 2008



As shown in Table 6.11 (CH.11), 53 per cent of children under the age of five slept under any mosquito net the night prior to the survey, while 52 per cent slept under an insecticide treated net. There were no significant disparities by gender in ITN use among children under five. However, it is noteworthy that 47 per cent did not sleep under any mosquito bed net.

Table 6.11 (CH.11): Children sleeping under bed nets

Percentage of children aged 0-59 months who slept under a bed net during the previous night, MICS Tharaka district, 2008

Characteristic	Percentage of children who: Slept under a bed net	Slept under an insecticide treated net	Don't know if slept under a net	Did not sleep under a bed net	Number of children aged 0-59 months
Sex					
Male	52.8	52.5	0.7	46.5	578
Female	52.3	52.0	0.3	47.3	571
Age					
0-11 months	57.6	56.6	1.2	41.2	192
12-23 months	59.8	59.8	0.0	40.2	260
24-35 months	56.0	56.0	0.7	43.3	248
36-47 months	45.1	44.7	0.3	54.6	210
48-59 months	43.5	43.2	0.7	55.8	238
Wealth index					
Lowest	42.7	42.3	0.6	56.8	553
Middle	57.3	57.3	0.3	42.4	471
Upper	78.4	77.0	1.3	20.3	125
Total	**52.6**	**52.2**	**0.5**	46.9	**1149**

Categories for slept under an untreated net and slept under a net but don't know if treated are omitted due to zero values.

Table 6.12 (CH.12) shows information on treatment of children with anti-malarial drugs. Close to one in four (26 per cent) children under five years were ill with fever in the two weeks prior to the survey. Fever prevalence declined with age and peaked at 12-23 months (29 per cent). A slightly higher proportion (27 per cent) of male children had fever.

Mothers were asked to report all medicines given to a child to treat the fever, including both medicines given at home and medicines given or prescribed at a health facility. "Appropriate" anti-malarial drugs include chloroquine, SP/fansidar, artemisinin combination drugs, etc. Overall, 49 per cent of children with fever in the last two weeks were treated with an "appropriate" anti-malarial drug and 27 per cent received an anti-malarial drug within 24 hours of onset of symptoms. Children with mothers having secondary or higher education levels and those from high wealth index households were more likely to receive an appropriate anti-malarial drug and particularly within 24 hours of onset of symptoms. For example, only 26 per cent of the children who had fever and were from low wealth index households received any appropriate anti-malarial drug within 24 hours of onset of symptoms compared to 51 per cent among those from high wealth index households.

Table 6.12 (CH.11): Treatment of children with anti-malarial drugs

Percentage of children aged 0-59 months who were ill with fever in the last two weeks and received anti-malarial drugs, Tharaka district, 2008

			Children with a fever in the last two weeks who were treated with:													
			Anti-malarials:							Other medications:						
Characteristic	Had a fever in last two weeks	Number of children aged 0-59 months	SP/ Fansidar	Chloro-quine	Amodia-quine	Quinine	Artemis-inin based combin-ations	Other anti-malarial	Any appropriate anti-malarial drug	Paracetamol/ Panadol/ Acetaminophen	Aspirin	Ibu-profen	Other	Don't know	Any appropriate anti-malarial drug within 24 hours of onset of symptoms*	Number of children with fever in last two weeks
Sex																
Male	27.4	578	9.6	1.7	26.0	7.1	3.8	11.0	53.6	38.5	3.8	2.8	12.6	2.9	29.1	159
Female	25.4	571	7.6	4.4	25.9	4.2	3.1	2.6	44.1	42.9	2.0	5.9	6.5	8.2	25.0	145
Age																
0-11 months	28.1	192	3.6	4.8	21.5	7.7	2.4	4.8	43.7	40.0	5.2	3.0	5.4	9.5	28.3	54
12-23 months	31.3	260	11.1	1.2	31.2	5.2	5.2	8.5	57.2	46.5	2.0	5.6	8.3	5.1	33.0	81
24-35 months	27.4	248	9.2	5.5	21.3	5.9	1.0	12.0	49.1	43.3	3.8	4.0	12.8	4.5	26.6	68
36-47 months	23.1	210	11.9	.0	22.1	6.1	2.7	2.0	40.7	37.5	3.9	8.3	15.5	7.3	25.9	48
48-59 months	21.7	238	6.1	3.4	32.1	3.8	5.9	4.9	49.7	40.0	5.2	3.0	5.4	9.5	28.3	54
Mother's education																
None	20.1	132	8.2	9.7	13.1	14.9	7.5	8.6	49.0	27.2	3.3	4.9	8.0	3.8	31.6	27
Primary	27.9	898	8.2	2.6	27.3	4.6	3.2	7.0	48.8	43.5	3.2	3.4	9.5	5.9	26.1	251
Secondary +	21.6	118	13.7	0.0	27.2	7.3	2.7	5.7	54.1	27.8	0.0	12.5	13.3	2.5	33.3	25
Wealth index																
Low	26.2	553	6.8	4.3	29.0	5.7	4.2	6.6	51.5	44.9	2.4	4.1	9.3	6.1	26.1	145
Medium	27.9	471	8.2	1.4	22.9	4.8	3.4	5.1	42.5	34.3	4.2	2.2	9.9	4.6	23.4	131
High	21.5	125	20.5	3.6	24.8	10.0	0.0	18.6	68.3	48.4	0.0	14.9	10.3	5.8	51.3	27
Total	**26.4**	**1149**	**8.6**	**3.0**	**26.0**	**5.7**	**3.5**	**7.0**	**49.1**	**40.6**	**2.9**	**4.2**	**9.7**	**5.4**	**27.1**	**304**

* The percentages given various drugs may not add to 100 since some children may have been given more than one type of drug.

In Tharaka district, the most commonly administered anti-malarial drug is Amodiaquine at 26 per cent. Other types of commonly administered medicines that are not anti-malarials, include anti-pyretics such as paracetemol, aspirin, or ibuprofen with a share of 41 per cent. Only four per cent received artemisinin combination therapy. There was a difference between the proportion of boys and girls receiving appropriate anti-malarial drugs i.e., 54 per cent of boys compared with 44 per cent for girls. 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 from the disease. Once infected, pregnant women risk becoming aneamic, having a premature delivery and possibly a 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 Tharaka district MICS, women were asked about the medicines they 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 pregnancy.

Results regarding intermittent preventive treatment (IPT) for malaria in pregnant women who gave birth in the two years preceding the survey by background characteristics are presented in Table 6.13. Seventy one per cent of mothers who delivered a child during the two year period preceding the survey received medicine to prevent malaria during pregnancy. Thirty six per cent received SP/Fansidar only once while 26 per cent received the same but two or more times. Differentials by educational level show that the proportion of women given medicine to prevent malaria during pregnancy increases with improving levels of the mother's education. For example, 54 per cent of mothers with no education used medicine to prevent malaria during pregnancy versus 75 per cent among those who have completed secondary or higher levels of education. As expected, the proportion of women using medicine to prevent malaria during pregnancy was lowest among women from low wealth index households, and higher among those from medium and high wealth index households.

Table 6.13: Intermittent preventive treatment for malaria

Percentage of women aged 15-49 years who gave birth during the two years preceding the survey who received intermittent preventive therapy (IPT) for malaria during pregnancy, Tharaka district, 2008

	Percentage of pregnant women who took:						Number of women who gave birth in prior two years
Characteristics	Medicine to prevent malaria during pregnancy	SP/Fansidar only one time	SP/Fansidar two or more times*	Chloroquine	Other medicines	Don't know	
Education							
None	54.2	27.4	19.7	2.8	4.3	0.0	35
Primary	72.3	36.8	26.4	2.1	3.2	3.8	298
Secondary +	(74.9)	(32.9)	(24.5)	(0.0)	(7.4)	(10.0)	31
Non-standard curriculum							
Wealth index	65.8	34.1	22.2	2.4	3.5	4.1	169
Low	75.8	38.3	27.2	2.0	3.4	4.1	149
Medium	72.9	31.8	32.9	0.0	5.1	3.0	46
High							
Total	**70.8**	**35.5**	**25.6**	**2.0**	**3.7**	**4.0**	**364**

( ); figures based on 25-49 un-weighted cases

Environment 7

7.1 Water

Safe drinking water is a basic necessity for good health. Unsafe drinking water can be a significant carrier of diseases such as cholera, typhoid and schistosomiasis. Drinking water can also be polluted by chemical, physical and radiological contaminants that can bring 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 target is to reduce by half, between 1990 and 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation. A 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.

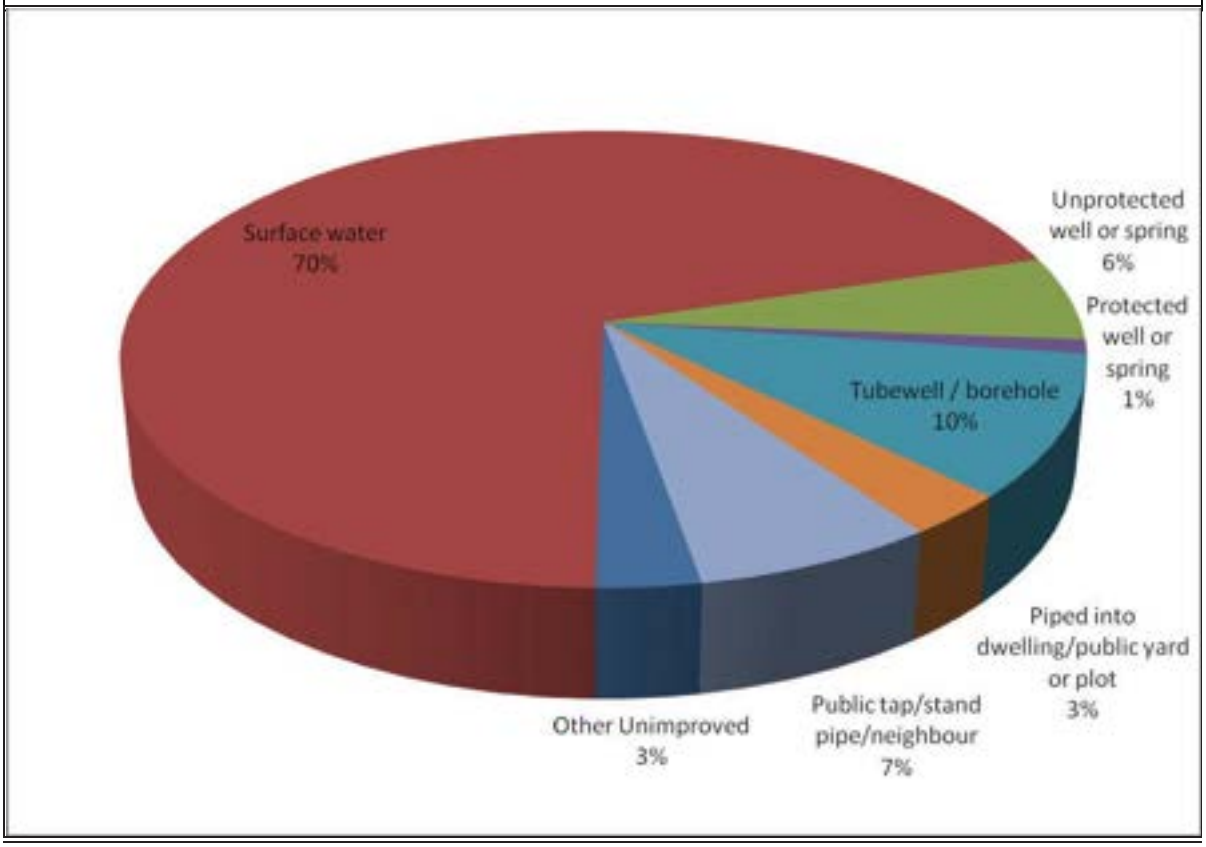
The list of indicators used in MICS is as follows:

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

The distribution of the population by source of drinking water is shown in Figure 7.1. Similar results are shown by background characteristics in Table 7.1. The population using improved sources of drinking water are those using any of the following types of supply: piped water (into dwelling, yard or plot), public tap/ standpipe, tubewell/borehole, protected well, protected spring, 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.

Figure 7.1 Percentage distribution of household members by source of drinking water, Tharaka district, 2008



Most of the households in the district use surface water (70 per cent). This could be a source of disease if it is not treated. Another 10 per cent of the households get their water from tube well/borehole. As expected, the use of surface water decreases with increasing levels of the household wealth index. Overall, 22 per cent of the population is using an improved source of drinking water in Tharaka district. The proportion of the population using an improved source of drinking water increases with the increasing levels of the household wealth index. For example, only 11 per cent of the population from the low wealth index households are using drinking water from improved sources versus 53 per cent among those from high wealth index households.

Table 7. 1 (EN.1): Use of improved water sources

Percentage distribution of household population according to main source of drinking water and percentage of household population using improved drinking water sources, Tharaka district, Eastern Province, Kenya 2008

Characteristic	Main source of drinking water														
	Improved sources						Unimproved sources								
	Piped into dwelling	Piped into yard/ plot	Public tap/ stand-pipe	Piped water from neighbour	Tube-well/ bore-hole	Protected well	Unprotected well	Unprotected spring	Tanker truck	Cart with tank/ drum	Surface water	Other	Total	Improved source of drinking water	Number of household members
Education of household head															
None	1.5	1.0	7.4	0.2	14.7	0.6	1.3	4.8	0.0	1.0	67.2	0.3	100.0	25.8	1160
Primary	0.6	1.5	6.5	0.2	8.5	1.5	2.6	3.2	0.2	2.4	72.1	0.9	100.0	19.3	3707
Secondary +	6.8	2.5	7.2	0.0	13.0	0.4	1.8	4.0	0.0	1.6	62.4	0.3	100.0	30.3	583
Non-standard curriculum	(0.0)	(0.0)	(32.9)	(0.0)	(10.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(56.9)	(0.0)	100.0	(43.1)	44
Wealth index															
Low	0.1	0.0	3.3	0.3	5.1	1.3	2.9	3.5	0.0	1.7	80.8	0.9	100.0	10.8	2446
Medium	0.9	1.6	9.2	0.0	11.9	1.3	1.8	3.7	0.3	2.6	66.1	0.6	100.0	25.5	2417
High	8.7	7.0	12.6	0.3	23.8	0.0	1.1	3.5	0.0	0.9	42.1	0.6	100.0	52.5	632
Total	**1.5**	**1.5**	**7.0**	**0.2**	**10.3**	**1.2**	**2.2**	**3.6**	**0.1**	**2.0**	**69.9**	**0.1**	**100**	**22.1**	**5494**

(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

Table 7.2 (EN.1) presents use of in-house water treatment by background characteristics in Tharaka district. It shows the percentages of household members using appropriate water treatment methods, separately for all households, and for households using improved and unimproved drinking water sources. Households were asked of ways they may be treating water at home to make it safer to drink – boiling, adding bleach or chlorine, using a water filter, and using solar disinfection were considered as proper treatment of drinking water. Fifty four per cent of the households in Tharaka district drink appropriately treated water. Boiling of water was the most common water treatment method and was reported by 53 per cent of households. However, nearly 46 per cent of the households did not treat water. The proportion of those boiling water as a water treatment method increased with increasing levels of the household wealth index. For example, 52 per cent of those from low wealth index households boiled their water compared to 60 per cent among those from high wealth index households.

The amount of time it takes to obtain/collect water is presented in Table 7.3. Note that these results refer to one roundtrip from home to a drinking water source. Information on the number of trips made in one day was not collected. Majority (47 per cent) of households spend more than an hour for water collection, indicating that distance to the water source is long. Excluding those households with water on the premises, the average time to the source of drinking water is 71 minutes. The differentials by household wealth index show that the time taken to collect water from the source of drinking water decreases with increasing levels of the household wealth index. For example, on average a member from a low wealth index household takes 78 minutes to collect drinking water from the source versus 42 minutes taken by those from high wealth index households.

Details on the person who usually collected the water are presented in Table 7.4. For most households, an adult female is usually the person responsible for collecting water (87 per cent of the households). Adult men collect water in 40 per cent of cases and in 12 per cent of the cases, a child under age 15 years collects the water. Cases of women collecting the water decline across the board with increasing levels of the household wealth index. For example, while about 90 per cent of the women collect water in low wealth index households, this proportion declines to 72 per cent for high wealth index households.

Table 7.2 (EN.2): Household water treatment

Percentage distribution of household population according to drinking water treatment method used in the household, and percentage of household population that applied an appropriate water treatment method, Tharaka district, 2008

	Water treatment method used in the household							All drinking water sources		Improved drinking water sources		Unimproved drinking water sources	
Characteristic	None	Boil	Add bleach/ chlorine	Strain through a cloth	Use water filter	Let it stand and settle	Other	Appropriate water treatment method	Number of household members	Appropriate water treatment method	Number of household members	Appropriate water treatment method:	Number of household members
Education of household head													
None	41.2	57.0	1.9	0.0	0.0	1.3	0.0	58.8	1160	54.5	297	60.3	863
Primary	47.2	51.4	1.7	0.1	0.1	2.6	0.4	52.3	3707	42.5	710	54.6	2996
Secondary +	42.6	56.8	4.4	0.0	1.0	2.3	0.0	57.4	583	55.6	177	58.1	407
Non-standard curriculum	(47.0)	(53.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(53.0)	(44)	(23.8)	(19)	(75.1)	25
Wealth index													
Low	47.8	51.6	1.3	0.0	0.0	2.3	0.1	51.8	2446	56.9	256	51.2	2189
Medium	45.1	53.0	1.6	0.2	0.2	2.3	0.5	54.5	2417	41.4	617	59.0	1800
High	37.5	59.8	6.5	0.0	0.9	2.2	0.0	62.5	632	50.2	330	76.0	302
Total	**45.5**	**53.2**	**2.0**	**0.1**	**0.2**	**2.3**	**0.3**	**54.2**	**5494**	**47.1**	**1203**	**56.2**	**4291**

Note that multiple response categories may be used and responses may total to more than 100 per cent.
( ); figures based on 25-49 un-weighted cases

Table 7.3 (EN.3): Time to source of water

Percentage distribution of households according to time to go to source of drinking water, get water and return, and mean time to source of drinking water, MICS Tharaka district, 2008

Characteristic	Time to source of drinking water							Mean time to source of drinking water*	Number of households
	Water on premises	Less than 15 minutes	15 minutes to less than 30 minutes	30 minutes to less than 1 hour	1 hour or more	Don't know	Total		
Education of household head									
None	2.7	15.4	14.7	20.6	45.1	1.5	100	64.9	294
Primary	2.2	14.9	11.7	21.0	50.3	0.0	100	76.3	715
Secondary +	7.9	9.4	16.8	27.6	37.1	1.2	100	56.5	116
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	10
Wealth index									
Low	0.2	14.0	13.1	20.1	52.3	0.3	100	78.2	520
Medium	2.2	15.0	11.1	23.1	48.0	0.6	100	69.9	478
High	15.5	16.1	20.9	21.4	25.1	1.0	100	42.2	137
Total	**2.9**	**14.7**	**13.2**	**21.5**	**47.2**	**0.5**	**100**	**70.9**	**1135**

* The mean time to source of drinking water is calculated based on those households that do not have water on the premises.
(*); figures based on< 25 un-weighted cases

Table 7.4 (EN.4): Person collecting water

Percentage distribution of households according to the person collecting drinking water used in the household, MICS Tharaka district, 2008

Characteristic	Person collecting drinking water				Number of households
	Adult woman	Adult man	Female child under age 15	Male child under age 15	
Education of household head					
None	81.9	34.3	10.7	10.4	294
Primary	91.7	41.9	12.8	5.0	715
Secondary +	73.7	42.8	11.0	6.4	116
Non-standard curriculum	(*)	(*)	(*)	(*)	10
Wealth index					
Low	89.9	37.9	12.5	8.1	520
Medium	88.5	43.9	13.4	5.4	478
High	72.0	36.7	5.6	4.4	137
Total	**87.2**	**40.3**	**12.0**	**6.5**	**1135**

(*); figures based on < 25 un-weighted cases

7.2 Sanitation

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrhoeal diseases and cholera. Improved sanitation facilities for excreta disposal include: flush or pour flush to a piped sewer system, septic tank, or latrine; ventilated improved pit latrine, pit latrine with slab, and composting toilet. Information regarding sanitation by education of the household head and wealth index is shown in Table 7.5. Only 22 per cent of the population in Tharaka district was living in households using improved sanitation facilities. Use of improved sanitation facilities improves with increasing levels of the household wealth index. Sixty eight per cent of the population in Tharaka district use pit latrines without slab or an open pit. About nine per cent have no toilet facilities and hence use bush. A similar percentage use ventilated improved pit latrine (VIP).

Table 7.5 (EN.5): Use of sanitary means of excreta disposal

Percentage distribution of household population according to type of toilet facility used by the household, and the percentage of household population using sanitary means of excreta disposal, MICS Tharaka district, 2008

Characteristic	Type of toilet facility used by household									
	Improved sanitation facility				Unimproved sanitation facility					
	Flush/pour flush to:									
	Septic tank	Ventilated improved pit latrine	Pit latrine with slab	Compositing toilet	Pit latrine without slab/open pit	No facilities / bush / field	Other	Total	Percentage of population using sanitary means of excreta disposal*	Number of household members
Education of household head										
None	0.7	11.4	12.1	0.7	63.4	11.2	0.6	100.0	24.9	1160
Primary	0.0	8.4	9.4	0.2	71.4	10.1	0.5	100.0	18.0	3707
Secondary +	0.0	13.4	27.7	0.0	56.2	2.8	0.0	100.0	41.1	583
Non-standard curriculum	(0.0)	(38.0)	(10.3)	(0.0)	(51.7)	(0.0)	(0.0)	100.0	(48.3)	44
Wealth index										
Low	0.0	5.8	9.0	0.7	63.6	20.0	0.9	100.0	15.6	2446
Medium	0.0	9.3	11.7	0.0	77.8	1.3	0.0	100.0	20.9	2417
High	1.3	27.4	23.8	0.0	47.0	0.0	0.5	100.0	52.4	632
Total	**0.1**	**9.8**	**11.9**	**0.3**	**67.9**	9.4	**0.5**	**100.0**	**22.2**	**5494**

(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

Information on disposal of faeces of children 0-2 years of age is presented in Table 7.6 (EN.6)). 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. In 90 per cent of the cases, the stool of children aged between 0-2 years is disposed safely and 78 per cent of them reported putting the stool in the toilet/latrine as the mode of disposal. The proportion of households disposing children's stool safely increases with improving levels of the mother's education and household wealth index.

As shown in Table 7.7, the percentage share of households using improved sources of drinking water and sanitary means of excreta disposal is only 20 per cent. This proportion increases with improvements in the household wealth index. For example, eight per cent of those who belong to low wealth index are using improved sources of drinking water and sanitary means of excreta disposal in contrast to 46 per cent among those from high wealth index.

Table 7.6 (EN.6): Disposal of child's faeces

Percentage distribution of children aged 0-2 years according to place of disposal of child's faeces, and the percentage of children aged 0-2 years whose stools are disposed of safely, MICS Tharaka district, 2008

	Place of disposal of child's faeces									Proportion of children whose stools are disposed of safely	Number of children aged 0-2 years
Characteristic	Child used toilet	Put/rinsed into toilet or latrine	Put/rinsed into drain or ditch	Thrown into garbage	Buried	Left in the open	Other	Don't know/ missing	Total		
Mother's education											
None	12.3	76.8	0.0	3.0	1.7	6.2	0.0	0.0	100.0	89.2	75
Primary	12.8	77.4	0.5	3.5	0.6	1.5	2.6	0.1	100.0	90.2	569
Secondary +	8.9	83.3	1.3	3.1	1.1	0.0	1.1	0.0	100.0	92.3	79
Wealth index											
Low	10.6	73.3	0.5	5.7	1.6	3.0	4.3	0.0	100.0	83.9	342
Medium	15.2	80.2	0.4	1.8	0.0	0.9	0.3	0.2	100.0	95.4	294
High	9.3	88.6	1.1	0.0	0.0	0.0	0.0	0.0	100.0	97.9	88
Total	**12.3**	**78**	**0.5**	**3.4**	**0.7**	**1.8**	**2.1**	**1.0**	**100.0**	**90.3**	**724**

Table 7.7: Use of improved water sources and improved sanitation

Percentage of household population using both improved drinking water sources and sanitary means of excreta disposal, MICS Tharaka district, 2008

	Percentage of household population:			
Characteristic	Using improved sources of drinking water	Using sanitary means of excreta disposal	Using improved sources of drinking water and using sanitary means of excreta disposal	Number of household members
Education of household head				
None	25.8	86.4	21.8	1160
Primary	19.3	87.8	17.9	3707
Secondary +	30.3	83.9	25.0	583
Non-standard curriculum	(43.1)	100.0	I(43.1)	44
Wealth index				
Low	10.8	77.6	8.2	2446
Medium	25.5	95.9	24.4	2417
High	52.5	90.9	46.1	632
Total	**21.1**	**87.2**	19.7	**5494**

Reproductive Health 8

This chapter presents information about fertility, marriage, contraception, unmet need for contraceptives and antenatal care in the Tharaka district MICS 2008.

8.1 Fertility

Achieving national goals is directly linked to the fertility and resources available to support its population. Studies have shown that, in most of the developing countries the resources are meagre to support its population and hence it is very important to balance the population growth. To develop programs to target fertility reduction, information about prevailing fertility levels become a crucial component. In MICS, birth histories of women aged 15-49 years from sampled households are gathered to measure the fertility level. Birth histories include details of all children ever born to a woman, such as child's name, sex, month and year of birth, survival status and if dead, the age at death.

Table 8.1 presents current fertility levels in Tharaka district for the three-year period preceding the survey. This corresponds to the period from mid-2005 to mid-2008. Current fertility measures include age-specific fertility rates (ASFRs) and total fertility rate (TFR). 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. TFR is defined as the average number of children a woman would have if she went through her entire reproductive period (15-49 years) reproducing at the prevailing ASFRs.

Table 8.1: Current fertility

Age specific fertility rates (ASFRs) and total fertility rate (TFR) for the 3-year preceding the survey, MICS Tharaka district, 2008

Age group	ASFR
15-19	79
20-24	259
25-29	248
30-34	201
35-39	168
40-44	71
45-49	0
TFR	**5.1**

TFR: Total fertility rate for women aged 15-49 years expressed per woman

The total fertility rate in Tharaka district is 5.1 children per woman for the three year period preceding the survey. This is two and half times the replacement level of fertility. In Tharaka district, fertility peaks at the age group 20-24 years. An analysis of the age-specific fertility rates shows that 85 per cent of the total fertility rate is contributed by women aged between 20-39 years, and the contribution of older women 40-49 years is less than 10 per cent. The contribution of the adolescent age group, i.e., 15-19 years to total fertility is about 8 per cent.

Information on the percentage distribution of all women and currently married women based on the number of children even born and living is summarized in Table 8.2. The mean number of children ever born to all women aged between 15-49 years is 3.9 and that of surviving is 2.8. In case of married women

aged between 15-49 years, the mean number of children ever born is 4.1 and that of surviving is 3.7. Six per cent of the married women do not have any live births, which may suggest a high level of infertility in the district. Forty six per cent of the currently married women aged between 45-49 years have 8 or more children ever born, and 43 per cent among women aged between 40-44 years.

Table 8.2: Children ever born and living

Percentage distribution of all women and currently married women by number of children ever born, and mean number of children ever born and living, according to age groups, MICS Tharaka district, 2008

Age group	Number of children ever born									Number of women	Mean number of children	
	0	1	2	3	4	5	6	7	8+	Total		Ever born	Living
All women													
15-19	93.0	6.3	0.7							100.0	220	**1.1**	1.1
20-24	36.4	34.2	18.7	6.0	3.2	1.3			0.2	100.0	227	**1.8**	1.7
25-29	13.9	17.7	26.3	26.2	11.6	3.4	0.3	0.2	0.5	100.0	209	**2.6**	2.5
30-34	4.0	4.2	16.0	24.0	21.2	18.4	7.5	3.5	1.2	100.0	179	**3.8**	3.5
35-39	4.3	1.2	5.0	17.0	21.0	11.6	11.9	16.9	11.0	100.0	167	**5.2**	4.8
40-44	2.1	2.2		7.0	14.3	11.5	20.6	7.5	34.7	100.0	80	**6.8**	5.9
45-49	2.1	2.4	2.9	2.2	5.8	16.9	7.7	19.7	40.3	100.0	114	**8.1**	7.2
Total	**28.0**	**11.9**	**11.6**	**12.4**	**10.2**	**7.6**	**5.0**	**5.3**	**8.0**	**100.0**	**1195**	**4.3**	**3.9**
Currently Married Women													
15-19	(*)	(*)	(*)		(*)					100.0	19	.6	.5
20-24	12.5	43.9	26.4	9.2	5.8	1.9			.4	100.0	124	1.6	1.5
25-29	7.0	13.5	29.2	31.1	13.6	4.3	.4	.3	.6	100.0	154	2.6	2.5
30-34	1.6	1.7	14.5	26.9	23.5	19.1	8.6	2.7	1.4	100.0	146	3.9	3.6
35-39	3.7		2.2	17.4	22.6	13.6	9.1	18.4	12.9	100.0	130	5.2	4.8
40-44		3.0		2.2	17.4	5.5	19.2	9.9	42.7	100.0	60	7.1	6.1
45-49		2.3			8.7	20.8	3.0	19.6	45.6	100.0	75	8.3	7.1
Total	**5.9**	**12.8**	**14.5**	**17.3**	**15.4**	**10.4**	**5.5**	**6.9**	**11.4**	**100.0**	**708**	**4.1**	**3.7**

8.2 Teenage Pregnancy and Motherhood

Reducing pregnancy among adolescents is one of the flagship programs of the Government of Kenya. The distribution of women aged between 15-19 years who have had a live birth or are currently pregnant by selected characteristics is shown in Table 8.3. Nearly seven per cent of women aged between 15-19 years have had a live birth, while nearly 10 per cent have started child bearing. This proportion of teenage women who have initiated child bearing is higher among those from low and high wealth index households.

Table 8.3: Teenage pregnancy and motherhood

Percentage of women aged 15-19 years who are mothers or pregnant with their first child and percentage who have begun child bearing, MICS Tharaka district, 2008

Characteristic	Percentage who			Number of women
	Have had a live birth	Are pregnant with first child	Have began child bearing	
Age				
15	2.8	0.0	2.8	59
16	0.0	0.0	0.0	48
17	6.4	5.8	12.2	39
18	9.5	5.7	15.2	45
19	24.5	7.1	31.6	29
Education				
None	(*)	(*)	(*)	1
Primary	2.0	0.0	2.0	195
Secondary +	0.0	0.0	0.0	24
Wealth index				
Low	7.2	4.5	11.7	108
Medium	6.2	2.0	8.3	99
High	11.0	0.0	11.0	13
Total	**7.0**	**3.1**	**10.1**	**220**

8.3 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. A World Fit for Children goal is improve access to all couples to information and services to prevent pregnancies that are too early, too closely spaced, and too late or too many.

Details on current use of contraception are shown in Table 8.4. Results from the MICS indicate that 38 per cent of currently married women or in union were using any method of contraception. Modern methods were used by 37 per cent while a negligible percentage reported using traditional methods. The most popular method is the IUD which is used by one in three married women in Tharaka district. Other methods combined account for a less than 5 per cent in usage. Younger women and those aged 45-49 years are far less likely to use contraception than women in other (middle) age groups. For example, about 23 per cent of married or in union women aged 15-19 years are currently using a method of contraception compared to 36 per cent among 20-24 year olds and 44 per cent for the 25-29 year old women.

Women's education level is strongly associated with the use of modern contraceptive methods. The proportion of women using any modern method of contraception rises from 18 per cent among those with no education to 40 per cent among women with primary level education, and to 43 per cent among women with secondary or higher education. A similar pattern is observed with respect to household wealth index.

8.4 Unmet Need

Unmet need[7] for contraception refers to fecund women who are not using any method of contraception, but who wish to postpone the next birth or who wish to stop childbearing altogether. Unmet need is identified in MICS by using a set of questions eliciting current behaviours and preferences pertaining to contraceptive use, fecundity, and fertility preferences.

Women with an unmet need for spacing includes women who are currently married (or in union), fecund (are currently pregnant or think that they are physically able to become pregnant), currently not using contraception, and want to space their births. Pregnant women are considered to want to space their births when they did not want the child at the time they got pregnant. Women who are not pregnant are classified in this category if they want to have a (another) child, but want to have the child at least two years later, or after marriage.

Women with an unmet need for limiting are those women who are currently married (or in union), fecund (are currently pregnant or think that they are physically able to become pregnant), currently not using contraception, and want to limit their births. The latter group includes women who are currently pregnant but had not wanted the pregnancy at all, and women who are not currently pregnant but do not want to have a (another) child.

Total unmet need for contraception is simply the sum of unmet need for spacing and unmet need for limiting.

[7] Unmet need measurement in MICS is somewhat different from that used in other household surveys, such as the Demographic and Health Surveys (DHS). In DHS, more detailed information is collected on postpartum amenorrhoea, and sexual activity. Results from the two types of surveys are strictly not comparable.

Table 8.4 (RH.1): Use of contraception

Percentage of women aged 15-49 years currently married or in union who are using (or whose partner is using) a contraceptive method, MICS Tharaka district, 2008

	Percentage of women (currently married or in union) who are using:												
Characteristic	Not using any method	Female sterilization	Pill	IUD	Injections	Implants	Diaphragm/ foam/ jelly	LAM	Total	Any modern method	Any traditional method	Any method	Number of women
Age													
15-19	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	19
20-24	63.8	0.0	3.6	32.0	0.0	0.6	0.0	0.0	100.0	36.2	0.0	36.2	124
25-29	56.2	0.0	1.9	40.8	0.8	0.0	0.3	0.0	100.0	43.5	0.3	43.8	154
30-34	56.1	0.5	3.7	38.9	0.4	0.0	0.5	0.0	100.0	43.5	0.5	43.9	146
35-39	51.8	0.5	4.7	37.6	4.6	0.0	0.0	0.8	100.0	47.4	0.8	48.2	130
40-44	75.4	0.0	4.6	19.1	0.8	0.0	0.0	0.0	100.0	24.6	0.0	24.6	60
45-49	89.6	2.3	1.3	6.8	0.0	0.0	0.0	0.0	100.0	10.4	0.0	10.4	75
Number of living children													
0	(98.6)	(0.0)	(0.0)	(1.4)	(0.0)	(0.0)	(0.0)	(0.0)	100.0	(1.4)	(0.0)	(1.4)	49
1	58.8	0.0	4.3	35.4	0.8	0.8	0.0	0.0	100.0	41.2	0.0	41.2	90
2	45.1	0.0	4.6	49.4	0.0	0.9	0.0	0.0	100.0	54.9	0.0	54.9	115
3	52.2	0.0	7.0	37.4	3.0	0.0	0.3	0.0	100.0	47.4	0.3	47.8	139
4+	68.7	1.0	1.2	27.5	1.1	0.0	0.2	0.3	100.0	30.8	0.5	31.3	315
Education													
None	82.2	0.0	3.9	11.2	2.7	0.0	0.0	0.0	100.0	17.8	0.0	17.8	84
Primary	59.9	0.4	3.1	35.0	0.8	0.3	0.2	0.2	100.0	39.7	0.4	40.1	555
Secondary +	57.5	1.1	2.8	36.6	2.1	0.0	0.0	0.0	100.0	42.5	0.0	42.5	67
Wealth index													
Low	67.6	0.0	1.3	30.4	0.4	0.2	0.0	0.0	100.0	32.4	0.0	32.4	287
Medium	62.0	0.2	3.3	31.8	2.2	0.0	0.2	0.3	100.0	37.5	0.5	38.0	323
High	48.8	2.5	8.5	38.7	0.0	1.0	0.5	0.0	100.0	50.7	0.5	51.2	99
Total	**62.4**	**0.4**	**3.2**	**32.2**	**1.2**	**0.2**	**0.2**	**0.2**	**100.0**	**37.3**	**0.3**	**37.6**	**708**

Male sterilization, condom, female condom, Periodic abstinence, and other omitted due to zero values

Using information on contraception and unmet need, the percentage of demand for contraception satisfied is also estimated from the MICS data. Percentage of demand for contraception satisfied is defined as the proportion of women currently married or in union who are currently using contraception, out of the total demand for contraception. The total demand for contraception includes women who currently have an unmet need (for spacing or limiting), plus those who are currently using contraception.

Table 8.5 shows the results of the survey on contraception, unmet need, and the demand for contraception satisfied. The unmet need for contraception is slightly over three per cent in Tharaka district, of which three per cent have an unmet need for spacing and a negligible proportion have an unmet need for limiting. As expected, seven per cent of women aged 20-24 have an unmet need for spacing, compared to negligible proportions among women aged above 45 years. Overall, among those wanting to use contraception, 38 per cent are currently using them or their demands are met. Differentials by wealth index show that a higher proportion of women with an unmet need are from low health index households.

Table 8.5 (RH.2): Unmet need for contraception

Percentage of women aged 15-49 years currently married or in union with an unmet need for family planning and percentage of demand for contraception satisfied, Tharaka district, 2008

Characteristic	Current use of contraception	Unmet need for contraception: For spacing**	Unmet need for contraception: For limiting***	Unmet need for contraception: Total	Number of women currently married or in union	Percentage of demand for contraception satisfied*****	Number of women currently married or in union with need for contraception
Age							
15-19	(*)	(*)	(*)	(*)	19	(*)	5
20-24	36.2	6.9	0.0	6.9	124	83.9	53
25-29	43.8	2.4	0.0	2.4	154	94.7	71
30-34	43.9	2.8	0.9	3.7	146	92.2	69
35-39	48.2	1.0	0.0	1.0	130	98.0	64
40-44	24.6	5.7	1.0	5.7	60	81.2	18
45-49	10.4	0.0	0.0	0.0	75	100.0	8
Education							
None	17.8	1.5	0.8	2.3	84	(*)	17
Primary	40.1	3.2	0.1	3.3	555	92.4	241
Secondary +	42.5	4.2	0.0	4.2	67	(91.1)	31
Wealth index							
Low	32.4	4.2	0.2	4.4	287	87.9	106
Medium	38.0	3.0	0.0	3.0	323	92.7	132
High	51.2	0.0	0.7	0.7	99	98.7	51
Total	37.6	3.1	0.2	3.2	708	92.0	289

** Unmet need for spacing is defined as women who are fecund and not currently using contraception and want to space their births.
*** Unmet need to limit is defined as women who are fecund and not currently using contraception and want to limit their births.
***** Proportion of demand satisfied is defined as the proportion of currently married or in union women who are currently using contraception of the total demand for contraception.
(*):based on < 25 unweighted cases

8.5 Antenatal Care

The antenatal period presents an important opportunity for reaching pregnant women with a number of interventions that may be vital to their health and well-being of their infants. Better understanding of foetal growth and development and its relationship to the mother's health has resulted in increased attention to the potential of antenatal care as an intervention to improve both maternal and newborn health. For example, if the antenatal period is used to inform women and families about the danger signs and symptoms and about the risks of labour and delivery, it may provide the route for ensuring that pregnant women do, in practice, deliver with the assistance of a skilled health care provider. The antenatal period also provides an opportunity to supply information on birth spacing, which is recognized as an important factor in improving infant survival. Tetanus immunization during pregnancy can be 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 bateriuria and proteinuria
- Blood testing to detect syphilis and severe aneamia
- 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 by background characteristics is presented in Table 8.6.

Table 8.6: Antenatal care provider

Percentage distribution of women aged 15-49 who gave birth in the two years preceding the survey by type of personnel providing antenatal care, MICS Tharaka district, 2008

Characteristic	Person providing antenatal care**				No antenatal care	Total	Antenatal care by any skilled personnel*	Number of women who gave birth in the preceding two years
	Medical doctor	Nurse/ midwife	Traditional birth attendant	Other				
Age								
15-19	(*)	(*)	(*)	(*)	(*)	100.0	(*)	15
20-24	31.1	62.6	0.0	0.0	6.2	100.0	93.8	88
25-29	25.9	67.0	0.0	1.9	5.2	100.0	92.9	107
30-34	28.0	62.4	0.0	0.0	9.6	100.0	90.4	74
35-49	24.8	59.2	0.0	0.0	16.0	100.0	84.0	79
Education								
None	21.1	63.5	0.0	0.0	15.4	100.0	84.6	35
Primary	29.2	61.5	0.2	0.7	8.5	100.0	90.6	298
Secondary +	(24.7)	(66.7)	(0.0)	(0.0)	(8.7)	100.0	(91.3)	31
Wealth index								
Low	28.5	58.0	0.4	0.0	13.1	100.0	86.5	169
Medium	29.7	62.5	0.0	1.4	6.4	100.0	92.2	149
High	20.8	75.6	0.0	0.0	3.6	100.0	96.4	46
Total	**28.0**	**62.1**	**0.2**	**0.6**	**9.1**	**100**	**90.1**	**364**

* Skilled health personnel include doctors, nurses, midwives, and auxiliary midwives.
** If the respondent mentioned more than one provider, only the most qualified provider is considered
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

Coverage of antenatal care by any skilled personnel (a doctor, nurse, or midwife) is relatively high in Tharaka district with 90 per cent of women receiving antenatal care from a skilled provider. The types of ANC services provided to pregnant women are shown in Table 8.7 (RH.4). About 91 per cent of pregnant women indicated that they had received ANC one or more times during pregnancy. Among those who gave birth to a child during the two years preceding the survey, 85 per cent reported that their blood sample was taken during antenatal care visits, 88 per cent reported that their blood pressure was checked, 64 per cent had urine specimen taken and in 90 per cent of cases, weights were measured. The proportion of women receiving the different types of services offered increased with improving levels of the mother's education. A similar pattern is observed with increasing levels of the household wealth index.

Table 8.7 (RH.4): Antenatal care

Percentage of pregnant women aged 15-49 years receiving antenatal care among women who gave birth two years preceding the survey and percentage of pregnant women receiving specific care as part of the antenatal care received, MICS Tharaka district, 2008

Characteristic	Percentage of pregnant women receiving ANC one or more times during pregnancy	Percentage of pregnant women who had:				Number of women who gave birth in two years preceding survey
		Blood test taken*	Blood pressure measured*	Urine specimen taken*	Weight measured*	
Age						
15-19	(*)	(*)	(*)	(*)	(*)	15
20-24	93.8	88.9	89.9	61.2	92.6	88
25-29	94.8	87.4	91.5	69.3	94.8	107
30-34	90.4	87.4	88.7	62.9	89.5	74
35-49	84.0	78.2	81.7	62.5	82.3	79
Education						
None	84.6	77.4	79.7	48.9	84.6	35
Primary	91.5	85.7	88.5	65.1	90.5	298
Secondary +	91.3	85.9	89.4	70.5	91.3	31
Wealth index						
Low	86.9	78.7	83.0	54.7	85.5	169
Medium	93.6	90.2	91.9	72.6	93.1	149
High	96.4	90.3	91.5	70.0	96.4	46
Total	**90.9**	**84.9**	**87.7**	**64.0**	**90.0**	**364**

* Proportions are calculated separately: Total number of women weighed, blood pressure measured, gave urine sample, gave blood sample.
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

8.6 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 indicator for skilled attendant at delivery 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 Tharaka district 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 or auxiliary midwife. Table 8.8 shows the type of personnel available at delivery by background characteristics. Fifty two per cent of births that occurred during the two years preceding the MICS were delivered by skilled personnel. The more educated a woman is, the more likely she is to have delivered with the assistance of a skilled attendant. A similar trend is observed with the level of wealth index. For example, 40 per cent of women from low wealth index households were assisted by a skilled health worker compared with nearly 78 per cent among those from high wealth index households. Delivery in a health facility shows a similar pattern with mother's education and household wealth index. Thirty five per cent of deliveries in Tharaka district were assisted by traditional birth attendants and five per cent by either a relative or friend. Six per cent of the deliveries were assisted by a community health worker.

Table 8.8 (RH.5): Assistance during delivery

Percentage distribution of women aged 15-49 with a birth in two years preceding the survey by type of personnel assisting at delivery, MICS Tharaka district, 2008

	Person assisting at delivery										
Characteristic	Medical doctor	Nurse/ midwife	Traditional birth attendant	Community health worker	Relative/ friend	Other	No attendant	Total	Any skilled personnel*	Delivered in health facility	Number of women who gave birth in preceding two years
Age											
15-19	(*)	(*)	(*)	(*)	(*)	(*)	(*)	100.0	(*)	(*)	15
20-24	26.5	35.1	0.7	0.0	32.7	3.1	1.9	100.0	61.6	60.9	88
25-29	20.4	30.3	1.6	0.0	30.8	12.1	4.8	100.0	50.7	50.3	107
30-34	19.1	26.2	1.8	0.8	40.0	4.5	7.5	100.0	45.3	43.9	74
35-49	25.8	22.0	1.6	0.6	39.9	2.1	8.0	100.0	47.8	49.9	79
Education											
None	22.4	27.5	0.0	0.0	44.0	2.0	4.1	100.0	49.9	47.9	35
Primary	20.8	29.3	1.7	0.4	35.5	6.5	5.8	100.0	50.2	50.2	298
Secondary +	(41.9)	(32.8)	(0.0)	(0.0)	(20.7)	(4.6)	(.0)	100.0	(74.7)	(74.7)	31
Wealth index											
Low	19.1	20.5	1.2	0.4	46.0	6.1	6.8	100.0	39.6	39.5	169
Medium	22.8	35.6	1.5	0.3	29.2	6.1	4.4	100.0	58.4	58.3	149
High	35.8	42.3	1.6	0.0	14.4	4.4	1.5	100.0	78.1	77.7	46
Total	**22.8**	**29.4**	**1.4**	**0.3**	**35.1**	**5.9**	**5.1**	**100.0**	**52.2**	**52.1**	**364**

* Skilled health personnel include doctors, nurses, midwives, and auxiliary midwives.
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

Child Development 9

9.1 Child Learning

It is well recognized that a period of rapid brain development occurs in the first 3-4 years of life, and the quality of home care is the major determinant of a 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 was collected in the survey. These included the involvement of adults with children in the following activities: reading books or looking at picture books, telling stories, singing songs, taking children outside the home, compound or yard, playing with children, and spending time with children naming, counting, or drawing things.

Table 9.1 shows details of family support for learning disaggregated by background characteristics. In forty four per cent of the children under-five, an adult engaged in about four activities that promote learning and school readiness during the 3 days preceding the survey. The average number of activities where household members engaged with children was 3.2. Father's involvement with one or more activities was 32 per cent, with an average of less than one (0.7) activity. One in five children (20 per cent) was living in a household without their natural fathers. Father's involvement in their children activities was higher among high wealth index households. Among low wealth index households, nearly 25 per cent of the children lived without their natural father. This proportion was 16 per cent for the medium wealth index and declined further to 11 per cent for those from high wealth index households. A similar trend is observed in relation to the level of mother's education.

Table 9.1: Family support for learning

Percentage of children aged 0-59 months for whom household members are engaged in activities that promote learning and school readiness ,MICS Tharaka district, 2008

Characteristic	Percentage of children aged 0-59 months					Number of children aged 0-59 months
	For whom household members engaged in four or more activities that promote learning and school readiness*	Mean number of activities household members engage in with the child	For whom the father engaged in one or more activities that promote learning and school readiness**	Mean number of activities the father engaged in with the child	Living in a household without their natural father	
Sex						
Male	43.1	3.1	32.0	0.7	18.5	578
Female	45.6	3.3	31.7	0.7	20.6	571
Age						
0-23 months	18.7	2.1	24.0	0.4	17.8	478
24-59 months	62.6	4.0	37.4	0.9	20.8	671
Mother's education						
None	48.0	3.3	24.2	0.5	35.4	132
Primary	43.5	3.2	32.7	0.7	18.0	898
Secondary +	46.7	3.2	34.1	0.7	13.8	118
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	1
Father's education						
None	44.2	3.1	38.5	0.9	0.0	67
Primary	44.1	3.2	37.4	0.8	0.0	730
Secondary +	48.9	3.4	45.7	0.8	0.0	122
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	6
Father not in HH	42.7	3.1	3.5	0.1	100.0	224
Wealth index						
Low	41.2	3.0	26.4	0.6	24.5	553
Medium	46.4	3.3	34.1	0.7	15.9	471
High	50.1	3.4	47.4	0.9	11.3	125
Total	**44.3**	**3.2**	**31.8**	**0.7**	**19.5**	**1149**

* Any adult has engaged in 4 or more activities to promote learning and school readiness in the past 3 days.
** Father has provided one or more activities to promote learning and school readiness.
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

Education 10

10.1 Pre-School Attendance and School Readiness

Attendance to pre-school education in an organized learning or child education program is important for the readiness of children for school. One of the A World Fit for Children goals is the promotion of early childhood education.

Details on early childhood education (ECD) by background characteristics such as sex and age of child in months, mother's education and wealth are presented in Table 10.1 (ED.1). Twenty five per cent of children aged between 36-59 months are attending pre-school. Slightly more female children (29 per cent) are attending early childhood education than males. The proportion attending ECD improves with mother's education and household wealth index. For example, only sixteen per cent of children with mothers with no education were attending ECD compared to 36 per cent among those with mothers who have attained secondary or higher levels of education. Similarly, 15 per cent of children from low wealth index households were attending ECD compared to 67 per cent among those from high wealth index households. However, in absolute numbers, pre-school attendance for those from low wealth index households is higher than that of the high wealth index households. Overall, 89 per cent of children who are currently 6 years old and attending standard one of primary school were reported to have attended pre-school the previous year. The proportion among males is much higher (97 per cent).

Table 10.1 (ED.1): Early childhood education

Percentage of children aged 36-59 months who are attending some form of organized early childhood education programme and percentage of standard one pupils who attended pre-school, MICS Tharaka district, 2008

Characteristic	Percentage of children aged 36-59 months currently attending early childhood education	Number of children aged 36-59 months	Percentage of children attending standard one who attended preschool program in previous year	Number of children attending standard one
Sex				
Male	19.6	205	(97.3)	33
Female	29.3	224	(81.6)	37
Age of child				
36-47 months	12.1	210	NA	0
48-59 months	36.6	219	NA	0
6 years*	NA	0	89.0	71
Mother's education				
None	15.6	56	(*)	8
Primary	24.9	337	87.2	54
Secondary +	(36.4)	36	(*)	6
Non-standard curriculum	(*)	1	(*)	2
Wealth index				
Low	15.4	214	(91.9)	34
Medium	26.8	177	(*)	27
High	(67.0)	38	(*)	10
Total	**24.6**	**429**	**89.0**	**71**

* Primary school entry age should be defined at the country level (usually based on UNESCO's ISCED1 classification). Here, it is assumed that primary education starts at age 6.
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

10.2 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
- Net primary school attendance rate
- Net secondary school attendance rate
- Net primary school attendance rate of children of secondary school age
- Female to male education ratio (or gender parity index - GPI)

The indicators of school progression include:

- Survival rate to grade five
- Transition rate to secondary school

Net primary completion rate information on primary school entry by selected background characteristics is presented in Table 10.2. Among children who are of primary school entry age (6 years) in Tharaka district, 45 per cent were attending the standard one of primary school. More female children are attending the standard one (49 per cent). Forty four per cent of children aged 6 years whose mothers had primary school education were attending standard one compared with 61 per cent among those with mothers educated up to secondary and above. Among children from low wealth index households, 41 per cent were attending standard one.

Table 10.2 (ED.2): Primary school entry

Percentage of children of primary school entry age (6 years old) attending standard one, MICS Tharaka district, 2008

Characteristic	Percentage of children of primary school entry age currently attending standard one	Number of children of primary school entry age
Sex		
Male	41.4	92
Female	49.3	84
Mother's education		
None	(38.1)	25
Primary	44.3	137
Secondary +	(*)	11
Non-standard curriculum	(*)	2
Wealth index		
Low	40.9	86
Medium	45.2	74
High	(*)	15
Total	**45.2**	**176**

(*); figure based on < 25 un-weighted cases

Table 10.3 provides the proportion of children of primary school age attending primary school by selected background characteristics. Most primary school aged children (86 per cent) were attending school. School attendance by female children was higher at 89 per cent. Differentials by education of the mother and wealth index were evident. For example, primary school aged children from low and high wealth index attending school were 81 and 97 per cent respectively.

Table 10.3 (ED.3): Primary school net attendance ratio

Percentage of children of primary school age (6- 13 years) attending primary or secondary school, MICS Tharaka district, 2008

Characteristic	Net attendance ratio*			Number of children		
	Male	Female	Total	Male	Female	Total
Age						
6	43.2	51.0	46.9	92	84	176
7	67.5	85.3	75.9	86	77	163
8	87.9	89.7	88.8	86	78	164
9	97.8	97.2	97.5	60	74	134
10	95.7	97.7	96.6	85	70	155
11	95.4	97.6	96.7	66	84	149
12	93.2	98.4	95.4	87	64	150
13	98.8	97.6	98.1	54	76	130
Mother's education						
None	83.0	87.5	85.0	151	125	276
Primary	82.3	88.5	85.5	421	434	855
Secondary +	88.7	(92.2)	90.5	42	43	84
Non-standard curriculum	(*)	(*)	100.0	1	6	6
Wealth index						
Low	79.2	83.6	81.3	300	266	566
Medium	83.9	91.6	88.1	245	289	534
High	95.5	97.8	96.5	70	53	122
Total	**82.9**	**88.7**	**85.8**	**615**	**607**	**1222**

* The primary school net attendance ratio (NAR) is the percentage of children of primary school age that are attending primary or secondary school. Children of primary school age (6-13 years) currently attending primary or secondary school are included in the numerator. All children of primary school age are included in the denominator.
(*); figure based on < 25 un-weighted cases

Table 10.4 presents secondary school net attendance by selected background characteristics. Only 11 per cent of the children of secondary school age (14-17 years) are attending secondary school. From the remaining 89 per cent, some are either out of school or attending primary school. Overall, there is no evidence of gender disparity in secondary school attendance. However, the proportion of those attending secondary school is higher among students from high wealth index households.

Table 10.4 (ED.4): Secondary school net attendance ratio

Children of secondary school age (14-17 years) attending secondary school or higher, MICS Tharaka district, 2008

Characteristic	Net attendance ratio			Number of children		
	Male	Female	Total	Male	Female	Total
Age						
14	0.0	7.4	4.3	66	92	158
15	10.0	16.6	13.3	64	64	128
16	19.1	8.4	14.1	64	57	121
17	16.6	16.1	16.4	66	45	111
Mother's education						
None	10.1	13.7	11.9	66	64	130
Primary	9.1	11.7	10.5	143	152	295
Secondary +	17.5	5.7	12.4	10	8	18
Non-standard curriculum	0.0	0.0	0.0	1	0	1
Mother not in HH	20.3	6.9	14.2	40	33	73
Wealth index						
Low	5.0	6.2	5.7	109	135	243
Medium	12.0	19.4	15.4	119	99	219
High	30.2	7.7	20.7	32	24	56
Total	**11.4**	**11.4**	**11.4**	**260**	**258**	**518**

* The secondary school net attendance ratio (NAR) is the percentage of children of secondary school age that are attending secondary school or higher. Children of secondary school age currently attending secondary school or higher are included in the numerator. All children of secondary school age are included in the denominator.

The percentage distribution of children of secondary school age (14–17 years) attending primary school by selected background characteristics in Tharaka district is presented in Table 10.5. Fifty one per cent of children of secondary school age are attending primary school. As expected, this proportion declines with the child's age. Similarly, the proportion declines with increase in the mother's education and the household wealth index. For example, 51 per cent of the secondary school age children with mothers who no education are currently attending primary school compared with 30 per cent of children whose mothers have attained at least a secondary or higher level of education. Sixty three per cent of the secondary school age children from low wealth index households are currently attending primary school.

Table 10.5: Secondary school age children attending primary school

Percentage of children of secondary school age (14-17 years) attending primary school, MICS Tharaka district, 2008

Characteristic	Percentage attending primary school			Number of children		
	Male	Female	Total	Male	Female	Total
Age						
14	63.4	63.1	63.3	66	92	158
15	64.6	53.4	59.0	64	64	128
16	52.2	(40.8)	46.8	64	57	121
17	25.5	(28.9)	26.9	66	45	111
Mother's education						
None	44.2	57.0	50.5	66	64	130
Primary	56.1	49.0	52.5	143	152	295
Secondary +	(*)	29.3	29.6	10	8	18
Non-standard curriculum	(*)	0.0	100.0	1	0	1
Mother not in HH	(50.4)	44.4	47.7	40	33	73
Wealth index						
Low	66.2	60.0	62.8	109	135	243
Medium	47.5	(*)	44.9	119	99	219
High	(16.2)	24.9	19.9	32	24	56
Total	**51.4**	**49.8**	**50.6**	**260**	**258**	**518**

* Children of secondary school age currently attending primary school are included in the numerator. All children of secondary school age are included in the denominator.
(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

The Gender Parity Index (GPI) is the ratio of girls to boys attending primary and secondary education. These ratios are obtained from net attendance ratios as opposed to the gross attendance ratios. Information on gender parity index (GPI) by selected background characteristics is provided in Table 10.6. The gender parities for primary and secondary school are close to 1, indicating not much of a difference in the attendance of girls and boys in primary and secondary schools. As expected, the ratio increases with the level of household wealth index and educational level of mothers. However, there are differences in the school attendance of boys with respect to the household wealth index, where attendance increases with increasing levels of the household wealth index.

Table 10.6: Education gender parity

Ratio of girls to boys attending primary education and ratio of girls to boys attending secondary education, MICS Tharaka district, 2008

Characteristic	Primary school net attendance ratio (NAR)		Gender parity index (GPI) for primary school NAR*	Secondary school net attendance ratio (NAR)		Gender parity index (GPI) for secondary school NAR*
	Girls	Boys		Girls	Boys	
Sex						
Male	NA	82.9	NA	NA	11.4	NA
Female	88.7	NA	NA	11.4	NA	NA
Mother's education						
None	87.5	83.0	1.05	13.7	10.1	1.35
Primary	88.5	82.3	1.07	11.7	9.1	1.29
Secondary +	92.2	88.7	1.04	5.7	17.5	0.33
Wealth index						
Low	83.6	79.2	1.06	6.2	5.0	1.22
Medium	91.6	83.9	1.09	19.4	12.0	1.61
High	97.8	95.5	1.02	7.7	30.2	0.26
Total	**88.7**	**82.9**	**1.07**	**11.4**	**11.4**	**1.00**

* The gender parity index (GPI) is the ratio of female to male net attendance ratios (primary or secondary). The primary and secondary net attendance ratios are presented in tables ED.3 and ED.4.

10.3 Adult Literacy

A World Fit for Children has a goal that seeks to ensure adult literacy. Adult literacy is also an MDG indicator that relates to both men and women. In MICS, the results are based only on females aged 15-24 years since only a women's questionnaire was administered. Literacy was assessed on the ability of women to read a short simple statement or on school attendance. Information on adult literacy by background characteristics is presented in Table 10.7. Overall, 81 per cent of women aged between 15-24 years are literate in Tharaka district. The proportion of literate women is higher among the younger women (15-19 years). The proportion of literate women increases with increasing levels of the household wealth index.

Table 10.7: Adult literacy

Percentage of women aged 15-24 years who are literate*, MICS Tharaka district, 2008

Characteristic	Percentage literate*	Percentage not known**	Number of women aged 15-24 years
Education			
None	(*)	(*)	17
Primary	80.0	0.4	363
Secondary +	100.0	0.0	67
Age			
15-19	86.6	0.7	220
20-24	75.8	0.0	227
Wealth index			
Low	72.2	0.6	220
Medium	88.8	0.0	192
High	(95.2)	(0.0)	35
Total	**81.1**	**0.3**	**447**

* Percentage of women aged 15-24 years who are able to read a short simple statement about everyday life or who attended secondary or higher education.

** The percentage not known includes those for whom no sentence in the required language was available or for whom no response was reported. If the percentage of the population for whom literacy status is not known exceeds 10 per cent in any category, caution should be exercised in the interpretation of the results.

Child Protection 11

11.1 Birth Registration

The Convention on the Rights of the Child (CRC) 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 that there is need 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 background characteristics are presented in Table 11.1.

Thirty six per cent of births of children below five years in Tharaka district have been registered. Among those whose births are not registered, cost, travel distance, and lack of knowledge emerge as the main reasons for not registering the birth. About 30 per cent reported other reasons for not registering the birth, which included reasons like not felt it was important to register, etc. A marginal difference in the proportion of boys (37per cent) registered was observed. The proportion of births registered increased with improvements in the levels of mother's education. For example, 26 per cent of the births from mothers with no education were registered compared to 47 per cent of births among mothers with secondary or higher level of education. Births registration equally improved with increasing levels of household wealth index. For example, 30 per cent of births from low wealth index households were registered versus 41 and 42 per cent among those from medium and high wealth index households, respectively.

Table 11.1: Birth registration

Percentage distribution of children aged 0-59 months by whether birth is registered or reasons for non-registration, MICS Tharaka district, 2008

Characteristic	Birth is Regis-tered	Number of children aged 0-59 months	Birth is not registered because: Costs too much	Must travel too far	Didn't know child should be registered	Late, did not want to pay fine	Doesn't know where to register	Other	Don't know	Total	Number of children aged 0-59 months without birth registration
Sex											
Male	36.7	578	10.3	15.6	46.3	1.8	6.0	14.3	5.8	100.0	307
Female	35.1	571	10.1	16.6	44.6	1.3	6.3	14.3	6.8	100.0	310
Age											
0-11 months	39.1	192	9.3	22.1	43.4	0.6	1.4	19.9	3.4	100.0	110
12-23 months	37.1	260	9.3	17.5	44.4	1.3	6.7	12.0	5.4	100.0	141
24-35 months	34.5	248	6.6	16.8	46.4	0.7	7.8	14.6	7.2	100.0	130
36-47 months	38.8	210	8.3	16.3	45.4	2.8	6.5	14.1	6.6	100.0	106
48-59 months	30.9	238	13.5	8.6	47.4	2.4	7.7	11.8	8.6	100.0	130
Mother's education											
None	25.9	132	12.5	18.0	40.2	1.2	3.1	14.1	11.1	100.0	79
Primary	35.9	898	10.6	16.4	45.2	1.5	6.9	14.4	5.0	100.0	492
Secondary +	46.9	118	2.0	9.8	57.4	1.9	3.0	13.6	12.3	100.0	45
Non-standard curriculum	(*)	1	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	0
Wealth index											
Low	30.4	553	13.0	13.5	45.5	2.1	6.1	13.0	6.9	100.0	335
Medium	40.7	471	8.3	18.0	44.4	0.7	5.8	17.2	5.6	100.0	234
High	41.7	125	(.0)	(24.7)	(50.3)	(1.8)	(8.5)	(9.1)	(5.7)	100.0	49
Total	**35.9**	**1149**	**10.2**	**16.1**	**45.4**	**1.5**	**6.2**	**14.3**	**6.3**	**100.0**	**617**

(*); figure based on < 25 un-weighted cases
( ); figures based on 25-49 un-weighted cases

11.2 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 was considered to be involved in child labour activities at the time of the survey if during the week preceding the survey the child worked:

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 11.2 (CP.2) presents the results of child labour by the type of work and background characteristics. Percentages do not add up to the total child labour as children may be involved in more than one type of work. On average, about 11 per cent of children aged 5-14 years were involved in household chores for at least 28 hours per week. The proportion of children involved in this work declined with increasing levels of the household wealth index. In total, 20 per cent of children were involved in any form of labour, with the proportion involved declining with increasing levels of mother's education as well as by household wealth index.

Table 11.2 (CP.2): Child labour

Percentage of children aged 5-14 years who are involved in child labour activities by type of work, MICS Tharaka district, 2008

Characteristic	Working outside household		Household chores for 28+ hours/ week	Working for family business	Total child labour*	Number of children aged 5-14 years
	Paid work	Unpaid work				
Sex						
Male	2.1	2.3	9.6	7.6	19.8	774
Female	0.7	1.6	11.8	7.0	19.1	795
Age						
5-11 years	1.6	2.5	9.9	8.3	20.7	1131
12-14 years	0.8	0.5	12.8	4.8	16.2	439
School participation						
Yes	1.3	1.9	10.8	7.4	19.6	1473
No	2.6	3.0	9.1	5.1	17.1	97
Mother's education						
None	2.2	4.9	13.8	7.5	26.4	355
Primary	1.3	1.1	9.6	7.4	17.4	1100
Secondary +	0.0	0.4	12.5	6.3	18.6	106
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	8
Wealth index						
Low	2.0	1.9	12.8	7.0	21.8	734
Medium	1.1	1.7	10.4	8.7	19.7	675
High	0.0	2.8	2.3	2.8	7.5	161
Total	**1.4**	**1.9**	**10.7**	**7.3**	**19.5**	**1570**

* The table is based on the responses to a series of questions in the child labour module which is administered to the mother/caretaker of each child 5-14 years of age in the household. The numerator to estimate the child labourpercentage includes: (a) children 5-11 years of age who during the week preceding the survey did at least one hour of economic activity or at least 28 hours of domestic chores, and (b) children 12-14 years of age who during the week preceding the survey did at least 14 hours of economic activity or at least 28 hours of domestic chores.
(*):Based on values less than 25 un-weighted cases hence not shown

Table 11.3 (C.P.3) presents the percentage of children classified as student labourers or as labourer students by selected background characteristics in Tharaka district. As noted above, the prevalence of child labour is high in Tharaka district at nearly 20 per cent. Student labourers are children attending school who were also involved in child labour activities at the time of the survey. Nearly 95 per cent of children are child labourers who are also attending school. While 20 per cent are students who are also involved in child labour. There are no substantial differences between boys and girls in the proportions of child labour activities.

Table 11.3 (CP.3): Labourer students and student labourers

Percentage of children aged 5-14 years who are labourer students and student labourers, MICS Tharaka District, 2008

Characteristic	Percentage of children in child labour*	Percentage of children attending school	Number of children 5-14 years of age	Percentage of child labourers who are also attending school	Number of child labourers aged 5-14	Percentage of students who are also involved in child labour****	Number of students aged 5-14
Sex							
Male	19.8	92.5	774	92.9	154	19.9	716
Female	19.1	95.1	795	96.3	152	19.3	756
Age							
5-9 years	20.7	92.5	1131	94.8	234	21.3	1046
10-14 years	16.2	97.3	439	93.8	71	15.6	427
Mother's education							
None	26.4	90.8	355	92.3	94	26.9	322
Primary	17.4	94.6	1100	95.2	192	17.5	1041
Secondary +	18.6	96.8	106	100.0	20	19.2	103
Non-standard curriculum	(*)	(*)	8	NA	0	(*)	6
Wealth index							
Low	21.8	92.2	734	92.4	160	21.9	677
Medium	19.7	94.7	675	97.1	133	20.2	639
High	7.5	97.8	161	96.2	12	7.4	157
Total	19.5	93.8	1570	94.6	305	19.6	1473

* The table is based on the responses to a series of questions in the child labour module which is administered to the caretaker of each child 5-14 years of age in the household. The numerator to estimate the child labour percentage includes: (a) children 5-11 years of age who during the week preceding the survey did at least one hour of economic activity or at least 28 hours of domestic chores, and (b) children 12-14 years of age who during the week preceding the survey did at least 14 hours of economic activity or at least 28 hours of domestic chores.
** Labourer students: Number of children 5-14 years of age involved in child labour activities who are also attending school divided by the total number of children 5-14 years of age involved in child labour activities.
**** Student labourers: Number of children 5-14 years of age attending school who are also involved in child labour activities divided by the total number of children 5-14 attending school.
(*):Based on values less than 25 un-weighted cases hence not shown

11.3 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 Tharaka district MICS, mothers/caretakers of children aged between 2-14 years were asked a series of questions on the ways parents tend to use to discipline their children when they misbehave. Note that for the child discipline module, one child aged between 2-14 years per household was selected randomly during fieldwork. Out of these questions, two indicators were used to describe aspects of child discipline: 1) the number of children aged 2-14 years who experience psychological aggression as punishment or minor physical punishment or severe physical punishment; and 2) the number of parents/caretakers of children aged 2-14 years who believe that in order to raise their children properly, they need to physically punish them. Information on child discipline by selected background characteristics is presented in Table 11.4 (CP.4).

Table 11.4 (CP.4): Child discipline

Percentage of children aged 2-14 years according to method of disciplining the child, MICS Tharaka district, 2008

	Percentage of children 2-14 years of age who experience:							
		Type of punishment						
Characteristic	Only non-violent discipline	Psycho-logical	Minor physical	Severe physical	Any psychological or physical	No discipline or punishment	Mother/ caretaker believes that the child needs to be physically punished	Number of children aged 2-14 years**
Sex								
Male	8.3	58.0	84.0	14.2	91.3	0.4	63.5	920
Female	13.1	58.2	79.0	14.0	85.4	1.5	64.1	1054
Age								
2-4 years	11.4	52.1	82.8	9.2	88.0	0.6	62.7	450
5-9 years	6.5	61.8	89.1	16.8	93.4	0.2	65.2	845
10-14 years	16.0	57.5	70.5	14.0	81.7	2.3	62.8	679
Mother's education								
None	8.2	59.1	81.9	12.9	88.4	3.4	64.1	409
Primary	11.2	57.8	81.6	15.0	88.6	0.3	64.0	1413
Secondary +	16.2	57.5	76.9	7.3	82.4	1.4	60.5	144
Non-standard curriculum	0.0	67.7	71.1	38.7	100.0	0.0	67.7	8
Wealth index								
Low	8.3	59.4	83.2	16.2	89.9	1.8	63.2	950
Medium	14.8	55.5	77.6	13.3	84.9	0.3	63.0	833
High	6.6	63.1	87.7	7.2	93.4	0.0	70.5	191
Total	**10.9**	**58.1**	**81.3**	**14.1**	**88.1**	**1.0**	**63.8**	**1974**

In Tharaka district, 88 per cent of children aged 2-14 years were subjected to at least one form of psychological or physical punishment by their mothers/caretakers or other household members. The preferred modes of punishing children in the district include minor physical punishment (81 per cent) and to a lesser extent, psychological punishment (58 per cent). An educated mother is less likely to severely punish her child (seven per cent) compared to a mother with no education (13 per cent). Children from high wealth index households are also less likely to be severely punished (seven per cent). There are no significant differentials noticed in the proportion of boys and girls receiving any form of punishment.

11.4 Early Marriage

Marriage before the age of 18 is a reality for many young girls. According to UNICEF's worldwide estimates, over 60 million women aged between 20-24 years were married/in union before the age of 18 years. 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 marriage of their daughters while they are still children hoping this will benefit them 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 generational 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, face increased pressure to demonstrate fertility, and are sometimes responsible for raising children while still children themselves. Boys are also affected by child marriage but the issue impacts girls much more. Cohabitation - where a couple lives together as if married - raises the same human rights concerns as marriage. When 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 such as inheritance, citizenship and social recognition - might make girls in informal unions vulnerable.

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 get married at younger ages are more likely to believe that it is sometimes acceptable for a husband to beat his wife and are 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 of avoiding to choose a wife who might already be infected. The demand for this young wife to prove her fertility, and the power imbalance resulting from the age difference, lead to very low condom use among such couples. Details of early marriage by background characteristics are presented in Table 11.5.

In Tharaka district, six per cent of women aged between 15-49 years are married before reaching age 15. Twenty five per cent of the women aged between 20-49 years old are married before reaching age 18. Among adolescent girls aged between 15-19 years, nine per cent are currently married or in union. Early marriages are more prevalent where the woman has no education (11 per cent) compared to where she is educated to a level of secondary or higher education. Early marriages are also more prevalent among women from low wealth households (seven per cent) compared to those from high wealth index households.

Table 11.5 (CP.5): Early marriage

Percentage of women aged 15-49 years in marriage or union before their 15th birthday, percentage of women aged 20-49 years in marriage or union before their 18th birthday, and percentage of women aged 15-19 years currently married or in union, MICS Tharaka district, 2008

Characteristic	Percentage married before age 15	Number of women aged 15-49 years	Percentage married before age 18	Number of women aged 20-49 years	Percentage of women 15-19 married/in union	Number of women aged 15-19 years
Age						
15-19	.8	220	NA	0	8.5	220
20-24	6.2	227	19.3	227	NA	0
25-29	4.3	209	22.9	209	NA	0
30-34	8.0	179	24.4	179	NA	0
35-39	6.7	167	33.1	167	NA	0
40-45	8.1	80	18.3	80	NA	0
45-49	10.9	114	34.7	114	NA	0
Education						
None	11.4	120	28.4	118	(*)	1
Primary	5.7	936	27.4	742	9.7	195
Secondary +	1.3	136	6.4	112	(*)	24
Non-standard curriculum	(*)	2	(*)	2	NA	0
Wealth index						
Low	6.8	534	30.5	426	8.4	108
Medium	5.3	523	22.8	424	8.9	99
High	3.6	139	14.5	125	(7.3)	13
Total	**5.8**	**1195**	**25.1**	**975**	**8.5**	**220**

(*) Based on less than 25 un-weighted cases
() Based on 25-49 un-weighted cases

Another component is the spousal age difference with an indicator being; the percentage of married/in union women with a difference of 10 or more years younger than their current spouse. Table 11.6 (CP.6) presents the results of the age difference between husbands and wives. One in two women aged between 15-24 years who are currently married/in union in Tharaka district have husbands who are 0-4 years older. About one in three have husbands who are between 5-9 years older.

Table 11.6 (CP.6): Spousal age difference

Percentage distribution of currently married/in union women aged 15-19 and 20-24 years according to the age difference with their husband or partner, MICS Tharaka district, 2008

Characteristic	Percentage of currently married/in union women whose husband or partner is:						Number of women currently married/ in union
	Younger	0-4 years older	5-9 years older	10+ years older*	Husband' s age unknown	Total	
Age							
15-19	0.0	54.2	35.6	10.2	0.0	100.0	19
20-24	3.0	50.5	34.2	11.0	1.4	100.0	124
Total	**2.6**	**51.0**	**34.4**	**10.9**	**1.2**	**100.0**	**143**

11.5 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 years. 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, and sometime with the use of 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 18years) cannot be said to give informed consent to such a potentially damaging practice as FGM/C.

A series of questions were asked to determine knowledge of FGM/C, prevalence of FGM/C, and details of the type of FGM/C performed in Tharaka district. Table 11.7 (CP.7) presents information on female genital mutilation/cutting among women aged between 15-49 years by selected background characteristics in the district.

Table 11.7 (CP.7): Female genital mutilation/cutting (FGM/C)

Percentage of women aged 15-49 years who have heard about female genital mutilation/cutting (FGM/C), had any form of FGM/C, type of FGM/C among those who have had FGM/C, the percentage who have had the extreme form of FGM/C (infibulation), MICS Tharaka district, 2008

Characteristic	Heard about FGM/C	Had any form of FGM/C*	Number of women aged 15-49 years	Percentage of women with FGM/C who: Had flesh removed	Were nicked	Were sewn closed	Form of FGM/C not determined	Total	Had an extreme form of FGM/C**	Number of women with FGM/C
Age										
15-19	98.0	22.3	220	92.7	0.0	7.3	0.0	100.0	7.3	49
20-24	99.2	71.6	227	87.5	0.0	11.1	1.4	100.0	9.8	162
25-29	97.2	80.0	209	96.4	0.4	2.4	0.8	100.0	2.4	167
30-34	99.6	84.9	179	91.6	0.6	7.8	0.0	100.0	7.3	152
35-39	100.0	85.7	167	90.9	0.7	8.4	0.0	100.0	7.8	143
40-44	100.0	94.4	80	94.5	0.6	4.9	0.0	100.0	4.0	76
45-49	98.0	91.1	114	98.0	0.0	0.7	1.3	100.0	0.7	103
Education										
None	99.6	76.7	120	94.4	0.0	5.6	0.0	100.0	5.6	92
Primary	98.5	71.8	936	92.8	0.5	6.0	0.7	100.0	5.6	673
Secondary +	100.0	62.6	136	90.4	0.0	9.6	0.0	100.0	8.1	85
Non-standard curriculum	(*)	(*)	2	(*)	(*)	(*)	(*)	(*)	(*)	2
Wealth index										
Low	98.4	72.3	534	90.5	0.6	8.6	0.3	100.0	7.8	386
Medium	98.8	70.9	523	93.6	0.3	5.3	0.8	100.0	5.0	370
High	100.0	69.4	139	98.4	0.0	1.0	0.6	100.0	1.0	96
Total	**98.7**	**71.3**	**1195**	**93.7**	**0.3**	**5.0**	**1.0**	**100.0**	**5.8**	**852**

* Women aged 15-49 reporting they had any type of female genital mutilation/cutting. Individual forms of FGM/C include the removal of flesh from the genital area, the nicking of the flesh of the genital area and sewing closed the genital area.
** Extreme form of FGM/C (infibulation) is defined as both the removal of flesh from the genital area AND sewing closed the genital area.
(*) Based on less than 25 un-weighted cases

Almost all (99 per cent) of the women aged between 15-49 years have heard about FGM/C. The most common form of FGM/C is the removal of the flesh where 94 per cent of the women interviewed reported to have experienced this form.

Only a small proportion of the women (five per cent) reported to have been sewn. Seventy one per cent of the women reported to have undergone some form of FGM/C. Six per cent of the women reported to have undergone an extreme form of FGM/C. There are no significant differences in the level of FGM/C with respect to age, educational level of the women or the household wealth index.

All those who have heard about FGM/C were asked about their attitude on whether the practice should be continued or not. This information is provided by selected background characteristics in Table 11.8 (CP.8). Ninety one per cent of the women aged between 15-49 years who have heard about FGM/C in Tharaka district did not support the continuation of the practice. There are differences in the proportions of women who support discontinuation by age, education of the woman and household wealth index. For example, a lower proportion of younger women, those with no education and those from low wealth index households supported discontinuation of the practice. A good proportion of women supported the discontinuation of the FGM/C practice irrespective of whether they have had FGM experience or not.

Table 11.8 (CP.8): Attitude towards Female genital mutilation/cutting (FGM/C)

Percentage distribution of women aged 15-49 years who have heard about FGM/C according to attitudes towards whether the practice of FGM/C should be continued, MICS Tharaka district, 2008

Characteristic	Percentage distribution of women aged 15-49 years who believe the practice of FGM/C should:					Number of women aged 15-49 years who have heard of FGM/C
	Continue	Be discontinued	Depends on situation	Don't know	Total	
Age						
15-19	7.6	89.8	1.6	1.0	100.0	215
20-24	4.2	92.4	3.1	0.3	100.0	225
25-29	5.8	91.6	2.5	0.0	100.0	203
30-34	3.5	93.3	3.2	0.0	100.0	178
35-39	6.1	87.9	5.4	0.6	100.0	167
40-44	2.4	92.4	3.4	1.7	100.0	80
45-49	3.2	92.1	4.7	0.0	100.0	111
Education						
None	8.6	88.8	1.7	0.8	100.0	119
Primary	5.3	90.4	3.8	0.5	100.0	922
Secondary +	0.0	99.5	0.5	0.0	100.0	136
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	2
FGM/C experience						
No	4.5	93.6	1.7	0.2	0.0	328
Yes	5.3	90.4	3.8	0.5	100.0	852
Wealth index						
Low	7.3	88.0	3.9	0.7	100.0	525
Medium	2.9	94.1	2.6	0.3	100.0	516
High	4.2	93.1	2.7	0.0	100.0	139
Total	**5.0**	**91.3**	**3.2**	**0.4**	**100.0**	**1180**

(*) Based on less than 25 un-weighted cases

All women aged between 15-49 years with at least one daughter were asked whether their daughter had undergone FGM/C or not. Table 11.9 presents the prevalence and extent of FGM/C performed on daughters of the respondents.

Fourteen per cent reported that their daughter(s) have undergone FGM/C. Education is a key factor in influencing FGM/C practice among women (15-49 years) and their daughters. Thirty six per cent of women with no education reported that their daughters have undergone FGM/C, with five per cent reported among women educated to secondary or higher levels.

Table 11.9: Female genital mutilation/cutting (FGM/C) among daughters

Percentage of women with at least one living daughter who has had female genital mutilation/cutting (FGM/C), and the percentage by type of FGM/C of the daughters, MICS Tharaka district, 2008

Characteristic	Daughter had any form of FGM/C	Number of women aged 15-49 years with at least one daughter	Percentage of women whose daughters: Had flesh removed	Were nicked	Were sewn closed	Total	Daughter had an extreme form of FGM/C	Number of women aged 15-49 years with at least one living daughter who had FGM/C
Age of woman								
15-24	0.0	106	0.0	0.0	0.0	0.0	0.0	0
25-34	1.2	285	(*)	(*)	(*)	(*)	(*)	3
35-49	28.8	323	94.1	0.7	5.2	100.0	3.8	93
Education								
None	35.9	95	100.0	0.0	0.0	100.0	0.0	34
Primary	10.4	558	88.8	1.2	10.1	100.0	7.8	58
Secondary +	4.8	59	100.0	0.0	0.0	100.0	0.0	3
Non-standard curriculum	(*)	2	(*)	(*)	(*)	(*)	(*)	2
Mother's FGM/C experience								
Had any FGM/C	15.0	610	95.4	0.7	3.9	100.0	2.4	91
No FGM/C	5.0	105	56.6	0.0	43.4	100.0	43.4	5
Wealth index								
Low	15.6	324	93.2	1.3	5.5	100.0	5.5	51
Medium	13.1	299	94.1	0.0	5.9	100.0	2.5	39
High	7.4	92	89.3	0.0	10.7	100.0	10.7	7
Total	**13.5**	**715**	**93.3**	**0.7**	**6.0**	**100.0**	**4.7**	**97**

(*) Based on less than 25 un-weighted cases

11.6 Domestic Violence

A number of questions were addressed to women aged between 15-49 years to assess their attitudes on whether husbands are justified to hit or beat their wives/partners for a variety of reasons. These questions were asked to have an indication of cultural beliefs that tend to be associated with the prevalence of violence against women by their husbands/partners. The main assumption here is that women who agree with the statements indicating that husbands/partners are justified to beat their wives/partners under the situations described in reality tend to be abused by their own husbands/partners. Information on attitudes towards domestic violence by selected background characteristics are presented in Table 11.10 (CP.9).

In Tharaka district, 59 per cent of the women aged between 15-49 years believe that a husband is justified in beating his wife/partner when she goes out without telling him or she neglects children or she argues with him or she refuses sex with him or she burns food. The most common reason for wife beating is if a woman neglects the children (47 per cent). About one in three women (32 per cent) believe a woman should be beaten if she goes out without telling the husband. According to 25 per cent of the women surveyed, arguing or refusing to have sex with the husband would justify wife beating. Across the wealth index, the proportion of women indicating that they would be beaten for whatever reason declines with increasing levels of the household wealth index. A similar pattern is observed with respect to women's education attainment with a much lower proportion of educated women not supporting wife beating for whatever reason compared to the women with no education.

Table 11.10 (CP.9): Attitudes toward domestic violence

Percentage of women aged 15-49 years who believe a husband is justified in beating his wife/partner in various circumstances, MICS Tharaka district, 2008

Characteristic	Percentage of women aged 15-49 years who believe a husband is justified in beating his wife/partner:						Number of women aged 15-49 years
	When she goes out without telling him	When she neglects the children	When she argues with him	When she refuses sex with him	When she burns the food	For any of these reasons	
Age							
15-19	33.8	50.0	27.0	24.7	14.2	60.9	220
20-24	27.6	41.3	23.8	24.5	6.3	55.2	227
25-29	34.1	46.0	23.6	20.2	7.1	59.6	209
30-34	24.1	45.1	27.7	25.7	8.3	57.8	179
35-39	32.7	48.5	28.2	26.3	9.5	60.2	167
40-44	27.0	42.0	24.6	17.3	7.9	54.6	80
45-49	48.4	57.7	32.3	33.8	10.9	68.4	114
Marital/Union status							
Currently married/in union	31.1	48.0	26.9	24.0	7.4	60.2	708
Formerly married/in union	37.7	48.4	31.2	25.7	10.0	61.3	149
Never married/in union	31.5	43.9	23.4	25.4	12.7	56.7	337
Education							
None	30.9	42.4	24.8	27.9	12.8	54.7	120
Primary	34.1	49.5	27.8	24.9	9.1	62.4	936
Secondary +	18.0	32.3	16.9	18.4	5.7	41.4	136
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	(*)	2
Wealth index							
Low	35.1	51.1	30.5	28.8	12.5	61.8	534
Medium	31.5	47.1	25.7	22.5	7.8	60.9	523
High	22.3	30.1	13.2	16.6	1.8	44.2	139
Total	**32.0**	**46.9**	**26.4**	**24.6**	**9.2**	**59.3**	**1195**

(*) Based on less than 25 un-weighted cases

HIV/AIDS, Orphaned and Vulnerable Children 12

12.1 Knowledge of HIV Transmission and Condom Use

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 towards raising awareness and giving young people the tools to protect themselves from infection. Misconceptions about HIV are common and can confuse young people and hinder prevention efforts. Different regions are likely to have variations in misconceptions although some appear to be universal (for example that sharing food can transmit HIV or mosquito bites can transmit HIV). The UN General Assembly Special Session on HIV/AIDS (UNGASS) called on governments to improve the knowledge and skills of young people to protect themselves from HIV. The indicators to measure this goal as well as the MDG of reducing HIV infections by half include improving the level of knowledge of HIV and its prevention, and changing behaviours to prevent further spread of the disease. 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. Women were asked whether they knew of the three main ways of HIV transmission – having only one faithful uninfected partner, using a condom every time one had sex, or abstaining from sex. Information on knowledge of preventing HIV transmission by background characteristics is presented in Table 12.1 (HA.1).

In Tharaka district, almost all (99 per cent) women interviewed have heard of HIV/AIDS. However, the proportion of women who know all the three main ways of preventing HIV transmission is only 40 per cent. Seventy six per cent of women know of having one faithful uninfected sex partner, 54 per cent know of using a condom every time one has sex, and 75 per cent know of abstaining from sex as main ways of preventing HIV transmission. Knowledge of at least one way to prevent transmission of HIV among women in Tharaka district is near universal (91 per cent) and nine per cent of women do not know any of the three ways of preventing transmission of HIV. The proportion of women with knowledge about preventing transmission of HIV increases with improving levels of the household wealth index.

Table 12.1 (HA.1): Knowledge of preventing HIV transmission

Percentage of women aged 15-49 years who know the main ways of preventing HIV transmission, MICS Tharaka district, 2008

Characteristic	Heard of AIDS	Percentage who know transmission can be prevented by: Having only one faithful uninfected sex partner	Using a condom every time	Abstaining from sex	Knows all three ways	Knows at least one way	Doesn't know any way	Number of women
Age								
15-19	98.3	70.4	43.9	70.9	32.8	83.7	16.3	220
20-24	99.6	74.4	55.3	72.3	37.8	94.4	5.6	227
25-29	100.0	77.9	57.7	74.0	43.5	90.2	9.8	209
30-34	99.1	79.1	56.5	75.4	43.9	91.0	9.0	179
35-39	100.0	77.7	55.5	74.6	38.9	94.2	5.8	167
40-44	100.0	82.9	58.8	81.3	43.8	96.3	3.7	80
45-49	98.2	69.9	56.9	81.4	39.8	92.0	8.0	114
Education								
None	99.2	77.1	66.2	85.4	46.7	96.4	3.6	120
Primary	99.2	74.6	52.5	72.7	38.1	89.4	10.6	936
Secondary +	100.0	82.7	54.8	78.0	43.5	97.5	2.5	136
Non-standard curriculum	100.0	.0	100.0	100.0	.0	100.0	.0	2
Wealth index								
Low	99.5	74.3	52.9	72.7	38.3	89.0	11.0	534
Medium	98.9	75.8	54.3	75.8	40.3	91.9	8.1	523
High	100.0	79.7	59.1	77.5	41.2	95.8	4.2	139
Total	**99.3**	**75.6**	**54.2**	**74.6**	**39.5**	**91.1**	**8.9**	**1195**

Note: This table is based on all women aged 15-49 years

Table 12.2 (HA.2) presents the percentage of women who can correctly identify misconceptions concerning HIV/AIDS. The indicator is based on the two most common and relevant misconceptions, that HIV can be transmitted by supernatural means and mosquito bites. The table also provides information on whether women know that HIV cannot be transmitted by sharing food, and that HIV can be transmitted by sharing needles.

Among interviewed women, 48 per cent reject the two most common misconceptions and know that a healthy-looking person can be infected. Ninety one per cent of women know that HIV cannot be transmitted by supernatural means, and 82 per cent of women know that HIV cannot be transmitted by sharing food, while 80 per cent of women know that a healthy-looking person can be infected. As expected, a higher proportion of women educated up to secondary or higher levels have correct knowledge about HIV/AIDS than women with no education or with primary level education.

Table 12.2 (HA.2): Identifying misconceptions about HIV/AIDS

Percentage of women aged 15-49 years who correctly identify misconceptions about HIV/AIDS, MICS Tharaka district, 2008

Characteristic	Percentage who know that: HIV cannot be transmitted by: Option 1: Supernatural means	Percentage who know that: HIV cannot be transmitted by: Option 2: Mosquito bites	Percentage who know that: A healthy looking person can be infected	Reject two most common misconceptions and know a healthy-looking person can be infected	Percentage who know that: Option 3: HIV cannot be transmitted by sharing food	Percentage who know that: Option 4: HIV can be transmitted by sharing needles	Number of women
Age							
15-19	92.4	79.8	75.0	58.4	85.9	96.6	220
20-24	90.9	67.5	79.1	54.0	81.9	97.6	227
25-29	91.2	64.2	81.5	49.9	82.1	98.3	209
30-34	91.5	58.3	78.3	43.4	79.2	98.3	179
35-39	88.6	56.5	82.1	43.4	84.5	95.6	167
40-44	89.1	59.9	80.1	40.3	76.7	96.9	80
45-49	90.8	51.3	83.2	35.1	75.9	94.6	114
Education							
None	90.0	58.1	79.8	40.3	74.1	94.1	120
Primary	90.0	62.2	78.0	45.8	81.6	97.1	936
Secondary +	97.8	84.1	89.5	73.1	88.9	99.2	136
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	(*)	2
Wealth index							
Low	87.3	58.6	75.5	38.6	76.5	96.4	534
Medium	93.8	66.4	81.1	52.9	85.1	97.0	523
High	93.3	77.6	88.9	68.1	89.1	99.7	139
Total	**90.9**	**64.2**	**79.5**	**48.3**	**81.7**	**97.0**	**1195**

Note: This table is based on all women aged 15-49 years
(*) Based on less than 25 un-weighted cases.

Table 12.3 (HA.3) presents the percentage of women who know 2 ways of preventing HIV/AIDS transmission and reject the three common misconceptions by background characteristics.

Comprehensive knowledge of HIV prevention methods and transmission is still fairly low and there are differences by wealth index. Overall, 22 per cent of women aged 15-49 years in Tharaka district have comprehensive knowledge about HIV/AIDS. The proportion of women with comprehensive knowledge increases with increasing levels of the household wealth index and woman's education.

Table 12.3 (HA.3): Comprehensive knowledge of HIV/AIDS transmission

Percentage of women aged 15-49 years who have comprehensive knowledge of HIV/AIDS transmission, MICS Tharaka district, 2008

Characteristic	Know 2 ways to prevent HIV transmission	Correctly identify 3 misconceptions about HIV transmission	Have comprehensive knowledge (identify 2 prevention methods and 3 misconceptions)	Number of women
Age				
15-19	37.8	58.4	22.9	220
20-24	43.9	54.0	23.4	227
15-24	40.9	56.2	23.2	447
25-29	48.2	49.9	26.6	209
30-34	50.8	43.4	20.0	179
35-39	44.8	43.4	21.6	167
40-44	50.2	40.3	14.3	80
45-49	42.4	35.1	16.2	114
Education				
None	51.3	40.3	20.9	120
Primary	43.8	45.8	19.9	936
Secondary +	48.2	73.1	36.5	136
Non-standard curriculum	(*)	(*)	(*)	2
Wealth index				
Low	43.5	38.6	15.7	534
Medium	46.2	52.9	25.3	523
High	46.1	68.1	32.0	139
Total	**45.0**	**48.3**	**21.8**	**1195**

(*) Based on less than 25 un-weighted cases.

Knowledge of mother-to-child transmission of HIV is an important first step for women to seek HIV testing when they are pregnant to avoid infection of the baby. Women should know that HIV can be transmitted during pregnancy, delivery, and through breastfeeding. Results on knowledge of mother-to-child HIV transmission by background characteristics are presented in Table 12.4 (HA.4).

Overall, 97 per cent of women know that HIV can be transmitted from mother to child. The proportion of women who know all three ways of mother-to-child transmission is 37 per cent. Contrary to expectations, the proportion of women with correct knowledge regarding mother-to-child transmission of HIV (all three ways) declines with increasing levels of mother's education as well as by household wealth index.

Table 12.4 (HA.4): Knowledge of mother-to-child HIV transmission

Percentage of women aged 15-49 years who correctly identify means of HIV transmission from mother to child, MICS Tharaka district, 2008

Characteristic	Know AIDS can be transmitted from mother to child	Percentage who know AIDS can be transmitted:				Did not know any specific way	Number of women
		During pregnancy	At delivery	Through breast milk	All three ways		
Age							
15-19	95.7	44.9	76.2	89.1	33.6	2.6	220
20-24	97.4	40.7	78.8	96.0	37.3	2.2	227
25-29	97.4	35.4	78.8	96.0	32.0	2.6	209
30-34	98.7	44.1	81.8	97.5	38.4	0.4	179
35-39	97.8	46.4	80.5	97.1	42.7	2.2	167
40-44	99.4	50.0	81.7	98.6	41.1	0.6	80
45-49	94.2	40.5	74.4	93.7	38.1	4.0	114
Education							
None	97.4	50.0	81.5	97.0	43.7	1.8	120
Primary	96.8	42.8	77.7	94.6	37.3	2.4	936
Secondary +	99.5	32.8	83.5	96.1	27.8	0.5	136
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	(*)	2
Wealth index							
Low	97.3	52.2	78.1	95.6	46.2	2.2	534
Medium	96.5	35.4	77.7	94.4	30.1	2.4	523
High	99.1	32.0	85.1	95.5	27.0	0.9	139
Total	**97.2**	**42.5**	**78.8**	**95.1**	**37.0**	**2.1**	**1195**

(*): Based on values less than 25 un-weighted cases hence not shown

Stigma and discrimination are low if respondents report an accepting attitude on the following four questions: 1) would care for family member who is 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. Information on attitudes towards people living with HIV/AIDS by background characteristics is presented in Table 12.5 (HA.5).

Among women who have heard about HIV/AIDS, eight per cent reported that they will not care for a family member who is sick with HIV/AIDS, 50 per cent reported that if a family member is sick with HIV/AIDS they would like to keep it a secret, 41 per cent believe that a teacher should not be allowed to work if he/she has HIV/AIDS, and 40 per cent will not buy food from a person who has HIV/AIDS. Overall, 81 per cent agree with at least one of the discriminatory statements mentioned above leaving 19 per cent who agree with none of the discriminatory statements.

Table 12.5 (HA.5): Attitudes toward people living with HIV/AIDS

Percentage of women aged 15-49 years who have heard of AIDS who express a discriminatory attitude towards people living with HIV/AIDS, MICS Tharaka district, 2008

Characteristic	Percentage of women who:						Number of women who have heard of AIDS
	Would not care for a family member who was sick with AIDS	If a family member had HIV would want to keep it a secret	Believe that a teacher with HIV should not be allowed to work	Would not buy food from a person with HIV/AIDS	Agree with at least one discriminatory statement	Agree with none of the discriminatory statements	
Age							
15-19	10.6	51.2	48.6	38.0	85.9	14.1	216
20-24	7.1	44.3	40.9	39.9	78.2	21.8	226
25-29	8.8	53.9	42.6	42.9	82.4	17.6	209
30-34	5.6	45.9	39.1	43.3	77.0	23.0	177
35-39	6.5	54.1	30.4	40.4	78.2	21.8	167
40-44	15.5	49.8	39.0	39.0	82.4	17.6	80
45-49	4.8	50.4	39.9	35.0	82.9	17.1	112
Education							
None	8.8	58.5	37.2	41.9	85.4	14.6	119
Primary	8.9	48.6	43.5	42.9	81.8	18.2	929
Secondary +	1.8	51.1	22.9	19.1	70.4	29.6	136
Non-standard curriculum	(*)	(*)	(*)	(*)	(*)	(*)	2
Wealth index							
Low	11.0	45.5	45.1	47.8	82.1	17.9	531
Medium	6.9	51.4	41.7	39.3	82.7	17.3	517
High	1.3	60.2	19.5	14.1	69.5	30.5	139
Total	**8.1**	**49.8**	**40.6**	**40.1**	**80.9**	**19.1**	**1187**

Note: This table is based on women who have heard of AIDS
(*):Based on values less than 25 un-weighted cases hence not shown

Another important indicator is the knowledge of where to be tested for HIV and use of such services. Information on knowledge of a facility for HIV testing and whether they have ever been tested by background characteristics is presented in Table 12.6 (HA.6).

Eighty seven per cent of women in Tharaka district know where to be tested. However, only 59 per cent have been tested. Among those tested, 97 per cent received results of the HIV test. As expected, knowledge of where to be tested for HIV tends to increase with improving levels of woman's education and household wealth index. For example, 77 per cent of women aged between 15-49 years with no education know a place to get tested for HIV compared to 98 per cent for those educated up to secondary or higher levels.

Table 12.6 (HA.6): Knowledge of a facility for HIV testing

Percentage of women aged 15-49 years who know where to get an HIV test, percentage of women who have been tested and, of those tested the percentage who have been told the result, MICS Tharaka district, 2008

Characteristic	Know a place to get tested*	Have been tested**	Number of women	If tested, have been told result	Number of women who have been tested for HIV
Age					
15-19	68.9	18.2	220	98.3	40
20-24	95.4	71.0	227	97.9	161
25-29	97.5	82.9	209	98.3	173
30-34	87.3	68.4	179	97.3	122
35-39	94.1	73.1	167	99.0	122
40-44	79.5	45.6	80	100.0	36
45-49	81.3	38.9	114	93.9	44
Education					
None	77.0	52.7	120	95.1	63
Primary	86.8	57.7	936	98.4	541
Secondary +	97.5	68.1	136	97.1	93
Non-standard curriculum	(*)	(*)	(*)	(*)	2
Wealth index					
Low	84.9	56.5	534	97.2	301
Medium	86.9	58.4	523	99.0	305
High	96.5	66.9	139	97.3	93
Total	**87.1**	**58.5**	**1195**	**98.0**	**699**

* Women who know of a place to get tested for HIV include those women who have already been tested, including those tested during antenatal care.
** Women who have been tested for HIV include those tested during antenatal care.
The second and third columns of the table include all women in the denominator, even those who have not heard of AIDS.
In the fifth column, the denominator consists of women who have been tested and the numerator consists of women who have been told the results.
(*):Based on values less than 25 un-weighted cases hence not shown

Details on HIV testing and counselling coverage during antenatal care are presented in Table 12.7 (HA.7). Ninety per cent of mothers in Tharaka district received antenatal care from a health professional, 77 per cent were provided information about HIV prevention and tested for HIV during an antenatal care visit. Eighty five per cent were tested for HIV during the ANC visit. Among those tested for HIV, 83 per cent received the results of HIV test done during the antenatal care visit. As expected, the proportion of women counselled and tested during the ANC visit increases with increasing levels of education attainment as well as by household wealth index. For example, 72 per cent of the women aged between 15-49 years with no education were tested for HIV during an ANC visit compared to 85 per cent for women with primary education level. Similarly, 80 per cent of women aged 15-49 years from low wealth index households were tested for HIV during ANC visit versus 88 per cent among those from high wealth index households.

Table 12.7 (HA.7): HIV testing and counseling coverage during antenatal care

Percentage of women aged 15-49 years who gave birth in the two years preceding the survey who were offered HIV testing and counseling with their antenatal care, MICS Tharaka district, 2008

Characteristic	Percentage 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	Were provided information about HIV prevention during ANC visit	Were tested for HIV at ANC visit	Received results of HIV test at ANC visit	
Age					
15-19	(*)	(*)	(*)	(*)	15
20-24	93.8	77.1	87.9	87.9	88
25-29	92.9	82.6	89.0	87.4	107
30-34	90.4	74.1	85.7	82.1	74
35-49	84.0	71.9	75.7	75.7	79
Education					
None	84.6	69.4	71.9	69.9	35
Primary	90.6	77.9	85.8	84.3	298
Secondary +	(*)	(*)	(*)	(*)	31
Wealth index					
Low	86.5	73.2	79.5	77.3	169
Medium	92.2	80.4	89.9	88.9	149
High	96.4	78.2	87.7	87.7	46
Total	**90.1**	**76.8**	**84.8**	**83.4**	**364**

(*) Based on less than 25 un-weighted cases.

12.2 Orphans and Vulnerable Children

As the HIV/AIDS epidemic progresses, more and more children are becoming orphaned and vulnerable because of HIV/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. To monitor these variations, a measurable definition of orphaned and vulnerable children needed to be created. The UNAIDS Monitoring and Evaluation Reference Group developed a proxy definition of children who have been affected by adult morbidity and mortality. This should capture many of the children affected by AIDS in countries where a significant proportion of the adults are HIV infected. This definition classifies children as orphaned and vulnerable if they have experienced the death of either parent, if either parent is chronically ill, or if an adult (aged between 18-59 months) in the household either died (after being chronically ill) or was chronically ill in the year prior to the survey.

Table 12.8 (HA.10) presents information on children's living arrangements by background characteristics. Sixty nine per cent of children aged 0-17 years in Tharaka district live with both parents. Children living with neither parent are about seven per cent. Fourteen per cent of the children live with only the mother though the father is alive, while six per cent of the children live with the mother since the father is dead. The proportion of children living with both parents declines with age of the child. About 64 per cent of children from low wealth index households are living with both parents and the corresponding proportion among children from medium and high wealth index households is about 74 per cent.

Table 12.8 (HA.10): Children's living arrangements and orphan hood

Percentage distribution of children aged 0-17 years according to living arrangements, percentage of children aged 0-17 years in households not living with a biological parent and percentage of children who are orphans, MICS Tharaka district, 2008

Characteristic	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*	One or both parents dead**	Number of children
		Only father alive	Only mother alive	Both are alive	Both are dead	Father alive	Father dead	Mother alive	Mother dead					
Sex														
Male	68.9	1.0	0.7	4.3	0.9	13.7	6.6	2.1	0.9	0.8	100	6.9	10.1	1384
Female	69.7	1.1	0.5	4.6	0.7	13.6	6.2	1.9	1.1	0.8	100	6.8	9.7	1374
Age														
0-4 years	79.6	0.1	0.1	2.2	0.3	14.2	1.6	0.6	0.4	0.8	100.0	2.7	2.5	828
5-9 years	70.6	1.2	0.3	4.0	0.0	14.9	5.6	2.3	0.6	0.4	100.0	5.5	7.8	827
10-14 years	62.9	1.3	1.1	5.8	1.7	13.2	9.6	2.0	1.6	0.8	100.0	9.9	15.4	743
15-17 years	55.5	2.3	1.5	7.9	1.7	10.3	12.7	4.4	2.2	1.5	100.0	13.4	20.4	360
Wealth index														
Low	64.1	1.0	0.9	4.1	1.1	17.7	7.4	1.4	1.3	1.0	100.0	7.1	11.7	1294
Medium	73.8	1.2	0.3	4.3	0.4	11.0	5.6	2.3	0.9	0.1	100.0	6.2	8.5	1173
High	74.0	0.9	0.4	6.9	0.6	6.6	4.9	3.2	0.2	2.3	100.0	8.8	7.3	291
Total	**69.3**	**1.0**	**0.6**	**4.5**	**0.8**	**13.6**	**6.4**	**2.0**	**1.0**	**0.8**	**100.0**	**6.9**	**9.9**	**2758**

*Children who are not living with at least one biological parent, either because the parents live elsewhere or because the parents are dead.
**Children for whom one or both biological parents are dead.
The denominator in this table is children aged 0-17 years enumerated in the household listing.

Table 12.9 (HA.11) shows the prevalence of orphan-hood and vulnerability among children by background characteristics. The proportion of orphans and vulnerable children in Tharaka district is about 14 per cent. Six per cent of the children are categorised as vulnerable. About ten per cent of children report to have one or both parents dead. Five per cent of the children have a chronically ill adult in the household. The proportion of children classified as 'orphans and vulnerable' declines with increasing levels of household wealth index. The likelihood of being an orphan and vulnerable child does not vary much my gender of the child.

Table 12.9 (HA.11): Prevalence of orphan hood and vulnerability among children

Percentage of children aged 0-17 years who are orphaned or vulnerable due to AIDS, MICS Tharaka district, 2008

Characteristic	Chronically ill parent	Adult death in household	Chronically ill adult in household	Vulnerable children*	One or both parents dead**	Orphans and vulnerable children	Number of children aged 0-17 years
Sex							
Male	0.5	0.9	4.7	5.8	10.1	14.5	1384
Female	0.3	1.0	5.0	5.9	9.7	14.4	1374
Age							
0-4 years	0.0	1.3	3.5	4.6	2.5	6.5	828
5-9 years	0.9	0.9	4.8	5.8	7.8	12.2	827
10-14 years	0.3	0.8	5.4	6.2	15.4	20.2	743
15-17 years	0.5	0.5	7.0	8.1	20.4	26.3	360
Wealth index							
Low	0.3	1.5	4.9	6.4	11.7	16.3	1294
Medium	0.6	0.4	5.2	5.8	8.5	13.5	1173
High	0.0	0.4	3.3	3.7	7.3	10.1	291
Total	**0.4**	**0.9**	**4.9**	**5.9**	**9.9**	**14.4**	**2758**

The columns of the table are produced as follows:
1) Either parent has been chronically ill for 3 of the 12 months preceding the survey
2) Adult death in the household after a chronic illness of 3 of the 12 months preceding the survey
3) Any adult in the household has been sick for 3 of the 12 months preceding the survey
4) A vulnerable child is defined as a child who lives in a household where any of the preceding 3 conditions is true
5) A child is an orphan if one or both of his/her biological parents is dead
6) Orphaned or vulnerable children are those defined in columns 4 or 5
7) Total number of children aged 0-17 years as enumerated in the household listing
An orphan is a child aged 0-17 years who has lost one or both parents

One of the measures developed for the assessment of the status of orphaned and vulnerable children relative to their peers looks at the school attendance of children aged between 10-14 for those who have lost both parents (double orphans) 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 attendance as their peers, then families and schools are not ensuring that these children's rights are being met.

Information on school attendance of orphaned and vulnerable children (OVC) in Tharaka district by background characteristics is presented in Table 12.10 (HA.12). Eighty eight per cent of the children whose mother and father have died were attending school. Ninety eight per cent of the children who had both parents alive and the child living with at least one parent were attending school. The school attendance rate among children who are orphaned or vulnerable is 97 per cent. The corresponding school attendance rate among non-orphaned or non-vulnerable children was 98 per cent. OVC versus non-OVC school attendance ratio is 1.0. In summary, there seems to be no disadvantage in school attendance for those classified as orphans or vulnerable children.

Table 12.10 (HA.12): School attendance of orphaned and vulnerable children

School attendance of children aged 10-14 years by orphan hood and vulnerability due to AIDS, MICS Tharaka district, 2008

Characteristic	Percentage of children whose mother and father have died	School attendance rate of children whose mother and father have died	Percentage of children of whom both parents are alive and child is living with at least one parent	School attendance rate of children of whom both parents are alive and child is living with at least one parent	Double orphans to non-orphans school attendance ratio*	Percentage of children who are orphaned or vulnerable	School attendance of children who are orphaned or vulnerable	Percentage of children who are not orphaned or vulnerable	School attendance of children who are not orphaned or vulnerable	OVC versus non-OVC school attendance ratio	Total number of children aged 10-14 years
Sex											
Male	2.4	100.0	77.8	96.2	1.0	20.3	97.5	79.7	95.3	1.0	357
Female	1.1	64.3	78.5	100.0	0.6	20.0	95.7	80.0	100.0	1.0	386
Wealth index											
Low	2.7	84.3	74.9	97.9	0.9	24.0	98.2	76.0	98.0	1.0	353
Medium	1.0	100.0	83.1	98.1	1.0	17.8	93.6	82.2	97.2	1.0	318
High	0.0	NA	72.3	100.0	NA	12.1	100.0	87.9	99.0	1.0	72
Total	**1.7**	**88.2**	**78.2**	**98.2**	**0.9**	**20.2**	**96.6**	**79.8**	**97.8**	**1.0**	**743**

* A double orphan is a child whose mother and father have both died.

Orphaned and vulnerable children due to AIDS (OVC) include children whose mother or father have died (regardless of cause), who live in a household with a chronically ill adult, whose parents are chronically ill, or who live in a household where an adult who was chronically ill has died in the past year.

In many countries few services are available to families that have taken in children who are orphaned or vulnerable. Community-based organizations and governments need to be sure that families are supported to care for these children. The level and types of support provided to households caring for children orphaned and vulnerable due to AIDS is presented in Table 12.11 (HA.13). Fifty eight per cent of the orphaned or vulnerable children aged 0-17 years had not received any support while six per cent received medical support during the year preceding the survey. About 33 per cent of the orphaned or vulnerable children received educational support. Overall, 42 per cent of the orphaned and vulnerable children received some kind of support.

Table 12.11 (HA.13): Support for children orphaned and vulnerable due to AIDS

Percentage of children aged 0-17 years orphaned or made vulnerable due to AIDS whose households receive free basic external support in caring for the child, MICS Tharaka district, 2008

Characteristic	Percentage of orphans and vulnerable children whose households received:						Number of children aged 0-17 years orphaned or vulnerable
	Medical support (in last 12 months)	Emotional and psychosocial support (in last 3 months	Social/ material support (in last 3 months)	Educational support (in last 12 months)	Any support	No support at all	
Sex							
Male	6.4	5.8	4.8	31.4	40.5	59.5	201
Female	5.9	12.4	6.7	35.5	44.1	55.9	198
Age							
0-4 years	16.0	12.5	2.6	0.0	25.1	74.9	53
5-9 years	6.9	13.0	5.9	39.4	48.8	51.2	101
10-14 years	5.4	6.4	7.3	41.8	47.9	52.1	150
15-17 years	1.0	7.3	4.8	32.8	35.9	64.1	95
Wealth index							
Low	4.1	11.0	4.0	24.2	33.1	66.9	211
Medium	9.5	8.3	8.5	45.6	55.4	44.6	158
High	(*)	(*)	(*)	(*)	(*)	(*)	29
Total	**6.2**	**9.1**	**5.7**	**33.4**	**42.2**	**57.8**	**398**

Orphaned and vulnerable children due to AIDS (OVC) includes children whose mother or father have died (regardless of cause), who live in a household with a chronically ill adult, whose parents are chronically ill, or who live in a household where an adult who was chronically ill has died in the past year.
(*):Based on values less than 25 un-weighted cases hence not shown

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Appendix A: Sample Design

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

The primary objective of the sample design for the Tharaka Multiple Indicator Cluster Survey (MICS) was to produce statistically reliable estimates of most indicators, at the district level. A two-stage, cluster sampling approach was used for the selection of the survey sample. Further, the households were stratified into two groups one with a child below 3 years (stratum-1) and the other without a child below 3 years (stratum-2) at the time of household listing, and more households from stratum-1 were selected to get more children in the sample from less number of households. The cluster level stratification was done to net more children and mothers who have given birth during the last few years into the sample.

Sample Size and Sample Allocation

The target sample size for the Tharaka MICS was calculated as 1,200 households. For the calculation of the sample size, the key indicator used was the immunization coverage among children age 12-23 months. The following formula was used to estimate the required sample size for these indicators:

$$n = \frac{[\,4\,(r)\,(1\text{-}r)\,(f)\,(1.1)\,]}{[\,(0.12r)^2\,(p)\,(n_h)\,]}$$

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)
- $0.12r$ is the margin of error to be tolerated at the 95 per cent level of confidence, defined as 12 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 (the immunization coverage) was assumed to be 65percent. The value of deff (design effect) was taken as 1.3 based on estimates from previous surveys, p (percentage of children aged 12-23 months in the total population) was taken as 3.2 percent, and nh (average household size) was taken as 4.4 households.

The resulting number of households from this exercise was 1,519 households which is the sample size needed. But, by adopting the second level stratification the total number of households to be selected was 1,080. However, it was decided to sample 1,200 households. The average cluster size was determined as 24 households (16 from stratum-1 and 8 from stratum-2), based on a number of considerations, including the budget available, and the time that would be needed per team to complete one cluster. This implies a total of 50 clusters for the district.

Sampling Frame and Selection of Clusters

The 1999 census frame was used for the selection of clusters. Census enumeration areas (EAs) were defined as primary sampling units (PSUs), and were selected using systematic PPS (probability proportional to size) sampling procedures, based on the estimated sizes of the enumeration areas from the 1999 Population Census.

Listing and Mapping Activities

Since the sample frame (the 1999 Population Census) was not up to date, household lists in all selected enumeration areas were updated prior to the selection of households. For this purpose, listing and mapping teams were formed, who visited each enumeration area, and listed the occupied households. The households were stratified into two, one having a child below 3 years and the other without a child below 3 years.

The listing and mapping teams were oriented in a 3 day training program in Embu, which include class room sessions and field practice. The training was facilitated by experts from KNBS and UNICEF. The district listing and mapping team consists of 3 teams; each team has a lister and a mapper. The teams were supervised by the District Statistical Officer (DSO) on a daily basis, who also attended the 3 days training program. One team was given two days to list an EA[8] and segmentation was allowed for larger EAs with more than 200 households.

Selection of Households

Lists of households were prepared by the listing teams in the field for each enumeration area. The households were grouped into two stratums based on whether the household has a child below 3 years or not. The households were then sequentially numbered from 1 to n1 and n2, where n1is the total number of households in stratum-1 (i.e., with a child below 3 years) and n2 is the total number of households in stratum-2 (i.e., with out a child below 3 years) (n1 + n2 is the total number of households in each enumeration area) at the District Statistical Office, where selection of 16 households from stratum-1 and 8 households from straum-2 were carried out using systematic selection procedures using a random start.

Calculation of Sample Weights

The Tharaka Multiple Indicator Cluster Survey sample is not self-weighted at cluster level due to cluster level stratification. Therefore, for separate weights were calculated for each of the stratums within a cluster and they were normalized at the district level. The sample weight or multiplier computation formula is given below:

$$\frac{Zd}{nd} X \frac{1}{zdi} X sdi X \frac{Hdji}{hdji}$$

[8] For all sampled EAs, both EA and Sub-location maps were developed by the cartography division of KNBS. These maps were provided to the listing and mapping teams to identify the boundaries of EA's accurately and also to map the structures in them.

Where,

Zd = total population of the district 'd',

nd = total number of clusters in district 'd',

zdi = number of households in the ith cluster of district 'd',

sdi = number of segments in the ith cluster of district 'd',

$Hdji$ = total number of households listed in the jth stratum of ith cluster in the district 'd', and

$hdji$ = number of households surveyed in the jth stratum of ith cluster in the district 'd'.

As mentioned earlier, 50 clusters were selected from the Tharaka district 2009 Census EA list using the PPS sampling methodology. However, we have computed final multipliers after combining 4-5 clusters because of small sample size in some of the cluster level stratums.

These weights were then standardized (or normalized), one purpose of which is to make the sum of the interviewed sample units equal the total sample size at the district level. Normalization is performed by multiplying the aforementioned unadjusted weights by the ratio of the number of completed households to the total unadjusted weighted number of households. A similar standardization procedure was followed in obtaining standardized weights for the women's and under-5's questionnaires. For the anthropometry additional weights were computed using the non-response for anthropometry section.

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

Project Director

Mr. A. K. M. Kilele, Director General, KNBS

Technical Co-ordinators

Mr. James Gatungu, KNBS
Mr. Christopher Omolo, KNBS

Cluster Development Co-ordinator

Mr. Njoroge Nyoike

Supervisor

Alexander Vundi Mulewa

Enumerators

David Mwenda
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Ann Kendi Majau
John Gatu Mwicigi

Data Collection Co-ordinator

Mr. John Mburu

Supervisors

Francis Nyongesa
Joseph Kabiru

Field Editors

Bernard Kimata Gathiti
Lucy Mungai

Research Assistants

Ruth Makaa Muthui
Faith Nyaga
Grace Kagendo Kamwara
Luciline Karugu
Christine Wango Muthui
Lydia Magambo

Appendix C: Estimates of Sampling Errors

The sample of respondents selected in the Tharaka 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 all possible samples. The extent of variability is not known exactly, but can be estimated statistically from the survey results.

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. 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
- Design effect (*deff*) is the ratio of the actual variance of an indicator, under the sampling method used in the survey, to the variance calculated under the assumption of simple random sampling. The square root of the design effect (*deft*) is used to show the efficiency of the sample design. A deft value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a deft value above 1.0 indicates the increase in the standard error due to the use of a more complex sample design.
- Confidence limits are calculated to show the interval within which the true value for the population can be reasonably assumed to fall. For any given statistic calculated from the survey, the value of that statistics will fall within a range of plus or minus two times the standard error ($p + 2.se$ or $p - 2.se$) of the statistic in 95 per cent of all possible samples of identical size and design.

For the calculation of sampling errors from MICS data, SPSS Version 14 Complex Samples module has been used, except for the under-five mortality and infant mortality, where CSPro program is 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 Un-weighted counts of denominators for each indicator.

Sampling errors are calculated for indicators of primary interest at the district level. All indicators presented here are in the form of proportions. Table SE.1 shows the list of indicators for which sampling errors are calculated, including the base population (denominator) for each indicator. Tables SE.2 to SE.9 show the calculated sampling errors.

	Estimate	Standard Error	Coefficient of Variation	Design Effect	Square Root Design Effect	Population Size	Un-weighted Count	Confidence limits	
Iodized salt consumption	0.9347	0.00794	0.008	1.153	1.074	307	1,118	0.919	0.951
Child discipline	0.8892	0.01595	0.018	2.284	1.511	222	885	0.857	0.921

	Estimate	Standard Error	Coefficient of Variation	Design Effect	Square Root Design Effect	Population Size	Un-weighted Count	Confidence limits	
Use of improved drinking water sources	0.2171	0.03626	0.167	45.195	6.723	1,510	5,844	0.145	0.290
Use of improved sanitation facilities	0.1802	0.02023	0.112	16.186	4.023	1,510	5,844	0.140	0.221
Net primary school attendance rate	0.8546	0.01118	0.013	1.293	1.137	336	1,286	0.832	0.877
Net secondary school attendance rate	0.1139	0.01759	0.154	1.410	1.187	142	461	0.079	0.149
Primary completion rate	0.0000	0.00000	.	.	.	36	127	0.000	0.000
Child labour	0.1946	0.01448	0.074	2.231	1.494	431	1,668	0.166	0.224
Prevalence of orphans	0.0989	0.01269	0.128	5.682	2.384	758	3,145	0.074	0.124
Prevalence of vulnerable children	0.0586	0.01227	0.209	8.576	2.928	758	3,145	0.034	0.083

	Estimate	Standard Error	Coefficient of Variation	Design Effect	Square Root Design Effect	Population Size	Un-weighted Count	Confidence limits	
Skilled attendant at delivery	0.5220	0.02585	0.050	1.379	1.175	101	516	0.470	0.574
Antenatal care	0.9012	0.02029	0.023	2.381	1.543	101	516	0.861	0.942
Contraceptive prevalence	0.3755	0.02835	0.075	2.690	1.640	196	786	0.319	0.432
Adult literacy	0.8111	0.02240	0.028	1.418	1.191	124	434	0.766	0.856
Prevalence of FGM/C	0.7132	0.01595	0.022	1.486	1.219	331	1,195	0.681	0.745
Marriage before age 18	0.1932	0.02907	0.150	1.377	1.173	63	255	0.135	0.251
Comprehensive knowledge about HIV prevention among young people	0.2183	0.01398	0.064	1.368	1.170	331	1,195	0.190	0.246
Attitudes towards people with HIV/AIDS	0.1911	0.01552	0.081	1.850	1.360	329	1,189	0.160	0.222
Women who have been tested for HIV	0.5850	0.01661	0.028	1.357	1.165	331	1,195	0.552	0.618

Knowledge of mother-to-child transmission of HIV	0.3696	0.02079	0.056	2.215	1.488	331	1,195	0.328	0.411

	Estimate	Standard Error	Coefficient of Variation	Design Effect	Square Root Design Effect	Population Size	Un-weighted Count	Confidence limits	
Underweight prevalence	0.2873	0.01498	0.052	1.186	1.089	306	1,083	0.257	0.317
Tuberculosis immunization coverage	0.9399	0.02696	0.029	3.460	1.860	72	270	0.886	0.994
Polio immunization coverage	0.7693	0.02928	0.038	1.300	1.140	72	270	0.711	0.828
Immunization coverage for DPT	0.8422	0.02970	0.035	1.785	1.336	72	270	0.783	0.902
Measles immunization coverage	0.7934	0.03846	0.048	2.427	1.558	72	270	0.716	0.870
Fully immunized children	0.6667	0.03450	0.052	1.441	1.200	72	270	0.598	0.736
Acute respiratory infection in last two weeks	0.0893	0.00923	0.103	1.201	1.096	324	1,149	0.071	0.108
Antibiotic treatment of suspected pneumonia	0.4853	0.05435	0.112	1.206	1.098	29	103	0.377	0.594
Diarrhoea in last two weeks	0.1279	0.01212	0.095	1.512	1.230	324	1,149	0.104	0.152
Received ORT or increased fluids and continued feeding	0.1616	0.03008	0.186	0.955	0.977	41	144	0.101	0.222
Fever in last two weeks	0.2642	0.01632	0.062	1.572	1.254	324	1,149	0.232	0.297
Anti-malarial treatment	0.2714	0.03000	0.111	1.365	1.169	86	301	0.211	0.331
Support for learning	0.4432	0.01462	0.033	0.994	0.997	324	1,149	0.414	0.472
Birth registration	0.3589	0.02275	0.063	2.583	1.607	324	1,149	0.313	0.404

Appendix D: Data Quality Tables

Table DQ.1: Single-year distribution of household population by sex (weighted)

District Code			Male		Female	
			Number	Percent	Number	Percent
Tharaka	Age	0	90	3.3	79	2.8
		1	88	3.2	94	3.4
		2	91	3.4	76	2.7
		3	74	2.7	79	2.8
		4	71	2.6	85	3.1
		5	93	3.4	96	3.5
		6	92	3.4	84	3.0
		7	86	3.1	77	2.8
		8	86	3.2	78	2.8
		9	60	2.2	74	2.7
		10	85	3.1	70	2.5
		11	66	2.4	84	3.0
		12	87	3.2	64	2.3
		13	54	2.0	76	2.8
		14	66	2.4	92	3.3
		15	64	2.4	64	2.3
		16	64	2.4	57	2.0
		17	66	2.4	45	1.6
		18	73	2.7	51	1.8
		19	57	2.1	27	1.0
		20	54	2.0	57	2.1
		21	49	1.8	41	1.5
		22	57	2.1	57	2.1
		23	42	1.5	39	1.4
		24	50	1.8	62	2.2
		25	54	2.0	58	2.1
		26	35	1.3	38	1.4
		27	25	0.9	38	1.4
		28	41	1.5	47	1.7
		29	28	1.0	29	1.1
		30	50	1.8	50	1.8
		31	25	0.9	34	1.2
		32	40	1.5	26	0.9
		33	15	.6	27	1.0
		34	25	.9	39	1.4
		35	41	1.5	38	1.4
		36	20	0.7	33	1.2
		37	19	0.7	24	0.8
		38	27	1.0	34	1.2
		39	15	0.6	26	0.9
		40	40	1.5	26	0.9
		41	16	0.6	7	0.3
		42	15	0.5	19	0.7
		43	16	0.6	15	0.5
		44	22	0.8	13	0.5
		45	30	1.1	37	1.3
		46	9	0.3	15	0.5
		47	3	0.1	22	0.8
		48	20	0.7	13	0.5
		49	13	0.5	16	0.6
		50	36	1.3	32	1.1
		51	11	0.4	19	0.7
		52	4	0.1	16	0.6

		53	10	0.4	6	0.2
		54	8	0.3	13	0.5
		55	11	0.4	16	0.6
		56	23	0.9	18	0.7
		57	2	0.1	6	0.2
		58	14	0.5	15	0.5
		59	8	0.3	11	0.4
		60	31	1.1	23	0.8
		61	2	0.1	9	0.3
		62	4	0.2	9	0.3
		63	0	0.0	5	0.2
		64	8	0.3	7	0.3
		65	15	0.6	10	0.3
		66	3	0.1	6	0.2
		67	2	0.1	6	0.2
		68	4	0.1	13	0.5
		69	5	0.2	3	0.1
		70	15	0.6	19	0.7
		71	4	0.1	0	0.0
		72	3	0.1	13	0.5
		73	3	0.1	3	0.1
		74	1	0.0	4	0.1
		75	6	0.2	7	0.3
		76	6	0.2	8	0.3
		77	6	0.2	4	0.1
		78	10	0.4	2	0.1
		80+	42	1.5	36	1.3
		DK/missing	15	0.6	4	0.2
	82	**Total**	**2722**	**100.0**	**2772**	**100.0**

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

		Household population of women age 10-54	Interviewed women age 15-49		4
		Number	Number	Percent	Percentage of eligible women interviewed
Age	10-14	386	.	.	.
	15-19	244	201	18.1	82.4
	20-24	256	212	19.1	82.9
	25-29	210	198	17.8	94.2
	30-34	175	168	15.1	96.1
	35-39	154	153	13.8	99.6
	40-44	80	75	6.8	94.3
	45-49	104	104	9.3	100.0
	50-54	86	.	.	.
6	15-49	1222	1111	100.0	90.9

Table DQ.3: Age distribution of eligible and interviewed under-5s, household population of children age 0-7, children whose mothers/caretakers were interviewed and percentage of under-5 children whose mothers/caretakers were interviewed (weighted), by five-year age group

		Household population of children age 0-7	Interviewed children age 0-4		4
		Number	Number	Percent	Percentage of eligible children interviewed
Age	0	169	166	20.4	98.3
	1	182	179	22.1	98.5
	2	168	166	20.4	98.9
	3	153	151	18.5	98.5
	4	157	152	18.6	96.7
	5	189	.	.	.
	6	176	.	.	.
	7	163	.	.	.
	0-4	828	814	100.0	98.2

Table DQ.4: Age distribution of under-5 children, Age distribution of under-5 children by 3-month groups (weighted)

			Male		Female		Total	
District Code			Number	Percent	Number	Percent	Number	Percent
Tharaka	Age in months	0-2	24	4.2	30	5.2	54	4.7
		3-5	30	5.2	20	3.5	50	4.4
		6-8	35	6.1	24	4.3	59	5.2
		9-11	31	5.3	28	4.8	58	5.1
		12-14	36	6.2	42	7.3	77	6.7
		15-17	33	5.7	24	4.2	57	5.0
		18-20	28	4.8	26	4.6	54	4.7
		21-23	27	4.7	40	7.1	68	5.9
		24-26	22	3.8	38	6.7	61	5.3
		27-29	35	6.0	28	4.9	63	5.5
		30-32	43	7.4	23	3.9	65	5.7
		33-35	27	4.7	24	4.2	52	4.5
		36-38	31	5.4	27	4.8	58	5.1
		39-41	21	3.7	29	5.0	50	4.4
		42-44	26	4.4	24	4.2	49	4.3
		45-47	29	5.1	23	4.0	52	4.5
		48-50	27	4.6	35	6.2	62	5.4
		51-53	20	3.5	25	4.4	45	3.9
		54-56	18	3.1	28	5.0	46	4.0
		57-59	33	5.7	32	5.6	65	5.6
		195	0	0.0	1	0.2	1	0.1
		97	3	0.4	0	0.0	3	0.2
		Total	**578**	**100.0**	**571**	**100.0**	**1149**	**100.0**

Table DQ.5: Heaping on ages and periods, Age and period ratios at boundaries of eligibility by type of information collected (Household questionnaire, weighted)

	Age and period ratios		
	Male	Female	Total
1	.98	1.14	1.05
2	1.08	.92	1.00
3	.94	.98	.96
4	.90	.98	.94
5	1.09	1.09	1.09
6	1.02	.98	1.00
.	.	.	.
8	1.11	1.02	1.07
9	.78	1.00	.89
10	1.21	.93	1.06
.	.	.	.
13	.78	.99	.89
14	1.08	1.19	1.14
15	.99	.90	.95
16	.99	1.03	1.01
17	.97	.89	.93
18	1.01	1.10	1.04
.	.	.	.
23	.84	.74	.79
24	1.03	1.17	1.10
25	1.17	1.10	1.13
.	.	.	.
48	1.62	.76	1.11
49	.59	.80	.69
50	1.79	1.42	1.59

Table DQ.5: Heaping on ages and periods Age and period ratios at boundaries of eligibility by type of information collected (Women's questionnaire, weighted)

	Age and period ratios
	Female
23	.76
24	1.10
25	1.15

Table DQ.5: Heaping on ages and periods Age and period ratios at boundaries of eligibility by type of information collected (Women's questionnaire, weighted)

	Age and period ratios
	Female
6-11	.99
12-17	1.12
18-23	1.22
24-29	.47
30-35	.

Table DQ.6: Percentage of observations missing information for selected questions and indicators (Household questionnaire, weighted)

	Percentage with missing information	Number
Salt testing	0.0	1135

Table DQ.6: Percentage of observations missing information for selected questions and indicators (Women's questionnaire, weighted)

	Percentage with missing information	Number
Month of birth only	23.4	1195
Month and year of birth	0.0	1195
Month of last birth only	0.0	943
Month and year of last birth	0.0	943
Month of first marriage only	1.7	920
Month and year of first marriage	2.3	920
Age at first marriage/union	0.7	920

Table DQ.6: Percentage of observations missing information for selected questions and indicators (Under-5 questionnaire, weighted)

	Percentage with missing information	Number
Month of birth under-5 only	0.3	1149
Month and year of birth under-5	0.0	1149
Weight	2.0	1149
Height	2.1	1149
Height or weight	2.1	1149

Table DQ.7: 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 (weighted)

		Mother in the household			Mother not in the household			11		
		Mother interviewed	Father interviewed	Other adult female interviewed	Other adult male interviewed	Father interviewed	Other adult female interviewed	Other adult male interviewed	Total	Number of children aged 0-4 years
Age	0	95.0	1.9	1.8	.3	.5	.4	.0	100.0	169
	1	97.6	.0	.4	.0	.4	1.6	.0	100.0	182
	2	93.2	.0	.5	.3	.4	3.2	2.3	100.0	168
	3	94.9	.0	.8	.0	1.1	3.2	.0	100.0	153
	4	93.0	.0	.0	.4	1.2	4.4	.9	100.0	157
	Total	**94.8**	**.4**	**.7**	**.2**	**.7**	**2.5**	**.6**	**100.0**	**828**

Table DQ.8: School attendance by single age. Distribution of household population age 5-24 by educational level and grade attended in the current year

District	Code		Preschool	Primary								Post-primary, Vocational		Secondary, A Level	College-Middle Level	University	Non-standard curriculum	Not attending school	DK		
					1	2	3	4	5	6	7	8		1						Total	Total
Tharaka	Age	5	64.5	.6	10.7	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	23.3	100.0	189
		6	41.6	.3	40.2	5.0	1.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	11.5	100.0	176
		7	19.9	.6	50.6	21.1	3.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.1	100.0	163
		8	7.3	.3	37.8	33.0	12.9	3.7	1.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.0	100.0	164
		9	2.0	.0	19.7	31.0	34.9	8.4	2.1	.0	.0	.0	.0	.0	1.4	.0	.0	.0	.5	100.0	134
		10	1.9	.0	7.9	36.0	26.6	18.0	5.1	2.5	.5	.0	.0	.0	.0	.0	.0	.0	1.5	100.0	155
		11	.3	.0	7.4	13.9	26.7	27.7	17.1	1.3	1.2	.0	.0	.0	1.3	.0	.0	.0	3.0	100.0	149
		12	2.1	.0	1.5	5.9	24.9	27.7	18.5	13.4	3.0	.5	.0	.0	.0	.0	.0	.0	2.5	100.0	150
		13	.0	.0	.0	2.8	12.5	29.0	22.3	15.0	11.7	4.8	.0	.0	.0	.0	.0	.0	1.9	100.0	130
		14	.0	.0	.4	2.2	5.1	17.3	22.1	16.2	17.1	11.9	.6	.0	3.7	.0	.0	.0	3.4	100.0	158
		15	.0	.0	.0	.5	4.4	11.7	21.5	20.9	12.6	8.7	.0	1.5	11.8	.0	.7	.0	5.7	100.0	128
		16	.0	.0	.4	.0	1.9	11.6	11.7	21.3	22.0	11.9	.0	.0	14.1	.0	.0	.0	5.3	100.0	121
		17	.0	.0	.0	.0	1.8	3.9	8.5	12.6	22.1	15.5	.0	.0	16.4	.0	.0	2.3	16.8	100.0	111
		18	.0	.0	.0	.6	.5	1.7	7.1	15.9	16.6	14.6	3.2	1.4	17.7	.0	.0	.0	20.6	100.0	124
		19	.0	.0	1.3	.0	1.7	1.6	3.4	6.5	12.7	16.4	.0	5.4	19.6	.0	.0	.0	30.9	100.0	84
		20	.0	.0	.0	.6	.0	1.3	.0	6.3	4.8	14.0	1.4	1.6	19.3	.0	.0	.0	50.7	100.0	111
		21	.0	.0	.0	.0	.5	.0	.0	4.1	3.2	6.7	.0	.0	25.3	6.9	.0	.5	52.7	100.0	90
		22	.0	.0	.0	.0	.0	.0	.0	.5	.4	2.3	.0	2.2	12.4	1.9	.0	.9	79.4	100.0	114
		23	.0	.0	.0	.0	.0	.0	.0	.0	.9	.0	.0	2.4	8.0	.8	.0	.0	87.9	100.0	80
		24	.0	.0	.0	.0	.0	2.0	.0	.0	3.1	.0	.0	1.8	8.2	.0	.5	.0	84.4	100.0	112
		Total	**9.4**	**.1**	**11.0**	**8.9**	**8.8**	**8.8**	**7.3**	**6.6**	**6.1**	**4.7**	**.2**	**.6**	**6.5**	**.3**	**.1**	**.1**	**20.4**	**100.0**	**2645**

Table DQ.9: Sex ratio at birth among children ever born and living. Sex ratio at birth among children ever born, children living, and deceased children by age of women (weighted)Table DQ.10: Distribution of women by time since last birth.

		Number of sons ever born	Number of daughters ever born	Sex ratio of children ever born	Number of sons living	Number of daughters living	Sex ratio of living children	Number of deceased sons	Number of deceased daughters	Sex ratio of deceased children	Number of women
Age	15-19	15	8	1.88	14	8	1.75	1	0	.	179
	20-24	153	184	.83	141	178	.79	12	6	2.00	255
	25-29	317	280	1.13	302	265	1.14	15	15	1.00	244
	30-34	379	372	1.02	346	349	.99	33	23	1.43	200
	35-39	413	382	1.08	382	355	1.08	31	27	1.15	156
	40-44	246	264	.93	213	225	.95	33	39	.85	79
	45-49	281	305	.92	238	255	.93	43	50	.86	82
	Total	**1804**	**1795**	**1.01**	**1636**	**1635**	**1.00**	**168**	**160**	**1.05**	**1195**

Table DQ.10 Distribution of women aged 15-49 years with at least one live birth (weighted), by months since last birth

District Code			Number	Percent
Tharaka	Months since last birth	0	9	1.8
		1	24	4.7
		2	22	4.3
		3	13	2.5
		4	25	4.9
		5	16	3.1
		6	14	2.7
		7	25	4.9
		8	24	4.7
		9	21	4.1
		10	11	2.1
		11	29	5.7
		12	31	6.0
		13	22	4.3
		14	30	5.8
		15	21	4.1
		16	19	3.7
		17	18	3.5
		18	14	2.7
		19	18	3.5
		20	19	3.7
		21	14	2.7
		22	24	4.7
		23	23	4.5
		24	13	2.5
		25	1	0.2
		26	3	0.6
		29	1	0.2
		30	3	0.6
		27	4	0.8
		34	2	0.4
		Total	**513**	**100.0**

Appendix E: MICS Indicators - Numberators and Denominators

INDICATOR		NUMERATOR	DENOMINATOR
1	Under-five mortality rate	Probability of dying by exact age 5 years	
2	Infant mortality rate	Probability of dying by exact age 1 year	
3	Maternal mortality ratio	Number of deaths of women from pregnancy-related causes in a given year	Number of live births in the year (expressed per 100,000 births)
4	Skilled attendant at delivery	Number of women aged 15-49 years with a birth in the 2 years preceding the survey that were attended during childbirth by skilled health personnel	Total number of women surveyed aged 15-49 years with a birth in the 2 years preceding the survey
5	Institutional deliveries	Number of women aged 15-49 years with a birth in the 2 years preceding the survey that delivered in a health facility	Total number of women surveyed aged 15-49 years with a birth in 2 years preceding the survey
6	Underweight prevalence	Number of children under age five that fall below minus two standard deviations from the median weight for age of the NCHS/WHO standard (moderate and severe); number that fall below minus three standard deviations (severe)	Total number of children under age five that were weighed
7	Stunting prevalence	Number of children under age five that fall below minus two standard deviations from the median height for age of the NCHS/WHO standard (moderate and severe); number that fall below minus three standard deviations (severe)	Total number of children under age five measured
8	Wasting prevalence	Number of children under age five that fall below minus two standard deviations from the median weight for height of the NCHS/WHO standard (moderate and severe); number that fall below minus three standard deviations (severe)	Total number of children under age five weighed and measured
9	Low-birth weight infants	Number of last live births in the 2 years preceding the survey weighing below 2,500 grams	Total number of last live births in the 2 years preceding the survey
10	Infants weighed at birth	Number of last live births in the 2 years preceding the survey that were weighed at birth	Total number of last live births in the 2 years preceding the survey
11	Use of improved drinking water sources	Number of household members living in households using improved sources of drinking water	Total number of household members in households surveyed
12	Use of improved sanitation facilities	Number of household members using improved sanitation facilities	Total number of household members in households surveyed
13	Water treatment	Number of household members using water that has been treated	Total number of household members in households surveyed
14	Disposal of child's faeces	Number of children under age three whose (last) stools were disposed of safely	Total number of children under age three surveyed
15	Exclusive breastfeeding rate	Number of infants aged 0-5 months that are exclusively breastfed	Total number of infants aged 0-5 months surveyed
16	Continued breastfeeding rate	Number of infants aged 12-15 months, and 20-23 months, that are currently breastfeeding	Total number of children aged 12-15 months and 20-23 months surveyed
17	Timely complementary	Number of infants aged 6-9 months that are receiving breast milk and complementary foods	Total number of infants aged 6-9 months

INDICATOR		NUMERATOR	DENOMINATOR
	feeding rate		surveyed
18	Frequency of complementary feeding	Number of infants aged 6-11 months that receive breast milk and complementary food at least the minimum recommended number of times per day (two times per day for infants aged 6-8 months, three times per day for infants aged 9-11 months)	Total number of infants aged 6-11 months surveyed
19	Adequately fed infants	Number of infants aged 0-11 months that are appropriately fed: infants aged 0-5 months that are exclusively breastfed and infants aged 6-11 months that are breastfed and ate solid or semi-solid foods the appropriate number of times (see above) yesterday	Total number of infants aged 0-11 months surveyed
20	Antenatal care	Number of women aged 15-49 years that were attended at least once during pregnancy in the 2 years preceding the survey by skilled health personnel	Total number of women surveyed aged 15-49 years with a birth in the 2 years preceding the survey
21	Contraceptive prevalence	Number of women currently married or in union aged 15-49 years that are using (or whose partner is using) a contraceptive method (either modern or traditional)	Total number of women aged 15-49 years that are currently married or in union
22	Antibiotic treatment of suspected pneumonia	Number of children aged 0-59 months with suspected pneumonia in the previous 2 weeks receiving antibiotics	Total number of children aged 0-59 months with suspected pneumonia in the previous 2 weeks
23	Care-seeking for suspected pneumonia	Number of children aged 0-59 months with suspected pneumonia in the previous 2 weeks that are taken to an appropriate health provider	Total number of children aged 0-59 months with suspected pneumonia in the previous 2 weeks
24	Solid fuels	Number of residents in households that use solid fuels (wood, charcoal, crop residues and dung) as the primary source of domestic energy to cook	Total number of residents in households surveyed
25	Tuberculosis immunization coverage	Number of children aged 12-23 months receiving BCG vaccine before their first birthday	Total number of children aged 12-23 months surveyed
26	Polio immunization coverage	Number of children aged 12-23 months receiving OPV3 vaccine before their first birthday	Total number of children aged 12-23 months surveyed
27	Immunization coverage for diphtheria, pertussis and tetanus (DPT)	Number of children aged 12-23 months receiving DPT3 vaccine before their first birthday	Total number of children aged 12-23 months surveyed
28	Measles immunization coverage	Number of children aged 12-23 months receiving measles vaccine before their first birthday	Total number of children aged 12-23 months surveyed
29	Hepatitis B immunization coverage	Number of children aged 12-23 months immunized against hepatitis before their first birthday	Total number of children aged 12-23 months surveyed
30	Yellow fever immunization coverage	Number of children aged 12-23 months immunized against yellow fever before their first birthday	Total number of children aged 12-23 months surveyed
31	Fully immunized children	Number of children aged 12-23 months receiving DPT1-3, OPV-1-3, BCG and measles vaccines before their first birthday	Total number of children aged 12-23 months surveyed
32	Neonatal tetanus protection	Number of mothers with live births in the previous year that were given at least two doses of tetanus toxoid (TT) vaccine within the appropriate interval prior to giving birth	Total number of women surveyed aged 15-49 years with a birth in the year preceding the survey
33	Use of oral Rehydration therapy (ORT)	Number of children aged 0-59 months with diarrhoea in the previous 2 weeks that received oral Rehydration salts and/or an appropriate household solution	Total number of children aged 0-59 months with diarrhoea in the previous 2 weeks

INDICATOR		NUMERATOR	DENOMINATOR
34	Home management of diarrhoea	Number of children aged 0-59 months with diarrhoea in the previous 2 weeks that received more fluids AND continued eating somewhat less, the same or more food	Total number of children aged 0-59 months with diarrhoea in the previous 2 weeks
35	Received ORT or increased fluids and continued feeding	Number of children aged 0-59 months with diarrhoea that received ORT (oral Rehydration salts or an appropriate household solution) or received more fluids AND continued eating somewhat less, the same or more food	Total number of children aged 0-59 months with diarrhoea in the previous 2 weeks
36	Household availability of insecticide-treated nets (ITNs)	Number of households with at least one mosquito net, either permanently treated or treated within the previous year	Total number of households surveyed
37	Under-fives sleeping under insecticide- treated nets	Number of children aged 0-59 months that slept under an insecticide-treated mosquito net the previous night	Total number of children aged 0-59 months surveyed
38	Under-fives sleeping under mosquito nets	Number of children aged 0-59 months that slept under a mosquito net the previous night	Total number of children aged 0-59 months surveyed
39	Anti-malarial treatment (under- fives)	Number of children aged 0-59 months reported to have had fever in the previous 2 weeks that were treated with an appropriate anti-malarial within 24 hours of onset	Total number of children aged 0-59 months reported to have had fever in the previous 2 weeks
40	Intermittent preventive malaria treatment (pregnant women)	Number of women receiving appropriate intermittent medication to prevent malaria (defined as at least 2 doses of SP/Fansidar) during the last pregnancy, leading to a live birth within the 2 years preceding the survey	Total number of women that have had a live birth within the 2 years preceding the survey
41	Iodized salt consumption	Number of households with salt testing 15 parts per million or more of iodine/iodate	Total number of households surveyed
42	Vitamin A supplementation (under-fives)	Number of children aged 6-59 months receiving at least one high-dose vitamin A supplement in the previous 6 months	Total number of children aged 6-59 months surveyed
43	Vitamin A supplementation (post-partum mothers)	Number of women with a live birth in the 2 years preceding the survey that received a high-dose vitamin A supplement within 8 weeks after birth	Total number of women that had a live birth in the 2 years preceding the survey
44	Content of antenatal care	Number of women with a live birth in the 2 years preceding the survey that received antenatal care during the last pregnancy	Total number of women with a live birth in the 2 years preceding the survey
45	Timely initiation of breastfeeding	Number of women with a live birth in the 2 years preceding the survey that 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
46	Support for learning	Number of children aged 0-59 months living in households in which an adult has engaged in four or more activities to promote learning and school readiness in the past 3 days	Total number of children aged 0-59 months surveyed
47	Father's support for learning	Number of children aged 0-59 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 aged 0-59 months
48	Support for learning: children's books	Number of households with three or more children's books	Total number of households surveyed
49	Support for learning: non-children's books	Number of households with three or more non-children's books	Total number of households surveyed
50	Support for learning: materials for play	Number of households with three or more materials intended for play	Total number of households surveyed
51	Non-adult care	Number of children aged 0-59 months left alone or in the care of another child younger than 10 years of age in the past week	Total number of children aged 0-59 months surveyed

INDICATOR		NUMERATOR	DENOMINATOR
52	Pre-school attendance	Number of children aged 36-59 months that attend some form of early childhood education programme	Total number of children aged 36-59 months surveyed
53	School readiness	Number of children in first grade that attended some form of pre-school the previous year	Total number of children in the first grade surveyed
54	Net intake rate in primary education	Number of children of school-entry age that are currently attending first grade	Total number of children of primary- school entry age surveyed
55	Net primary school attendance rate	Number of children of primary-school age currently attending primary or secondary school	Total number of children of primary- school age surveyed
56	Net secondary school attendance rate	Number of children of secondary-school age currently attending secondary school or higher	Total number of children of secondary-school age surveyed
57	Children reaching grade five	Proportion of children entering the first grade of primary school that eventually reach grade five	
58	Transition rate to secondary school	Number of children that were in the last grade of primary school during the previous school year that attend secondary school	Total number of children that were in the last grade of primary school during the previous school year surveyed
59	Primary completion rate	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) surveyed
60	Adult literacy rate	Number of women aged 15-24 years that are able to read a short simple statement about everyday life	Total number of women aged 15-24 years surveyed
61	Gender parity index	Proportion of girls in primary and secondary education	Proportion of boys in primary and secondary education
62	Birth registration	Number of children aged 0-59 months whose births are reported registered	Total number of children aged 0-59 months surveyed
63	Prevalence of female genital mutilation/cutting (FGM/C)	Number of women aged 15-49 years that reported undergoing any form of genital mutilation/cutting	Total number of women aged 15-49 years surveyed
64	Prevalence of extreme form of FGM/C	Number of women aged 15-49 years that reported undergoing an extreme form of genital mutilation/cutting (such as infibulation)	Total number of women aged 15-49 years surveyed
65	Prevalence of FGM/C among daughters	Number of women aged 15-49 years that reported that at least one daughter had undergone female genital mutilation/cutting	Total number of women aged 15-49 years surveyed that have at least one living daughter
66	Approval for FGM/C	Number of women aged 15-49 years favouring the continuation of female genital mutilation/cutting	Total number of women aged 15-49 years surveyed
67	Marriage before age 15 and age 18	Number of women that were first married or in union by the exact age of 15 and the exact age of 18, by age groups	Total number of women aged 15-49 years and 20-49 years surveyed, by age groups
68	Young women aged 15-19 years currently married or in union	Number of women aged 15-19 years currently married or in union	Total number of women aged 15-19 years surveyed
69	Spousal age difference	Number of women married/in union aged 15-19 years and 20-24 years with a difference in age of 10 or more years	Total number of women aged 15-19 and 20-24

INDICATOR		NUMERATOR	DENOMINATOR
		between them and their current spouse	years surveyed that are currently married or in union
70	Polygyny	Number of women in a polygynous union	Total number of women aged 15-49 years surveyed that are currently married or in union
71	Child labour	Number of children aged 5-14 years that are involved in child labour	Total number of children aged 5-14 years surveyed
72	Labourer students	Number of children aged 5-14 years involved in child labour activities that attend school	Total number of children aged 5-14 years involved in child labour activities
73	Student labourers	Number of children aged 5-14 years attending school that are involved in child labour activities	Total number of children aged 5-14 years attending school
74	Child discipline	Number of children aged 2-14 years that (1) experience only non-violent aggression, (2) experience psychological aggression as punishment, (3) experience minor physical punishment, (4) experience severe physical punishment	Total number of children aged 2-14 years selected and surveyed
75	Prevalence of orphans	Number of children under age 18 with at least one dead parent	Total number of children under age 18 surveyed
76	Prevalence of vulnerable children	Number of children under age 18 that have a chronically ill parent, that live in a household where an adult aged 18-59 years has died in the past year, or that live in a household where an adult aged 18-59 years has been chronically ill in the past year	Total number of children under age 18 surveyed
77	School attendance of orphans versus non-orphans	Proportion of double orphans (both mother and father dead) aged 10-14 years attending school	Proportion of children aged 10-14 years, both of whose parents are alive, that are living with at least one parent and are attending school
78	Children's living arrangements	Number of children aged 0-17 years not living with a biological parent	Total number of children aged 0-17 years surveyed
79	Malnutrition among children orphaned and made vulnerable by HIV/AIDS	Proportion of orphaned or vulnerable children under age five that are moderately or severely underweight, of all orphaned and vulnerable children under age five that are weighed	Proportion of children not classified as orphaned or vulnerable under age five that are moderately or severely underweight, of all children not classified as orphaned or vulnerable under age five that are weighed
80	Early sex among children orphaned and made vulnerable by HIV/AIDS	Proportion of orphaned and vulnerable children aged 15-17 years that had sex before age 15, of all orphaned and vulnerable children aged 15-17 years surveyed	Proportion of children not classified as orphaned or vulnerable aged 15-17 years that had sex before age 15, of all children not classified as orphaned or vulnerable aged 15-17 years surveyed
81	External support to children orphaned and made vulnerable by HIV/AIDS	Number of orphaned and vulnerable children under age 18 whose households received free basic external support in caring for the child	Number of orphaned and vulnerable children under age 18 surveyed
82	Comprehensive knowledge about HIV prevention among young people	Number of women aged 15-24 years that correctly identify two ways of avoiding HIV infection and reject three common misconceptions about HIV transmission	Total number of women aged 15-24 years surveyed
83	Condom use with non-regular	Number of women aged 15-24 years reporting the use of a condom during sexual intercourse with their last non-	Total number of women aged 15-24 years

INDICATOR		NUMERATOR	DENOMINATOR
	partners	marital, non-cohabiting sex partner in the previous 12 months	surveyed that had a non-marital, non-cohabiting partner in the previous 12 months
84	Age at first sex among young people	Number of women aged 15-24 years that have had sex before age 15	Total number of women aged 15-24 surveyed
85	Higher risk sex in the last year	Number of sexually active women aged 15-24 years that have had sex with a non-marital, non-cohabitating partner in the previous 12 months	Total number of women aged 15-24 that were sexually active in the previous 12 months
86	Attitude towards people with HIV/AIDS	Number of women expressing acceptance on all four questions about people with HIV or AIDS	Total number of women surveyed
87	Women who know where to be tested for HIV	Number of women that state knowledge of a place to be tested	Total number of women surveyed
88	Women who have been tested for HIV	Number of women that report being tested for HIV	Total number of women surveyed
89	Knowledge of mother-to-child transmission of HIV	Number of women that correctly identify all three means of vertical transmission	Total number of women surveyed
90	Counselling coverage for the prevention of mother-to-child transmission of HIV	Number of women that gave birth in the previous 24 months and received antenatal care reporting that they received counselling on HIV/AIDS during this care	Total number of women that gave birth in the previous 24months surveyed
91	Testing coverage for the prevention of mother-to-child transmission of HIV	Number of women that gave birth in the previous 24months and received antenatal care reporting that they received the results of an HIV test during this care	Total number of women that gave birth in the previous 24 months surveyed
92	Age-mixing among sexual partners	Number of women aged 15-24 years that had sex in the past 12 months with a partner who was 10 or more years older than they were	Total number of sexually active women aged 15-24 years surveyed
93	Security of tenure	Number of household members living in urban households that lack formal documentation for their residence or that feel at risk of eviction	Number of urban household members in households surveyed
94	Durability of housing	Number of household members living in urban dwellings that are not considered durable	Number of urban household members in households surveyed
95	Slum household	Number of household members living in urban slums	Number of household members in urban households surveyed
96	Source of supplies	Number of children (or households) for whom supplies were obtained from public providers, presented separately for each type of supply: insecticide-treated mosquito nets, oral Rehydration salts, antibiotics and anti-malarials	Total number of children (or households) for whom supplies were obtained
97	Cost of supplies	Median cost of supplies obtained, presented separately for each type of supply and whether sourced from public or private providers: insecticide-treated mosquito nets, oral Rehydration salts, antibiotics and anti-malarials.	Total number of children (or households) for whom supplies were obtained
98	Unmet need for family planning	Number of women that are currently married or in union that are fecund and want to space their births or limit the number of children they have and that are not currently using contraception	Total number of women interviewed that are currently married or in union
99	Demand satisfied for family planning	Number of women currently married or in union that are currently using contraception	Number of women currently married or in union that have an unmet need for contraception or that are currently using contraception

INDICATOR		NUMERATOR	DENOMINATOR
100	Attitudes towards domestic violence	Number of women that consider 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 surveyed
101	Child disability	Number of children aged 2-9 years with at least one of nine reported disabilities: (1) delay in sitting, standing or walking, (2) difficulty seeing, either in the daytime or at night, (3) appears to have difficulty hearing, (4) difficulty in understanding instructions, (5) difficulty walking or moving arms or has weakness or stiffness of limbs, (6) has fits, becomes rigid, loses consciousness, (7) does not learn to do things like other children his/her age, (8) cannot speak or cannot be understood in words, (9) appears mentally backward, dull or slow	Total number of children aged 2-9 surveyed

Appedix F: Questionnaires



FORM-A: HOUSEHOLD

H1. Identification — *ENGLISH*

#	Question	Options
HH-A	Province Name & Code _____	☐
HH-B	District Name & Code _____	☐☐
HH1	Cluster Name & Number ☐☐	HH-C Stratum [Child < 3 = 1/Other = 2] ☐
HH2	HH No.	☐☐☐
HH3	Interviewer's Name & No. _____	☐☐☐
HH4	Supervisor Name & No. _____	☐☐☐
HH5	Day/Month/Year of Interview	☐☐/☐☐/☐☐☐☐
HH6	Urban/Rural (Urban=1, Rural=2)	☐
HH7	Name of the Head of the HH (To be filled-in after completing Section H.2)	_____
HH8 to HH14 be filled-in after all questions for the HH have been completed		
HH8	Result of HH interview	Completed ..... 1 Not at home ..... 2 Refused ..... 3 HH not found/destroyed ..... 4 Other (*specify* _____) .. 6
HH9	Respondent to HH Form: Name: _____	Line No.: ☐☐
HH10	Total No. of HH members	☐☐
HH11	No. of women 15-49 eligible ☐☐	HH12 No. of women 15-49 forms completed ☐☐
HH13	No. of children < 5 eligible ☐☐	HH14 No. of children < 5 forms completed ☐☐
HH16	Editor: Name and Code _____ ☐☐☐	HH17 Data Entry: Name and Code _____ ☐☐

Introduction/Consent

HELLO. MY NAME IS (.....) AND I AM WORKING WITH THE KENYA NATIONAL BUREAU OF STATISTICS (KNBS), NAIROBI. WE ARE DOING A SURVEY TO COLLECT INFORMATION ABOUT FAMILY HEALTH AND EDUCATION, FOCUSING ON CHILDREN AND WOMEN, WITH UNICEF SUPPORT. I WOULD LIKE TO TALK TO YOU ABOUT THIS. THE INTERVIEW WILL TAKE ABOUT 30 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND EVENTUALLY BE ANONYMOUS. DURING THIS TIME I WOULD LIKE TO SPEAK WITH THE HOUSEHOLD HEAD AND MOTHER OR OTHERS WHO TAKE CARE OF CHILDREN IN THE HOUSEHOLD.

THE INFORMATION YOU PROVIDE WILL HELP THE GOVERNMENT AND DEVELOPMENT AGENCIES IN PLANNING AND IMPLEMENTING DEVELOPMENTAL PROGRAMS.

MAY I START THE INTERVIEW NOW?

H.2: HH Member Listing — HL

List the head of the HH in line 01. List all HH members (HL2), their relationship to the HH head (HL3), and their sex (HL4)
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.

Then, ask questions starting with HL5 for each person at a time. Add a continuation sheet if there is more than 15 members. Tick here if continuation sheet used ☐

					Eligible for :			If age 18-59	For children age 0-17 year ask HL9 to HL12A					
HL1 LINE NO.	HL2 FIRST, PLEASE TELL ME THE NAME OF EACH PERSON WHO USUALLY LIVES IN THIS HOUSEHOLD, STARTING WITH THE HEAD OF THE HH?	HL3 WHAT IS THE RELATION-SHIP OF (name) TO THE HEAD OF THE HH?	HL4 IS (name) MALE OR FEMALE? 1 MALE 2 FEMALE	HL5 HOW OLD IS (name)? HOW OLD WAS (name) ON HIS/HER LAST BIRTHDAY? [record in completed years] 98=DK*	HL6 [Circle line no. if woman is age 15-49]	HL7 [For child age 5-14 years] WHO IS THE MOTHER OR PRIMARY CARETAKER OF (name)? [record line no. of mother/ caretaker]	HL8 [For child < 5] WHO IS THE MOTHER OR PRIMARY CARETAKER OF (name)? [record line no. of mother/ caretaker]	HL8A HAS (name) BEEN VERY SICK FOR AT LEAST 3 MONTHS DURING THE PAST 12 MONTHS?	HL9 IS (name's) NATURAL MOTHER ALIVE? 1-YES 2 - NO ⇨ HL11 8 - DK ⇨ HL11	HL10 [If alive:] DOES (name's) NATURAL MOTHER LIVE IN THIS HH? [Record line no. of mother or 00 for 'no']	HL10A [If '00' in HL10] 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 ⇨ NEXT LINE 8 - DK ⇨ NEXT LINE	HL12 [If alive:] DOES (name's) NATURAL FATHER LIVE IN THIS HH? [Record line no. of father or 00 for 'no']	HL12A [If '00' in HL12] HAS (name's) FATHER BEEN VERY SICK FOR AT LEAST 3 MONTHS IN THE PAST 12 MONTHS
Line	Name	Relation	M F	Age	15-49	Mother/CT	Mother/CT	Y N DK	Y N DK	Mother	Y N DK	Y N DK	Father	Y N DK
01		**0 1**	1 2	☐☐	01	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
02		☐☐	1 2	☐☐	02	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
03		☐☐	1 2	☐☐	03	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
04		☐☐	1 2	☐☐	04	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
05		☐☐	1 2	☐☐	05	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
06		☐☐	1 2	☐☐	06	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
07		☐☐	1 2	☐☐	07	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
08		☐☐	1 2	☐☐	08	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
09		☐☐	1 2	☐☐	09	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8

					Eligible for :			If age 18-59	For children age 0-17 year ask HL9 to HL12A					
					Women Interview	Child Labor	Under-5 Interview							
HL1 LINE NO.	HL2 FIRST, PLEASE TELL ME THE NAME OF EACH PERSON WHO USUALLY LIVES IN THIS HOUSEHOLD, STARTING WITH THE HEAD OF THE HH?	HL3 WHAT IS THE RELATION-SHIP OF (name) TO THE HEAD OF THE HH?	HL4 IS (name) MALE OR FEMALE? 1 MALE 2 FEMALE	HL5 HOW OLD IS (name)? HOW OLD WAS (name) ON HIS/HER LAST BIRTHDAY? [record in completed years] 98=DK*	HL6 [Circle line no. if woman is age 15-49]	HL7 [For child age 5-14 years] WHO IS THE MOTHER OR PRIMARY CARETAKER OF (name)? [record line no. of mother/ caretaker]	HL8 [For child < 5] WHO IS THE MOTHER OR PRIMARY CARETAKER OF (name)? [record line no. of mother/ caretaker]	HL8A HAS (name) BEEN VERY SICK FOR AT LEAST 3 MONTHS DURING THE PAST 12 MONTHS?	HL9 IS (name's) NATURAL MOTHER ALIVE? 1-YES 2 - NO ⇘ HL11 8 - DK ⇘ HL11	HL10 [If alive:] DOES (name's) NATURAL MOTHER LIVE IN THIS HH? [Record line no. of mother or 00 for 'no']	HL10A [If '00' in HL10] 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 ⇘ NEXT LINE 8 - DK ⇘ NEXT LINE	HL12 [If alive:] DOES (name's) NATURAL FATHER LIVE IN THIS HH? [Record line no. of father or 00 for 'no']	HL12A [If '00' in HL12] HAS (name's) FATHER BEEN VERY SICK FOR AT LEAST 3 MONTHS IN THE PAST 12 MONTHS
Line	Name	Relation	M F	Age	15-49	Mother/CT	Mother/CT	Y N DK	Y N DK	Mother	Y N DK	Y N DK	Father	Y N DK
10		☐☐	1 2	☐☐	10	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
11		☐☐	1 2	☐☐	11	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
12		☐☐	1 2	☐☐	12	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
13		☐☐	1 2	☐☐	13	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
14		☐☐	1 2	☐☐	14	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8
15		☐☐	1 2	☐☐	15	☐☐	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8	1 **2** **8**	☐☐	1 2 8

ARE THERE ANY OTHER PERSONS LIVING HERE - EVEN IF THEY ARE NOT MEMBERS OF YOUR FAMILY OR DO NOT HAVE PARENTS LIVING IN THIS HH? INCLUDING CHILDREN AT SCHOOL OR WORK? [If yes, insert child's name and complete the information. Fill in the totals below:]

*HL5: Ascertain age for all persons below 60 years; Code '00' for children below 1 year and '97' for 97+ years.	Women 15-49	Children 5-14	Children under 5	Very sick (1)	Mother dead (2)		Mother sick (1)	Father dead (2)		Father sick (1)
TOTALS	☐☐	☐☐	☐☐	☐☐	☐☐		☐☐	☐☐		☐☐

Codes for HL3 : Relationship to the Head of HH:

01 - Head
02 - Wife or Husband
03 - Son or Daughter
04 - Son-in-law or daughter-in-law
05 - Grand child
06 - Parent
07 - Parent-in-law
08 - Brother or Sister
09 - Brother-in-law or sister-in-law
10 - Uncle/Aunt
11 - Niece/Nephew by blood
12 - Niece/Nephew by marriage
13 - Other relative
14 - Adopted/Foster/Step child
15 - Not related
98 - Don't know

H.3: Education (For all age 5 and above) ED

For members age 5 and above							Members age 5-24 years only								
ED1 Line No.	ED1A Name	ED1B How old Is (name)? How old was (name) on his/her last birthday? [Record completed years]	ED2 HAS (name) EVER ATTENDED SCHOOL OR PRE-SCHOOL? 1 Yes **2 No ⇨ Next Line**		ED3 WHAT IS THE HIGHEST LEVEL OF SCHOOL (name) ATTENDED? WHAT IS THE HIGHEST CLASS (name) COMPLETED AT THIS LEVEL? If < 1 grade, enter 00		ED4 DURING THIS (2008) SCHOOL YEAR, DID (name) ATTEND SCHOOL OR PRE-SCHOOL ANY TIME? 1 Yes **2 No ⇨ED7**		ED5 SINCE LAST (DAY OF THE WEEK), HOW MANY DAYS DID (name) ATTEND SCHOOL? [Record no. of days]	ED6 DURING THIS SCHOOL YEAR 2008, WHICH LEVEL AND CLASS IS (name) ATTENDING?		ED7 DID (name) ATTEND SCHOOL OR PRESCHOOL AT ANY TIME DURING THE PREVIOUS SCHOOL YEAR 2007? 1 Yes **2 No ⇨ Next Line** **8 DK ⇨Next Line**			ED8 DURING THAT PREVIOUS SCHOOL YEAR 2007, WHICH LEVEL AND CLASS DID (name) ATTENDED?	
Line	Name	Age	Y	N	Level	Grade	Y	N	Days	Level	Grade	Y	N	DK	Level	Grade
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐
			1	**2**	☐	☐☐	1	**2**	☐	☐	☐☐	1	**2**	**8**	☐	☐☐

CODES FOR ED3, ED6 & ED8

0 - Pre-School
1 - Primary
2 - Post-Primary, Vocational
3 - Secondary, 'A' Level
4 - College – Middle Level
5 - University
6 - Non-standard curriculum
8 – Don't know

H.4: Water & Sanitation — WS

#	Question	Options	Skip
WS1	WHAT IS THE MAIN SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD?	**Piped water** **Piped into dwelling** ..... **11** **Piped into yard or plot** ..... **12** **Public tap/standpipe** ..... **13** **Pipe water from neighbour's house** ..... **14** **Tubewell/borehole with hand-pump** ..... **21** **Tubewell/borehole with powered pump** ..... **22** **Dug well** **Protected well** ..... **31** **Unprotected well** ..... **32** **Water from spring** **Protected spring** ..... **41** **Unprotected spring** ..... **42** **Rainwater collection** ..... **51** **Tanker-truck** ..... **61** **Cart with small tank/drum** ..... **71** **Surface water (river, stream, dam, lake, pond, canal, irrigation channel)** ..... **81** Bottled water ..... 91 Other (*specify*_____) 96	11⇨WS5 12⇨WS5 13-81 ⇨WS3 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** **Piped into yard or plot** ..... **12** Public tap/standpipe ..... 13 Pipe water from neighbour's house ..... 14 Tubewell/borehole with hand-pump ..... 21 Tubewell/borehole with powered pump ..... 22 Dug well Protected well ..... 31 Unprotected well ..... 32 Water from spring Protected spring ..... 41 Unprotected spring ..... 42 Rainwater collection ..... 51 Tanker-truck ..... 61 Cart with small tank/drum ..... 71 Surface water (river, stream, dam, lake, pond, canal, irrigation channel) ..... 81 Other (*specify*_____) 96	11⇨WS5 12⇨WS5
WS3	HOW LONG DOES IT TAKE TO GO THERE, GET WATER AND COME BACK? [Code '900' for over 15+ hours]	No. of minutes ..... ☐☐☐ **Water on premises** ..... **995** Don't know 998	995⇨WS4A
WS4	WHO USUALLY GOES TO THIS SOURCE TO FETCH THE WATER FOR YOUR HH? **Probe:** IS THIS PERSON UNDER AGE 15? WHAT SEX?	Adult woman (15+ years) ..... A Adult man (15+ years) ..... B Female child (under 15) ..... C Male child (under 15) ..... D Don't know ..... Z	

H.4: Water & Sanitation — WS

#	Question	Options	Skip
WS4A	WHAT IS THE MAIN TYPE OF CONTAINER USED FOR STORING DRINKING WATER IN THIS HOUSEHOLD?	Jerry can/Narrow neck container with lid ..... 1 Jerry can/Narrow neck container without lid ..... 2 Open container with lid ..... 3 Open container without lid ..... 4 Others (specify_____) 6	
WS4B	DURING THE LAST 12 MONTHS, DOES THIS HOUSEHOLD RECEIVE ANY CANS/CONTAINER THROUGH FREE DISTRIBUTION?	Yes ..... 1 No ..... 2 Don't know 8	
WS5	DO YOU TREAT YOUR WATER IN ANY WAY TO MAKE IT SAFER TO DRINK?	Yes ..... 1 **No ..... 2** **Don't know 8**	 2⇨WS7 8⇨WS7
WS6	WHAT DO YOU USUALLY DO TO THE WATER TO MAKE IT SAFER TO DRINK? ANYTHING ELSE? *[Record all items mentioned]*	Boil ..... A Add bleach/chlorine ..... B Strain it through a cloth ..... C Use water filter (ceramic, sand, composite, etc.) ..... D Solar dis-infection ..... E Let it stand and settle ..... F Other (*specify*_____) ..... X Don't know ..... Z	
WS7	WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? **If "flush" or "pour flush":** WHERE DOES IT FLUSH TO? **[Ask for permission & observe the facility]**	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 to flush ..... 15 Pit latrine Ventilated Improved Pit latrine ..... 21 Pit latrine with slab ..... 22 Pit latrine without slab/open pit ..... 23 Pit latrine with slab & cover ..... 24 Pit latrine with slab & foot rest ..... 25 Pit latrine with slab, cover & foot rest ..... 26 Composting toilet ..... 31 Bucket ..... 41 Hanging toilet/hanging latrine ..... 51 **No facilities or bush or field ..... 95** Other (*specify*)_____ 96	 95⇨ WS11
WS8	DO YOU SHARE THIS FACILITY WITH OTHER HHS?	Yes ..... 1 **No 2**	 2⇨ WS10
WS9	HOW MANY HHS IN TOTAL USE THIS TOILET FACILITY?	No. of HHs (if less than 10) ..... ☐ Ten or more HHs ..... 10 DK 98	

H.4: Water & Sanitation			WS
#	Question	Options	Skip
WS10	DO YOU HAVE A HAND-WASHING FACILITY OUTSIDE THE TOILET? **[Ask for permission & observe the facility]**	Seen the facility filled with water ..... 1 Seen the facility but no water ..... 2 Not seen ..... 3 No facility 4	
WS11	HOW DO MEMBERS OF YOUR HOUSEHOLD MAINLY GET RID OF THE GARBAGE (RUBBISH)?	Dumped in street/empty plot ..... 01 Garbage burnt ..... 02 Garbage buried ..... 03 Thrown in pit ..... 04 Composted ..... 05 Community disposal point ..... 06 Regular collection by government ..... 07 Infrequent collection by government ..... 08 Pays for private collection ..... 09 Other (specify_____) 96	

H.5: Household Characteristics — HC

#	Question	Options	Skip
HC1.A	WHAT IS THE RELIGION OF THE HEAD OF THIS HH?	Catholic ..... 1 Other Christian ..... 2 Muslim ..... 3 No Religion ..... 8 Others (specify) 9	
HC1.B	WHAT IS THE MOTHER TONGUE/NATIVE LANGUAGE OF THE HEAD OF THIS HOUSEHOLD?	Kiswahili ..... 01 Embu ..... 02 Kalenjin ..... 03 Kamba ..... 04 Kikuyu ..... 05 Kisii ..... 06 Luhya ..... 07 Luo ..... 08 Maasai ..... 09 Meru ..... 10 Mijikenda ..... 11 Somali ..... 12 Other (specify_____) 96	
HC2	HOW MANY ROOMS IN THIS HH ARE USED FOR SLEEPING?	No. of rooms ..... ☐☐	
HC3	**Observe and record:** Main material of the dwelling **floor**:	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 *(specify*_____) .. 96	
HC4	**Observe and record:** Main material of the **roof**:	Natural roofing No Roof ..... 11 Thatch/palm leaf ..... 12 Sod ..... 13 Rudimentary Roofing Rustic mat ..... 21 Palm/bamboo ..... 22 Wood planks ..... 23 Finished roofing Metal ..... 31 Wood ..... 32 Calamine/cement fiber ..... 33 Ceramic tiles ..... 34 Cement ..... 35 Roofing shingles ..... 36 Other *(specify*_____) 96	

H.5: Household Characteristics — HC

#	Question	Options	Skip
HC5	**Observe and record:** Main material of the **walls**:	Natural walls No walls ... 11 Cane/palm/trunks ... 12 Mud/dirt ... 13 Rudimentary walls Bamboo with mud ... 21 Stone with mud ... 22 Uncovered adobe ... 23 Plywood ... 24 Carton ... 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 (*specify*_____) ... 96	
HC6	WHAT TYPE OF FUEL DOES YOUR HH MAINLY USE FOR COOKING?	**Electricity ... 01** **Liquid Propane Gas (LPG) ... 02** **Natural gas ... 03** **Biogas ... 04** Kerosene ... 05 Coal / Lignite ... 06 Charcoal ... 07 Wood ... 08 Straw/shrubs/grass ... 09 Animal dung ... 10 Agricultural crop residue ... 11 Other (*specify*_____) ... 96	01 ⇨ HC8 02 ⇨ HC8 03 ⇨ HC8 04 ⇨ HC8
HC7	IN THIS HH, IS FOOD COOKED ON AN OPEN FIRE, AN OPEN STOVE OR A CLOSED STOVE? **Probe for type**	Open fire ... 1 Open stove ... 2 **Closed stove ... 3** **Other (*specify*_____) ... 6**	3 ⇨ HC8 6 ⇨ HC8
HC7A	DOES THE FIRE/STOVE HAVE A CHIMNEY OR A HOOD?	Yes ... 1 No ... 2	
HC8	IS THE COOKING USUALLY DONE IN THE HOUSE, IN A SEPARATE BUILDING OR OUTDOORS?	In the house ... 1 In a separate building ... 2 Outdoors ... 3 Other (*specify*_____) ... 6	

H.5: Household Characteristics				HC
#	Question	Options		Skip
HC9	DOES YOUR HOUSEHOLD HAVE	Yes	No	
	A. ELECTRICITY?	1	2	
	B. RADIO?	1	2	
	C. TELEVISION?	1	2	
	D. MOBILE TELEPHONE?	1	2	
	E. TELEPHONE (LAND LINE)?	1	2	
	F. REFRIGERATOR?	1	2	
	G. COMPUTER?	1	2	
	H. INTERNET CONNECTION?	1	2	
HC10	DOES ANY MEMBER OF YOUR HH OWN:			
	A. WATCH?	1	2	
	B. BICYCLE?	1	2	
	C. MOTORCYCLE OR SCOOTER?	1	2	
	D. AN ANIMAL DRAWN CART?	1	2	
	E. A CAR OR TRUCK?	1	2	
	F. A BOAT WITH A MOTOR?	1	2	
HC11	DOES ANY MEMBER OF THIS HOUSEHOLD OWN ANY LAND THAT CAN BE USED FOR AGRICULTURE?	Yes ..... 1 No 2		
HC12	DOES THIS HH OWN ANY LIVESTOCK, HERDS, OR FARM ANIMALS?	Yes ..... 1 No 2		

H.6: Use of Mosquito Net — TN

#	Question	Options		Skip
TN1	DOES YOUR HOUSEHOLD HAVE ANY MOSQUITO NETS THAT CAN BE USED WHILE SLEEPING?	Yes ..... 1 No 2		 2⇨(H.7)
TN2	HOW MANY MOSQUITO NETS DOES YOUR HH HAVE? [If 7 or more nets, record '7']	Number of nets ..... ☐		
	Ask the respondent to show you the nets in the household, if more than 2, tell them to show the two recently obtained ones.	**Most Recent [Net #1]**	**Last But One [Net #2]**	
TN3	MAY I HAVE A LOOK AT THE TWO NET(S) YOU HAVE OBTAINED LAST, TO ESTABLISH THE BRAND?	Observed ..... 1 Not observed 2	Observed ..... 1 Not observed 2	
TN4	HOW MANY MONTHS AGO DID YOUR HOUSEHOLD ACQUIRE THE LAST/LAST BUT ONE MOSQUITO NET? *[If answer is "12 months" or "1 year", probe to determine if net was obtained exactly 12 months ago or earlier or later.]*	No of Months ..... ☐☐ More than 3 years ..... 95 Don't know/not sure 98	No of Months ..... ☐☐ More than 3 years ..... 95 Don't know/not sure 98	
TN5	***Observe the brand/type** of mosquito net.* *If not observed ask:* WHAT BRAND IS THE NET?	Long lasting nets **Permanet ..... 1 ⇨ TN8** **Olyset ..... 2 ⇨ TN8** Other nets Supanet ..... 3 Other(sp_____) ..... 8 Don't know 9	Long lasting nets **Permanet ..... 1 ⇨ TN8** **Olyset ..... 2 ⇨ TN8** Other nets Supanet ..... 3 Other(sp_____) ..... 8 Don't know 9	
TN6	SINCE YOU GOT THIS MOSQUITO NET, WAS IT EVER SOAKED OR DIPPED IN A LIQUID TO KILL OR REPEL MOSQUITOS?	Yes ..... 1 **No ..... 2 ⇨ TN8** **Don't know ..... 9 ⇨ TN8**	Yes ..... 1 **No ..... 2 ⇨ TN8** **Don't know ..... 9 ⇨ TN8**	
TN7	HOW MANY MONTHS AGO WAS THIS NET LAST DIPPED OR SOAKED? *[If answer is "12 months" or "1 year", probe to determine if net was dipped or soaked exactly 12 months ago or earlier or later.]*	No of Months ..... ☐☐ More than 2 years ..... 95 Don't know/not sure 98	No of Months ..... ☐☐ More than 2 years ..... 95 Don't know/not sure 98	
TN8	DID ANYONE SLEPT UNDER THIS MOSQUITO NET LAST NIGHT? **If 'yes',** WHO SLEPT UNDER THIS NET LAST NIGHT? ANY ONE ELSE? *[Record the person's line number from the household schedule]* *[If more than 4 persons slept under a net, record the details of children and women first]* *[If guest, code '77' and none, code '00']*	**Name** — **Line No** 1 ..... ☐☐ 2 ..... ☐☐ 3 ..... ☐☐ 4 ..... ☐☐	**Name** — **Line No** 1 ..... ☐☐ 2 ..... ☐☐ 3 ..... ☐☐ 4 ..... ☐☐	

H.7: **Orphan-hood/Vulnerability**			**OV**
#	**Question**	**Options**	**SKIP**
OV1	**Check HL5 (in section H.2): Any children 0-17?** ☐ **Yes ⇨ Continue to OV2** ☐ **No ⇨ Next Section [H.10]**		
OV2	I WOULD LIKE YOU TO THINK BACK OVER THE PAST 12 MONTHS. HAS ANY USUAL MEMBER OF YOUR HH DIED IN THE LAST 12 MONTHS?	Yes ..... 1 **No 2**	2⇨OV5
OV3	(OF THOSE WHO DIED IN THE PAST 12 MONTHS) WERE ANY OF THESE PEOPLE BETWEEN THE AGES OF 18 AND 59 YEARS?	Yes ..... 1 **No 2**	2⇨OV5
OV4	(OF THOSE WHO DIED IN THE PAST 12 MONTHS AND WERE BETWEEN THE AGES OF 18 AND 59 YRS.) WERE ANY OF THESE PEOPLE SERIOUSLY ILL FOR 3 OF THE 12 MONTHS BEFORE HE/SHE DIED?	**Yes ..... 1** No 2	1⇨OV8
OV5	**Check the following in the HH Listing** **1. Check totals for HL9 and HL11** ☐ **At least one mother or father dead ⇨ OV8** ☐ **No mother or father dead** **2. Check total for HL8A** ☐ **At least one adult aged 18-59 very sick 3 of last 12 months ⇨ OV8** ☐ **No adult aged 18-59 very sick 3 of last 12 months** **3. Check totals for HL10A and HL12A** ☐ **At least one mother or father ill 3 of last 12 months ⇨ OV8** ☐ **No mother or father ill 3 of last 12 months ⇨ Go to Section H.8**		

H.7: Orphan-hood — OV

		1ST CHILD	2ND CHILD	3RD CHILD	4TH CHILD
OV8	List all children aged 0-17 Years. Record names, line numbers and ages of all children, beginning with the first child and continue in order in which listed in the HH Listing section. Use a continuation sheet if there are more than 4 children aged 0-17 years. Ask all questions for one child before moving to the next child.				
	Name (from HL2)	.....	.....	.....	.....
	Line number (from HL1)	___ ___	___ ___	___ ___	___ ___
	Age (from HL5)	___ ___	___ ___	___ ___	___ ___
OV9	I WOULD LIKE TO ASK YOU ABOUT ANY FORMAL, ORGANIZED HELP OR SUPPORT THAT YOUR HH 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.				
OV10	NOW I WOULD LIKE TO ASK YOU ABOUT THE SUPPORT YOUR HH RECEIVED FOR *(name)*. IN THE LAST 12 MONTHS, HAS YOUR HH RECEIVED ANY MEDICAL SUPPORT FOR *(name)*, SUCH AS MEDICAL CARE, SUPPLIES OR MEDICINE?	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8
OV11	IN THE LAST 12 MONTHS, HAS YOUR HH RECEIVED ANY EMOTIONAL OR PSYCHOLOGICAL SUPPORT FOR *(name)*, SUCH AS COMPANIONSHIP, COUNSELING FROM A TRAINED COUNSELOR, OR SPIRITUAL SUPPORT, WHICH YOU RECEIVED AT HOME?	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV13**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV13**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV13**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV13**
OV12	DID YOUR HH RECEIVE ANY OF THIS SUPPORT FOR *(name)*, IN THE PAST 3 MONTHS?	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8
OV13	IN THE LAST 12 MONTHS, HAS YOUR HH RECEIVED ANY MATERIAL SUPPORT FOR *(name)*, SUCH AS CLOTHING, FOOD OR FINANCIAL SUPPORT?	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV15**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV15**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV15**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV15**
OV14	DID YOUR HH RECEIVE ANY OF THIS SUPPORT FOR *(name)*, IN THE PAST 3 MONTHS?	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8
OV15	IN THE LAST 12 MONTHS, HAS YOUR HH RECEIVED ANY SOCIAL SUPPORT FOR *(name)*, SUCH AS HELP IN HH WORK, TRAINING FOR A CAREGIVER, OR LEGAL SERVICES?	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV17**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV17**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV17**	Yes ..... 1 **No ..... 2** **DK ..... 8** **2 or 8 ⇨ OV17**
OV16	DID YOUR HH RECEIVE ANY OF THIS SUPPORT FOR *(name)*, IN THE PAST 3 MONTHS?	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8
OV17	**Check OV8: Age of the child 5-17 Yr?**	☐ **Yes ⇨ OV18** ☐ **No ⇨ Next child**	☐ **Yes ⇨ OV18** ☐ **No ⇨ Next child**	☐ **Yes ⇨ OV18** ☐ **No ⇨ Next child**	☐ **Yes ⇨ OV18** ☐ **No ⇨ Next child**
OV18	IN THE LAST 12 MONTHS, HAS YOUR HH RECEIVED ANY SUPPORT FOR *(name's)* SCHOOLING, SUCH AS ALLOWANCE, FREE ADMISSION, BOOKS OR SUPPLIES?	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8	Yes ..... 1 No ..... 2 DK 8

H.8: Child Labour (for 5-14 years of age only) CL

To be administered to mother/caretaker of each child in the HH age 5 through 14 years.

NOW, I WOULD LIKE TO ASK ABOUT ANY WORK CHILDREN IN THIS HH MAY DO.

CL1 Line no.	CL2 Name	CL3 DURING THE PAST WEEK, DID *(name)* DO ANY KIND OF WORK FOR SOMEONE, WHO IS NOT A MEMBER OF THIS HH? **If Yes:** FOR PAY IN CASH OR KIND? 1=Yes, for pay (cash or kind) 2=Yes, unpaid **3=No ⇨ CL5**			CL4 SINCE LAST *(day of the week)*, ABOUT HOW MANY HOURS DID *(name)* DO THIS WORK FOR SOMEONE WHO IS NOT A MEMBER OF THIS HH? *[If more than one job, include all hours at all jobs]* **Record & skip to ⇨ CL6**	CL5 AT ANY TIME DURING THE PAST YEAR, DID *(name)* DO ANY KIND OF WORK FOR SOMEONE WHO IS NOT A MEMBER OF THIS HH? **If Yes:** FOR PAY IN CASH OR KIND? 1=Yes, for pay (cash or kind) 2=Yes, unpaid 3=No			CL6 DURING THE PAST WEEK, DID *(name)* HELP WITH HH CHORES SUCH AS SHOPPING, COLLECTING FIREWOOD, CLEANING, FETCHING WATER OR CARING FOR CHILDREN? 1= Yes **2= No ⇨ CL8**		CL7 SINCE LAST *(day of the week)*, ABOUT HOW MANY HOURS DID *(name)* SPEND DOING THESE CHORES?	CL8 DURING THE PAST WEEK, DID *(name)* DO ANY OTHER FAMILY WORK (ON THE FARM OR IN A BUSINESS OR SELLING GOODS IN THE STREET?) 1=Yes **2=No ⇨Next Line**		CL9 SINCE LAST *(day of the week)*, ABOUT HOW MANY HOURS DID *(name)* DO THIS WORK?
Line No.	Name	Yes		No	No. of hours	Yes		No	Yes	No	No. of hours	Yes	No	No. of hours
		Paid	Unpaid			Paid	Unpaid							
		1	2	**3**	☐☐	1	2	3	1	**2**	☐☐	1	**2**	☐☐
		1	2	**3**	☐☐	1	2	3	1	**2**	☐☐	1	**2**	☐☐
		1	2	**3**	☐☐	1	2	3	1	**2**	☐☐	1	**2**	☐☐
		1	2	**3**	☐☐	1	2	3	1	**2**	☐☐	1	**2**	☐☐
		1	2	**3**	☐☐	1	2	3	1	**2**	☐☐	1	**2**	☐☐
		1	2	**3**	☐☐	1	2	3	1	**2**	☐☐	1	**2**	☐☐
		1	2	**3**	☐☐	1	2	3	1	**2**	☐☐	1	**2**	☐☐
		1	2	**3**	☐☐	1	2	3	1	**2**	☐☐	1	**2**	☐☐

H.9: Child Discipline CD

Review the household listing and list all children aged 2-14 years below in order according to their line number (HL1). Do not include other HH members outside of the age range 2-14 years. Record the line number, [name, sex, age, and the line number of the mother or caretaker] for each child. Then record the total number of children aged 2-14 in the box provided (CD7). {write the name, sex, age and the mother/caretaker line no. only for the eligible child}

CD1 Rank	CD2 Line No. from HL1	CD3 Name from HL2	CD4 Sex from HL4 M	CD4 F	CD5 Age from HL5	CD6 Line no. of mother/ caretaker from HL7/HL8	CD7
01	__ __		1	2	__ __	__ __	
02	__ __		1	2	__ __	__ __	
03	__ __		1	2	__ __	__ __	
04	__ __		1	2	__ __	__ __	
05	__ __		1	2	__ __	__ __	
06	__ __		1	2	__ __	__ __	
07	__ __		1	2	__ __	__ __	
08	__ __		1	2	__ __	__ __	
	Total children aged 2-14 years in the HH						__ __

If there is only one child age 2-14 years in the household, then go to CD11 to administer child discipline questions.

Random Selection Of Child

Use the grid below 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. Then, find the mother or primary caretaker of that child, and ask the questions, beginning with CD12.

CD8	Number of Eligible Children in the Household							
Last digit of HH. No.	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

CD9	Record the rank number of the child.....	__ __

H.9: Child Discipline CD

Review the household listing and list all children aged 2-14 years below in order according to their line number (HL1). Do not include other HH members outside of the age range 2-14 years. Record the line number, [name, sex, age, and the line number of the mother or caretaker] for each child. Then record the total number of children aged 2-14 in the box provided (CD7). (write the name, sex, age and the mother/caretaker line no. only for the eligible child)

CD1 Rank	CD2 Line No. from HL1	CD3 Name from HL2	CD4 Sex from HL4 M F	CD5 Age from HL5	CD6 Line no. of mother/ caretaker from HL7/HL8	CD7
01	__ __		1 2	__ __	__ __	
02	__ __		1 2	__ __	__ __	
03	__ __		1 2	__ __	__ __	
04	__ __		1 2	__ __	__ __	
05	__ __		1 2	__ __	__ __	
06	__ __		1 2	__ __	__ __	
07	__ __		1 2	__ __	__ __	
08	__ __		1 2	__ __	__ __	
	Total children aged 2-14 years in the HH					__ __

If there is only one child age 2-14 years in the household, then go to CD11 to administer child discipline questions.

Random Selection Of Child

Use the grid below 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. Then, find the mother or primary caretaker of that child, and ask the questions, beginning with CD12.

CD8	Number of Eligible Children in the Household							
Last digit of HH. No.	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

CD9	Record the rank number of the child.....	__ __

H.9: Child Discipline — CD

Identify eligible child aged 2-14 in the household using the tables on the preceding page.
Request and interview the mother or primary caretaker of the selected child (identified by the line number in CD6).

#	Question	Options	Skip
CD11	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 No.: ☐☐	
CD12	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.		
CD12a	TOOK AWAY PRIVILEGES, FORBADE SOMETHING *(name)* LIKED OR DID NOT ALLOW HIM/HER TO LEAVE HOUSE).	Yes 1 No 2	
CD12b	EXPLAINED WHY SOMETHING (THE BEHAVIOR) WAS WRONG.	Yes 1 No 2	
CD12c	SHOOK HIM/HER.	Yes 1 No 2	
CD12d	SHOUTED, YELLED AT OR SCREAMED AT HIM/HER.	Yes 1 No 2	
CD12e	GAVE HIM/HER SOMETHING ELSE TO DO.	Yes 1 No 2	
CD12f	SPANKED, HIT OR SLAPPED HIM/HER ON THE BOTTOM WITH BARE HAND.	Yes 1 No 2	
CD12g	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	
CD12h	CALLED HIM/HER DUMB, LAZY, OR ANOTHER NAME LIKE THAT.	Yes 1 No 2	
CD12i	HIT OR SLAPPED HIM/HER ON THE FACE, HEAD OR EARS.	Yes 1 No 2	
CD12j	HIT OR SLAPPED HIM/HER ON THE HAND, ARM, OR LEG.	Yes 1 No 2	
CD12k	BEAT HIM/HER UP WITH AN IMPLEMENT (HIT OVER AND OVER AS HARD AS ONE COULD).	Yes 1 No 2	
CD12l	PINCH HIM/HER.	Yes 1 No 2	
CD13	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	

H.10: Food Relief			FR
#	Question	Options	Skip
FR1	ARE YOU REGISTERED AS A BENEFICIARY OF FOOD DISTRIBUTION PROGRAM?	Yes ..... 1 **No 2**	2⇨ FR6
FR2	HOW LONG AGO WAS THE LAST RATION?	No. of weeks ..... 1 ☐☐ No. of months ..... 2 ☐☐	
FR3	DOES THE FOOD AID MEET ALL THE FOOD NEEDS OF THE HOUSEHOLD?	Yes ..... 1 No ..... 2 Don't Know 8	
FR4	DO MEMBERS OF THE HOUSEHOLD SELL FOOD TO OBTAIN MONEY TO MEET OTHER NEEDS?	Yes ..... 1 **No ..... 2** **Don't Know 8**	2⇨ FR6 8⇨ FR6
FR5	DOES THE PRICE THE HOUSEHOLD RECEIVE FOR THIS FOOD EQUAL MARKET RATES?	Much Less ..... 1 Roughly the Same ..... 2 Much More ..... 3 Don't Know 8	
FR6	IS ANY OF YOUR CHILDREN REGISTERED IN THE CHILD FEEDING PROGRAM?	Yes ..... 1 No 2	
FR7	HAS THE HOUSEHOLD BEEN DISPLACED ANY TIME DURING THE PAST 12 MONTHS?	Yes ..... 1 No 2	

H.11: Salt Iodization — SI

#	Question	Options	Skip
SL1	WE WOULD LIKE TO CHECK WHETHER THE SALT USED IN YOUR HH IS IODIZED. MAY I SEE A SAMPLE OF THE SALT USED TO COOK THE MAIN MEAL EATEN BY MEMBERS OF YOUR HH LAST NIGHT? [Once you have examined the salt, circle number that corresponds to test outcome]	Not iodized ..... 1 **Less than 15 ppm ..... 2** **15 ppm and more ..... 3** **No salt at home ..... 6** **Salt not tested 7**	 2⇨ SL2 3⇨ SL2 3⇨ SL2 3⇨ SL2
SL1A	TYPE OF SALT	Crystal ..... 1 Powder ..... 2 Other (Specify_____) 9	
SL2	**Check HL6: Does any eligible woman age 15-49 in the HH? You should have a Form with the Woman ID filled in for each eligible woman.** ☐ **Yes ⇨ Go to WOMAN 15-49 FORM to administer the questions to the first eligible woman.** ☐ **No ⇨ Continue to SL3.**		
SL3	**Check HL8: Does any child under the age of 5 in the HH? You should have a Form with the Under-Five ID filled in for each eligible child.** ☐ **Yes ⇨ Go to CHILD < 5 FORM to administer the Form to mother or caretaker of the first eligible child.** ☐ **No ⇨ End the interview by thanking the respondent for his/her cooperation.** **Gather together all Forms for this household and tally the number of Forms completed on the cover page.**		

Interviewer's Remarks:

Supervisor's Remarks:

MICS

unicef

FORM-B: WOMAN AGE 15-49 YEARS

W.1: Identification Panel		ENGLISH
This Form is to be administered to all women age 15-49 years (See Column HL6 in the HH Form). Fill in one Form for each eligible woman.		
WM-A	Province Name and Code:	☐
WM-B	District Name and Code:	☐☐
WM1	Cluster Name and Number	☐☐
WM-C	Stratum code: HH with child < 3 = 1 Other HHs = 2	☐
WM2	HH No.	☐☐☐
WM3	Name of the woman (from FORM-A: **HL2**)	_____
WM4	Line no. of woman (from FORM-A: **HL1**)	☐☐
WM5	Interviewer's Name & Code	☐☐☐
WM6	Day/Month/Year of interview	☐☐/☐☐/☐☐☐☐
WM7	Result of interview for woman	Completed ..... 1 Not at home ..... 2 Refused ..... 3 Partly completed ..... 4 Incapacitated ..... 5 Other *(Specify* _____ *)* 6
	Remarks if any:	

Read, if the respondent has not responded to any other Forms

Introduction/Consent

HELLO. MY NAME IS (.....) AND I AM WORKING WITH THE KENYA NATIONAL BUREAU OF STATISTICS (KNBS), NAIROBI. WE ARE DOING A SURVEY TO COLLECT INFORMATION ABOUT FAMILY HEALTH AND EDUCATION, FOCUSING ON CHILDREN AND WOMEN, WITH UNICEF SUPPORT. I WOULD LIKE TO TALK TO YOU ABOUT THIS. THE INTERVIEW WILL TAKE ABOUT 30 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND EVENTUALLY BE ANONYMOUS.

THE INFORMATION YOU PROVIDE WILL HELP THE GOVERNMENT AND DEVELOPMENT AGENCIES IN PLANNING AND IMPLEMENTING DEVELOPMENTAL PROGRAMS.

MAY I START THE INTERVIEW NOW?

Reading text for Question WM14

ENGLISH

1. The child is reading a book.
2. The rains came late this year.
3. Parents must care for their children.
4. Farming is hard work.

KISWAHILI

1. Mtoto anasoma kitabu.
2. Mvua ilichelewa mwaka huu.
3. Nilazima wazazi watunze watoto wao.
4. Ukilima ni kazi ngumu.

W.2: Woman Information			WI
#	Question	Options	Skip
WM8	IN WHAT MONTH AND YEAR WERE YOU BORN? [Date of birth]	Month ☐☐ DK Month 98 Year ☐☐☐☐ DK Year 9998	
WM9	HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	Age in completed years ☐☐	
WM10	HAVE YOU EVER ATTENDED SCHOOL OR PRE-SCHOOL?	Yes 1 **No 2**	2⇨WM14
WM11	WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Pre-School 0 Primary 1 Post-Primary, Vocational 2 Secondary, 'A' Level 3 College – Middle Level 4 University 5 Non-standard curriculum 6	
WM12	WHAT IS THE HIGHEST GRADE YOU COMPLETED AT THAT LEVEL?	Grade ☐☐	
WM13	**Check WM11: Level of schooling** ☐ **Secondary/College/University (codes 3 or 4 or 5)** ⇨ **WM15** ☐ **Other** ⇨ **Continue to WM14**		
WM14	NOW I WOULD LIKE YOU TO READ THIS SENTENCE TO ME. [Show language test card to respondent]	Cannot read at all 1 Able to read only parts of sentence 2 Able to read whole sentence 3 No sentence in required language 4 (specify language_____) Blind/mute, visually/speech impaired 5	
WM15	HOW OFTEN DO YOU LISTEN TO RADIO?	Almost everyday 1 At least once a week 2 At least once a month 3 Rarely/Never 4	
WM16	HOW OFTEN DO YOU WATCH TELEVISION?	Almost everyday 1 At least once a week 2 At least once a month 3 Rarely/Never 4	
WM17	HOW OFTEN DO YOU READ NEWSPAPERS?	Almost everyday 1 At least once a week 2 At least once a month 3 Rarely/Never 4	

W.3: Child Mortality			CM
#	Question	Options	Skip
To be administered to all women age 15-49. All questions refer to LIVE births only.			
CM1	NOW I WOULD LIKE TO ASK ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE. HAVE YOU EVER GIVEN BIRTH? ***If "No" probe by asking:*** I MEAN, TO A CHILD WHO EVER BREATHED OR CRIED OR SHOWED OTHER SIGNS OF LIFE – EVEN IF HE OR SHE LIVED ONLY A FEW MINUTES OR HOURS?	Yes ..... 1 **No 2**	2⇨ (W.6)
CM3	DO YOU HAVE ANY SONS OR DAUGHTERS TO WHOM YOU HAVE GIVEN BIRTH WHO ARE NOW LIVING WITH YOU?	Yes ..... 1 **No 2**	2⇨ CM5
CM4	HOW MANY SONS LIVE WITH YOU? HOW MANY DAUGHTERS LIVE WITH YOU?	A. Sons at home ☐☐ B. Daughters at home ☐☐	
CM5	DO YOU HAVE ANY SONS OR DAUGHTERS TO WHOM YOU HAVE GIVEN BIRTH WHO ARE ALIVE BUT DO NOT LIVE WITH YOU?	Yes ..... 1 **No 2**	2⇨ CM7
CM6	HOW MANY SONS ARE ALIVE BUT DO NOT LIVE WITH YOU? HOW MANY DAUGHTERS ARE ALIVE BUT DO NOT LIVE WITH YOU?	A. Sons elsewhere ☐☐ B. Daughters elsewhere ☐☐	
CM7	HAVE YOU EVER GIVEN BIRTH TO A BOY OR GIRL WHO WAS BORN ALIVE BUT LATER DIED? **If "No" probe by asking:** ANY BABY WHO EVER BREATHED OR CRIED OR SHOWED OTHER SIGNS OF LIFE BUT DID NOT SURVIVE – EVEN IF HE OR SHE LIVED ONLY A FEW MINUTES OR HOURS?	Yes ..... 1 **No 2**	2⇨ CM9
CM8	HOW MANY BOYS HAVE DIED? HOW MANY GIRLS HAVE DIED?	A. Boys dead ☐☐ B. Girls dead ☐☐	
CM9	**Sum answers to** CM4, CM6, & CM8.	Sum ☐☐	
CM10	**JUST TO MAKE SURE THAT I HAVE THIS RIGHT, YOU HAVE HAD IN TOTAL _____ BIRTHS DURING YOUR LIFE. IS THIS CORRECT?** ☐ **Yes** ⇨ **Continue to W.3a (next page).** ☐ **No** ⇨ **Check responses and make corrections before proceeding to W.3a**		

W.3a: Birth History — BH

NOW I WOULD LIKE TO RECORD THE NAMES OF ALL YOUR BIRTHS, WHETHER STILL ALIVE OR NOT, STARTING WITH THE FIRST ONE YOU HAD.
Record names of all the births in BH1. Record twins and triplets on separate lines.

BH1		BH2	BH3	BH4	BH5	BH6	BH7	BH8	BH9		BH10
#	WHAT NAME WAS GIVEN TO YOUR (FIRST/ NEXT) BABY?	WERE ANY OF THESE BIRTHS TWINS?	IS *(name)* A BOY OR GIRL?	IN WHAT MONTH AND YEAR WAS *(name)* BORN? **Probe:** WHAT IS HIS/HER BIRTHDAY?	IS *(name)* STILL ALIVE?	HOW OLD WAS *(name)* AT HIS/HER LAST BIRTHDAY? [Record age in completed years]	IS *(name)* LIVING WITH YOU?	Record HH line number of child [Record '00' if child not listed in HH]	*If dead:* HOW OLD WAS *(name)* WHEN HE/SHE DIED? HOW MANY MONTHS OLD WAS *(name)*? [Record days if less than 1 month; months if less than 2 years; or years]		WERE THERE ANY OTHER LIVE BIRTHS BETWEEN *(name of previous birth)* AND *(name)*?
01		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ next line**	Days ..... 1 Month ..... 2 Year 3	☐☐	
02		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days ..... 1 Month ..... 2 Year 3	☐☐	Yes ..... 1 [Add] No ..... 2 [Next]
03		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days ..... 1 Month ..... 2 Year 3	☐☐	Yes ..... 1 [Add] No ..... 2 [Next]
04		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days ..... 1 Month ..... 2 Year 3	☐☐	Yes ..... 1 [Add] No ..... 2 [Next]
05		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days ..... 1 Month ..... 2 Year 3	☐☐	Yes ..... 1 [Add] No ..... 2 [Next]
06		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days ..... 1 Month ..... 2 Year 3	☐☐	Yes ..... 1 [Add] No ..... 2 [Next]
07		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days ..... 1 Month ..... 2 Year 3	☐☐	Yes ..... 1 [Add] No ..... 2 [Next]
08		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days ..... 1 Month ..... 2 Year 3	☐☐	Yes ..... 1 [Add] No ..... 2 [Next]

W.3a: Birth History — BH

NOW I WOULD LIKE TO RECORD THE NAMES OF ALL YOUR BIRTHS, WHETHER STILL ALIVE OR NOT, STARTING WITH THE FIRST ONE YOU HAD.
Record names of all the births in BH1. Record twins and triplets on separate lines.

	BH1	BH2	BH3	BH4	BH5	BH6	BH7	BH8	BH9		BH10
#	WHAT NAME WAS GIVEN TO YOUR (FIRST/ NEXT) BABY?	WERE ANY OF THESE BIRTHS TWINS?	IS *(name)* A BOY OR GIRL?	IN WHAT MONTH AND YEAR WAS *(name)* BORN? **Probe:** WHAT IS HIS/HER BIRTHDAY?	IS *(name)* STILL ALIVE?	HOW OLD WAS *(name)* AT HIS/HER LAST BIRTHDAY? [Record age in completed years]	IS *(name)* LIVING WITH YOU?	Record HH line number of child [Record '00' if child not listed in HH]	*If dead:* HOW OLD WAS *(name)* WHEN HE/SHE DIED? HOW MANY MONTHS OLD WAS *(name)*? [Record days if less than 1 month; months if less than 2 years; or years]		WERE THERE ANY OTHER LIVE BIRTHS BETWEEN *(name of previous birth)* AND *(name)*?
09		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days .....1 Month .....2 Year 3	☐☐	Yes .....1 [Add] No.....2 [Next]
10		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days .....1 Month .....2 Year 3	☐☐	Yes .....1 [Add] No.....2 [Next]
11		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days .....1 Month .....2 Year 3	☐☐	Yes .....1 [Add] No.....2 [Next]
12		Sing .. 1 Mult ... 2	Boy .... 1 Girl 2	Month ☐☐ Year ☐☐☐☐	Yes ... 1 **No..... 2** **⇨ BH9**	☐☐	Y .... 1 N 2	☐☐ **⇨ BH10**	Days .....1 Month .....2 Year 3	☐☐	Yes .....1 [Add] No.....2 [Next]

BH11	HAVE YOU HAD ANY LIVE BIRTHS SINCE THE BIRTH OF (name of last birth)? **If yes**, record birth(s)	Yes .....1 No 2	
BH12	**Compare CM9 with number of births in history above and mark:** ☐ **Numbers are different ⇨ Probe and reconcile** ☐ **Numbers are same** ⟹	**Check:** **For all birth:** Year of birth is recorded ..... ☐ **For each living child:** Current age is recorded ..... ☐ **For each dead child:** Age of death is recorded..... ☐ **For age at death 12 months or 1 year:** Probe to ..... ☐ determine exact number of months	

W.3a: Birth History			BH
BH13	SOME PREGNANCIES END BEFORE FULL TERM AS A MISCARRIAGE OR AN ABORTION, WHILE OTHERS MAY RESULT IN A STILLBIRTH. HAVE YOU HAD A MISCARRIAGE OR ABORTION?	Yes ..... 1 **No 2**	2⇨ BH15
BH14	IN ALL HOW MANY PREGNANCIES DID YOU HAVE THAT ENDED IN A MISCARRIAGE OR AN ABORTION?	Miscarriages/abortions ..... ☐☐ DK 98	
BH15	HAVE YOU HAD A STILLBIRTH?	Yes ..... 1 **No 2**	2⇨CM12
BH16	IN ALL HOW MANY PREGNANCIES DID YOU HAVE THAT ENDED IN A STILLBIRTH?	Still births ..... ☐☐ DK 98	
CM12	**Check BH4 of last birth: Did the woman's last birth occur within the last 2 years, that is, since (day and month of interview in 2006)? If child has died, take special care when referring to this child by name in the following sections.** ☐ **No live birth in last 2 years** ⇨ **MARRIAGE/UNION Section [W.6]** ☐ **Yes, live birth in last 2 years** ⇨ **Continue to CM13** **Name of child:_____**		
CM13	AT THE TIME YOU BECAME PREGNANT WITH (name), DID YOU WANT TO BECOME PREGNANT THEN, DID YOU WANT TO WAIT UNTIL LATER, OR DID YOU WANT NO (MORE) CHILDREN AT ALL?	Then ..... 1 Later ..... 2 No more 3	

W.4: Tetanus Toxoid — TT

#	Question	Options	Skip
This section is to be administered to all women with a live birth in the 2 years preceding the date of interview.			
TT1	DO YOU HAVE A CARD OR OTHER DOCUMENT WITH YOUR OWN IMMUNIZATIONS LISTED? [If a card is presented, use it to assist with answers to the following questions]	Yes (card seen) ..... 1 Yes (card not seen) ..... 2 No ..... 3 DK 8	
TT2	WHEN YOU WERE PREGNANT WITH YOUR LAST CHILD, DID YOU RECEIVE ANY INJECTION TO PREVENT HIM OR HER FROM GETTING TETANUS, WHICH IS CONVULSIONS AFTER BIRTH (AN ANTI-TETANUS SHOT, AN INJECTION AT THE TOP OF THE ARM OR SHOULDER OR THIGH)?	Yes ..... 1 **No ..... 2** **DK 8**	2⇨TT5 8⇨TT5
TT3	HOW MANY TIMES DID YOU RECEIVE THIS ANTI-TETANUS INJECTION DURING YOUR LAST PREGNANCY?	No. of times ..... ☐☐ **DK 98**	98⇨TT5
TT4	***Check:* How many TT doses during last pregnancy were reported in TT3?**	**At least 2 TT inj. during last pregnancy ..... 1** Fewer than 2 TT inj. during last preg 2	**1⇨(W.5)**
TT5	DID YOU RECEIVE ANY TT INJECTION AT ANY TIME BEFORE YOUR LAST PREGNANCY?	Yes ..... 1 **No ..... 2** **DK 8**	**2⇨(W.5)** **8⇨(W.5)**
TT6	HOW MANY TIMES DID YOU RECEIVE IT?	No. of times ..... ☐☐	
TT7	IN WHAT MONTH AND YEAR DID YOU RECEIVE THE LAST ANTI-TETANUS INJECTION BEFORE THAT LAST PREGNANCY? Skip to next section only if year of injection is given. Otherwise, continue with TT8.	Month ..... ☐☐ DK month ..... 98 **Year ..... ☐☐☐☐** DK year 9998	**Skip to (W.5)**
TT8	HOW MANY YEARS AGO DID YOU RECEIVE THE LAST ANTI-TETANUS INJECTION BEFORE THAT LAST PREGNANCY?	Years ago ..... ☐☐	

W.5: Maternal and Newborn Health — MN

#	Question	Options	Skip
This section is to be administered to all women with a live birth in the 2 years preceding date of interview. Check CM12 (in section W.3a) and record name of last-born child here _____. Use this child's name in the following questions, where indicated.			
MN1	IN THE FIRST TWO MONTHS AFTER YOUR LAST BIRTH *[THE BIRTH OF name]*, DID YOU RECEIVE A VITAMIN A DOSE LIKE THIS? Show 200,000 IU capsule or dispenser (Red).	Yes ..... 1 No ..... 2 DK 8	
MN2	DID YOU SEE ANYONE FOR ANTENATAL CARE FOR THIS PREGNANCY? **If yes:** WHOM DID YOU SEE? ANYONE ELSE? [Probe for the type of person seen and circle all answers given]	Health professional: Doctor/Clinical Officer ..... A Nurse/Midwife ..... B Other person: Traditional birth attendant ..... F Community health worker ..... G Relative/friend ..... H Other (*specify*_____) ..... X **No one ..... Y**	Y⇨MN6A
MN2A	HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?	No. of times ..... ☐☐ Don't know 98	
MN2B	DURING THIS PREGNANCY, WERE YOU GIVEN OR DID YOU BUY ANY IRON TABLETS? [Show Tablets]	Yes ..... 1 **No ..... 2** **Don't know 8**	2⇨MN3 8⇨MN3
MN2C	DURING THE WHOLE PREGNANCY, FOR HOW MANY DAYS DID YOU TAKE THE TABLETS? [If the answer is not numeric, probe for approximate number of days]	No. of days ..... ☐☐☐ Don't know 998	
MN3	AS PART OF YOUR ANTENATAL CARE, WERE ANY OF THE FOLLOWING DONE AT LEAST ONCE?	Y / N	
	MN3A. WERE YOU WEIGHED?	Weighed ..... 1 / 2	
	MN3B. WAS YOUR BLOOD PRESSURE MEASURED?	Blood pressure ..... 1 / 2	
	MN3C. DID YOU GIVE A URINE SAMPLE?	Urine sample ..... 1 / 2	
	MN3D. DID YOU GIVE A BLOOD SAMPLE?	Blood sample 1 / 2	
MN4	DURING ANY OF THE ANTENATAL VISITS FOR THE PREGNANCY, WERE YOU GIVEN ANY INFORMATION OR COUNSELED ABOUT AIDS OR THE AIDS VIRUS?	Yes ..... 1 No ..... 2 Don't know 8	
MN5	I DON'T WANT TO KNOW THE RESULTS, BUT WERE YOU TESTED FOR HIV/AIDS AS PART OF YOUR ANTENATAL CARE?	Yes ..... 1 **No ..... 2** **Don't know 8**	2⇨MN6A 8⇨MN6A
MN6	I DON'T WANT TO KNOW THE RESULTS, BUT DID YOU GET THE RESULTS OF THE TEST?	Yes ..... 1 No ..... 2 Don't know 8	
MN6A	DURING THIS PREGNANCY, DID YOU TAKE ANY MEDICINE IN ORDER TO PREVENT YOU FROM GETTING MALARIA?	Yes ..... 1 **No ..... 2** **Don't know 8**	2⇨MN7 8⇨MN7

W.5: Maternal and Newborn Health — MN

#	Question	Options	Skip
MN6B	WHICH MEDICINES DID YOU TAKE TO PREVENT MALARIA? [Circle all medicines taken. If type of medicine is not determined, **show typical anti-malarial** to the respondent]	SP/Fansidar ..... A Chloroquine ..... B Others (*specify*_____) .. X DK ..... Z	***If 'A' is not circled, skip to MN7***
MN6C	HOW MANY TIMES DID YOU TAKE SP/FANSIDAR DURING THIS PREGNANCY TO PREVENT MALARIA?	Number of times ..... ☐☐	
MN7	WHO ASSISTED WITH THE DELIVERY OF YOUR LAST CHILD *(name)*? ANYONE ELSE? [Probe for the type of person assisting and circle all answers given]	Health professional: Doctor/Clinical Officer ..... A Nurse/Midwife ..... B Other person: Traditional birth attendant ..... F Community health worker ..... G Relative/friend ..... H Other (*specify*_____) ..... X No one ..... Y	
MN8	WHERE DID YOU GIVE BIRTH TO *(name)*? [If the facility 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] _____ (NAME OF PLACE?)	Home Your home ..... 11 Other home ..... 12 Public sector Govt. hospital ..... 21 Govt. clinic/health center ..... 22 CHAM ..... 23 Other public (*specify*)_____ 26 Private Medical Sector Private hospital ..... 31 Private clinic ..... 32 Private maternity home ..... 33 Other pvt. medical (*specify*_____) .. 36 Other (*specify*_____) .. 96	
MN8A	AFTER *(name)* WAS BORN, DID A HEALTH PROFESSIONAL OR A TRADITIONAL BIRTH ATTENDANT CHECK ON YOUR HEALTH?	Yes ..... 1 **No** ..... **2** **DK** **8**	2⇨MN8D 8⇨MN8D
MN8B	HOW MANY DAYS OR WEEKS AFTER DELIVERY DID THE FIRST CHECK TAKE PLACE? [Record '00' days if same day]	Days after delivery ..... 1 Weeks after delivery ..... 2 ☐☐ Don't Know 998	
MN8C	WHO CHECKED ON YOUR HEALTH AT THAT TIME? [Probe for most qualified person]	Health professional: Doctor/Clinical Officer ..... 11 Nurse/Midwife ..... 12 Other person: Traditional birth attendant ..... 21 Community health worker ..... 22 Other (*specify*_____) 96	

W.5: Maternal and Newborn Health — MN

#	Question	Options	Skip
MN8D	**Check MN8 for place of birth:** ☐ **Birth at home (Code 11 or 12)** ⇨ **Continue to MN8E** ☐ **Otherwise** ⇨ **Skip to MN9**		
MN8E	IN THE TWO MONTHS AFTER *(name)* WAS BORN, DID ANY HEALTH CARE PROVIDER OR A TRADITIONAL BIRTH ATTENDANT CHECK ON HIS/HER HEALTH?	Yes ..... 1 **No** ..... **2** **DK** **8**	 2⇨MN9 8⇨MN9
MN8F	HOW MANY HOURS, DAYS OR WEEKS AFTER THE BIRTH OF *(name)* DID THE FIRST CHECK TAKE PLACE? [If less than one day, record in hours. If less than one week, record in days.]	Hours after birth ..... 1 Days after birth ..... 2 Weeks after birth ..... 3 ☐☐ Don't Know 998	
MN8G	WHO CHECKED ON *(name)*'S HEALTH AT THAT TIME? [Probe for most qualified person]	Health professional: Doctor/Clinical Officer ..... 11 Nurse/Midwife ..... 12 Other person: Traditional birth attendant ..... 21 Community health worker ..... 22 Other (*specify*_____) 96	
MN8H	WHERE DID THIS FIRST CHECK OF *(name)* TAKE PLACE? [Probe to identify the type of source and circle the appropriate code. If unable to determine if a hospital, health centre or clinic is public or private medical, write the name of the place] _____ (NAME OF THE PLACE)	Home Your home ..... 11 Other home ..... 12 Public sector Govt. hospital ..... 21 Govt. clinic/health center ..... 22 CHAM ..... 23 Other public (*specify*_____) ..... 26 Private Medical Sector Private hospital ..... 31 Private clinic ..... 32 Private maternity home ..... 33 Other pvt. medical (*specify*_____) ..... 36 Other (*specify*_____) 96	
MN9	WHEN YOUR LAST CHILD *(name)* WAS BORN, WAS HE/SHE VERY LARGE, LARGER THAN AVERAGE, AVERAGE, SMALLER THAN AVERAGE, OR VERY SMALL?	Very large ..... 1 Larger than average ..... 2 Average ..... 3 Smaller than average ..... 4 Very small ..... 5 DK 8	
MN10	WAS *(name)* WEIGHED AT BIRTH?	Yes ..... 1 **No** ..... **2** **DK** **8**	 2⇨MN12 8⇨MN12

W.5: Maternal and Newborn Health			MN
#	Question	Options	Skip
MN11	HOW MUCH DID *(name)* WEIGH? [Record weight from health card, if available]	Card.....1 Re-call.....2 (Record in Kgs) □.□□□ Don't know.....99998	
MN12	DID YOU EVER BREASTFEED *(name)*?	Yes.....1 **No.....2**	2⇨ (W.6)
MN13	HOW LONG AFTER BIRTH DID YOU FIRST PUT *(name)* TO THE BREAST? If less than 1 hour, record '00' hours. If less than 24 hours, record hours. Otherwise, record days.	Immediately.....000 Hours after.....1 □□ Days after.....2 Don't know/remember.....998	
MN14	DID *(name)* RECEIVE ANYTHING ELSE BEFORE STARTING TO BREASTFEED?	Yes.....1 **No.....2** **Don't know.....8**	2⇨ (W.6) 8⇨ (W.6)
MN15	DID *(name)* RECEIVE ANY OF THE FOLLOWING:	Yes No	
	MN15A. PLAIN WATER?	Plain water.....1 2	
	MN15B. MINERAL WATER?	Mineral water.....1 2	
	MN15C. SWEETENED, FLAVOURED WATER?	Sweetened/Flavored water.....1 2	
	MN15D. FRUIT JUICE OR TEA?	Fruit juice or tea.....1 2	
	MN15E. ANYTHING ELSE?	Other (specify_____).....1 2	

W.6: Marriage/Union			MA
#	Question	Options	Skip
MA1	ARE YOU CURRENTLY MARRIED OR LIVING TOGETHER WITH A MAN AS IF MARRIED?	Yes, currently married ..... 1 Yes, living with a man ..... 2 **No, not in union 3**	3⇨MA3
MA2	HOW OLD WAS YOUR HUSBAND/PARTNER ON HIS LAST BIRTHDAY?	**Age in years** ☐☐ **DK 98**	**SKIP TO ⇨ MA5**
MA3	HAVE YOU EVER BEEN MARRIED OR LIVED TOGETHER WITH A MAN?	Yes, formerly married ..... 1 Yes, formerly lived with a man ..... 2 **No 3**	3⇨(W.7)
MA4	WHAT IS YOUR MARITAL STATUS NOW: ARE YOU WIDOWED, DIVORCED OR SEPARATED?	Widowed ..... 1 Divorced ..... 2 Separated 3	
MA5	HAVE YOU BEEN MARRIED OR LIVED WITH A MAN ONLY ONCE OR MORE THAN ONCE?	Only once ..... 1 More than once 2	
MA6	IN WHAT MONTH AND YEAR DID YOU FIRST MARRY OR START LIVING WITH A MAN AS IF MARRIED?	Month ☐☐ DK month ..... 98 Year ☐☐☐☐ DK year 9998	
MA7	**Check MA6: For month and year of marriage** ☐ **Both Month and year of marriage are known?** **⇨ Next Section (W.7)** ☐ **Either month or year of marriage/union not known?** **⇨ Continue to MA8**		
MA8	HOW OLD WERE YOU WHEN YOU STARTED LIVING WITH YOUR FIRST HUSBAND/PARTNER?	Age in years ☐☐	

W.7: Contraception and Unmet Need — CP

#	Question	Options	Skip
CP1	I WOULD LIKE TO TALK WITH YOU ABOUT ANOTHER SUBJECT – FAMILY PLANNING – AND YOUR REPRODUCTIVE HEALTH. ARE YOU PREGNANT NOW?	Yes, currently pregnant ..... 1 **No ..... 2** **Unsure or Don't know 8**	 2⇨ CP2 8⇨ CP2
CP1A	AT THE TIME YOU BECOME PREGNANT DID YOU WANT TO BECOME PREGNANT THEN, DID YOU WANT TO WAIT UNTIL LATER, OR DID YOU NOT WANT TO HAVE ANY MORE CHILDREN?	Then ..... 1 Later ..... 2 Not want more children 3	1⇨ CP4 2⇨ CP4 3⇨ CP4
CP2	SOME PEOPLE USE VARIOUS WAYS OR METHODS TO DELAY OR AVOID A PREGNANCY. ARE YOU CURRENTLY DOING SOMETHING OR USING ANY METHOD TO DELAY OR AVOID GETTING PREGNANT?	Yes ..... 1 **No 2**	 2⇨ CP6
CP3	WHICH METHOD ARE YOU USING? Do not prompt. If more than one method is mentioned, circle each one.	Female sterilization/Tubeligation ..... A Male sterilization/Vasectomy ..... B Pill ..... C IUD/coil ..... D Injections ..... E Implants ..... F Condom ..... G Female condom ..... H Diaphragm ..... I Lactational amenorrhoea method (LAM) ..... J Periodic abstinence ..... K Withdrawal ..... L Other (*specify* _____) ... X	
CP4	NOW I WOULD LIKE TO ASK SOME QUESTIONS ABOUT THE FUTURE. WOULD YOU LIKE TO HAVE (A/ANOTHER) CHILD, OR WOULD YOU PREFER NOT TO HAVE ANY (MORE) CHILDREN? **if currently pregnant:** AFTER THE CHILD YOU ARE NOW EXPECTING. WOULD YOU LIKE TO HAVE ANOTHER CHILD OR YOU WOULD PREFER NOT TO HAVE ANY (MORE) CHILDREN?	Have (a/another) child ..... 1 **No more/none ..... 2** **Says she cannot get pregnant ..... 3** **Undecided/don't know 8**	 2⇨CP6 3⇨(W.8) 8⇨CP6
CP5	HOW LONG WOULD YOU LIKE TO WAIT BEFORE THE BIRTH OF (A/ANOTHER) CHILD?	Months ..... 1 ☐☐ Years ..... 2 Soon/now ..... 993 **Says she cannot get pregnant ..... 994** After marriage ..... 995 Other ..... 996 Don't know 998	 994⇨(W.8)
CP6	**Check CP1: Pregnancy status** ☐ **Currently pregnant (code = 1) ⇨ Next Section (W.8)** ☐ **Not currently pregnant ⇨ Continue to CP7**		
CP7	DO YOU THINK YOU ARE PHYSICALLY ABLE TO GET PREGNANT AT THIS TIME?	Yes ..... 1 No ..... 2 Don't know 3	

W.8: Female Genital Mutilation/Cutting — FG

#	Question	Options	Skip
FG1	HAVE YOU EVER HEARD OF FEMALE CIRCUMCISION?	**Yes** ..... **1** No 2	1⇨FG3
FG2	IN A NUMBER OF COMMUNITIES, THERE IS A PRACTICE IN WHICH A GIRL MAY HAVE PART OF HER GENITALS CUT. HAVE YOU EVER HEARD ABOUT THIS PRACTICE?	Yes ..... 1 **No** **2**	2⇨(W.9)
FG3	HAVE YOU YOURSELF EVER BEEN CIRCUMCISED?	Yes ..... 1 **No** **2**	2⇨FG8
FG4	NOW I WOULD LIKE TO ASK YOU WHAT WAS DONE TO YOU AT THIS TIME. WAS ANY FLESH REMOVED FROM THE GENITAL AREA?	**Yes** ..... **1** No ..... 2 DK 8	1⇨FG6
FG5	WAS THE GENITAL AREA JUST NICKED WITHOUT REMOVING ANY FLESH?	Yes ..... 1 No ..... 2 DK 8	
FG6	WAS THE GENITAL AREA SEWN CLOSED (OR 'SEALED')?	Yes ..... 1 No ..... 2 DK 8	
FG7	WHO CIRCUMCISED YOU?	TRADITIONAL PERSONS Traditional 'circumciser' ..... 11 Traditional birth attendant ..... 12 Other traditional (***specify*** _____) .. 16 HEALTH PROFESSIONAL Doctor ..... 21 Nurse/midwife ..... 22 Other health professional (***specify*** _____) .. 26 Don't know 98	
FG8	**Check CM4 and CM6 (in Section W.3): Woman has living daughter?** ☐ **Yes, has living daughter** ⇨ **Continue with FG9** ☐ **No living daughter** ⇨ **Go to FG16**		
FG9	HAVE ANY OF YOUR DAUGHTERS BEEN CIRCUMCISED? **If yes**, HOW MANY?	No. of daughters circumcised ..... ☐☐ **No daughters circumcised** **00**	00⇨FG16
FG10	TO WHICH OF YOUR DAUGHTERS DID THIS HAPPEN MOST RECENTLY? [Record the daughter's name]	Name of daughter: _____	
FG11	NOW I WOULD LIKE TO ASK YOU WHAT WAS DONE TO *(name)* AT THAT TIME. WAS ANY FLESH REMOVED FROM THE GENITAL AREA?	**Yes** ..... **1** No ..... 2 DK 8	1⇨FG13

W.8: Female Genital Mutilation/Cutting			FG
#	Question	Options	Skip
FG12	WAS THE GENITAL AREA JUST NICKED WITHOUT REMOVING ANY FLESH?	Yes ..... 1 No ..... 2 DK 8	
FG13	WAS THE GENITAL AREA SEWN CLOSED (OR 'SEALED')?	Yes ..... 1 No ..... 2 DK 8	
FG14	HOW OLD WAS *(name)* WHEN THIS OCCURRED? [If the respondent does not know the age, probe to get an estimate]	Daughter's age at circumcision ..... ☐☐ Don't know 98	
FG15	WHO DID THE CIRCUMCISION FOR *(name)*?	TRADITIONAL PERSONS Traditional 'circumciser' ..... 11 Traditional birth attendant ..... 12 Other traditional (***specify*** _____) .. 16 HEALTH PROFESSIONAL Doctor ..... 21 Nurse/midwife ..... 22 Other health professional (***specify*** _____) .. 26 Don't know 98	
FG16	DO YOU THINK THIS PRACTICE SHOULD BE CONTINUED OR SHOULD IT BE DISCONTINUED?	Continued ..... 1 Discontinued ..... 2 Depends ..... 3 DK 8	

W.9: Domestic Violence						DV
#	Question	Options				Skip
DV1	SOMETIMES A HUSBAND IS ANNOYED OR ANGERED BY THINGS THAT HIS WIFE DOES. IN YOUR OPINION, IS A HUSBAND JUSTIFIED IN HITTING OR BEATING HIS WIFE IN THE FOLLOWING SITUATIONS:		Yes	No	DK	
	DV1A. IF SHE GOES OUT WITH OUT TELLING HIM?	Goes out without telling.....	1	2	8	
	DV1B. IF SHE NEGLECTS THE CHILDREN?	Neglects the children.....	1	2	8	
	DV1C. IF SHE ARGUES WITH HIM?	Argues with husband.....	1	2	8	
	DV1D. IF SHE REFUSES SEX WITH HIM?	Refuses sex.....	1	2	8	
	DV1E. IF SHE BURNS THE FOOD?	Burns the food.....	1	2	8	

W.10: HIV/AIDS			HA
#	Question	Options	Skip
HA1	NOW I WOULD LIKE TO TALK WITH YOU ABOUT SOMETHING ELSE. HAVE YOU EVER HEARD OF THE VIRUS HIV OR AN ILLNESS CALLED AIDS?	Yes ..... 1 **No 2**	2⇨ END
HA2	CAN PEOPLE PROTECT THEMSELVES FROM GETTING INFECTED WITH THE AIDS VIRUS BY HAVING ONE SEX PARTNER WHO IS NOT INFECTED AND ALSO HAS NO OTHER PARTNERS?	Yes ..... 1 No ..... 2 Don't know 8	
HA3	CAN PEOPLE GET INFECTED WITH THE AIDS VIRUS BECAUSE OF WITCHCRAFT OR OTHER SUPERNATURAL MEANS?	Yes ..... 1 No ..... 2 Don't know 8	
HA4	CAN PEOPLE REDUCE THEIR CHANCE OF GETTING THE AIDS VIRUS BY USING A CONDOM EVERY TIME THEY HAVE SEX?	Yes ..... 1 No ..... 2 Don't know 8	
HA5	CAN PEOPLE GET THE AIDS VIRUS FROM MOSQUITO BITES?	Yes ..... 1 No ..... 2 Don't know 8	
HA6	CAN PEOPLE REDUCE THEIR CHANCE OF GETTING INFECTED WITH THE AIDS VIRUS BY NOT HAVING SEX AT ALL?	Yes ..... 1 No ..... 2 Don't know 8	
HA7	CAN PEOPLE GET THE AIDS VIRUS BY SHARING FOOD WITH A PERSON WHO HAS AIDS?	Yes ..... 1 No ..... 2 Don't know 8	
HA7A	CAN PEOPLE GET THE AIDS VIRUS BY GETTING INJECTIONS WITH A NEEDLE THAT WAS ALREADY USED BY AN INFECTED PERSON?	Yes ..... 1 No ..... 2 Don't know 8	
HA8	IS IT POSSIBLE FOR A HEALTHY-LOOKING PERSON TO HAVE THE AIDS VIRUS?	Yes ..... 1 No ..... 2 Don't know 8	
HA9	CAN THE AIDS VIRUS BE TRANSMITTED FROM A MOTHER TO A BABY (.....)	Yes / No / DK	
	HA9A. DURING PREGNANCY?	During pregnancy 1 2 8	
	HA9B. DURING DELIVERY?	During delivery 1 2 8	
	HA9C. BY BREASTFEEDING?	By breastfeeding 1 2 8	
HA10	IF A FEMALE TEACHER HAS THE AIDS VIRUS BUT IS NOT SICK, SHOULD SHE BE ALLOWED TO CONTINUE TEACHING IN SCHOOL?	Yes ..... 1 No ..... 2 Don't know/not sure/depends 8	
HA11	WOULD YOU BUY FRESH VEGETABLES FROM A SHOPKEEPER OR VENDOR IF YOU KNEW THAT THIS PERSON HAD THE AIDS VIRUS?	Yes ..... 1 No ..... 2 Don't know/not sure/depends 8	

W.10: HIV/AIDS			HA
HA12	IF A MEMBER OF YOUR FAMILY BECAME INFECTED WITH THE AIDS VIRUS, WOULD YOU WANT IT TO REMAIN A SECRET?	Yes ..... 1 No ..... 2 Don't know/not sure/depends 8	
HA13	IF A MEMBER OF YOUR FAMILY BECAME SICK WITH THE AIDS VIRUS, WOULD YOU BE WILLING TO CARE FOR HIM OR HER IN YOUR HH?	Yes ..... 1 No ..... 2 Don't know/not sure/depends 8	
HA14	**Check MN5 (in Section W.5): Tested for HIV during antenatal care?** ☐ **Yes ⇨ HA19** ☐ **No ⇨ Continue to HA15**		
HA15	I DO NOT WANT TO KNOW THE RESULTS, BUT HAVE YOU EVER BEEN TESTED TO SEE IF YOU HAVE HIV, THE VIRUS THAT CAUSES AIDS?	Yes ..... 1 **No 2**	2⇨HA18
HA16	I DO NOT WANT YOU TO TELL ME THE RESULTS OF THE TEST, BUT HAVE YOU BEEN TOLD THE RESULTS?	Yes ..... 1 No 2	
HA17	DID YOU, YOURSELF, ASK FOR THE TEST, WAS IT OFFERED TO YOU AND YOU ACCEPTED, OR WAS IT REQUIRED?	**Asked for the test ..... 1** **Offered and accepted ..... 2** **Required 3**	**END**
HA18	AT THIS TIME, DO YOU KNOW OF A PLACE WHERE YOU CAN GO TO GET SUCH A TEST TO SEE IF YOU HAVE THE AIDS VIRUS?	**Yes ..... 1** **No 2**	**END**
HA19	OTHER THAN AT THE ANTENATAL CLINIC, DO YOU KNOW OF A PLACE WHERE YOU CAN GO TO GET A TEST TO SEE IF YOU HAVE THE AIDS VIRUS?	Yes ..... 1 No 2	

•: Check, whether the Form has any gaps, if yes, fill-in those gaps and thank the respondent for spending time and providing valuable information; and go to the next respondent :–

Remarks/Observations by the Supervisor/Editor/Coordinators:

FORM-C: CHILD BELOW 5 YEARS

C.1: General Information — *ENGLISH*

This FORM is to be administered to all mothers/caretakers (See Column HL8 of HH Listing Form) who care for a child that lives with them and is under the age of 5 years (See Column HL5 of HH Listing Form). Use a separate Form for each eligible child.

UF-A	Province Name & Code. _____		☐
UF-B	District Name & Code. _____		☐☐
UF1	Cluster Name and Number _____ ☐☐	UF-C	Stratum Code: [Child < 3 = 1/Other = 2] ☐
UF2	HH No.		☐☐☐
UF4	Child Name & Line No. _____		☐☐
UF6	Mother/Caretaker Name & Line No. _____		☐☐
UF7	Interviewer's Name & Code _____		☐☐☐
UF8	Day/Month/Year of interview		☐☐/☐☐/☐☐☐☐
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

Remarks

Read, if the respondent has not responded to any other Forms

Introduction/Consent

HELLO. MY NAME IS (…….) AND I AM WORKING WITH THE KENYA NATIONAL BUREAU OF STATISTICS (KNBS), NAIROBI. WE ARE DOING A SURVEY TO COLLECT INFORMATION ABOUT FAMILY HEALTH AND EDUCATION, FOCUSING ON CHILDREN AND WOMEN, WITH UNICEF SUPPORT. I WOULD LIKE TO TALK TO YOU ABOUT THIS. THE INTERVIEW WILL TAKE ABOUT 20 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND EVENTUALLY BE ANONYMOUS. DURING THIS TIME I WOULD LIKE TO SPEAK TO YOU ABOUT YOUR CHILDREN AND/OR CHILDREN YOU TAKE CARE IN THIS HOUSEHOLD.

THE INFORMATION YOU PROVIDE WILL HELP THE GOVERNMENT AND DEVELOPMENT AGENCIES IN PLANNING AND IMPLEMENTING DEVELOPMENTAL PROGRAMS.

MAY I START THE INTERVIEW NOW?

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/IN THIS HH NOW. NOW I WANT TO ASK YOU ABOUT (*name*). IN WHAT MONTH AND YEAR WAS (*name*) BORN? **Probe:** WHAT IS HIS/HER BIRTHDAY? DOES HE/SHE HAVE A BIRTH CERTIFICATE? [If the mother/caretaker knows the exact birth date, also enter the day; otherwise, circle 98 for day]	**Date of birth:** Day ☐☐ Don't know the day of birth 98 Month ☐☐ Year ☐☐☐☐
UF11	HOW MANY MONTHS OLD IS (*name*)? [Record age in completed months]	Age in months ☐☐

C.2: Birth Registration and Early Learning — BR

#	Question	Options	Skip
BR1	DOES (*name*) HAVE A BIRTH CERTIFICATE? MAY I SEE IT?	**Yes, seen** 1 **Yes, not seen** 2 No 3 Don't know 8	1⇨BR5 2⇨BR5
BR2	HAS (*name's*) BIRTH BEEN REGISTERED WITH THE CIVIL AUTHORITIES?	**Yes** 1 No 2 **Don't know** 8	1⇨BR5 8⇨BR4
BR3	WHY IS (*name's*) BIRTH NOT REGISTERED? PROBE: DID YOU KNOW THAT A BIRTH HAS TO BE REGISTERED? DID YOU TRY TO REGISTER THIS ONE? WHY DID YOU FAIL TO REGISTER THIS BIRTH?	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 (*specify*_____) 6 Don't know 8	
BR4	DO YOU KNOW HOW TO REGISTER YOUR CHILD'S BIRTH?	Yes 1 No 2	
BR4A	DO YOU KNOW WHERE TO REGISTER YOUR CHILD'S BIRTH?	Yes 1 No 2	
BR5	**Check UF11 (age of the child): Child is 36-59 months old?** ☐ **Yes ⇨ Continue to BR6** ☐ **No ⇨ Go to BR8**		
BR6	DOES (*name*) ATTEND ANY ORGANIZED LEARNING OR EARLY CHILDHOOD EDUCATION PROGRAMME, SUCH AS A PRIVATE OR GOVERNMENT FACILITY, INCLUDING KINDERGARTEN OR COMMUNITY CHILD CARE?	Yes 1 **No** 2 **Don't know** 8	2⇨BR7A 8⇨BR8
BR7	WITHIN THE LAST SEVEN DAYS, ABOUT HOW MANY HOURS DID (*name*) ATTEND?	No. of Hours ☐☐	**Skip to BR8**

C.2: Birth Registration and Early Learning — BR

BR7A	WHAT IS THE MAIN REASON FOR (*name*) NOT ATTENDING ANY PRE-SCHOOL LEARNING/EARLY CHILDHOOD EDUCATION PROGRAM?	No facility nearby ..... 1 The facility is not good ..... 2 No money to pay the fees/expensive ..... 3 Child is too young ..... 4 Other (specify _____) ..... 6 Don't know 8				
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 (*name*): ***If yes, ask:*** WHO ENGAGED IN THIS ACTIVITY WITH THE CHILD - THE MOTHER, THE CHILD'S FATHER OR ANOTHER ADULT MEMBER OF THE HOUSEHOLD (INCLUDING THE CARETAKER/RESPONDENT)? *Circle all that apply.*	Mother	Father	Other	None	
BR8a	READ BOOKS OR LOOK AT PICTURE BOOKS WITH (*name*)?	A	B	X	Y	
BR8b	TELL STORIES TO (*name*)?	A	B	X	Y	
BR8c	SING SONGS WITH (*name*)?	A	B	X	Y	
BR8d	TAKE (*name*) OUTSIDE THE HOME, COMPOUND, YARD OR ENCLOSURE?	A	B	X	Y	
BR8e	PLAY WITH (*name*)?	A	B	X	Y	
BR8f	SPEND TIME WITH (*name*) NAMING, COUNTING, AND/OR DRAWING THINGS?	A	B	X	Y	

C.3: Vitamin A — VA

#	Question	Options	Skip
VA1	HAS (name) EVER RECEIVED A VITAMIN A CAPSULE (SUPPLEMENT) LIKE THIS ONE? SHOW CAPSULE OR DISPENSER FOR DIFFERENT DOSES: 100,000 IU FOR THOSE 6-11 MONTHS OLD (BLUE/YELLOW) 200,000 IU FOR THOSE 12-59 MONTHS OLD (RED)	Yes ..... 1 **No ..... 2** **Child below 6 months old ..... 3** **Don't know 8**	 2⇨ (C.4) 3⇨ (C.4) 8⇨ (C.4)
VA2	HOW MANY MONTHS AGO DID (*name*) TAKE THE LAST DOSE?	Months ..... ☐☐ Don't know 98	
VA3	WHERE DID (*name*) GET THIS LAST DOSE?	On routine visit to health facility ..... 1 Sick child visit to health facility ..... 2 National Immunization/Vit. A Campaign ..... 3 Other (*Specify* _____) ..... 6 Don't know 8	

C.4: Breastfeeding — BF

#	Question	Options	Skip
BF1	HAS (*name*) EVER BEEN BREASTFED?	Yes ..... 1 **No ..... 2** **Don't know 8**	 2⇨ BF3 8⇨ BF3
BF1a	HOW LONG AFTER BIRTH WAS (*name*) PUT TO THE BREAST FOR THE FIRST TIME?	Immediately after birth ..... 000 Hours ..... 1 ☐☐ Days ..... 2 Don't know 998	
BF2	IS HE/SHE STILL BEING BREASTFED?	**Yes ..... 1** No ..... 2 **Don't know 8**	1⇨ BF2b 8⇨ BF3
BF2a	FOR HOW MANY MONTHS DID (*name*) BREASTFEED?	Months ..... ☐☐ Don't know 98	Skip to BF3
BF2b	SINCE THIS TIME YESTERDAY, HOW MANY TIMES HAS (*name*) BREASTFED? *(If answer is not numeric, probe for approximate number)*	Times Breastfed ..... ☐☐ Don't know 98	

BF3 — SINCE THIS TIME YESTERDAY, DID HE/SHE RECEIVE ANY OF THE FOLLOWING:
(Read each item aloud and record response before proceeding to the next item)

Item	Yes	No	DK
BF3A. VITAMIN, MINERAL SUPPLEMENTS OR MEDICINE?	1	2	8
BF3B. PLAIN WATER?	1	2	8
BF3C. SWEETENED, FLAVOURED WATER OR FRUIT JUICE OR TEA OR INFUSION?	1	2	8
BF3D. ORAL REHYDRATION SOLUTION (ORS)?	1	2	8
BF3E. INFANT FORMULA?	1	2	8
BF3F. TINNED, POWDERED OR FRESH MILK?	1	2	8
BF3G. ANY OTHER LIQUIDS?	1	2	8
BF3H. SOLID OR SEMI-SOLID (MUSHY) FOOD?	1	2	8

BF4 — **Check BF3H. Child received solid or semi-solid (mushy) food?**

☐ **Yes** ⇨ **Continue to BF5**

☐ **No or DK** ⇨ **Next Section (C.5)**

C.4: Breastfeeding			BF
#	Question	Options	Skip
BF5	SINCE THIS TIME YESTERDAY, HOW MANY TIMES DID *(name)* EAT SOLID, SEMISOLID OR SOFT FOODS OTHER THAN LIQUIDS? *(If 7 or more times, record 7)*	No. of times ☐ Don't know 8	
BF5a	AT WHAT AGE DID *(name)* START RECIVING WATER OTHER THAN BREASTMILK? *(If 7 or more months old, record 7)*	Age in months ☐ Don't know 8	
BF5b	AT WHAT AGE DID *(name)* START RECIVING SOLID OR SEMI-SOLID FOOD? *(If 15 or more months old, record 15)*	Age in months ☐☐ Don't know 98	

C.5: Care of Childhood Illness — CI

#	Question	Options	Skip
CA1	HAS (*name*) HAD DIARRHOEA IN THE LAST TWO WEEKS, THAT IS, SINCE (*day of the week*) OF THE WEEK BEFORE LAST? *(Diarrhoea is determined as perceived by mother or caretaker, or as three or more loose or watery stools per day, or blood in stool)*	Yes ..... 1 **No ..... 2** **Don't know 8**	 2⇨CA5 8⇨CA5
CA2	DURING THIS LAST EPISODE OF DIARRHOEA, DID (*name*) DRINK ANY OF THE FOLLOWING: *Read each item aloud and record response before proceeding to the next item.*		

Item	Yes	No	DK	
CA2A. A FLUID MADE FROM A SPECIAL PACKET CALLED (*local name for ORS packet solution*)?	1	2	8	
CA2B. GOVERNMENT-RECOMMENDED HOMEMADE FLUID?	1	2	8	
CA2C. A PRE-PACKAGED ORS FLUID FOR DIARRHOEA?	1	2	8	

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 Don't know 8	
CA4	DURING (*name's*) ILLNESS, DID HE/SHE EAT LESS, ABOUT THE SAME, OR MORE FOOD THAN USUAL? **If "less", probe:** MUCH LESS OR A LITTLE LESS?	None ..... 1 Much less ..... 2 Somewhat less ..... 3 About the same ..... 4 More ..... 5 Don't know 8	
CA5	HAS (*name*) HAD AN ILLNESS WITH A COUGH AT ANY TIME IN THE LAST TWO WEEKS, THAT IS, SINCE (*day of the week*) OF THE WEEK BEFORE LAST?	Yes ..... 1 **No ..... 2** **Don't know 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** **Don't know 8**	 2⇨CA12 8⇨CA12
CA7	WERE THE SYMPTOMS DUE TO A PROBLEM IN THE CHEST OR A BLOCKED NOSE?	Problem in chest ..... 1 **Blocked nose ..... 2** Both ..... 3 **Other (*specify* _____) ... 6** Don't know 8	 2⇨CA12 6⇨CA12
CA8	DID YOU SEEK ADVICE OR TREATMENT FOR THE ILLNESS OUTSIDE THE HOME?	Yes ..... 1 **No ..... 2** **Don't know 8**	 2⇨CA10 8⇨CA10

C.5: Care of Childhood Illness			CI
CA9	FROM WHERE DID YOU SEEK CARE? ANYWHERE ELSE? [Circle all providers mentioned, but do NOT prompt with any suggestions] [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.] _____ (NAME OF PLACE)	**Public sector** Govt. hospital ..... A Govt. health centre ..... B Govt. health post ..... C Village health worker ..... D Mobile/outreach clinic ..... E Other public (specify_____) ..... H **Private medical sector** Private hospital/clinic ..... I Private physician ..... J Private pharmacy ..... K Mobile clinic ..... L Other private (specify_____) ..... O **Other source** Relative or friend ..... P Shop ..... Q Traditional practitioner ..... R Other (specify_____) X	
CA10	WAS (*name*) GIVEN MEDICINE TO TREAT THIS ILLNESS?	Yes ..... 1 **No ..... 2** **Don't know 8**	 2⇨CA12 8⇨CA12
CA11	WHAT MEDICINE WAS (*name*) GIVEN? (Circle all medicines given)	Antibiotic ..... A Paracetamol/Panadol/Acetaminophen ..... P Aspirin ..... Q Ibupropfen ..... R Other (*specify*_____) ..... X Don't know ..... Z	
CA12	**Check UF11: Child age 0-35 months?** ☐ **Yes ⇨ Continue to CA13** ☐ **No ⇨ CA14**		
CA13	THE LAST TIME (*name*) PASSED STOOLS, WHAT WAS DONE TO DISPOSE OF THE STOOLS?	Child used toilet/latrine ..... 01 Put/rinsed into toilet or latrine ..... 02 Put/rinsed into drain or ditch ..... 03 Thrown into garbage (solid waste) ..... 04 Buried ..... 05 Left in the open ..... 06 Other (*specify*) _____ 96 Don't know 98	
CA14	[Ask **ONLY ONCE** for each mother/ caretaker] SOMETIMES CHILDREN HAVE SEVERE ILLNESSES AND SHOULD BE TAKEN IMMEDIATELY TO A HEALTH FACILITY. WHAT TYPES OF SYMPTOMS WOULD CAUSE YOU TO TAKE YOUR CHILD TO A HEALTH FACILITY RIGHT AWAY? [Keep asking for more signs or symptoms until the mother/caretaker cannot recall any additional symptoms. Circle all symptoms mentioned] [Do not prompt with any suggestions]	Child not able to drink or breastfeed ..... A Child becomes sicker ..... B Child develops a fever ..... C Child has fast breathing ..... D Child has difficult breathing ..... E Child has blood in stool ..... F Child is drinking poorly ..... G Other1 (*specify*_____) . X Other 2(*specify*_____) . Y Other3 (*specify*_____) . Z	

C.6: Malaria			ML
#	Question	Options	Skip
ML1	IN THE LAST TWO WEEKS, THAT IS, SINCE (*day of the week*) OF THE WEEK BEFORE LAST, HAS (*name*) BEEN ILL WITH A FEVER?	Yes ..... 1 **No ..... 2** **Don't' know 8**	 2⇨ML10 8⇨ML10
ML2	WAS (*name*) SEEN AT A HEALTH FACILITY DURING THIS ILLNESS?	Yes ..... 1 **No ..... 2** **Don't' know 8**	 2⇨ML6 8⇨ML6
ML3	DID (*name*) TAKE A MEDICINE FOR FEVER OR MALARIA THAT WAS PROVIDED OR PRESCRIBED AT THE HEALTH FACILITY?	Yes ..... 1 **No ..... 2** **Don't' know 8**	 2⇨ML5 8⇨ML5
ML4	WHAT MEDICINE DID (*name*) TAKE THAT WAS PROVIDED OR PRESCRIBED AT THE HEALTH FACILITY? *[Circle all medicines mentioned]*	Anti-malarials: SP/Fansidar ..... A Chloroquine ..... B Amodiaquine ..... C Quinine ..... D Artemisinin-based combinations ..... E Other anti-malarial (specify_____). H Other medications: Paracetamol/Panadol/Acetaminophen..... P Aspirin ..... Q Ibuprofen ..... R Other (*specify*_____) ..X Don't know ..... Z	
ML5	WAS (*name*) GIVEN MEDICINE FOR THE FEVER OR MALARIA BEFORE BEING TAKEN TO THE HEALTH FACILITY?	**Yes ..... 1** **No ..... 2** **Don't' know 8**	1⇨ML7 2⇨ML8 8⇨ML8
ML6	WAS (*name*) GIVEN MEDICINE FOR FEVER OR MALARIA DURING THIS ILLNESS?	Yes ..... 1 **No ..... 2** **Don't' know 8**	 2⇨ML8 8⇨ML8
ML7	WHAT MEDICINE WAS (*name*) GIVEN? *[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.]*	Anti-malarials: SP/Fansidar ..... A Chloroquine ..... B Amodiaquine ..... C Quinine ..... D Artemisinin-based combinations ..... E Other anti-malarial (specify_____). H Other medications: Paracetamol/Panadol/Acetaminophen..... P Aspirin ..... Q Ibuprofen ..... R Other (*specify*_____) ..X Don't know ..... Z	

C.6: Malaria			ML
#	Question	Options	Skip
ML8	**Check ML4 and/or ML7: Anti-malarial mentioned (Codes A-H)?** ☐ **Yes ⇨ Continue to ML9** ☐ **No ⇨ ML10**		
ML9	HOW LONG AFTER THE FEVER STARTED DID (*name*) FIRST TAKE (*name of anti-malarial from ML4 or ML7*)? [If multiple anti-malarials mentioned in ML4 or ML7, name all anti-malarial medicines mentioned] [Record the code for the day on which the first anti-malarial was given]	Same day ..... 0 Next day ..... 1 2 days after the fever ..... 2 3 days after the fever ..... 3 4 or more days after the fever ..... 4 DK 8	
ML10	DID (*name*) SLEEP UNDER A MOSQUITO NET LAST NIGHT?	Yes ..... 1 No ..... 2 Don't' know 8	

C.7: Child Immunization — IM

#	Question		Options	Skip
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. IM9 is for recording vaccinations that are not recorded on the card. IM10-IM17 will only be asked when a card is not available.				
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) Write '44' in day column if card shows that vaccination was given but no date recorded.		Date of Immunization Day | Month | Year	
IM2	BCG	BCG		
IM3a	Polio 0	OPV 0		
IM3b	Polio 1	OPV 1		
IM3c	Polio 2	OPV 2		
IM3d	Polio 3	OPV 3		
IM4a	DPT - HepB + Hib: 1 (Pentavalent 1)	DPT 1		
IM4b	DPT - HepB + Hib: 2 (Pentavalent 2)	DPT 2		
IM4c	DPT - HepB + Hib: 3 (Pentavalent 3)	DPT 3		
IM6	Measles (or MMR)	Measles		
IM7	Yellow fever	Y Fever		
IM8a	Vitamin A (1)	Vit. A1		
IM8b	Vitamin A (2)	Vit A2		
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? [Record 'Yes' only if respondent mentions BCG, OPV 0-3, DPT 1-3, Measles or Vitamin A supplements.]		Yes ..... 1 (Probe for vaccinations and write '66' in the corresponding day column on IM2 to IM8B and go to IM19.) **No ..... 2** **Don't know 8**	 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** **Don't know 8**	 2⇨IM19 8⇨IM19
IM11	HAS (*name*) 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 Don't know 8	
IM12	HAS (*name*) EVER BEEN GIVEN ANY "VACCINATION DROPS IN THE MOUTH" TO PROTECT HIM/HER FROM GETTING DISEASES – THAT IS, POLIO?		Yes ..... 1 **No 2**	 2⇨IM15

C.7: Child Immunization — IM

		Don't know **8**				8⇨ IM15
IM13	HOW OLD WAS (*name*) WHEN THE FIRST DOSE WAS GIVEN – JUST AFTER BIRTH (WITHIN TWO WEEKS) OR LATER?	Just after birth (within two weeks) ..... 1 Later 2				
IM14	HOW MANY TIMES (*name*) BEEN GIVEN THESE DROPS?	No. of times ..... ☐☐				
IM15	HAS (*name*) EVER BEEN GIVEN "**DPT/ HepB/ Hib1** VACCINATION INJECTIONS" – THAT IS, AN INJECTION IN THE THIGH AND BUTTOCKS – TO PREVENT HIM/HER FROM GETTING TETANUS, WHOOPING COUGH, DIPHTHERIA, HEPATITIS B, *HAEMOPHILIS INFLUENZAE TYPE B*? SOMETIMES GIVEN AT THE SAME TIME AS POLIO.	Yes ..... 1 **No** ..... **2** **Don't know** **8**				2⇨ IM17 8⇨ IM17
IM16	HOW MANY TIMES?	No. of times ..... ☐				
IM17	HAS (*name*) EVER BEEN GIVEN "MEASLES VACCINATION INJECTIONS" OR MMR – 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 Don't know 8				
IM18	HAS (*name*) 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 Don't know 8				
IM19	PLEASE TELL ME. IF (*name*) HAS PARTICIPATED IN ANY OF THE FOLLOWING CAMPAIGNS, NATIONAL IMMUNIZATION DAYS AND/OR VITAMIN A OR CHILD HEALTH DAYS:		Yes	No	DK	
IM19a	CHILD HEALTH DAYS, VIT-A CAMPAIGN		1	2	8	
IM19b	MEASLES & VITAMIN A CAMPAIGN		1	2	8	
IM19c	CHILD HEALTH DAYS - VIT. A & DEWORMING CAMPAIGN		1	2	8	
IM20	**Does another eligible child reside in the HH for whom this respondent is mother/caretaker? Check HH listing, column HL8.** ☐ **Yes ⇨ End the current Form and go for another 'Child < 5 Form' to administer the Form for the next eligible child.** ☐ **No ⇨ End the interview with this respondent by thanking him/her cooperation. If this the last eligible child in the HH, go on to Anthropometry Section (C.8).**					

C.8: Anthropometry — AN

#	Question	Options	Skip
	After completing Forms for all children age 6-59 months, the weight and height measurements of each child are to be taken. Record weight and length/height below, taking care to record the measurements on the correct Form for each child. Check the child's name and line number on the HH Listing Section before recording measurements.		
AN-A	**Check UF11: Child age 6-59 months?** ☐ **Yes ⇨ Continue to AN-B** ☐ **No ⇨ END**		
AN-B	Name and Line Number of the Child _____	Line Number..... ☐☐	
AN1	Child's weight	Kilograms (Kg)..... ☐☐.☐	
AN2	**Child's length or height. Check age of child in UF11:**		
	☐ **Child age below 24 months ⇨ Measure length (lying down).**	**Length (cm)** Lying down ..... ☐☐☐.☐	
	☐ **Child age 24+ months ⇨ Measure height (standing up).**	**Height (cm)** Standing..... ☐☐☐.☐	
AN3	Measurer/investigator identification code	Measurer Code ..... ☐☐	
AN4	Result of measurement	Measured ..... 1 Not present..... 2 Refused ..... 3 Others (Specify)_____ 6	
AN5	**Is there another child in the HH 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 Forms for this HH and check that all identification numbers are inserted on each page. Tally on the Household Information Panel the number of interviews completed.**		

Remarks/Observations by the Supervisor/Editor/Coordinators:

Kenya - Eastern Province, Tharaka District

Multiple Indicator Cluster Survey

2008