

Tanzania-Netherlands

SNV

CWIQ Comparative Study

Comparison of Baseline Surveys on Poverty, Welfare and Services in Selected Districts in Kagera, Shinyanga and Northern Highlands

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Foreword



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ABBREVIATIONS

CDC	Centre for Disease Control and Prevention
CWIQ	Core Welfare Indicator Questionnaire
DRDP	District Rural Development Project
EA	Enumeration Area
EDI	Economic Development Initiatives
GER	Gross Enrolment Rate
HBS	Household Budget Survey
NCHS	National Centre for Health Statistics
NER	Net Enrolment Rate
TZS	Tanzanian Shilling
WHO	World Health Organisation



Definitions

General

Peri-urban Semi-urban areas in rural districts e.g. district capital

Poverty

Poverty Predictors Variables that can be used to determine household consumption expenditure levels in non-expenditure surveys.

Basic Needs Poverty Line Defined as what a household, using the food basket of the poorest 50 percent of the population, needs to consume to satisfy its basic food needs to attain 2,200 Kcal/day per adult equivalent. The share of non-food expenditures of the poorest 25 percent of households is then added. The Basic Needs Poverty Line is set at TZS 7,253 per 28 days per adult equivalent unit in 2000/1 prices; households consuming less than this are assumed to be unable to satisfy their basic food and non-food needs.

Education

Literacy Rate The proportion of respondents aged 15 years or older, who identify themselves as being able to read and write in at least one language.

Primary School Age 7 to 13 years of age

Secondary School Age 14 to 19 years of age

Access to Primary School A household is considered to have access to a primary school if it is located within 30 minutes of travel from the nearest primary school.

Access to Secondary School A household is considered to have access to a secondary school if it is located within 30 minutes of travel from the nearest secondary school.

Satisfaction with Education No problems cited with school attended.

Gross Enrolment Rate The ratio of all individuals attending school,



irrespective of their age, to the population of children of school age.

Net Enrolment Rate

The ratio of children of school age currently enrolled at school to the population of children of school age.

Health

Access to Health Facilities

A household is considered to have access to a health facility if it is located within 30 minutes of travel from the nearest health facility.

Need for Health Facilities

An individual is classed as having experienced need for a health facility if he/she had suffered from a self-diagnosed illness in the four weeks preceding the survey.

Use of Health Facilities

An individual is classed as having used a health facility if he/she had consulted a health professional in the four weeks preceding the survey.

Satisfaction with Health Facilities

No problems cited with health facility used in the four weeks preceding the survey.

Child Nutrition

Stunting

Occurs when an individual's height is substantially below the average height in his/her age-group.

Wasting

Occurs when an individual's weight is substantially below the average weight for his/her height category.

Employment

Working Individual

An individual who had been engaged in some type of work in the 4 weeks preceding the survey.

Underemployed Individual

An individual who was ready to take on more work at the time of the survey.



Non-working Individual	An individual who had not been involved in any type of work in the 4 weeks preceding the survey.
Unemployed Individual	An individual who had not been engaged in any type of work in the 4 weeks prior to the survey due to lack of work.
Economically Inactive Individual	An individual who had not been engaged in any type of work in the 4 weeks prior to the survey due to reasons unrelated to availability of work (e.g. Illness, old age, disability).
Regular Employee	An individual who is paid a wage/salary.
Casual Employee	An individual who is paid an hourly/daily wage.
<i>Poverty Profile</i>	
Quintile Dispersion Ratio	Ratio of total consumption expenditure in the top consumption quintile to that in the bottom consumption quintile



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1 INTRODUCTION

1.1 The CWIQ Comparative Study

This report presents a comparison of the results of 3 CWIQ surveys conducted between 2004 and 2005 in 16 districts in Tanzania using the Core Welfare Indicators Questionnaire instrument (CWIQ). CWIQ is an off-the-shelf survey package developed by the World Bank to produce standardised monitoring indicators of welfare. The questionnaire is purposively concise and is designed to collect information on household demographics, employment, education, health and nutrition, as well as utilisation of and satisfaction with social services.

The standardised nature of the questionnaire allows meaningful comparison between districts, as well as, potentially, between regions and countries. This study aims to compare some of the main basic welfare indicators across the surveyed districts. Repetition of these surveys in 1 to 2 years would allow analysis of change in the welfare of households within the district, as well as in relation to other districts.

Data used in this study was collected as part of 3 separate surveys in Kagera region (2004), Shinyanga region (2004) and the Northern Highlands (2005). All of these surveys were implemented by EDI (Economic Development Initiatives), a Tanzanian registered research, consultancy and training company, on behalf of DRDP and SNV of the Netherlands Embassy. The study is aimed at national, regional and district level policy makers, as well as the research and policy community at large.

This report begins with a description of the survey methodology, including the sampling frame. The following chapters focus on comparison of population characteristics, as well as trends in main education, health, child nutrition and employment trends across the surveyed districts. The last chapter analyses trends in some of the indicators discussed throughout the report by household poverty status.

1.2 Survey Methodology

Each of the surveys started with selection of Enumeration Areas (EA's); this was followed by listing and sampling of households within these EA's. Interviews were then administered in each of the selected households. At the end of each interview weight and height measurements were taken of every household member under the age of 5. This section describes the survey methodology used to collect the data used in this study. It should be noted, however, that as the data was collected in 3 separate surveys, there are some minor variations in the survey methodologies of each survey that will not be discussed in this section¹.

¹ Details of the survey specific methodologies can be found in the individual reports: www.edi-africa.com/research/cwiq.htm



In the first stage of the sampling process EA's (also referred to as clusters) were selected in 2 strata, rural and peri-urban². The exact number of rural and peri-urban clusters surveyed in each district is shown in Table 1. Listing of households was then administered in each of the selected Enumeration Areas. Upon completion of the listing process, 15 households were randomly selected from the list of all households in each of the sampled clusters.

In total, 450 households were surveyed in each of the districts; the comparison in this study is, therefore, based on data from a total of 7,200 households. All households were given statistical weights reflecting the number of households that they represent within the district in which they are located.

Table 1: Sample Stratification

	<i>Rural</i>		<i>Peri-urban</i>		<i>Total</i>
	No. of selected Enumeration Areas	No. of selected households	No. of selected Enumeration Areas	No. of selected households	
Kagera					
Karagwe	28	420	2	30	450
Bukoba Rural	26	390	4	60	450
Muleba	28	420	2	30	450
Biharamulo	24	360	6	90	450
Ngara	27	405	3	45	450
Shinyanga					
Kishapu	27	405	3	45	450
Shinyanga Rural	29	435	1	15	450
Maswa	27	405	3	45	450
Meatu	29	435	1	15	450
Bariadi	28	420	2	30	450
Bukombe	26	390	4	60	450
Kahama	26	390	4	60	450
Northern Highlands					
Monduli	26	390	4	60	450
Karatu	26	390	4	60	450
Mbulu	26	390	4	60	450
Kondoa	26	390	4	60	450

The interview administered in each of the sampled households contained household and individual level questions. The household level questions mainly inform on household assets and facilities. Individual level questions relate to details of the age and sex of each household member, as well as basic information on education health and employment status. Further, weight and height measurements and details of delivery facilities and

² Although all of the surveyed districts are generally classed as rural, they still contain some areas which are semi-urban (e.g. district capitals). Throughout this report such areas shall be referred to as 'peri-urban'.



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assistance were collected for all children under the age of 5. Interviewing each member of the household was beyond the scope of the surveys. The whole interview was conducted with the most informed person in the household, as identified by the household; in the majority of instances this person was also the head of the household.



2 POPULATION AND HOUSEHOLD CHARACTERISTICS

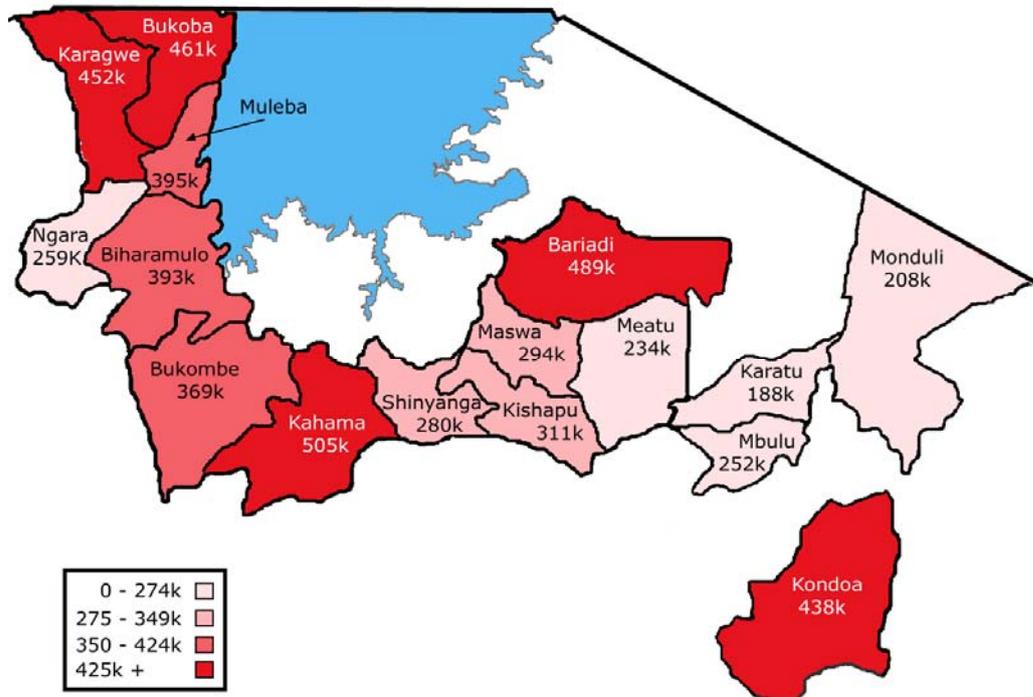
2.1 Introduction

This chapter provides an overview of the population and household characteristics of the surveyed districts. The first part focuses on the size and age distributions of the population in each district. The number of households per district, as well as their distribution between rural and peri-urban areas is discussed next. Analysis of the distribution of households by selected characteristics, such as mean household size and sex and education of the household heads concludes this chapter.

2.2 Population Characteristics

Out of the surveyed districts, Kahama has the largest population, containing just over half of a million residents, as shown in Map 1. In contrast, Karatu district, which has the smallest population, is inhabited by roughly 188,000 people. The majority of rural districts in Kagera region have over 300,000 residents. In contrast, only 1 out of the 4 surveyed districts in the Northern Highlands contains more than roughly a quarter of a million residents.

Map 1: Weighted Population Total by District



Population and Household Characteristics



Table 2 shows the distribution of the population in each district by age-group and median age. The great majority of individuals in all of the surveyed districts are under the age of 65. Further, in 9 out of the 16 districts, individuals under the age 15 make up over half of the population. Kondoa district contains a higher proportion of those over the age of 65 than any other district, at 7 percent. In contrast, in Bukombe and Kahama districts, only 2 percent of the population were in this age-group at the time of the survey.

The median age in the surveyed districts ranges from 13 years in Biharamulo, Bariadi and Bukombe districts, to 16 years in the majority of the surveyed districts in the Northern Highlands, as well as Kahama, Shinyanga Rural and Bukoba Rural districts.

Table 2: District Level Distribution of Population by Age Group and Median Age

	<i>Distribution of Population by Age</i>			Median Age
	0 – 15	15 – 64	65+	
Kagera				
Karagwe	53	45	3	15
Bukoba Rural	49	46	5	16
Muleba	51	44	5	15
Biharamulo	56	41	3	13
Ngara	54	43	3	14
Shinyanga				
Kishapu	48	48	3	15
Shinyanga Rural	49	46	5	16
Maswa	52	45	3	14
Meatu	53	44	3	14
Bariadi	52	45	3	13
Bukombe	55	43	2	13
Kahama	47	52	2	16
Northern Highlands				
Monduli	48	47	5	16
Karatu	49	46	5	16
Mbulu	51	44	5	15
Kondoa	49	45	7	16

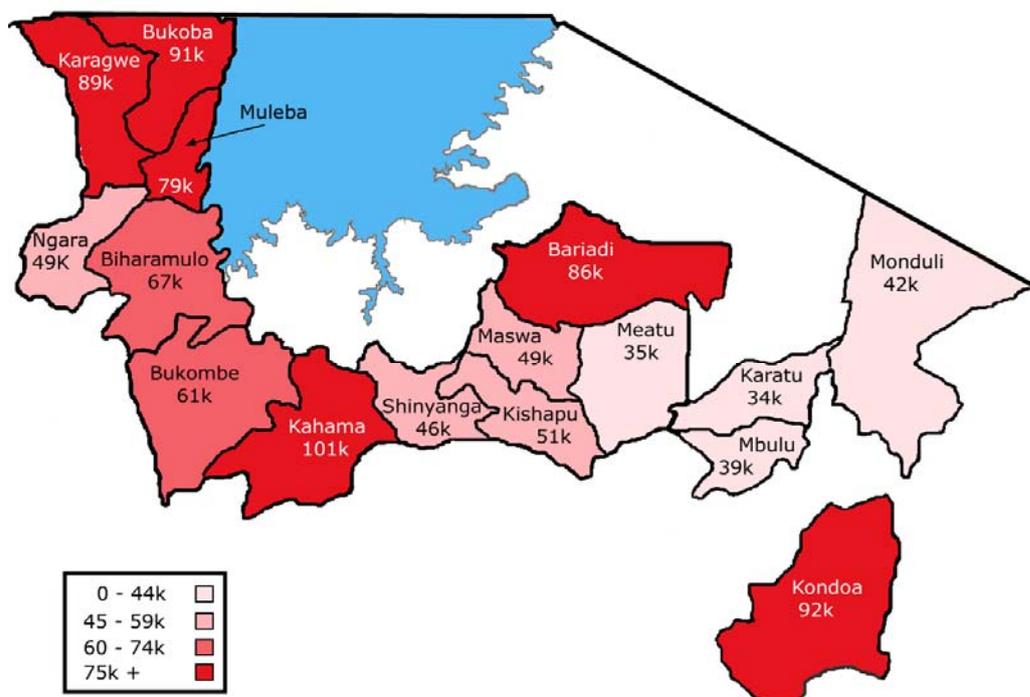


2.3 Household Characteristics

2.3.1 Area of Residence

In consistency with the trends found in population size across the surveyed districts, the number of households located in Kahama exceeds that in any other district, at roughly 101,000 (Map 2). Karatu, on the other hand, contains only about 34,000 households. In addition to Karatu, Meatu and Mbulu are the only other districts that inhabited by fewer than 40,000 households.

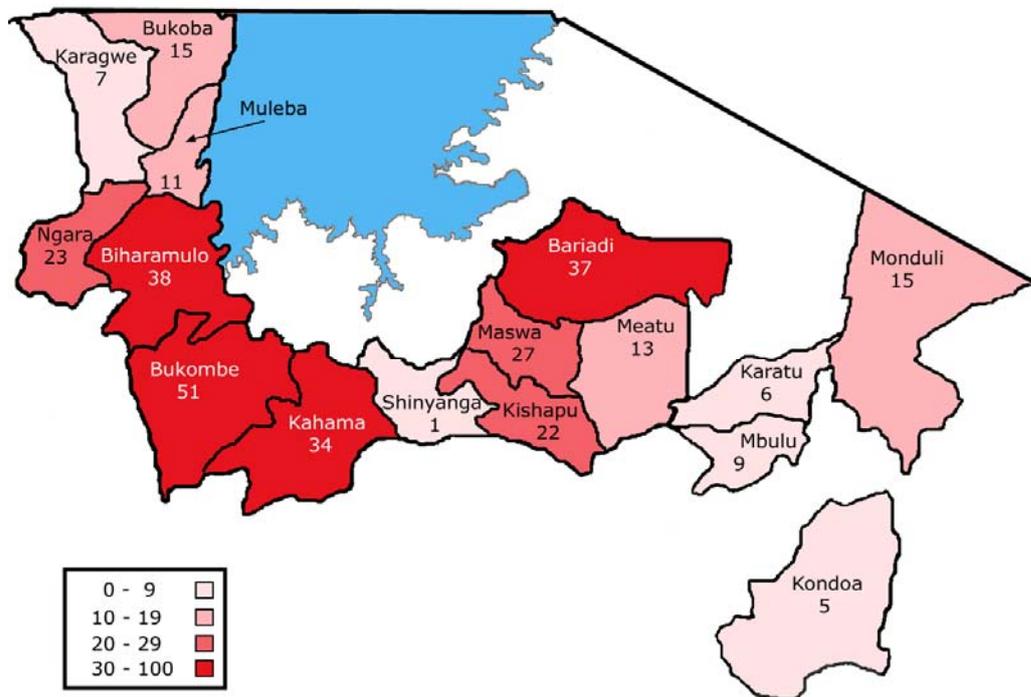
Map 2: Distribution of Households by District





Map 3 further shows that there is substantial variation in the proportions of households located in peri-urban areas between the surveyed districts. While in Bukombe district roughly half of the households are peri-urban, in Shinyanga Rural these households constitute only 1 percent. Least variation in proportions of peri-urban households was found across the surveyed districts in the Northern Highlands, where between 5 percent of households in Kondoa district and 15 percent in Monduli district are located in peri-urban areas. Peri-urban households in the rural districts of Kagera region, on the other hand, constitute between 7 percent of households in Karagwe and 38 percent of those in Biharamulo.

Map 3: Proportion of Households Located in Peri-urban Areas by District

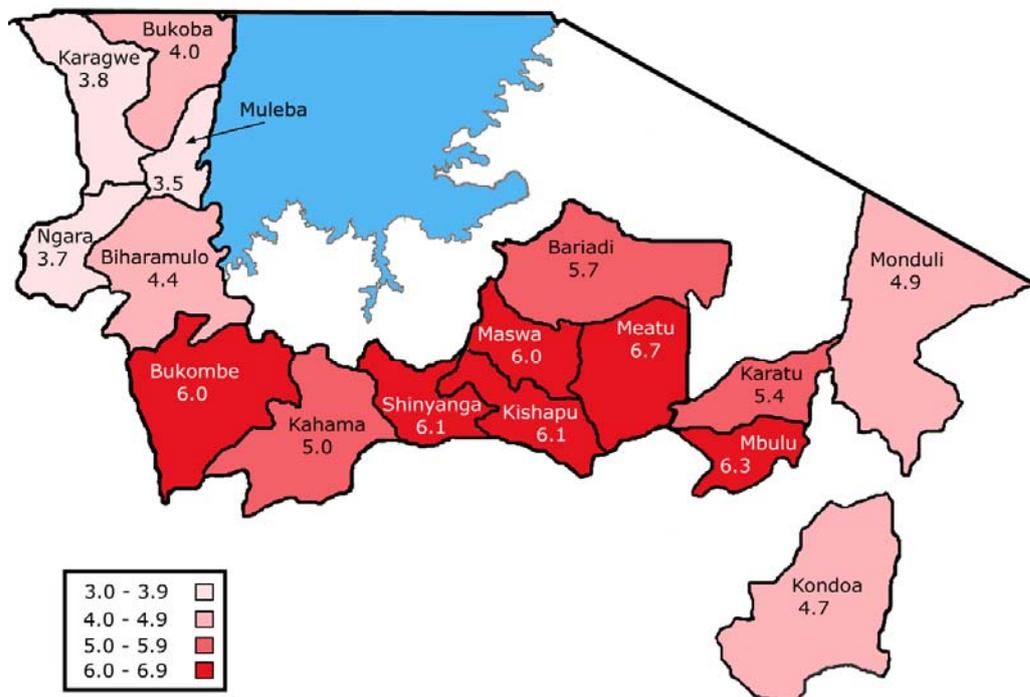


2.3.2 Household Size

While Kahama district contains the highest number of households, Meatu district contains the largest households, as shown on Map 4. On average, households in this district contain 6.7 members. In fact, overall, households in rural districts of Shinyanga region tend to be bigger than those in Kagera region or the surveyed parts of the Northern Highlands. While the average size of households in all of the rural districts in Shinyanga region is at least 5 members, households in rural districts of Kagera are made up of, on average, no more than 4.4 individuals (Biharamulo). Households in the surveyed districts of the Northern Highlands have, on average, between 4.7 (Kondoa) and 6.3 (Mbulu) members.



Map 4: Mean Household Size

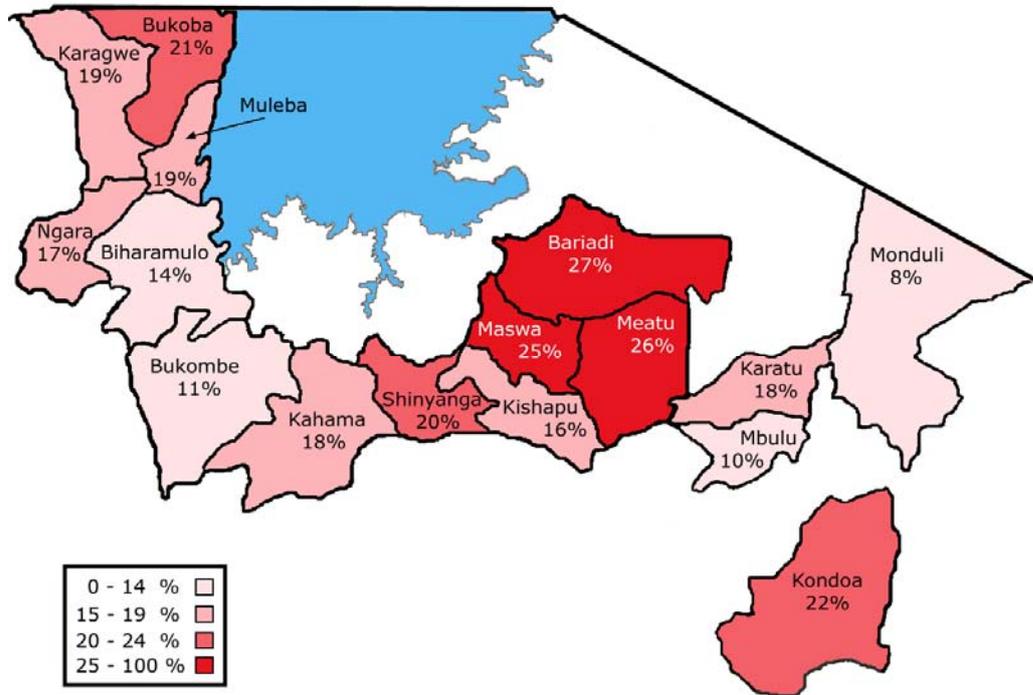


2.3.3 Sex of Household Head

There is also substantial variation in proportions of households headed by a female across the surveyed districts, as shown on Map 5. In Monduli district less than a tenth (8 percent) of the households were headed by a female at the time of the survey. In contrast, in Maswa, Meatu and Bariadi, over a quarter of households were in this group. Least variation in proportions of households headed by a female was found across the rural districts of Kagera region, where women head between 14 and 21 percent of households in, respectively, Biharamulo and Bukoba Rural districts.



Map 5: Percentage of Female Headed Households

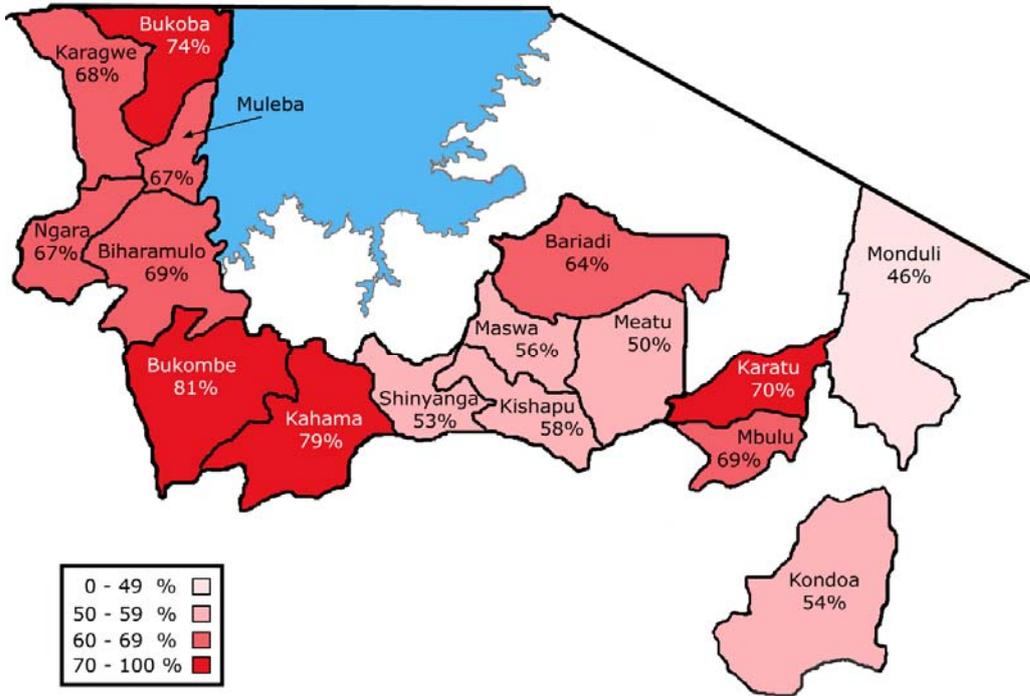


2.3.4 Education of Household Head

In conclusion of the overview of population and household characteristics in the surveyed districts, Map 6 shows the proportion of households in each of the districts headed by an individual with some formal education. The highest proportion of households in this category was found in Bukombe district, where less than a fifth of the household heads have no formal education. In contrast, in Monduli district the minority (46 percent) of households were headed by an individual with some formal education, at the time of the survey. Overall, over half of the surveyed districts, over 60 percent of household heads have some formal education. While this is also the case across in the rural district of Kagera region, the majority of rural districts in Shinyanga region contain between 50 and 60 percent of household heads in this group.



Map 6: Percentage of Households Headed by Individuals with Some Formal Education





3 EDUCATION

3.1 *Introduction*

This chapter examines selected education indicators. The first part focuses on some adult education indicators. These include literacy rate among individuals over the age of 15 and highest education level achieved by those over the age of 19. The second part of the chapter discusses selected education indicators for the population of primary school age (7 to 13 years). Data presented in this section includes primary school access and enrolment rates, trends in formal schooling rate across different age-groups, mean age of individuals completing primary school, as well as levels of and reasons for dissatisfaction with primary school. The last section analyses some secondary school education indicators. These include secondary school access, enrolment and satisfaction rates.

3.2 *Selected Adult Education Indicators*

3.2.1 Literacy

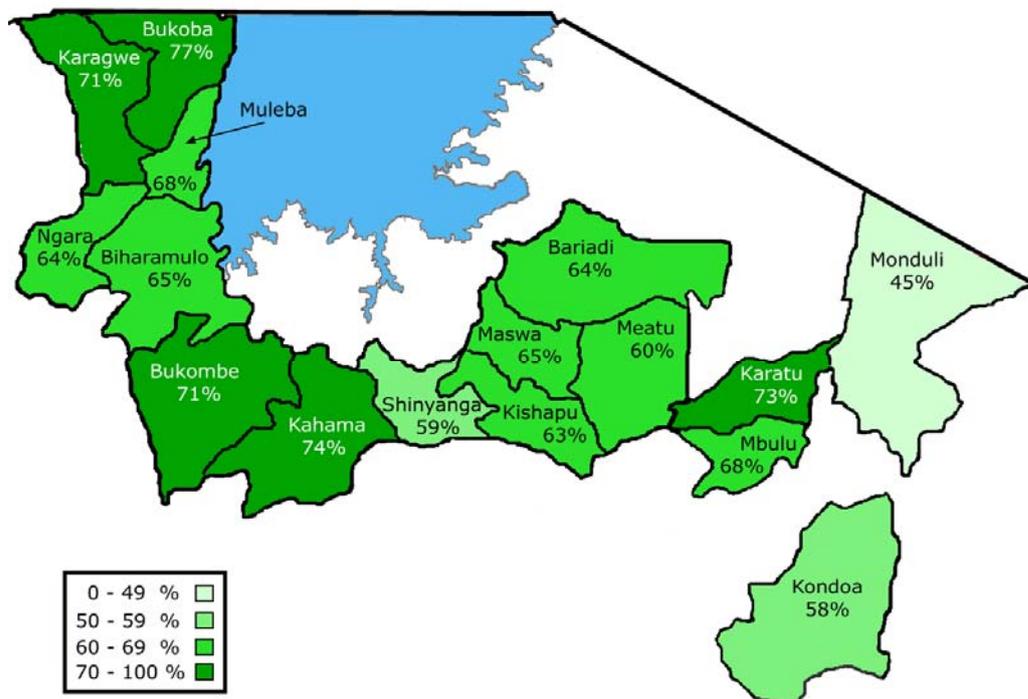
Literacy is defined as the ability to read and write in any language³. Individuals who are able to read but can not write are considered illiterate.

Across the surveyed districts, literacy rates range from 77 percent in Bukoba Rural district to 45 percent in Monduli district. In the great majority of the surveyed districts over 60 percent of the reference population are literate. Further, in addition to Bukoba Rural district, literacy rate exceeds 70 percent in Karagwe, Bukombe, Kahama and Karatu districts. In contrast, in Monduli, Kondoa and Shinyanga Rural districts it is below 60 percent. Monduli remains the only district where less than half of the individuals over the age of 15 are able to read and write.

³ Note that this result is based solely on the respondents' assertions. Independent tests for literacy were not conducted.



Map 7: Adult Literacy (Individuals over the age of 15)¹



1. An individual is considered literate if he/she claims to be able to read *and* write

3.2.2 Level of Schooling Attained

Distribution of individuals over the age of 19 who had attended school at some point, by highest grade attained is shown in Table 3. The majority of this group stopped their formal education at completion of primary school. None of the surveyed districts contained more than 1 percent of adults who had completed secondary school. In fact, in the majority of districts none of the adults had completed secondary school. University attendees who make up at least 1 percent of the reference population were found only in Kahama district

Adults with some secondary education constitute between 4 percent of all adults with some formal schooling in Kondoa, Meatu and Shinyanga Rural districts and 12 percent in Maswa district. Highest proportions of adults with complete primary education only were found in Kishapu, Shinyanga Rural, Meatu and Bariadi districts, where they constitute roughly four fifths of the reference population. In Bukoba Rural, Bukombe and Kondoa districts, on the other hand, the proportions of individuals with incomplete primary education are lower than those in the majority of the districts. In fact, in these districts, a quarter of all adults with some formal schooling had not completed primary school, compared to only a tenth of those in Maswa and Bariadi districts.



Table 3: Distribution of Individuals Over the Age of 19 Who Have Some Formal Schooling by Highest Grade Completed

	Incomplete Primary	Complete Primary	Incomplete Secondary	Complete Secondary	University
Kagera					
Karagwe	19	76	5	0	0
Bukoba Rural	24	67	9	0	0
Muleba	22	72	5	1	0
Biharamulo	18	73	9	0	0
Ngara	14	78	6	1	0
Shinyanga					
Kishapu	12	79	9	0	0
Shinyanga Rural	17	79	4	0	0
Maswa	10	76	12	1	0
Meatu	17	79	4	0	0
Bariadi	10	81	9	0	0
Bukombe	25	67	8	0	0
Kahama	13	75	9	1	1
Northern Highlands					
Monduli	17	72	10	0	0
Karatu	20	71	8	1	0
Mbulu	21	71	8	0	0
Kondoa	25	70	4	1	0



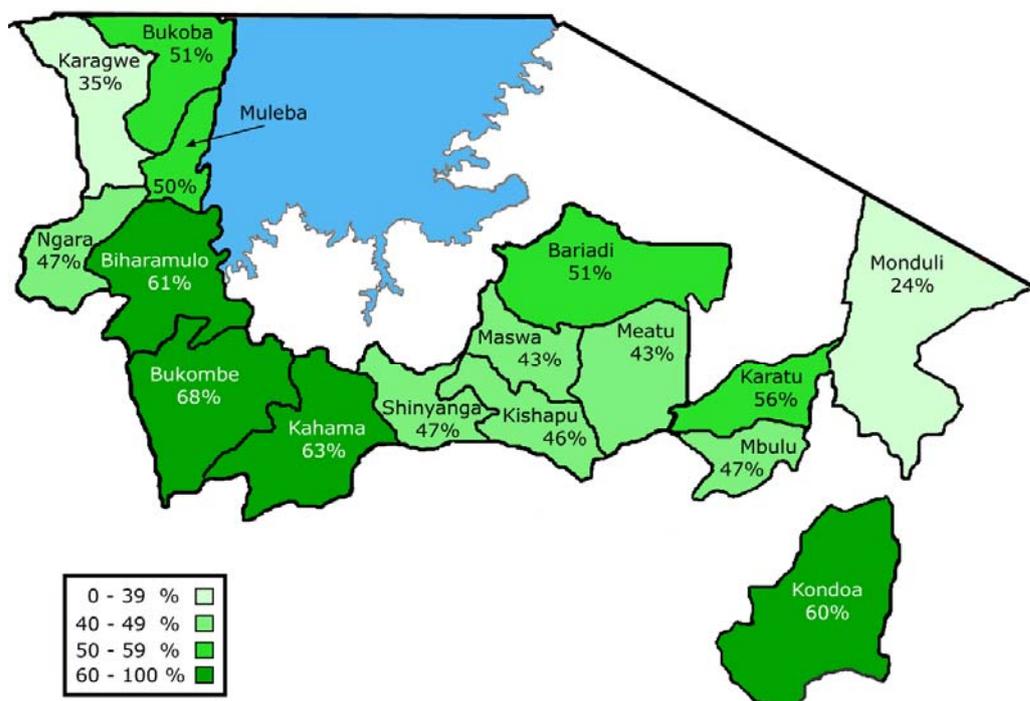
3.3 Primary Level Education Indicators

3.3.1 Access to Primary School

Primary school access rate is defined as the proportion of primary school age children (7 to 13 years) reporting to live within 30 minutes of travel from the nearest primary school.

There is substantial variation in access rates across the surveyed districts, ranging from 24 percent in Monduli to 68 percent in Bukombe. Although access rate is below 50 percent in half of the examined districts, Monduli and Karagwe are the only ones where less than two fifths of the primary school age children are able to get to a primary school within 30 minutes of travel. Even in Karagwe, however, the access rate is 11 percentage points higher than that in Monduli. Access rate varies most across the surveyed districts in the Northern Highlands, where it ranges from 24 percent in Monduli to 60 percent in Kondoa. In rural parts of Shinyanga region, on the other hand, the range is much smaller; access rates here range from 43 percent in Maswa and Meatu to 68 percent in Bukombe.

Map 8: Primary School Access Rate¹



1. The primary school access rate informs on the proportion of individuals of primary school age (7 to 13) who live within 30 minutes of travel from the nearest primary school



Table 4 further shows that the district with the highest primary school access rate – Bukombe - also has the lowest proportion of households located more than an hour of travel from the nearest primary school (9 percent). In contrast, as many as half of the households in Monduli district are located this far from the nearest primary school; this is also the district with the lowest primary school access rate. In all districts, but Monduli, the majority of households are located within an hour of travel from the nearest primary school. In fact, in all districts but Monduli and Karagwe this proportion constitutes at least 70 percent of household in the district. Biharamulo, Bukombe and Kahama districts contain the highest proportion of households located less than 30 minutes of travel from the nearest primary school, at over 60 percent.

Table 4: Cumulative Distribution of Households by Distance to the Nearest Primary School (in minutes of travel as estimated by the respondents)

	Less than 15 minutes	Less than 30 minutes	Less than 45 minutes	Less than 1 hour
Kagera				
Karagwe	17	37	58	66
Bukoba Rural	25	53	75	82
Muleba	26	50	75	82
Biharamulo	44	62	76	80
Ngara	26	42	63	70
Shinyanga				
Kishapu	26	53	76	84
Shinyanga Rural	29	52	75	83
Maswa	21	48	68	77
Meatu	18	43	65	75
Bariadi	35	60	76	84
Bukombe	40	69	86	91
Kahama	43	66	83	88
Northern Highlands				
Monduli	12	23	43	50
Karatu	27	54	75	85
Mbulu	19	49	71	83
Kondo	37	57	76	84

3.3.2 Enrolment

Enrolment is examined in two ways in this section. Firstly, primary school Net Enrolment Rates are analysed. The Net Enrolment Rate (NER) is defined as the ratio of children of school age currently enrolled at school to the population of children of school age. Therefore, primary school NER is the ratio of children between the ages of 7 and 13 years currently in primary school to the population of children in this age-group in the district. In addition, this section examines trends in the formal schooling rate among individuals in different age-groups. The formal schooling rate is defined as the proportion of individuals who attended school at some point in their life. This part is intended to provide more dynamic insight into trends in school enrolment. It allows to

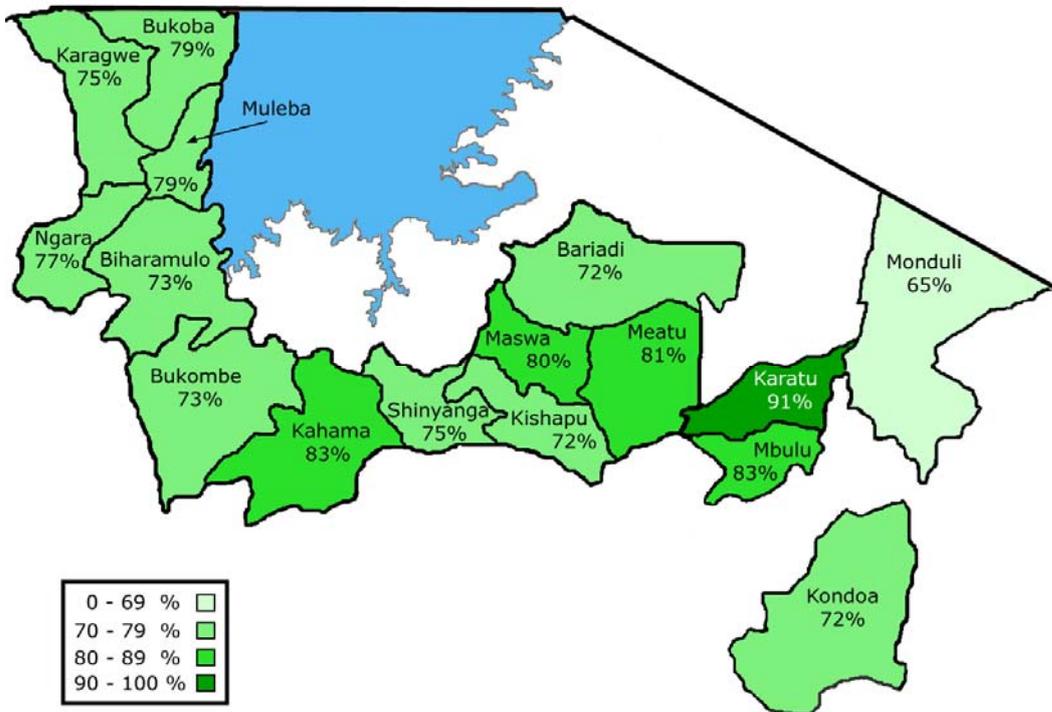


not only compare current trends in enrolment across the surveyed districts, but also the patterns of change in enrolment over time.

Primary School Net Enrolment

By far the highest primary school NER was found in Karatu district. At the time of the survey, 91 percent of children between the ages of 7 and 13 were in primary school in this district (Map 9). In contrast, the primary school NER in the neighbouring district of Monduli is the lowest in the surveyed area, at 65 percent. Variation in primary school NER is lowest across the rural districts of Kagera, where it ranges from 73 percent in Biharamulo to 79 percent in Muleba and Bukoba Rural districts. Finally, while enrolment is below 80 percent in all rural districts of Kagera region, it is between 80 and 83 percent in over half of the rural districts in Shinyanga region.

Map 9: Primary School Net Enrolment Rate¹



1. Primary School Net Enrolment Rate informs on the proportion of children of primary school age who are attending primary school

Table 5 further shows the trend in formal schooling rates by age-group. In all of the examined districts the formal schooling rate tends to decline with age. The formal schooling rate in the 7 to 13 age group is equal to the primary school Net Enrolment Rate shown on Map 9⁴. In the rest of the age groups the formal schooling rate informs on the proportion of individuals who had attended school at some point in their life, irrespective of the grade.

⁴ This is because all children between the ages of 7 and 13 who are at school are also in primary school.



As noted above the primary school NER in Monduli district is the lowest across all the surveyed districts. However, it is also the district where there has been a substantial increase in the formal schooling rate over the generations. Only 10 percent of individuals over the age of 65 had ever been to school here, compared to 65 percent of 7 to 13 year olds. The formal schooling rate has, therefore, increased by nearly 7 times in this district. In Karatu, the district with the highest primary school NER, on the other hand, the formal schooling rate has increased by just over 4 times – from 21 percent among individuals over the age of 65, to 91 percent among the 7 to 13 year olds. Overall, the increase in formal schooling rate between elders and children of primary school age is highest across the surveyed districts in the Northern Highlands, where it ranges from an increase of just over 4 times in Kondoa to that of nearly 7 times in Monduli. In contrast, in rural districts of Kagera, the increase has been substantially less significant. Here the increase ranges from 1.5 times in Bukoba Rural to 2.5 times in Muleba.

Table 5: Distribution of Individuals Over the Age of 6 by Age and Formal Schooling Rate

	Primary School Age (7 to 13)	Secondary School Age (14 to 19)	20 to 29 years	30 to 39 years	40 to 50 years	50 to 64 years	65 +
Kagera							
Karagwe	75	84	73	74	68	58	39
Bukoba Rural	79	89	82	75	77	67	52
Muleba	79	80	75	76	73	48	31
Biharamulo	73	72	73	66	68	44	34
Ngara	77	78	67	74	63	39	32
Shinyanga							
Kishapu	72	82	79	69	48	34	21
Shinyanga Rural	75	84	74	69	48	29	13
Maswa	80	92	76	69	53	34	13
Meatu	81	88	73	60	34	33	17
Bariadi	72	84	77	72	51	32	22
Bukombe	73	86	76	74	69	56	34
Kahama	83	84	73	85	69	59	26
Northern Highlands							
Monduli	65	62	57	52	34	25	10
Karatu	91	93	89	83	77	50	21
Mbulu	83	90	88	81	62	41	13
Kondoa	72	85	76	71	50	26	13

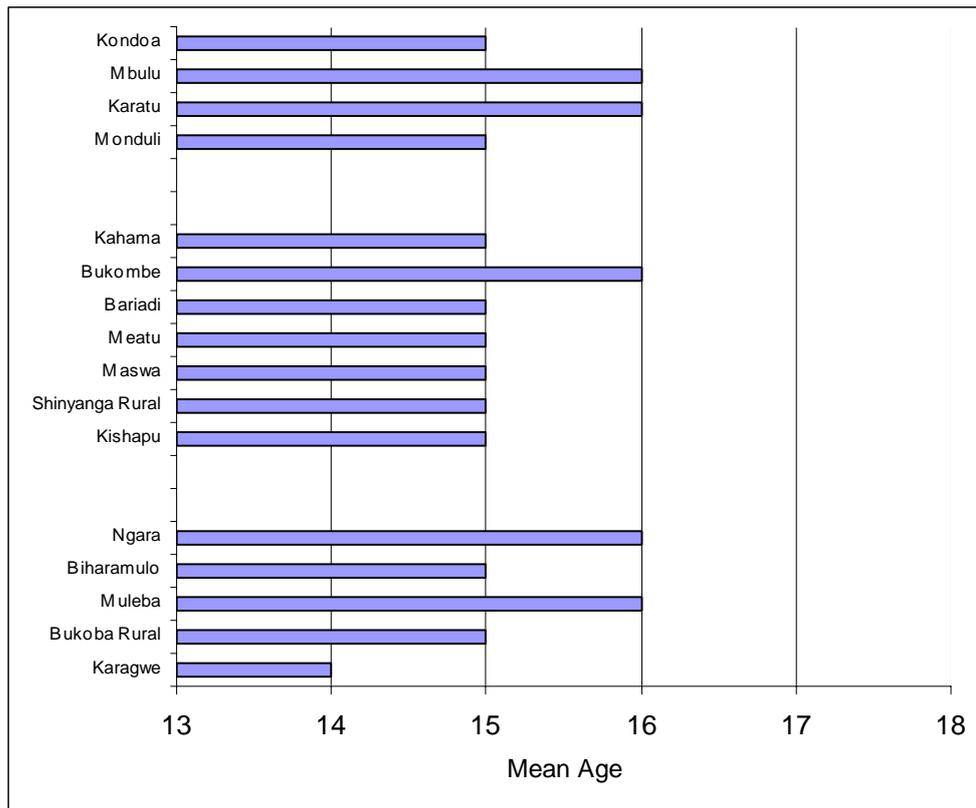
Primary School Lagging

The primary school Net Enrolment Rate does not inform on whether children start school on time (at the age of 7). This is an important education indicator as if children start school later they may be less likely to complete their education. Figure 1 shows the mean age of children who were completing primary school (were in Standard 7) at the time of



the survey. If children start school at the correct age and do not have to repeat any of the years, they should be 13 years old by the time they reach Standard 7. In reality, the mean age is higher than 13 in all of the surveyed districts. It is lowest in Karagwe district, where the average age of Standard 7 pupils was 14 at the time of the survey. In the majority of the surveyed districts, mean age of Standard 7 pupils was 15. The oldest Standard 7 pupils were found in Mbulu, Bukombe, Ngara and Muleba; at the time of the survey, the average age among these Standard 7 pupils was 16 years.

Figure 1: Mean Age of Children who were Completing Primary School (were in Standard 7) at the Time of the Survey



3.3.3 Primary School Satisfaction

Data on satisfaction with primary school was collected by asking primary school pupils if there were any problems with the schools they were attending. The satisfaction rate informs on the proportion of primary school pupils who cited no problems with their schools⁵.

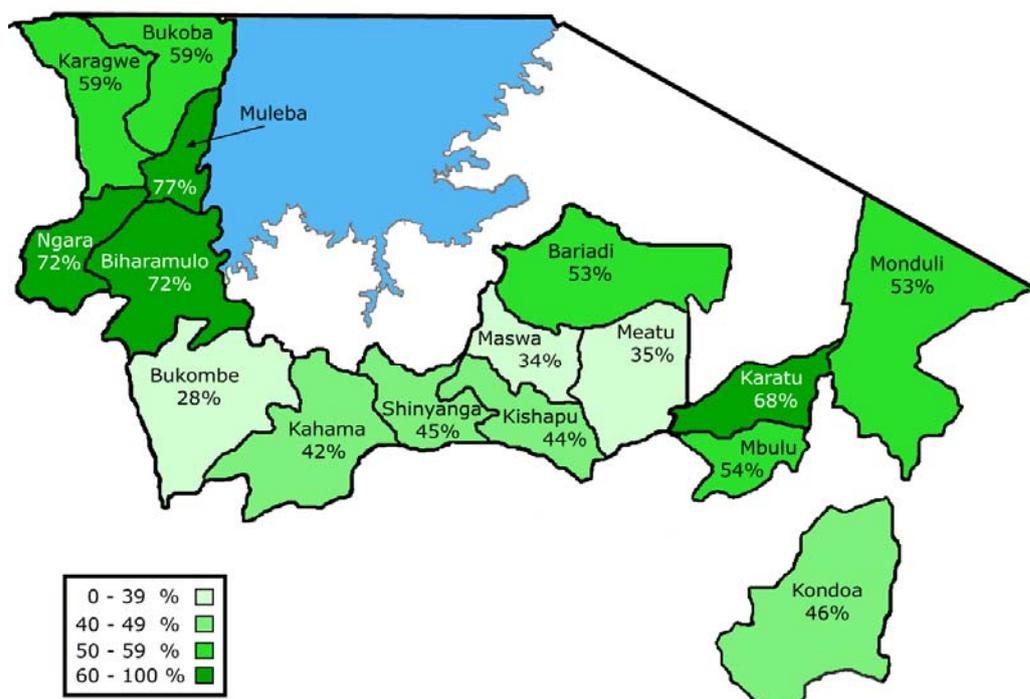
Highest rates of primary school satisfaction were found in Kagera Region. All 3 districts with the highest rates of satisfaction are located here; these are Muleba (77 percent),

⁵ As the interviews were conducted with the most informed person in the household, often school going individuals were not asked directly about satisfaction with schools.



Ngara (72 percent) and Biharamulo (72 percent). By far the lowest satisfaction rate was found in Bukombe, where only 28 percent of primary school students had no complaints to make about the schools they were attending. In fact, in general, lowest rates of satisfaction were found in the rural districts of Shinyanga region. The highest satisfaction rate here is lower than the lowest satisfaction rate in the rural districts of Kagera Region. Finally, at 68 percent, the satisfaction rate in Karatu district is more than 10 percentage points higher than that in any of the other districts surveyed in the Northern Highlands.

Map 10: Primary School Satisfaction Rate¹



1. Primary school satisfaction rate informs on the proportion of primary school pupils who cited no problems with the schools they were attending at the time of the survey



Table 6 further shows the distribution of the dissatisfied primary school students by reason for dissatisfaction. To obtain this information, primary school students who were not satisfied with the schools they were attending at the time of the survey were asked to provide reasons for their dissatisfaction. Complaints regarding lack of books and other resources were allocated into the 'Books/Supplies' category, while those relating to quality of teaching and teacher shortages were grouped into the 'Teaching' category. The 'Facilities' category incorporates complaints regarding overcrowding and bad condition of facilities. The row totals exceed 100 percent as pupils were allowed to cite more than 1 complaint.

In the majority of the surveyed districts, complaints regarding teaching and teacher shortages are more widespread than those related to either of the other 2 categories. Teaching related complaints were cited by between half (Monduli) and 89 percent (Bariadi) of dissatisfied primary school pupils. In fact, in Shinyanga region, this was a reason for dissatisfaction for over four fifths of the dissatisfied pupils in 4 out of the 7 rural districts. Such complaints are less widespread in the surveyed areas of Kagera and the Northern Highlands, where no more than 76 percent of the reference population cited these issues. Finally, in Bukoba Rural, Kishapu, Monduli and Kondoa districts teacher related complaints were not the most prominent.

Complaints regarding insufficient resources tend to be slightly less widespread than those related to teaching. In over half of the surveyed districts, however, the difference between proportions of dissatisfied pupils complaining about the teaching and those citing insufficient resources ('Books/Supplies') does not exceed 10 percentage points. Further, the proportions of dissatisfied pupils citing lack of books and supplies are very similar to that of pupils citing teaching. This is the least prominent complaint in Mbulu district where it was cited by 50 percent of the reference population and the most widespread one in Bariadi, cited by 84 percent.

Finally, overcrowding and bad conditions of facilities were mentioned by smaller proportions of dissatisfied pupils than teaching or lack of supplies. This is the case in all districts, with the exception of Karagwe and Ngara. In fact, in Ngara facility related complaints are more widespread than those related to either of the other two categories. Overall, proportions of dissatisfied pupils complaining about facilities range from 25 percent in Monduli and Kondoa districts to 57 percent in Ngara. Problems related to overcrowding and bad condition of facilities appear to be less of an issue in the surveyed areas of the Northern Highlands than the rural districts of Shinyanga and Kagera regions.

**Table 6: Rates of and Reasons for Dissatisfaction among Primary School Children**

	Dissatis- faction	<i>Reasons for Dissatisfaction</i>		
		Books/ Supplies	Teaching ¹	Facilities ²
Kagera				
Karagwe	39	53	76	55
Bukoba Rural	40	64	52	35
Muleba	22	62	65	44
Biharamulo	27	56	73	43
Ngara	27	51	54	57
Shinyanga				
Kishapu	53	70	65	45
Shinyanga Rural	55	73	76	50
Maswa	67	78	78	46
Meatu	65	81	85	51
Bariadi	49	84	89	51
Bukombe	71	75	88	42
Kahama	56	66	83	45
Northern Highlands				
Monduli	47	61	50	25
Karatu	32	51	63	29
Mbulu	46	50	58	29
Kondoa	54	73	70	25

1. Teaching: this category includes complaints regarding quality of teaching and teacher shortages

2. Facilities: this category includes complaints regarding overcrowding and bad condition of facilities



3.4 Secondary Level Education Indicators

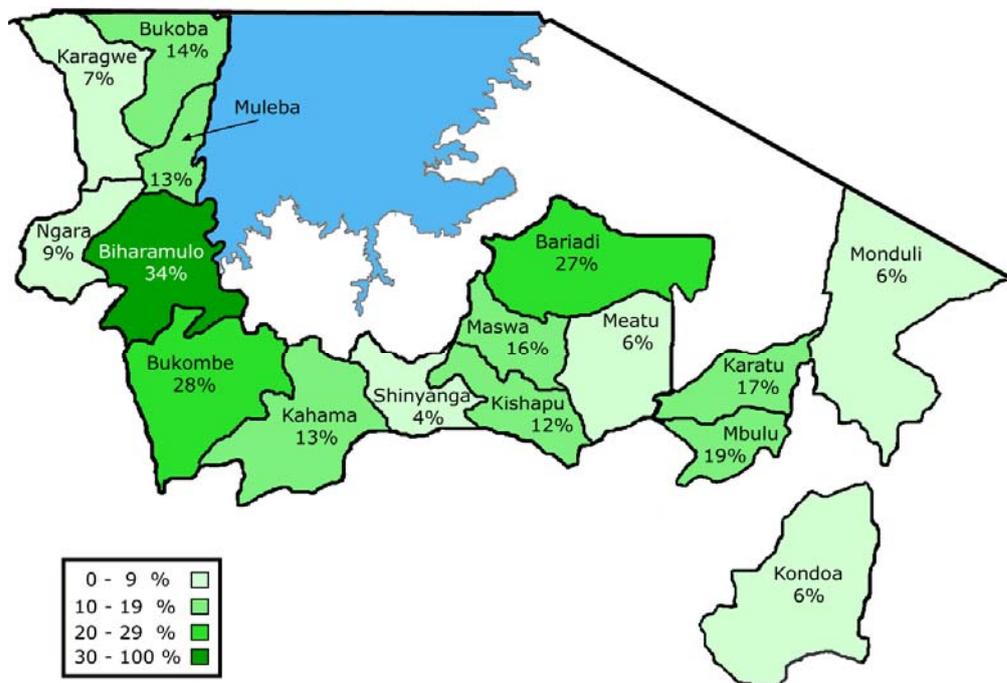
3.4.1 Access to Secondary School

Access

As mentioned previously, access is defined in the CWIQ as the proportion of individuals of, in this instance, secondary school age (14 to 19 years) who live in households located within 30 minutes of travel from, in this case, the nearest secondary school.

Secondary school access rate is highest in Biharamulo district of Kagera region. Over a third of secondary school age individuals in this district are able to get to a primary school within 30 minutes of travel. Other districts with similarly high access rates include Bukombe and Bariadi. In contrast, in Shinyanga Rural district only 4 percent of the reference population live this close to the nearest secondary school. Almost equally low access rates were also found in Kondoa, Monduli and Meatu districts. Overall, access rates do not exceed 19 percent (Mbulu) across the surveyed districts in the Northern Highlands, compared to 28 percent (Bukombe) in the rural districts of Shinyanga region and 34 percent (Biharamulo) in those of Kagera region.

Map 11: Secondary School Access Rate¹



1. Secondary school access rate informs on the proportion of individuals of secondary school age who live within 30 minutes of travel from the nearest secondary school



Distance

Table 7 further shows the distribution of all households in the surveyed districts by the time it takes to travel to the nearest secondary school. In all districts, over half of the households are located at least an hour away from the nearest secondary school. This proportion is highest in Meatu and Shinyanga Rural districts, where it constitutes over 85 percent of the households. In contrast, in Mbulu, Bukombe, Bariadi and Biharamulo districts less than 60 percent of households are located this far. Proportions of households located less than 30 minutes of travel from the nearest secondary school range from 5 percent in Karagwe and Monduli districts to roughly 30 percent in Biharamulo, Bariadi and Bukombe districts. In the majority of districts, this proportion is less than 20 percent. With the exception of Biharamulo and Bukombe districts, less than 10 percent of households in all of the surveyed districts are located within 15 minutes of travel from the nearest secondary school.

Table 7: Cumulative Distribution of Households by Distance to the Nearest Secondary School (in minutes of travel as estimated by the respondent)

	Less than 15 minutes	Less than 30 minutes	Less than 45 minutes	Less than 1 hour
Kagera				
Karagwe	1	5	14	20
Bukoba Rural	5	10	21	29
Muleba	1	12	20	28
Biharamulo	13	28	37	42
Ngara	3	7	13	20
Shinyanga				
Kishapu	7	13	17	22
Shinyanga Rural	2	6	11	14
Maswa	2	14	18	24
Meatu	2	4	7	12
Bariadi	3	30	37	41
Bukombe	16	29	40	43
Kahama	3	11	20	24
Northern Highlands				
Monduli	2	5	9	15
Karatu	6	14	24	31
Mbulu	5	13	28	42
Kondoa	2	6	13	18

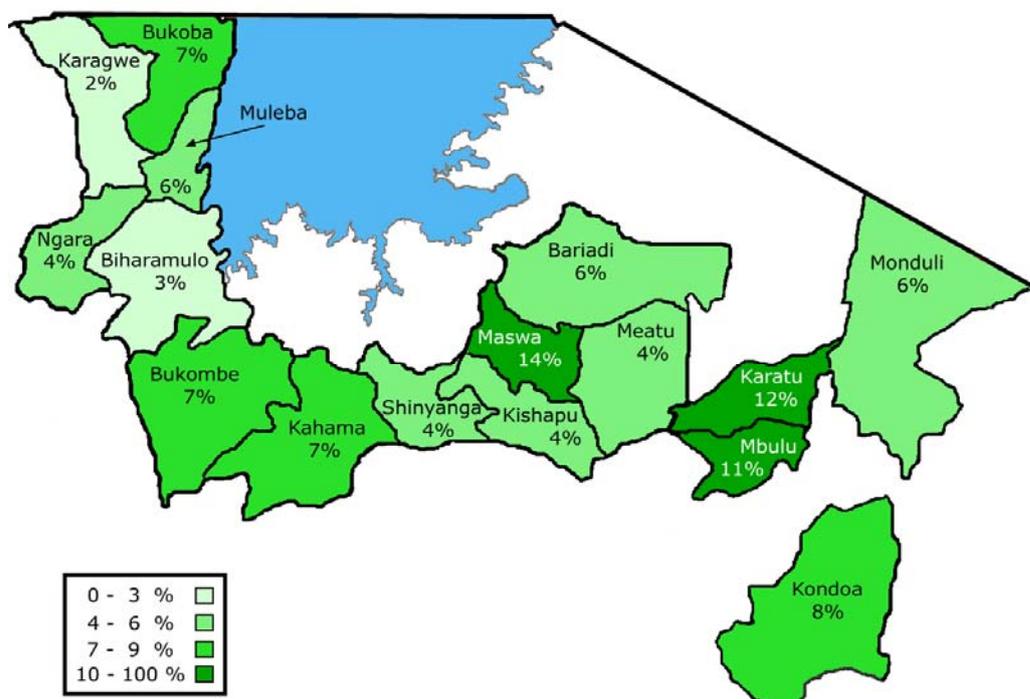
3.4.2 Secondary School Enrolment

As noted above, the Net Enrolment Rate (NER) is defined as the ratio of children of school age currently enrolled at school to the population of children of school age. Therefore, secondary school NER is the ratio of individuals between the ages of 14 and 19 years currently in secondary school to the population of individuals in this age-group.



The highest proportion of individuals of secondary school age attending secondary school was found in Maswa district, at 14 percent (Map 12). There are only two other districts in the surveyed area where the secondary school NER exceeds 10 percent; these are Karatu district (12 percent) and Mbulu district (11 percent). In contrast, the secondary school NER in Karagwe is only 2 percent. In fact, the secondary school NER is below 5 percent in the majority of rural districts in Kagera region. Highest variation in secondary school NER was found across the rural districts of Shinyanga region. The NERs in these districts, range from 4 percent in Shinyanga Rural, Kishapu and Meatu, to 14 percent in Maswa.

Map 12: Secondary School Net Enrolment Rate¹



1. The secondary school NER informs on the proportion of individuals of secondary school age who were attending secondary school at the time of the survey.

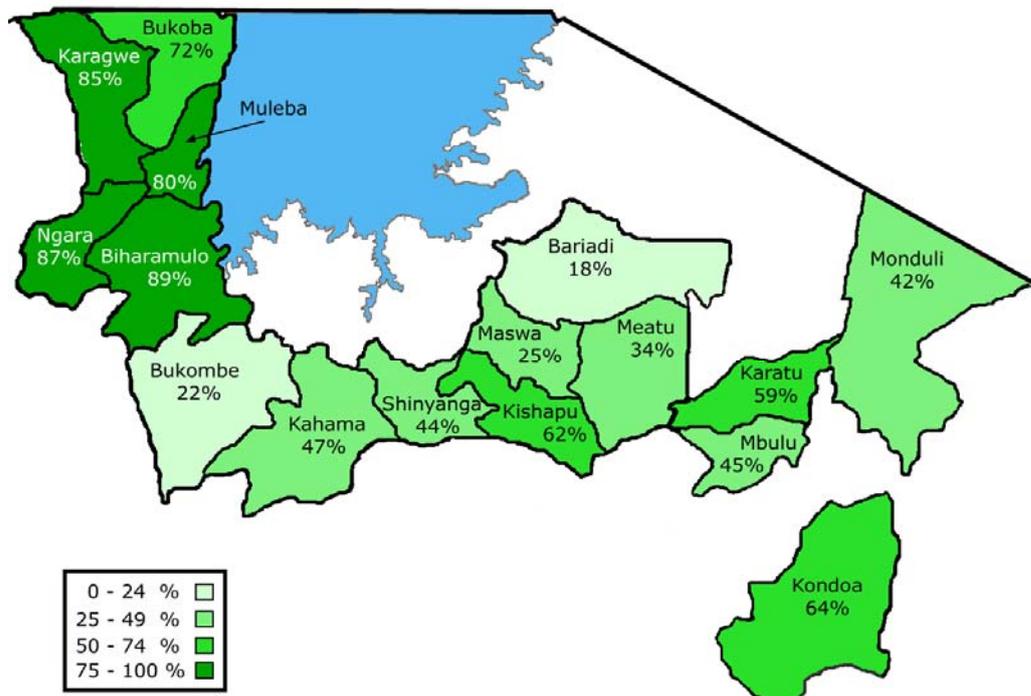


3.4.3 Secondary School Satisfaction

Data on satisfaction with secondary schools was collected by asking secondary school pupils if there were any problems with the school they were attending. The satisfaction rate informs on the proportion of secondary school pupils who cited no problems with their schools⁶.

The most satisfied pupils were found in the rural districts of Kagera, as shown on Map 13. Satisfaction rates here range from 72 percent in Bukoba Rural to 89 percent in Biharamulo. While the satisfaction rate in the former district is the lowest across the rural districts of Kagera, it is higher than that found in the rest of the surveyed districts. Lowest satisfaction rates were found in Shinyanga region; only roughly a fifth of the secondary school pupils in Bariadi and Bukombe districts were satisfied with their schools at the time of the survey. Satisfaction rate exceeds 50 percent in only 1 of the 7 rural districts in Shinyanga region (Kishapu). In the Northern Highlands, this is the case in half of the surveyed districts (Kondoa and Karatu).

Map 13: Secondary School Satisfaction Rate¹



1. The secondary school satisfaction rate informs on the proportion of secondary school pupils who were satisfied with their schools at the time of the survey.

⁶ As the interviews were conducted with the most informed person in the household, often school going individuals were not asked directly about satisfaction with schools.



4 HEALTH

4.1 Introduction

This chapter compares selected health indicators across the surveyed districts in Kagera and Shinyanga regions, as well as the Northern Highlands. The first section examines selected health indicators for the whole population in each district. This section is followed by analysis of the distribution of the ill sub-group in the population of each district by type of illness. Further, those who had been ill in the 4 weeks preceding the survey and had consulted a health provider are disaggregated by specific type of health provider consulted. The penultimate section of this chapter analyses reasons for dissatisfaction among health facility users. Those who had been ill in the specified time-period and had not consulted a health provider are examined by reason for non-use in the concluding part of the chapter.

4.2 Selected Health Indicators

4.2.1 Access to Health Facilities

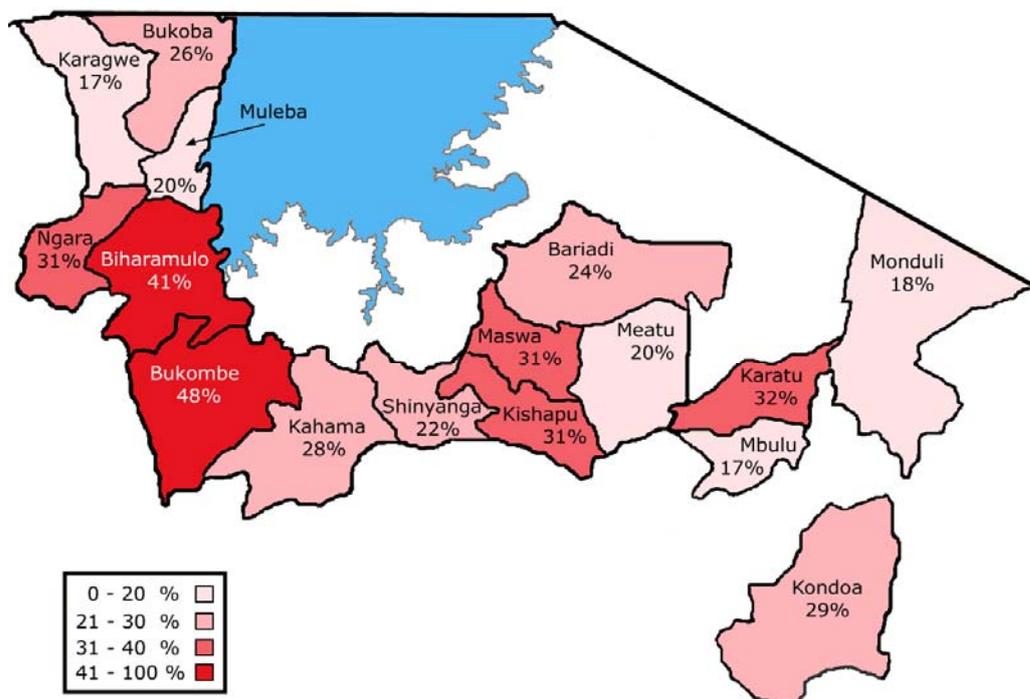
Access

Health facility access rate is defined as the proportion of individuals living within 30 minutes of travel from the nearest health facility. Judgment of the time it takes to travel to the facility as well as what is classed as a health facility is left to the discretion of the respondent.

Access is highest in Biharamulo district in Kagera region and Bukombe district in Shinyanga region, at 41 and 48 percent of the respective populations (Map 14). Access is lowest in Karagwe and Mbulu districts; only 17 percent of the population in these districts are able to get to a health facility within 30 minutes of travel; in Monduli district this proportion is only 1 percentage point higher. The highest variation in access rates was found across the rural districts of Shinyanga region, where they range from 48 percent in Bukombe to 20 percent in Meatu.



Map 14: Access to Health Facilities¹



¹ Access to health facilities is defined as the proportion of the population who live within 30 minutes of travel from the nearest health facility

Distance

Table 8 further shows the cumulative distribution of households in each of the examined districts by the time it takes to travel to the nearest health facility, as estimated by the respondent.

Households located less than 15 minutes from the nearest health facility constitute less than 10 percent of all households in Karagwe, Muleba, Bariadi, Monduli and Mbulu districts. Karagwe and Monduli districts also have the highest proportions of households located at least an hour away from the nearest health facility; more than 3 out of 5 households in these districts are located this far away. In contrast in Biharamulo, Maswa, Bukombe and Karatu districts roughly 3 out of 5 households are located within an hour of travel from the nearest health facility. The proportions of households located within 15 minutes of travel from the nearest health facilities are highest in Biharamulo and Bukombe districts, at 31 and 40 percent respectively.



Table 8: Cumulative Distribution of Households by Distance to Health Facilities (in minutes of travel as estimated by the respondent)

	Less than 15 minutes	Less than 30 minutes	Less than 45 minutes	Less than 1 hour
Kagera				
Karagwe	8	18	28	39
Bukoba Rural	12	25	38	49
Muleba	6	18	31	42
Biharamulo	31	45	58	61
Ngara	16	29	44	49
Shinyanga				
Kishapu	16	35	48	56
Shinyanga Rural	11	24	37	46
Maswa	15	35	52	60
Meatu	10	21	38	47
Bariadi	4	30	43	54
Bukombe	40	51	58	61
Kahama	14	29	41	50
Northern Highlands				
Monduli	7	18	29	37
Karatu	13	33	51	64
Mbulu	5	16	32	44
Kondoa	18	27	38	48

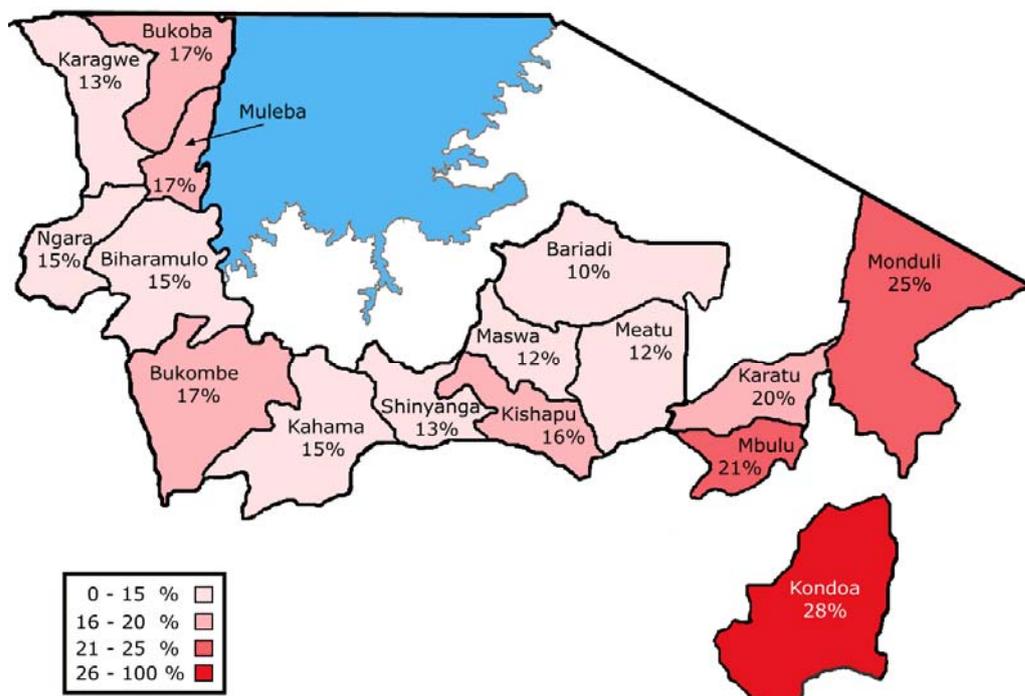
4.2.2 Need for Health Services

An individual is classed as having experienced need for medical assistance if he/she reports incidence of illness in the 4 weeks preceding the survey. It must be noted that need is based on self-reported occurrence of illness, rather than a diagnosis by a health professional.

The lowest rates of need were found in districts located in Shinyanga region, as shown on Map 15. The lowest rate of need was found in Bariadi district, at 10 percent, closely followed by Maswa (12 percent), Meatu (12 percent) and Shinyanga Rural (13 percent) districts. Overall, the highest reported rates of need in rural parts of Shinyanga and Kagera regions are lower than the lowest rate of need among the surveyed districts located in the Northern Highlands. This is the area where the highest rates of need were found, ranging between 20 percent in Karatu and 28 percent in Kondoa.



Map 15: Need for Health Services – Percentage of Individuals Who Report having been Ill in the 4 Weeks Preceding the Survey



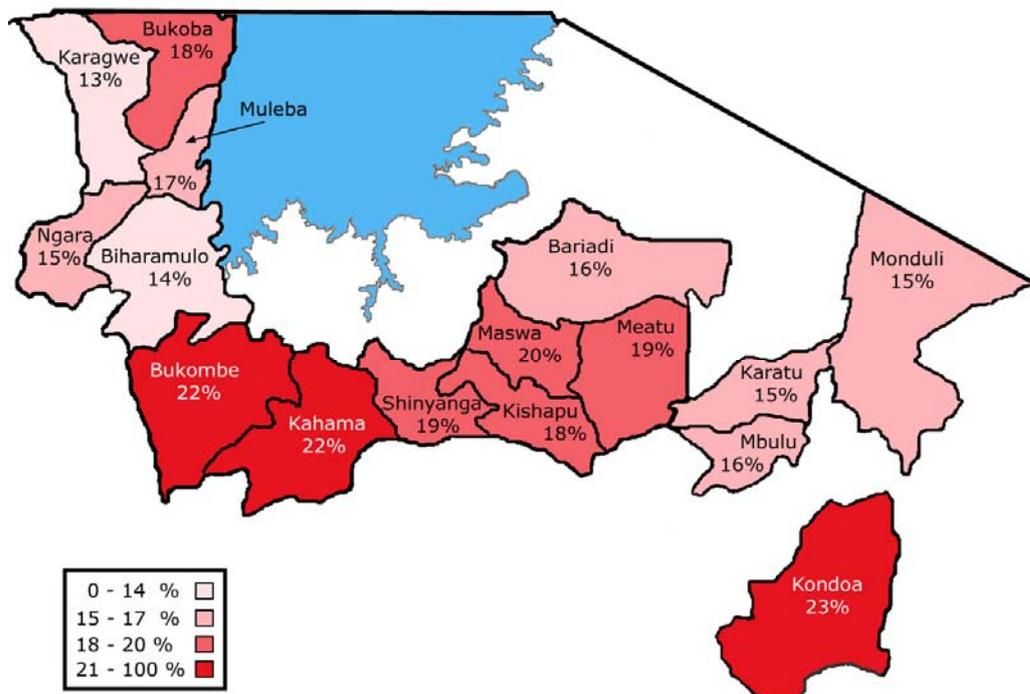
4.2.3 Use of Health Services

The rate of health facility use is defined as the proportion of individuals who had consulted a health service provider in the 4 weeks preceding the survey regardless of their health status.

While lowest rates of need were found in rural districts of Shinyanga region, lowest rates of health facility use were found in those of Kagera region (Map 16). Only 13 percent of residents of Karagwe district had visited a health provider in the 4 weeks preceding the survey. This proportion is nearly the same in Biharamulo and Ngara districts, at 14 and 15 percent respectively. In consistency with trends in rate of need, the highest rate of use was found in Kondoa district (Northern Highlands), where nearly a quarter (23 percent) of the population had consulted a health provider in the specified time period; similar rates of use were also found in Bukombe and Kahama districts (Shinyanga region). The Northern Highlands is also the area where the rate of need varies most across the surveyed districts, from 15 percent in Karatu and Monduli districts to 23 percent in Kondoa.



Map 16: Use of Health Services – Percentage of Individuals Who had Consulted a Health Provider in the 4 Weeks Preceding the Survey



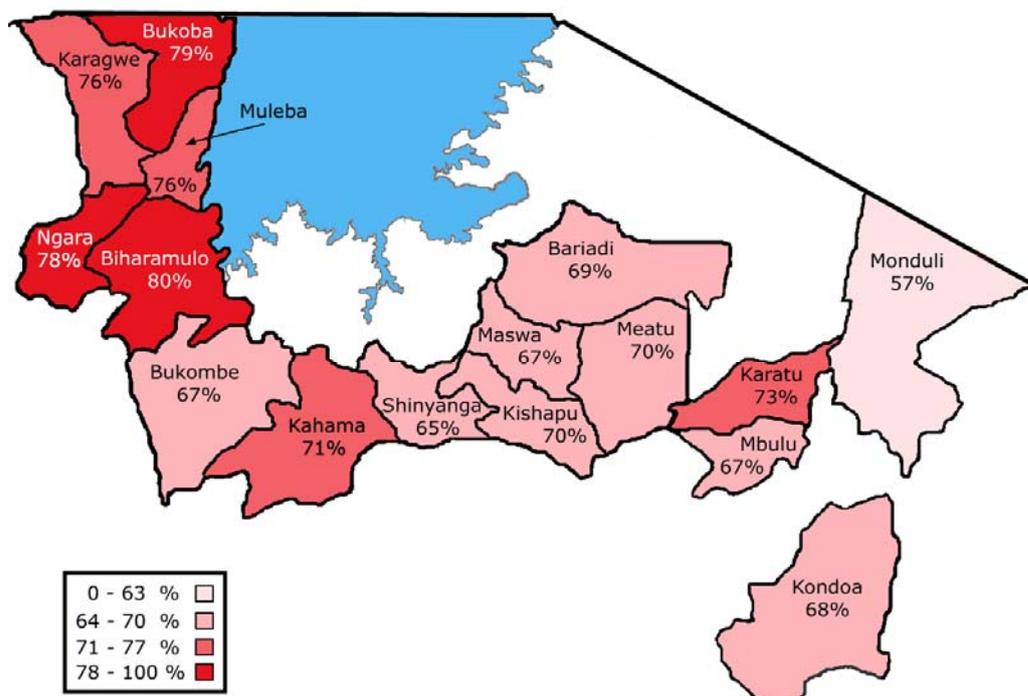
4.2.4 Satisfaction with Health Services

The rate of satisfaction with health services is represented by the proportion of people who had consulted a health provider in the 4 weeks preceding the survey and cited no problems with the service received.

Rates of satisfaction vary across the surveyed districts from 57 percent in Monduli district to 80 percent in Biharamulo district (Map 17). Overall, satisfaction rates in rural districts located in Kagera region vary least and are consistently high, ranging from 76 percent in Karagwe and Muleba districts to 80 percent in Biharamulo. In contrast, in rural districts of Shinyanga region satisfaction rate does not exceed 71 percent (Kahama). Satisfaction rates in the surveyed parts of Northern Highlands vary most; the proportion of satisfied health facility users in Karatu district exceeds that in Monduli district by 16 percentage points.



Map 17: Satisfaction with Health Services – Percentage of Health Facility Users Who Report No Problems with the Service Received



4.3 Type of Illness

The distribution of those who had been ill in the 4 weeks preceding the survey by type of illness is shown in Table 9. Types of illness reported have been divided into 3 groups. The first of these groups contains those who had suffered from fever, malaria or diarrhoea. The second is made up of sufferers of chronic disorders, while the third contains those complaining of more common and often less serious health problems such as accidents, injuries, dental problems, skin conditions, eye, ear, nose and throat problems.

In all of the surveyed districts fever malaria and diarrhoea are by far the most common ailments; in all districts more than half of those who had been ill in the 4 weeks preceding the survey suffered from these symptoms. These ailments were particularly widespread in rural districts of Shinyanga region, where they affected between 72 percent of the reference population in Kishapu and Bariadi and 79 percent in Bukombe. In contrast, across the rural districts of Kagera region incidence of these illnesses among the ill population does not exceed 68 percent (Bukoba Rural).

Chronic conditions are least widespread in Bukombe district (5 percent) and most widespread in Biharamulo district (23 percent). In fact, chronic conditions are more widespread among residents of the whole of rural Kagera. While across the rural districts of Shinyanga and the surveyed districts in the Northern Highlands, sufferers of chronic



conditions constitute between 5 and 16 percent, in rural Kagera these disorders affect at least a fifth of the reference population, with the exception of Karagwe.

Other illnesses such as infections, injuries and dental problems affect between a fifth (Shinyanga Rural district) and just over a third (Karatu district) of those who had been ill in the 4 weeks preceding the survey. Most variation in incidence of these disorders was found among surveyed districts in the Northern Highlands; while in Kondoa district 21 percent of those who had been ill complained of such disorders, in Karatu district this proportion is 35 percent.

Table 9: Distribution of Those Who Had Been Ill in the 4 Weeks Preceding the Survey by Type of Illness Suffered

	Fever/Malaria/ Diarrhoea	Chronic Condition	Other ¹
Kagera			
Karagwe	66	12	32
Bukoba Rural	68	19	27
Muleba	62	20	26
Biharamulo	54	23	26
Ngara	65	20	25
Shinyanga			
Kishapu	72	16	25
Shinyanga Rural	75	14	20
Maswa	76	9	25
Meatu	76	14	23
Bariadi	72	11	23
Bukombe	79	5	26
Kahama	78	9	20
Northern Highlands			
Monduli	67	14	32
Karatu	64	14	35
Mbulu	67	15	27
Kondoa	75	14	21

4.4 Type of Health Provider

The distribution of those who had consulted a health provider in the 4 weeks preceding the survey, by type of health provider is presented in Table 10. Map 18 shows the proportion of the reference population in each district who had consulted a public health provider specifically. Highest rates of public health facility use were found in Karagwe and Bukoba Rural districts, at 74 and 70 percent respectively. These are closely followed by Ngara, and Maswa districts, where public health facilities were used by just under 70



percent of health facility users. In contrast, less than a third of health facility users in Karatu and just over a third of health facility users in Mbulu used public health facilities. Overall, the rate of public health facility use is consistently high in the rural districts of Kagera, where it is at least 59 percent. Across the surveyed districts of the Northern Highlands, however, rates of public health facility use range from 31 percent in Karatu to 65 percent in Monduli.

Map 18: Rate of Public Health Facility Use Among Those who had Consulted a Health Provider in the 4 Weeks Preceding the Survey

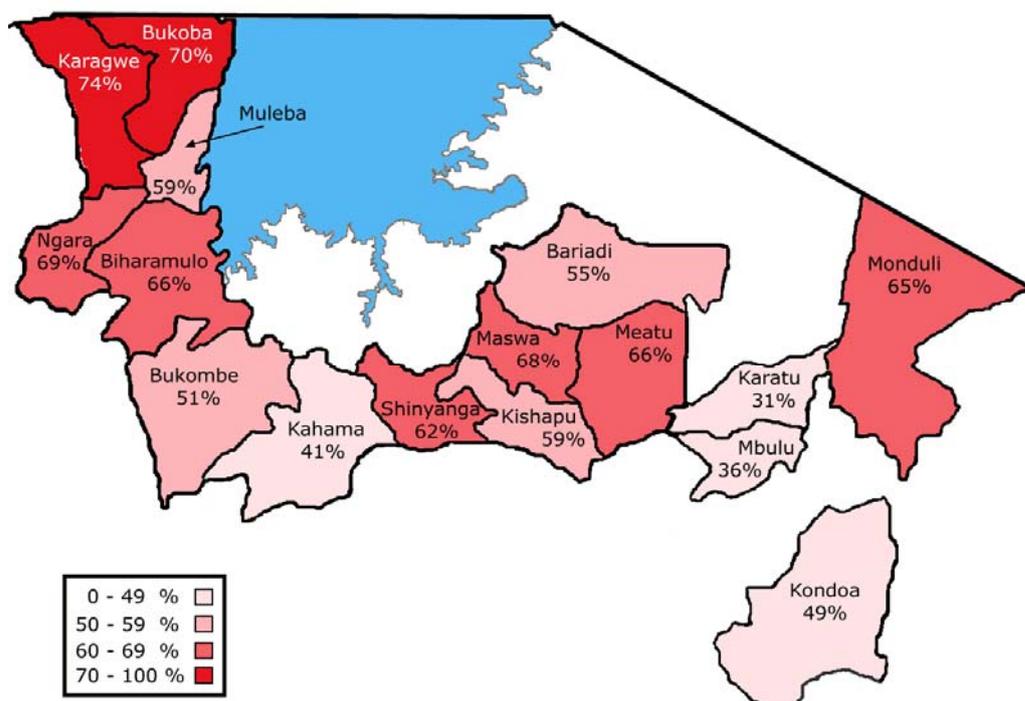


Table 10 further shows that in the majority of districts, private health facilities are the second most popular choice after public facilities. Further, in Karatu district private facilities had been used by half of the reference population, compared to 31 percent of those using public health facilities. There is substantial variation in rates of private health facility use across the surveyed districts. The lowest rate of use was found in Kondoa and Maswa districts, at 6 and 7 percent respectively, while the highest in Karatu.

Kondoa is also the district with the highest rate of pharmacy use across the surveyed districts, at 43 percent. In contrast in Bukoba Rural this proportion is only 4 percent. Overall, pharmacy use in rural Kagera is less widespread than in rural Shinyanga. While rates of pharmacy use in rural Kagera range from 4 to 11 percent, in rural Shinyanga this range is between 6 and 33 percent; further, in the surveyed parts of the Northern Highlands, it is between 10 and 43 percent.



Rate of traditional healer use varies between 1 percent of those who had consulted a health provider in the 4 weeks preceding the survey in Karatu and 16 percent in Meatu. Overall, traditional healers are consulted least in the surveyed districts of the Northern Highlands. Across this sub-group of districts, traditional healers are consulted by the highest proportion of health facility users in Monduli; even here, however, it is only 5 percent. In contrast, in rural Shinyanga, traditional healers are used by at least a tenth of health facility users in the majority of districts.

Table 10: Type of Health Provider Used

	Private	Public	Traditional Healer	Pharmacy
Kagera				
Karagwe	12	74	4	10
Bukoba Rural	19	70	9	4
Muleba	22	59	8	11
Biharamulo	17	66	7	10
Ngara	17	69	3	10
Shinyanga				
Kishapu	21	59	10	11
Shinyanga Rural	16	62	9	15
Maswa	7	68	12	13
Meatu	11	66	16	6
Bariadi	11	55	13	20
Bukombe	11	51	5	33
Kahama	25	41	4	31
Northern Highlands				
Monduli	20	65	5	10
Karatu	50	31	1	17
Mbulu	23	36	3	39
Kondoa	6	49	3	43

4.5 Dissatisfaction with Health Providers

An individual is classed as being dissatisfied with health services he/she receives if having used the services, he/she cites one or more problems with them. These problems can be categorised into 4 groups. The first of these groups is 'Facilities'; it contains those who complain about long waits and/or low levels of hygiene. The second group is 'Cost'; this group is made up of those who complain about cost of health services. Those who mentioned shortages of trained professionals and unsuccessful treatment were allocated to the third group – 'Services'. Finally, complaints regarding lack of supplies and medication were combined into the fourth group – 'Lack of supplies'.



Trends in the dissatisfaction rate (Table 11) are the reverse of those in the satisfaction rate (Map 17) as the satisfaction and dissatisfaction rates add up to 100 percent. Overall, the highest dissatisfaction rate was found in Monduli district, where over two fifths of health facility users were dissatisfied with the service received. In contrast, only one fifth of the residents in Biharamulo and Bukoba Rural were in this group.

Complaints regarding the facilities (waiting time and hygiene) were most common among health facility users in Maswa and Bariadi districts, where roughly 3 out of 5 dissatisfied users cited these issues. These are the only two districts where levels of hygiene and waiting times were problematic for the majority of the dissatisfied users. In Biharamulo and Mbulu districts, on the other hand, only just over a quarter of the dissatisfied users found facilities unsatisfactory. Facilities appear to be more of an issue for residents of rural Shinyanga districts. Between 39 and 60 percent of users here cited this problem compared to between 27 and 45 percent of users in rural Kagera and 27 and 48 percent of users in the surveyed districts of the Northern Highlands.

Proportions of dissatisfied users complaining about cost of health services range from 23 percent in Karatu to 54 percent in Biharamulo. In addition to Biharamulo, this complaint was cited by over half of the dissatisfied users in Shinyanga Rural and Kahama districts. With the exception of Biharamulo district, cost is a problem for less than a third of the dissatisfied users in the rest of rural Kagera. Similarly across the surveyed districts in the Northern Highlands, cost is a problem for no more than 36 percent of dissatisfied users. In the majority of rural districts in Shinyanga region, however, this is an issue for over two fifths of the reference population.

Shortage of trained professionals and unsuccessful treatment were cited by more than half of the dissatisfied patients in Karagwe, Meatu, Bukombe and Kondoa districts. In contrast, less than a quarter (23 percent) of dissatisfied health facility users in Monduli district found these unsatisfactory. In the majority of surveyed districts this issue was cited by at least two fifths of the reference population. While this is the case in rural districts of Shinyanga and Kagera regions, the proportion of dissatisfied users citing this complaint constitutes less than a third of the dissatisfied population in all surveyed districts in the Northern Highlands with the exception of Kondoa.

Lack of supplies was also cited by over two fifths of the dissatisfied users in the majority of districts. In Karatu however, this issue was cited by only 18 percent of the reference population. Complaints regarding supplies are also less widespread in Biharamulo and Ngara than in the rest of the surveyed districts. In contrast, this is a problem for over 40 percent of dissatisfied users in all rural districts of Shinyanga. Among the rural districts here, this is the least widespread complaint in Kishapu and most widespread in Shinyanga Rural. Across all the surveyed districts, lack of supplies is a problem for the highest proportion of health facility users in Monduli, at 56 percent.

**Table 11: Reasons for Dissatisfaction with Health Services**

	Dissatis- faction	<i>Reasons for Dissatisfaction¹</i>			
		Facilities ¹	Cost ²	Service ³	Lack of supplies ⁴
Kagera					
Karagwe	24	45	27	52	42
Bukoba Rural	21	47	29	40	29
Muleba	24	29	30	42	30
Biharamulo	20	27	54	41	23
Ngara	22	38	32	44	26
Shinyanga					
Kishapu	30	39	39	36	41
Shinyanga Rural	35	39	51	42	55
Maswa	34	60	38	40	42
Meatu	30	40	43	63	52
Bariadi	31	57	45	49	48
Bukombe	33	39	41	60	50
Kahama	29	49	51	42	43
Northern Highlands					
Monduli	43	48	36	23	56
Karatu	27	40	23	32	18
Mbulu	33	27	32	32	32
Kondoa	32	37	32	59	41

1. Facilities: this category includes complaints regarding low waits and low levels of hygiene

2. Cost: this category includes complaints about the cost of services only

3. Service: this category includes complaints about shortages of trained professionals and unsuccessful treatment

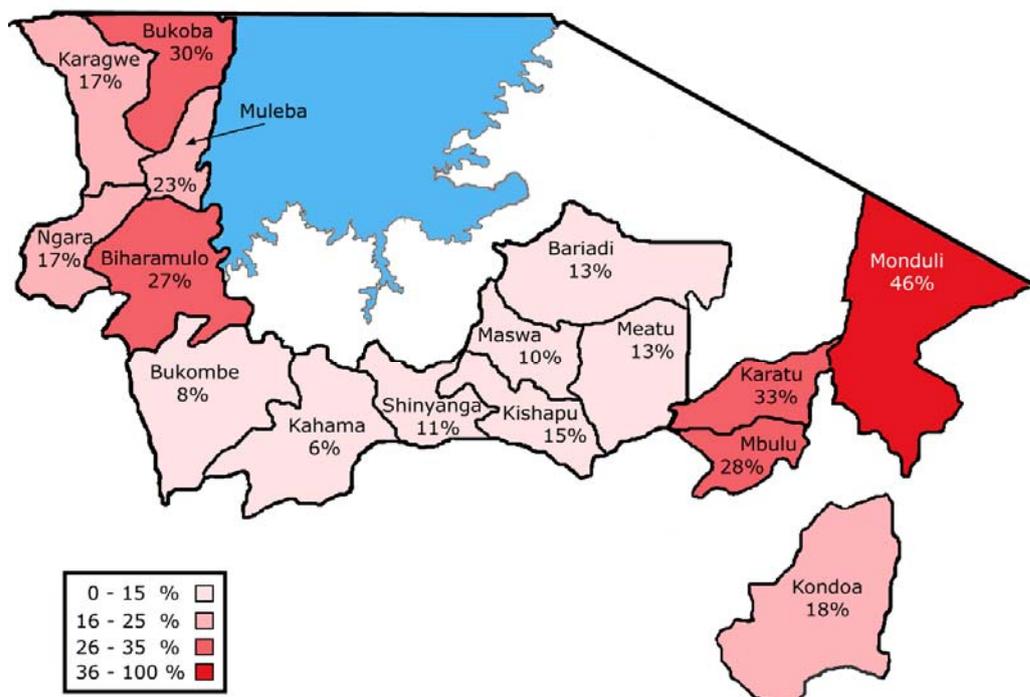
4. Lack of supplies: this category includes complaints about lack of supplies and medication

4.6 Reasons for Not Using Health Services when Ill

The rate of health facility non-use among those who claim to have been ill in the 4 weeks preceding the survey is shown on Map 19. While the incidence of illness in Monduli district is the second highest across the surveyed districts, this is also the district with the highest rate of non-use. Nearly half (46 percent) of those who had been ill in the 4 weeks preceding the survey had not consulted a health provider here. This rate of non-use is more than 13 percentage points higher than the next highest, found in the neighbouring district of Karatu. In contrast, in Kahama district only 6 percent of the reference population had not consulted a health provider. In fact, the non-use rates in all rural districts in Shinyanga region are below those found in the rest of the surveyed districts, with the highest rate not exceeding 15 percent (Kishapu). Rates of non-use in rural districts of Kagera region range between 17 percent in Karagwe and Ngara and 30 percent in Bukoba.



Map 19: Proportion of Individuals Who had been Ill in the 4 Weeks Preceding the Survey and had Not Consulted a Health Provider



The reasons for not consulting a health provider in time of illness are shown in Table 12. In the rural districts of Shinyanga and Kagera regions cost was cited by the highest proportion of non-users in all districts with the exception of Maswa. This was a particularly widespread complaint among non-users in Bariadi and Bukombe districts, where 70 and 77 percent of the respective non-users cited cost as a deterrent to utilisation of health services. These are also the districts with some of the lowest non-use rates among the surveyed districts.

In contrast, among the surveyed districts in the Northern Highlands, lack of need was cited as the main reason for non-use in the majority of districts, with the exception of Monduli. In fact, in roughly half of the non-users in Karatu and Mbulu districts cited lack of need as the reason for not using health facilities in time of illness.

Proportions of non-users deterred by distance vary from 9 percent in Ngara and Karatu, to just under 40 percent in Shinyanga Rural and Meatu districts. Distance is more of a problem in the rural districts of Shinyanga than Kagera. While in rural Kagera distance serves as a deterrent to health facility use for no more than 18 percent of non-users (Karagwe), in rural Shinyanga it is an obstacle for at least 24 percent of non-users (Kishapu).

**Table 12: Reasons for Not Consulting a Health Provider When Ill**

	<i>Reasons for not consulting health professional when ill²</i>		
	No Need	Cost	Distance
Kagera			
Karagwe	29	55	18
Bukoba Rural	43	51	14
Muleba	26	59	14
Biharamulo	25	55	14
Ngara	19	58	9
Shinyanga			
Kishapu	35	47	24
Shinyanga Rural	24	40	39
Maswa	42	32	30
Meatu	31	35	38
Bariadi	6	70	26
Bukombe	5	77	25
Kahama	26	52	31
Northern Highlands			
Monduli	38	46	31
Karatu	52	42	9
Mbulu	50	42	11
Kondoa	42	38	28

1. Proportion of individuals who had been ill in the four weeks preceding the survey and had not consulted a formal health provider or traditional healer

2. An individual can cite more than one reason for not consulting a health professional, hence the proportions in this part of the table may add up to more than 100%.



5 CHILD DELIVERY AND NUTRITION

5.1 Introduction

This chapter examines several topics related to reproductive health and child nutrition. In the first part, women who had given birth in the year preceding the survey are focused on; birth rates in different age groups are analysed across the surveyed districts. The focus is then shifted onto type of facilities and assistance used in child delivery. Analysis of nutrition trends among children under 5 concludes the chapter.

5.2 Reproductive Health

Table 13 shows the cumulative distribution of all women who reported incidence of a live-birth in the year preceding the survey, by age. Across the surveyed districts the majority of new mothers are under the age of 30. New mothers under the age of 30 constitute between 52 percent of all new mothers in Meatu and three quarters in Kondoa. Further, Monduli is the only districts where over half (51 percent) of new mothers are under the age of 25. Proportions of teenage mothers (under the age of 20) vary substantially, from only 1 percent in Karagwe to nearly a quarter (22 percent) in Monduli. In half of the surveyed districts, teenage mothers make up less than a tenth of all women who had a live-birth in the 12 months preceding the survey. Similar proportions of new mothers are over the age of 35. While in Kahama district only 5 percent of the reference population are this old, in Meatu district this is the case for 24 percent. In all of the surveyed districts, women over the age of 39 constitute less than a tenth of those who had a live-birth in the specified time-period. In fact, in Mbulu and Kishapu districts none of the new mothers are in this category.



Table 13: Cumulative Distribution of Women who had a Live Birth in the Year Preceding the Survey by Age

	<i>Percentage who had given birth in the 12 months preceding the survey before reaching the age of:</i>				
	20	25	30	35	40
Kagera					
Karagwe	1	29	55	87	96
Bukoba Rural	10	33	69	84	92
Muleba	13	41	69	85	100
Biharamulo	16	41	68	82	91
Ngara	7	37	60	77	92
Shinyanga					
Kishapu	6	38	67	88	100
Shinyanga Rural	12	35	70	89	97
Maswa	6	31	71	92	95
Meatu	10	24	52	76	95
Bariadi	6	30	65	83	94
Bukombe	3	36	70	88	92
Kahama	11	46	71	95	99
Northern Highlands					
Monduli	22	51	68	83	90
Karatu	5	40	67	86	97
Mbulu	6	35	60	83	97
Kondoa	13	36	75	87	95

5.3 Child Delivery

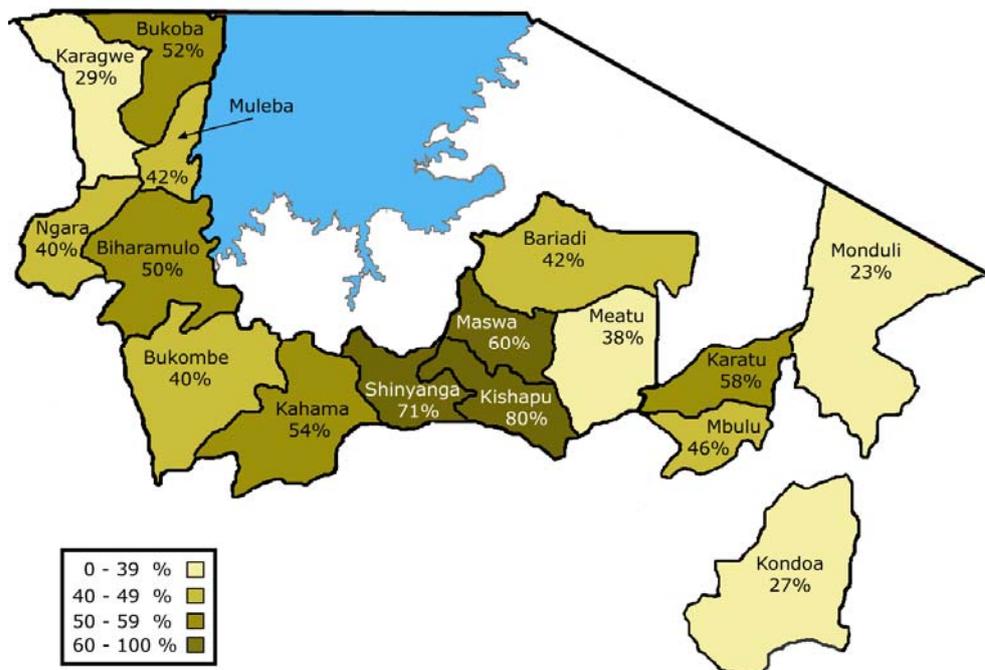
5.3.1 Facilities Used to Give Birth

Hospital use in child-birth is more widespread in rural districts of Shinyanga region than those of Kagera or the Northern Highlands, as shown on Map 20. This region contains the three districts with the highest rate of hospital use in child delivery over the 5 years preceding the survey. The highest proportion of under 5's who had been delivered in a hospital was found in Kishapu district, at 80 percent, followed by Shinyanga Rural district with 71 percent. In contrast, in Monduli and Kondoa districts only about a quarter of the under 5's had been delivered in this way. In fact, in the majority of districts less than half of the under 5's had been delivered in a hospital, or maternity ward. Finally, while Bukoba Rural district is characterised by the highest rate of hospital



births across the surveyed districts in Kagera region, Karatu is in this position among those in the Northern Highlands. As noted below, those children who were not delivered in a hospital were born at home.

Map 20: Proportion of Deliveries Administered in a Hospital or Maternity Ward in the 5 Years Preceding the Survey¹



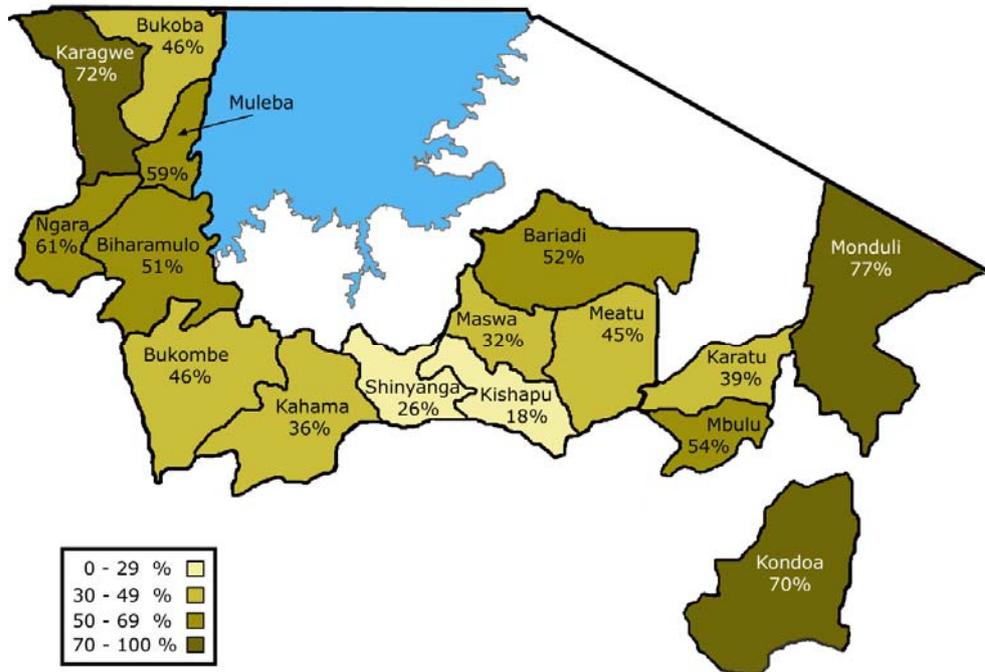
¹ The rest of the children had been delivered at home

5.3.2 Delivery Assistance

In the majority of districts over half of the births from the 5 years preceding the survey had been conducted without the assistance of a formally trained individual, such as doctor, nurse or midwife. This proportion was particularly high in Monduli, Karagwe and Kondoa districts, at 77, 72 and 70 percent respectively. It should be noted that these are also the 3 districts with the lowest rate of hospital use in child delivery. Further, in consistency with trends in hospital use for child delivery, less than 30 percent of births in Shinyanga Rural and Kishapu districts had been administered without professional assistance. Overall, variation in proportions of deliveries conducted without the help of formally trained health professional is highest among the surveyed districts in the Northern Highlands, ranging from 39 percent in Karatu to 77 percent in Monduli. As noted below, those deliveries that had not been assisted by a formally trained individual, were conducted with the help of a Traditional Birth Assistant, untrained acquaintance, or without assistance.



Map 21: Proportion of Deliveries Conducted Without a Formally Trained Assistant in the 5 Years Preceding the Survey²



¹ The category of formally trained assistants includes doctors, nurses and midwives. The rest of the deliveries had been conducted with the assistance of a Traditional Birth Assistant, an untrained acquaintance or unassisted.

5.4 Child Nutrition

Two standards of physical measurement of growth that describe the nutritional status of a child are presented in this chapter:

- Height-for-age (stunting)
- Weight-for-height (wasting)

The level of malnutrition in a population is determined by comparing the weight and height measurements within the population of interest to those of a well nourished population. Children are considered malnourished if their weight and/or height measurements fall outside the distribution of weight and height measurements of the well nourished population. The reference population used, as recommended by the World Health Organisation (WHO), is that of the United States National Centre for Health Statistics (NCHS).⁷

Height-for-age is a measure of linear growth. A child who is below minus two standard deviations from the median of the reference population is considered to be too short for

⁷ More specifically, the anthropometric calculations were conducted using 2000 CDC growth curves



his/her age – stunted. Stunting is a consequence of long term malnutrition; it is indicative of long term inadequacy of nutrient intake, and is commonly associated with poor economic conditions and chronic or repeated infections.

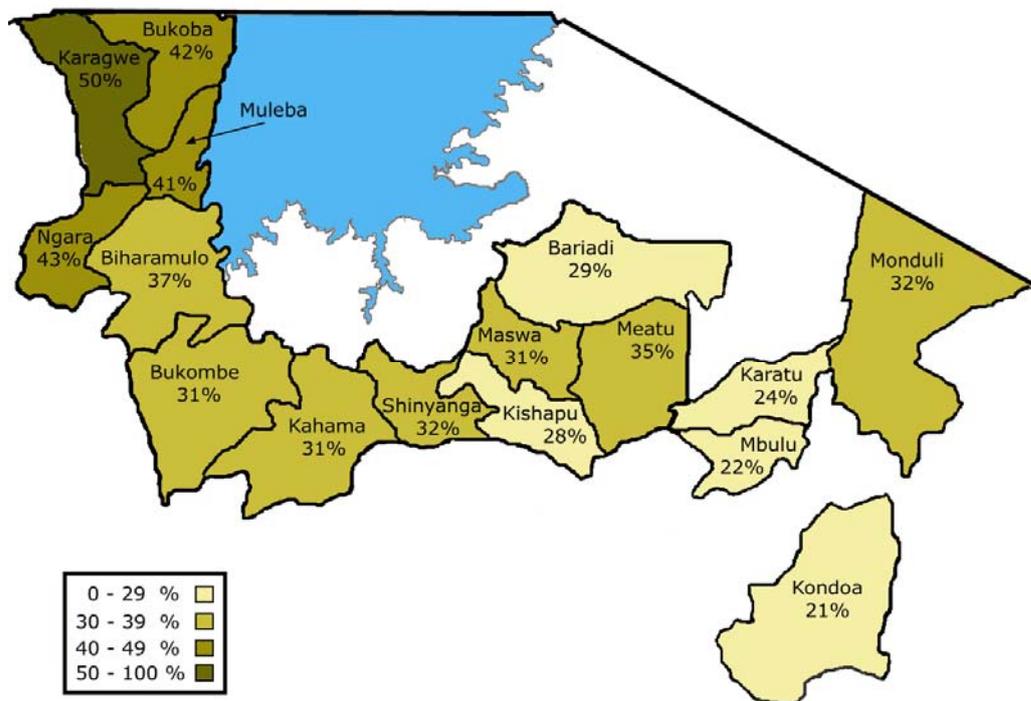
Weight-for-height is a measure of body mass in relation to body height and is an indicator of immediate nutritional status. A child who is below minus two standard deviations from the median of the reference population is classed as too thin for his/her height – a condition called wasting. Wasting is an immediate indicator of acute malnutrition and reflects insufficiency in tissue and fat mass compared to the amount expected according to the child's height. Wasting occurs as a result of inadequate intake of nutrients immediately preceding the survey. Therefore, wasting is not necessarily the result of insufficient food intake, but could also be, for instance, the result of recent severe illness. Occurrence of wasting is subject to seasonal variations.

5.4.1 Stunting

Stunting among children under the age of 5 was found to be highest in the rural districts of the Kagera region (Map 22). By far the largest proportion of children suffering from long-term malnutrition was found in Karagwe district, where half of the under 5's were affected. Further, at 37 percent, the rate of stunting in Biharamulo, where long-term malnutrition is less widespread than in the rest of the rural districts in Kagera region, is still higher than those found in the rest of the surveyed area. For instance, stunting rates across the surveyed districts of the Northern Highlands, range from 21 percent in Kondoa to 32 percent in Monduli. In Shinyanga region this range is from 28 percent in Kishapu to 35 percent in Meatu.



Map 22: Stunting Rate Among Children Under the Age of 5

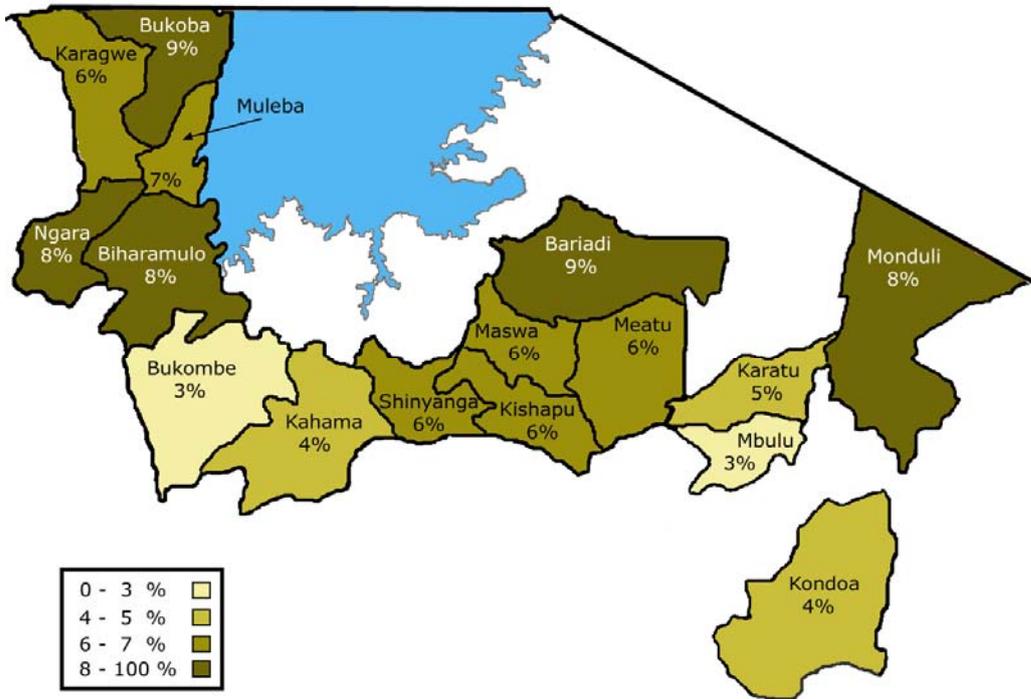


5.4.2 Wasting

Wasting rates are substantially lower than stunting rates across all the surveyed districts. Highest wasting rates were found in Bariadi and Bukoba Rural districts, where nearly 10 percent of children under the age of 5 were too thin for their height at the time of the survey. Wasting rate exceeds 5 percent in the majority of the surveyed districts. Lowest rates were found in Mbulu and Bukombe districts, where 3 percent of toddlers were found to be wasted at the time of the survey.



Map 23: Wasting Rate Among Children Under the Age of 5





6 EMPLOYMENT

6.1 Introduction

This chapter examines employment indicators for the adult⁸ population in the surveyed districts. The first part focuses on employment trends among the whole of the adult population. The working sub-group of this population is then examined by type and sector of employment. The last part of the chapter focuses on the economically inactive subgroups of the adult population; specific reasons for economic inactivity are discussed in this section.

6.2 Employment Status

The adult population of the surveyed districts has been categorised into 2 main groups: working and non-working. The working population includes all adults who had engaged in any type of work in the 4 weeks preceding the survey. Within the working population, a distinction is made between those employed to capacity and those who are under-employed. The under-employed are those individuals who claim that they would be willing to take on additional work.

The non-working population consists of individuals who had not engaged in any type of work in the 4 weeks preceding the survey. This group is further subdivided into those who are unemployed and those who are economically inactive. While the economically inactive individuals are those who had not engaged in any work in the 4 weeks preceding the survey due to illness, disability, age or school, the unemployed are those who were not working due to lack of employment opportunities.

The great majority of adults in all the surveyed districts were employed at the time of the survey, as shown on Map 24. Highest employment rates were found in Kondo and Mbulu districts, at 90 and 89 percent respectively. The employment rate in the Bukoba Rural district, on the other hand, was the lowest in the surveyed area, at 80 percent. Variation in employment rates across the surveyed districts did not, therefore, exceed 10 percentage points.

⁸ All individuals over the age of 14 are classed as adults in this chapter



Map 24: Proportion of Individuals Aged 15+ Who Were Employed at the Time of the Survey

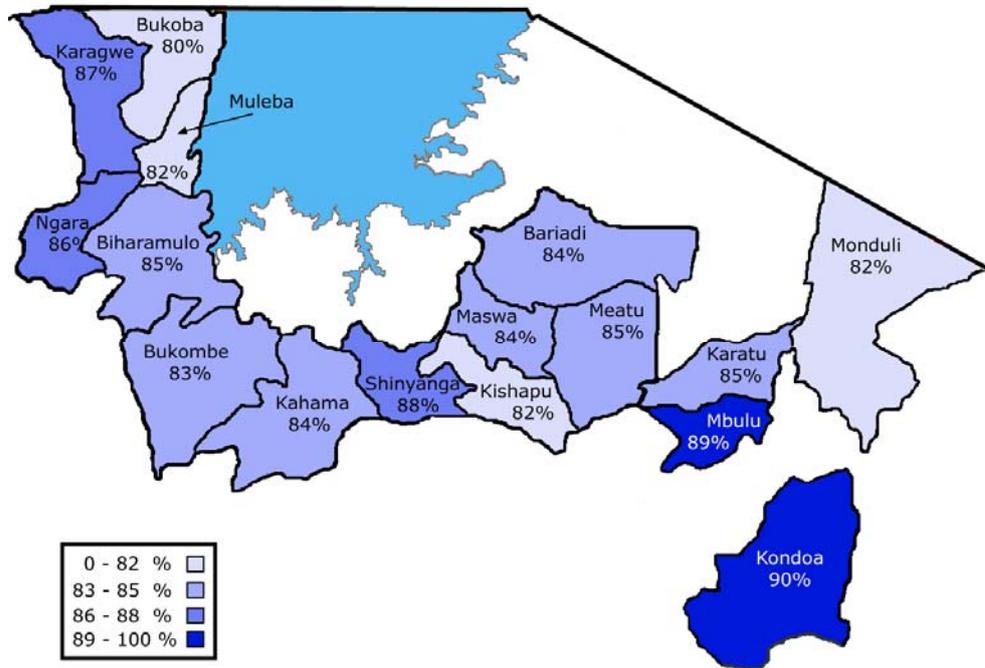


Table 14 further shows the break down of the working population by employment status. In rural districts of Shinyanga and Kagera regions, underemployed individuals make up between 15 percent (Bariadi) and 24 percent (Bukoba Rural) of the adult population. In contrast, in the surveyed districts of the Northern Highlands, between 55 percent (Mbulu) and 65 percent (Kondoa) of the adult populations claim to be in this position.

Unemployment is very low across the surveyed districts, not exceeding 6 percent (Monduli). The great majority of the non-working population is economically inactive. In fact, the unemployment rate is 0 in half of the surveyed districts and in the majority of rural districts in Shinyanga region. Rates of economic inactivity, on the other hand, range from 9 percent in Kondoa district, to 19 percent in Bukoba Rural.

**Table 14: Distribution of Population Aged 15+ by Employment Status**

	<i>Working</i>			<i>Not working</i>		
	Employed to capacity	Under-employed	Total	Economically inactive	Un-employed	Total
Karagwe						
Karagwe	64	23	87	13	0	13
Bukoba Rural	57	24	80	19	1	20
Muleba	60	22	82	16	2	18
Biharamulo	66	19	85	14	1	15
Ngara	67	18	86	14	0	14
Shinyanga						
Kishapu	63	18	82	17	2	18
Shinyanga Rural	66	21	88	12	0	13
Maswa	64	20	84	17	0	17
Meatu	68	17	85	15	0	15
Bariadi	69	15	84	16	0	16
Bukombe	62	21	83	17	0	17
Kahama	64	21	84	15	1	16
Northern Highlands						
Monduli	25	58	82	12	6	18
Karatu	28	57	85	12	3	15
Mbulu	34	55	89	11	0	11
Kondo	25	65	90	9	1	10

6.3 Type of Employment

Working individuals were asked to identify how they were being paid for their work. This information was used to identify the employment category they belong to. Among those working for someone or an organisation, those who receive a wage or salary are classed as regular employee, while those working for an hourly or daily wage are classed as casual employees. There is also a self-employed category and a category containing unpaid workers.

As all of the surveyed districts are rural, the majority of the working population are self-employed. In all of these districts over 80 percent of the working population were self-employed at the time of the survey. Highest rates of self-employment were found in Bukombe and Mbulu districts, where only 6 percent of the working population were not self-employed at the time of the survey. The lowest self-employment rate was found in Karatu district; 83 percent of the working adults in this district are self-employed.

Employment



Casual employment is the second most common type of employment in the majority of districts. It is most widespread among working adults in Karatu district, where over a tenth (11 percent) of the adults are thus occupied, and least common in Bukombe and Karagwe districts where only 2 percent of the working adults are in this category. Overall, lowest rates of casual employment were found in the rural districts of Kagera region, where no more than 5 percent (Muleba) of the working population are in this category.

Finally, regular employees and unpaid workers combined constitute no more than 10 percent of the working adults. While regular employees are most widespread in Kahama district, constituting 6 percent of the working adults, unpaid workers are most common in Bukoba Rural where they make up 5 percent. In the majority of the surveyed districts none of the working adults were classed as unpaid workers at the time of the survey.

Table 15: Distribution of Employed Population by Type of Employment

	Regular employee	Casual employee	Unpaid Worker	Self-employed
Kagera				
Karagwe	4	2	1	93
Bukoba Rural	5	4	5	87
Muleba	4	5	1	89
Biharamulo	4	4	2	90
Ngara	5	3	1	92
Shinyanga				
Kishapu	5	6	1	88
Shinyanga Rural	2	8	0	90
Maswa	5	9	0	86
Meatu	1	9	0	90
Bariadi	2	6	0	92
Bukombe	3	2	1	94
Kahama	6	5	0	89
Northern Highlands				
Monduli	5	5	0	90
Karatu	5	11	0	83
Mbulu	3	3	0	94
Kondoa	2	5	0	93



6.4 Employment Sector

Employment data collected as part of the CWIQ surveys further informs on the distribution of the working population by employment sector. Four relevant sectors were identified: Government/Parastatal, Private Formal (e.g. business), Private Informal (without contract) and Self-employed.

The rates of employment in formal sectors across the surveyed districts are shown on Map 25. Employees of the formal sectors include those of Government/Parastatal organisations and private formal sector. Across the examined districts, Kahama has the highest proportion of formally employed individuals, at 11 percent. In Kondo, on the other hand, only 1 percent of the working population are in this group. Further, in Mbulu, Monduli, Meatu and Shinyanga Rural districts less than 5 percent of the working population are formally employed. Least variation in rates of employment in the formal sector was observed across the rural districts of Kagera region, where formally employed adults constitute between 5 and 7 percent of the working adults.

Map 25: Proportion of Working Individuals Who are Formally Employed (Private Formal or Government/Parastatal sectors)

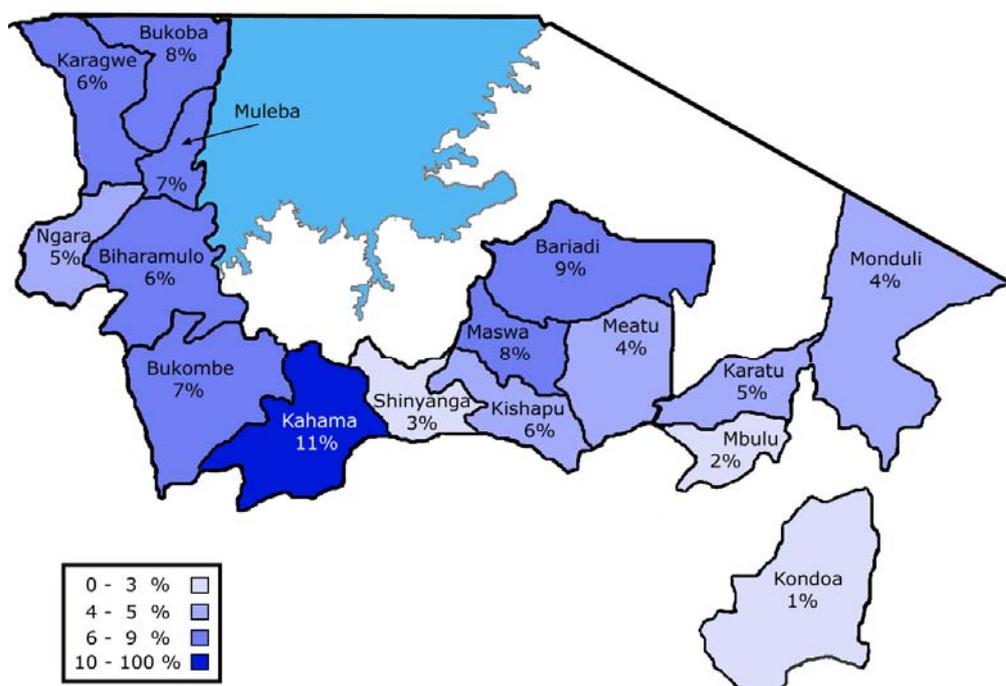


Table 16 further shows the distribution of the whole of the adult working population by employment sector. In consistency with trends in the distribution of the working population by type of employment – discussed above – the majority of working adults are self-employed. Further, in the majority of the examined districts the second most widespread sector of employment is the private informal sector. Individuals in this group

Employment



do not have a contract and are paid on an hourly or daily basis. Employment in this sector is most common in the rural districts of Shinyanga region. Over a tenth of the working population in the majority of districts here are employed in this sector. In fact, in Kishapu and Shinyanga Rural districts nearly a fifth (16 and 17 percent respectively) of the working populations are in this group. Lowest rates of employment in the private informal sector were found in the surveyed districts of the Northern Highlands, where they range from 4 percent in Mbulu to 11 percent in Karatu.

Finally, in the majority of the surveyed districts differences between proportions of working adults employed in the Government/Parastatal and private formal sectors do not exceed 3 percentage points. The most substantial difference was found in Bariadi district. Only 1 percent of the population here are employed in the Government/Parastatal sector, compared to the 8 percent employed in the private formal sector.

Table 16: Distribution of Employed Population by Employment Sector

	Government/ Parastatal	Private Formal	Private Informal	Self-employed
Kagera				
Karagwe	3	2	4	91
Bukoba Rural	3	6	12	80
Muleba	4	4	6	86
Biharamulo	3	4	6	87
Ngara	3	2	5	90
Shinyanga				
Kishapu	2	4	17	78
Shinyanga Rural	2	1	16	81
Maswa	5	3	10	82
Meatu	1	3	12	85
Bariadi	1	8	10	82
Bukombe	2	5	4	89
Kahama	5	6	8	81
Northern Highlands				
Monduli	2	1	6	90
Karatu	2	3	11	83
Mbulu	1	1	4	94
Kondoa	1	0	5	93



6.5 Economic Inactivity

As shown in Table 14, between 9 and 17 percent of all individuals over the age of 14 in the surveyed area were economically inactive at the time of the survey. Individuals are classed as economically inactive if they are not working due to reasons other than lack of work. Table 17 below shows the distribution of economically inactive individuals by reason for the inactivity. Illness, age and school were found to be most prominent reasons for economic inactivity. Less commonly cited reasons such as household and family duties have been categorised as ‘Other’.

In all surveyed districts, with the exception of Monduli and Mbulu, school is the most widespread deterrent to work. In fact, in Karagwe and Maswa districts over half (55 percent) of the economically inactive individuals cited school as the reason. Overall, in all of the districts where school is the most widespread reason for economic inactivity, over a third of the reference population cited this reason. In Kagera region, other deterrents such as household duties were cited by over a fifth of the reference population in all the rural districts; this is the second most common deterrent to employment here. In Shinyanga region, on the other hand, illness and age tend to explain the economic inactivity of a higher proportion of residents of the majority of the rural districts than reasons classed as ‘other’. Finally, in Monduli and Mbulu districts of the Northern Highlands, age and illness, respectively, were the most common explanations of economic inactivity.



Table 17: Distribution of the Economically Inactive Population by Reason for not Working

	Illness	Age	School	Other
Kagera				
Karagwe	18	6	55	21
Bukoba Rural	20	18	35	27
Muleba	20	21	36	23
Biharamulo	18	14	40	31
Ngara	19	14	42	25
Shinyanga				
Kishapu	30	19	34	17
Shinyanga Rural	17	27	48	8
Maswa	18	17	52	14
Meatu	24	19	45	12
Bariadi	17	27	43	13
Bukombe	11	8	45	37
Kahama	14	11	42	34
Northern Highlands				
Monduli	17	35	13	35
Karatu	29	16	38	17
Mbulu	30	28	23	19
Kondoa	28	30	33	9



7 OTHER WELFARE INDICATORS

7.1 Introduction

This chapter compares selected welfare indicators that have not been analysed in the previous chapters. The first part focuses on perception of change in the economic situation over the year preceding the survey, as well as levels of food security. This section is followed by a discussion of the materials used to build the dwellings in the surveyed area and dwelling ownership. An overview of the prevalence of such household facilities and amenities as toilets, electricity and selected assets concludes this chapter.

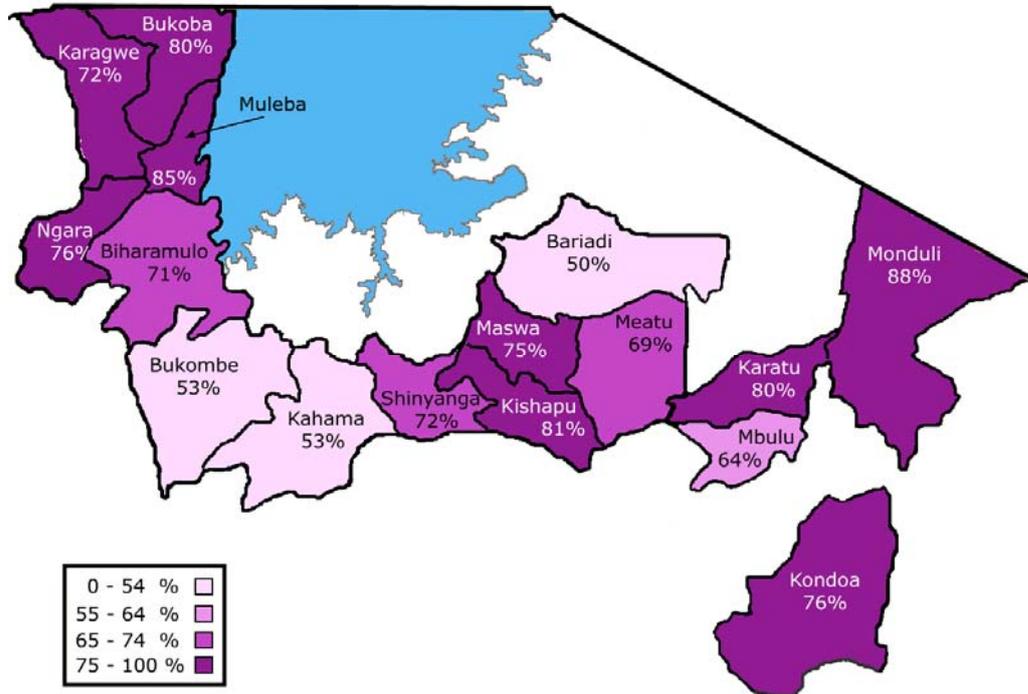
7.2 Perceptions of Change in Overall Economic Situation

Households were asked to evaluate the change in the economic situation of the community over the year preceding the survey. Map 26 shows the proportion of households in each of the surveyed districts that cited change for the worse⁹. While the majority of households are in this group in all of the surveyed districts, there is substantial variation in actual proportions. At 50 percent, Bariadi district contains the smallest proportion of households citing change for the worse in the economic situation in the community. In Monduli district, on the other hand, this proportion is as high as 88 percent. Overall, more than 70 percent of the households evaluated the change in the economic situation of the community as for the worse in all rural districts in Kagera region and the majority of surveyed districts in the Northern Highlands.

⁹ This category includes households that evaluated the change as for the worse or for the much worse.



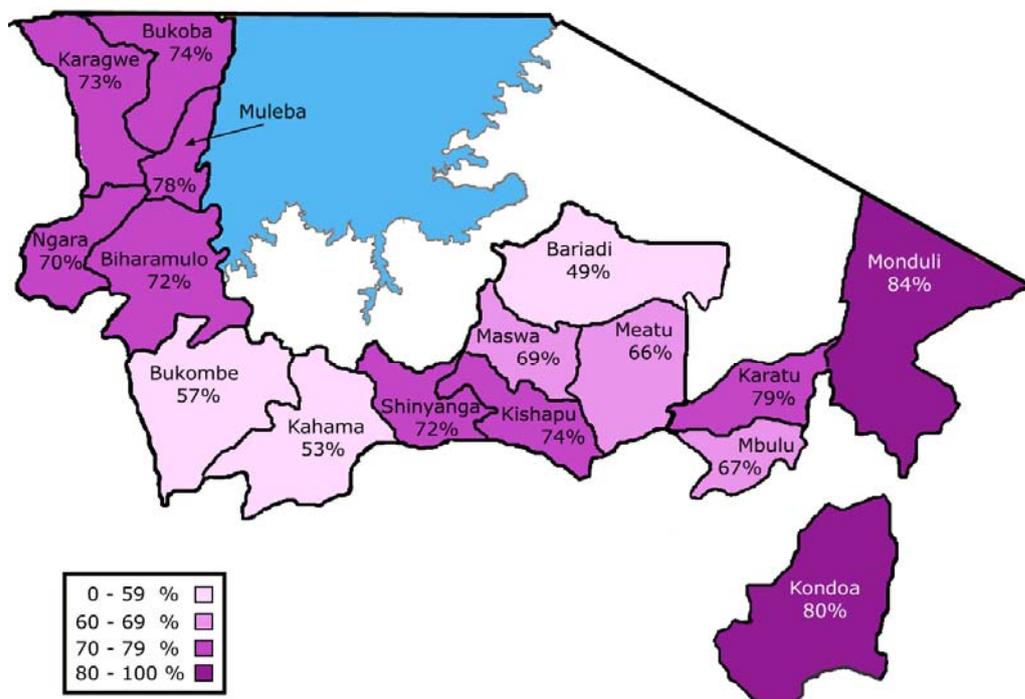
Map 26: Proportion of Households Citing Change for the Worse in Economic Situation of the Community



Map 27 further shows proportions of households citing change for the worse in the economic situation of the household over the year preceding the survey across the surveyed districts. Trends in this indicator are similar to those discussed above. The lowest proportion of households citing change for the worse was again found in Bariadi district, at 49 percent, while the highest in Monduli, at 84 percent. This proportion is below 70 percent in the majority of rural districts in Shinyanga Region, where it ranges from 49 percent in Bariadi to 74 percent in Kishapu. In contrast, in Kagera region this proportion is above 70 percent in all rural districts, ranging from 72 percent in Biharamulo to 78 percent in Muleba. Finally, in 2 out of the 4 surveyed districts in the Northern Highlands change for the worse was cited in at least 80 percent of the households; these districts include Monduli (84 percent) and Kondoa (80 percent).



Map 27: Proportion of Households Citing Change for the Worse in Economic Situation of the Household

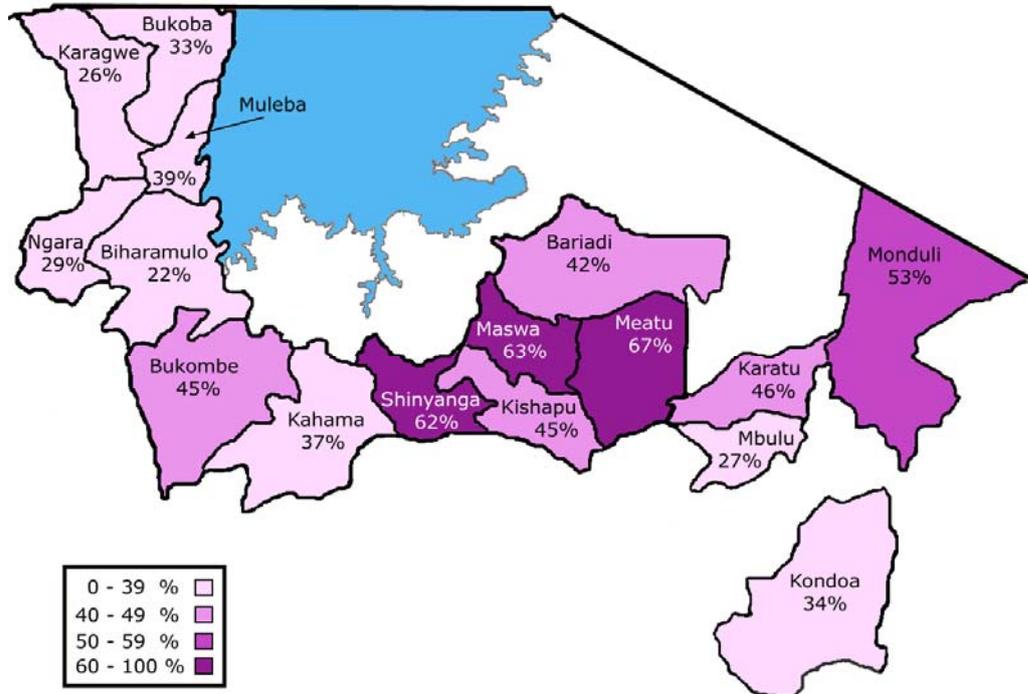


7.3 Food Security

Map 28 shows the proportion of households in the surveyed area who claimed to have often or always experienced food shortages over the year preceding the survey. In the majority of the surveyed districts this group constitutes the minority of the households. The lowest level of food security was found in Meatu district, followed by Maswa and Shinyanga Rural, with respective proportions of 67, 63 and 62 percent of households often or always experiencing food shortages. In contrast, in Biharamulo district only 22 percent of households are in this category. Similarly high levels of food security were also found in Karagwe, Ngara and Mbulu districts, where less than 30 percent of households often experience food need. Overall, the level of food security appears to be consistently higher in the rural parts of Kagera region, than in the rest of the surveyed area. Finally, most variation in the proportion of households citing regular occurrence of food need was found across the surveyed districts in the Northern Highlands, where it ranges from 27 percent in Mbulu to 53 percent in Monduli.



Map 28: Proportion of Households Often/Always Experiencing Food Need Over the Year Preceding the Survey

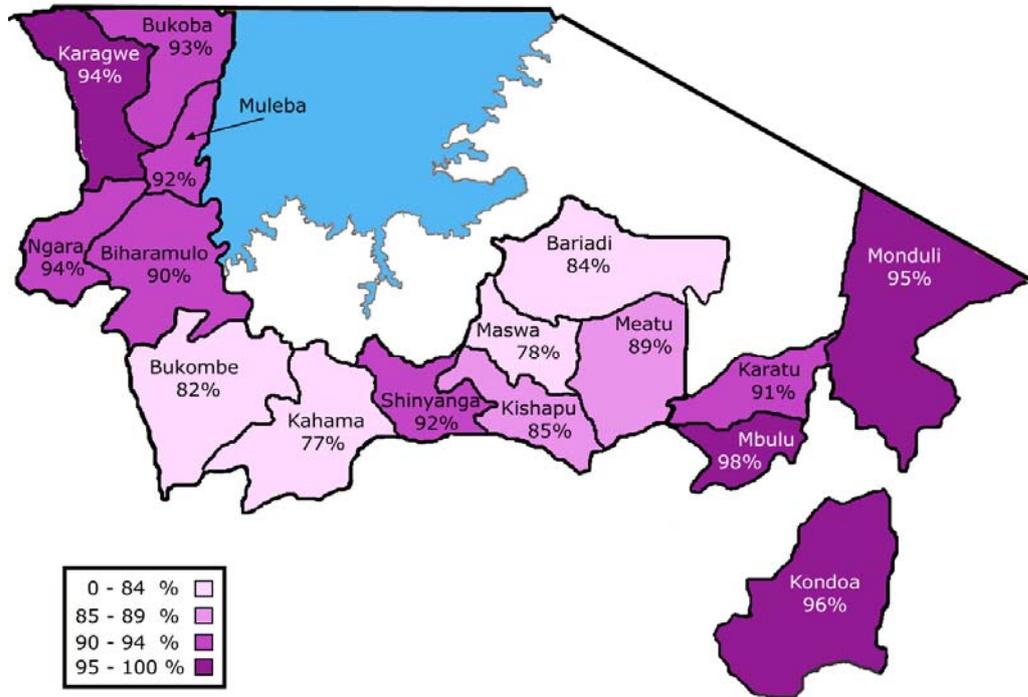


7.4 Household Tenure and Construction

Map 29 shows that the majority of households in the surveyed area live in dwelling that they own. The highest proportion of households that own their dwelling was found in Mbulu district, where it is 98 percent. In fact, across all the surveyed districts in the Northern Highlands, this proportion exceeds 90 percent; this is also the case in all of the rural districts of Kagera region. Lowest rates of dwelling ownership were found in rural parts of Shinyanga region. In Kahama and Maswa districts specifically, only just over three quarters of households claimed to own their dwelling. Shinyanga region is also the area with the highest variation in rates of dwelling ownership across the surveyed districts. This rate ranges from 77 percent in Kahama district to 92 percent in Shinyanga Rural district.



Map 29: Proportion of Households Living in Dwellings Owned by the Household



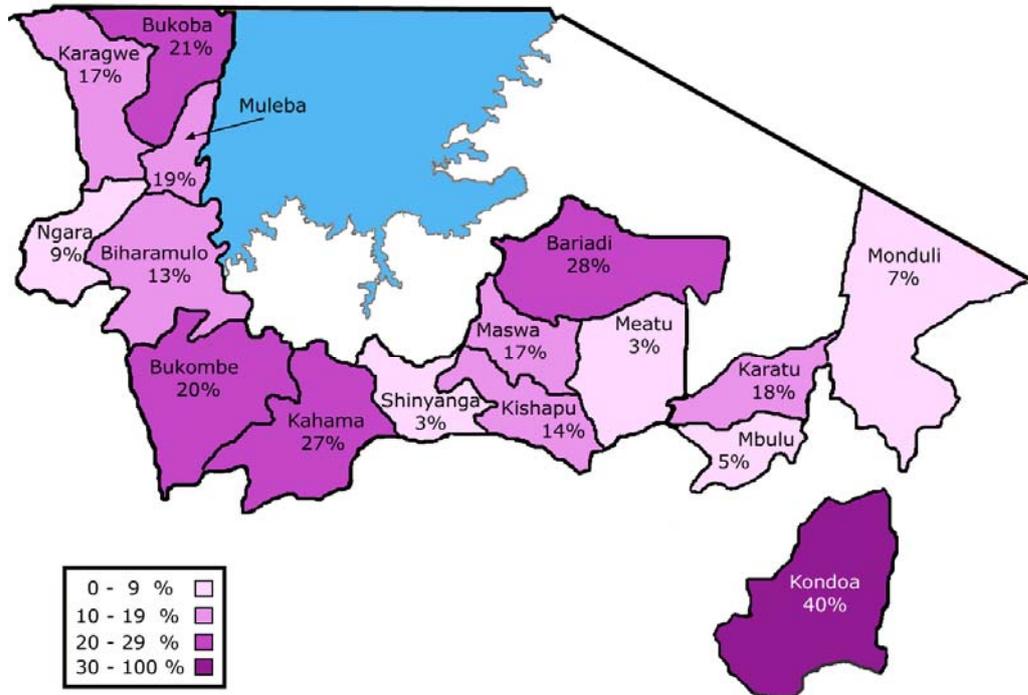
In addition to tenure status, households were asked about the construction materials used to build their dwellings. Map 30 and Map 31 show the proportion of households living in dwellings with, respectively, walls and roofs made of permanent materials. Permanent construction materials for walls include stone, burn bricks, concrete, or corrugated iron sheets. Permanent roofing materials include corrugated iron sheets, roofing tiles and asbestos sheets.

Map 30 shows that in all of the surveyed districts, less than half of the households live in dwellings with walls made of permanent materials. Dwellings with roofs made of permanent materials are more widespread; more than half of the households in the majority of the surveyed districts live in such dwellings.

By far the highest proportion of households living in buildings with permanent walls was found in Kondoa, at 40 percent. In Meatu and Shinyanga Rural districts, on the other hand, this proportion is only 3 percent. Shinyanga Rural is also the district with the lowest proportion of households living in dwellings with permanent roofs (19 percent). Permanent roofs are most widespread in Bariadi district where they are found in the dwellings of 71 percent of all households



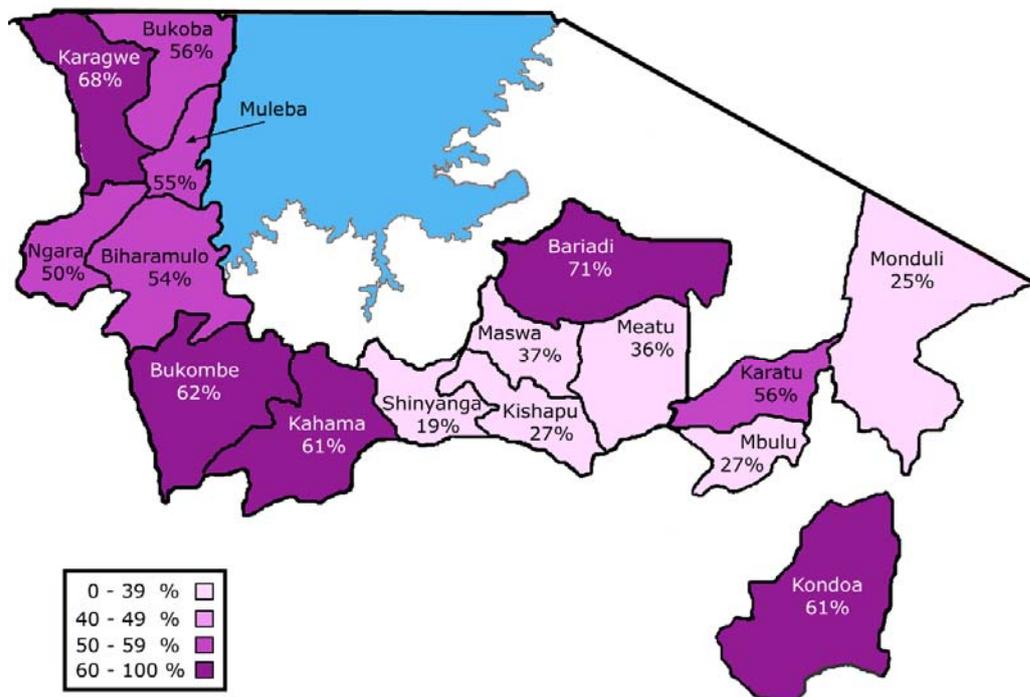
Map 30: Proportion of Households Living in Dwellings with Walls made of Permanent Materials



Proportions of households living in dwellings with permanent roofs and walls vary least across the rural districts of Kagera region. Most variation in proportions of households living in dwellings with permanent walls was found across the surveyed districts in the Northern Highlands, where it ranges from 5 percent in Mbulu to 40 percent in Kondoa. Variation in proportions of households living in dwellings with permanent roofs, on the other hand, is highest across the rural districts of Shinyanga region, where it ranges from 19 percent in Shinyanga Rural to 71 percent in Bariadi.



Map 31: Proportion of Households Living in Dwellings with a Roof made of Permanent Materials

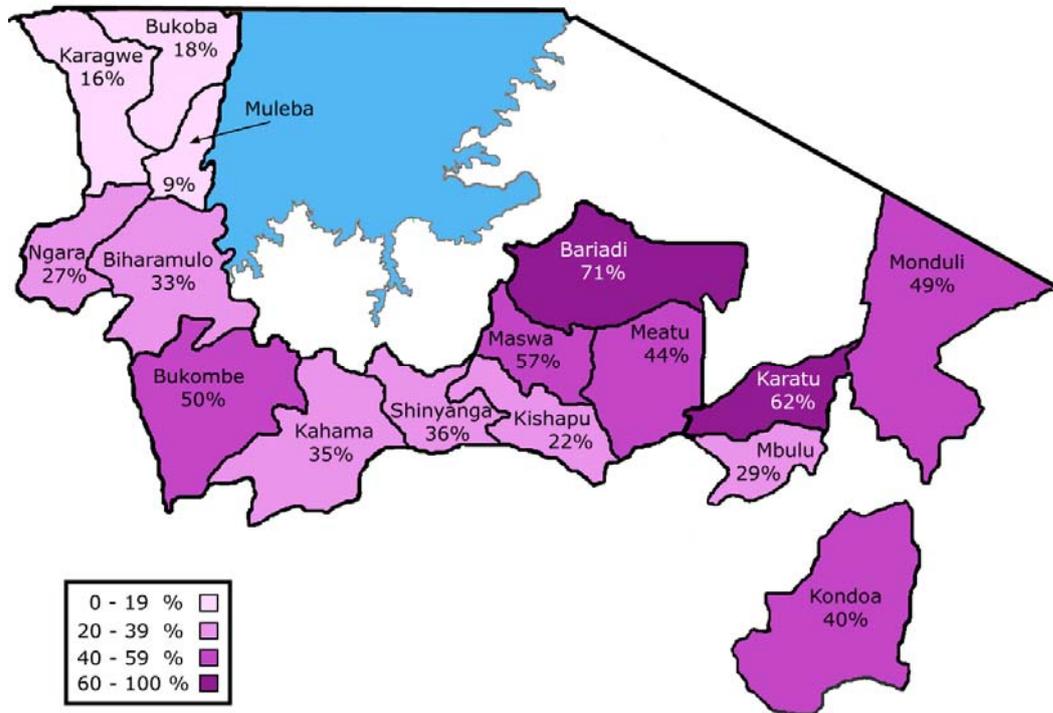


7.5 Household Facilities

Households were asked to identify their main source of water. Those that claimed to use water that is piped into their dwelling, the house of their neighbours, or from a protected well were classed as using water from a protected source. In the majority of the surveyed districts less than half of the households are in this category, as shown on Map 32. Highest rates of use of water from a protected source were found in rural districts of Shinyanga region and the Northern Highlands; more specifically in Bariadi (71 percent), Karatu (62 percent) and Maswa (57 percent). In contrast, across the rural districts of Kagera this rate does not exceed 33 percent (Biharamulo) and is as low as 9 percent in Muleba. Most variation in the rate of use of water from a protected source was found across the rural districts of Shinyanga region, where it ranges from 22 percent in Kishapu to 71 percent in Bariadi.



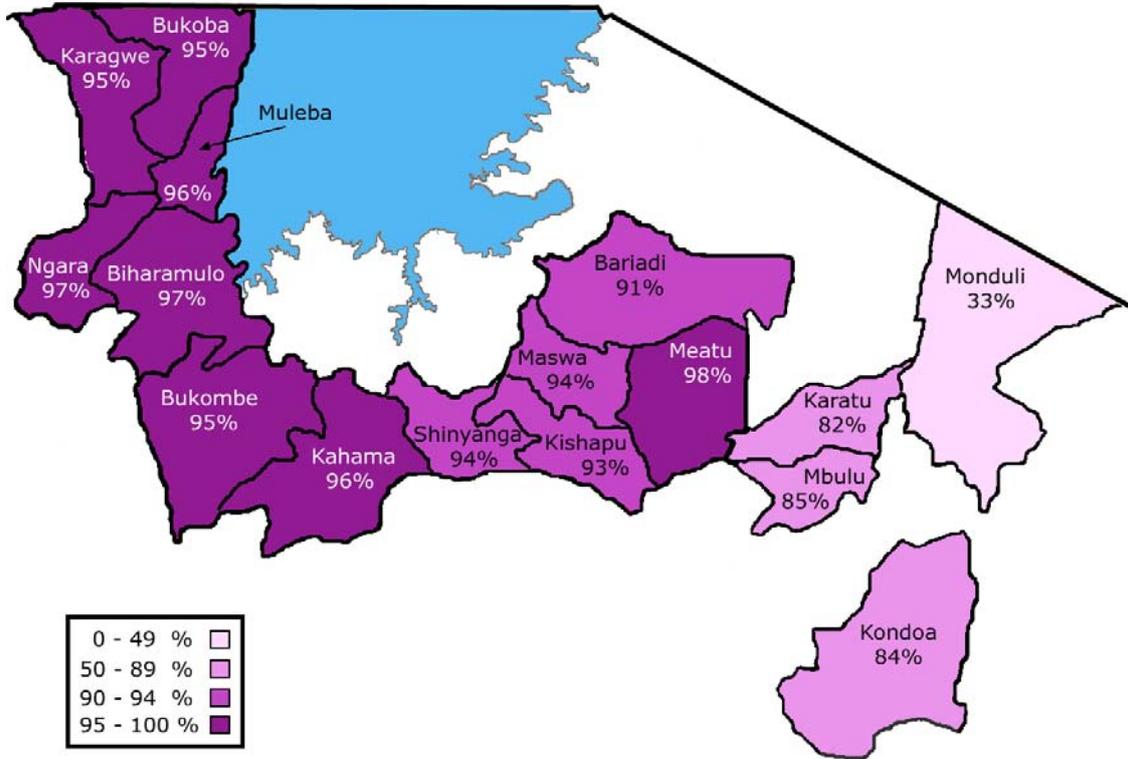
Map 32: Proportion of Households Using Protected Water Source



Map 33 shows the proportion of households that have a toilet in each of the surveyed districts. This proportion is lowest in Monduli district, where only 1 in 3 households reported having a toilet at the time of the survey. In the other 3 surveyed districts in the Northern Highlands area between 82 and 85 percent of households have a toilet. In the rest of the surveyed districts over 90 percent of households were in this category. In Meatu district, for instance, only 1 in 50 households did not have a toilet at the time of the survey.



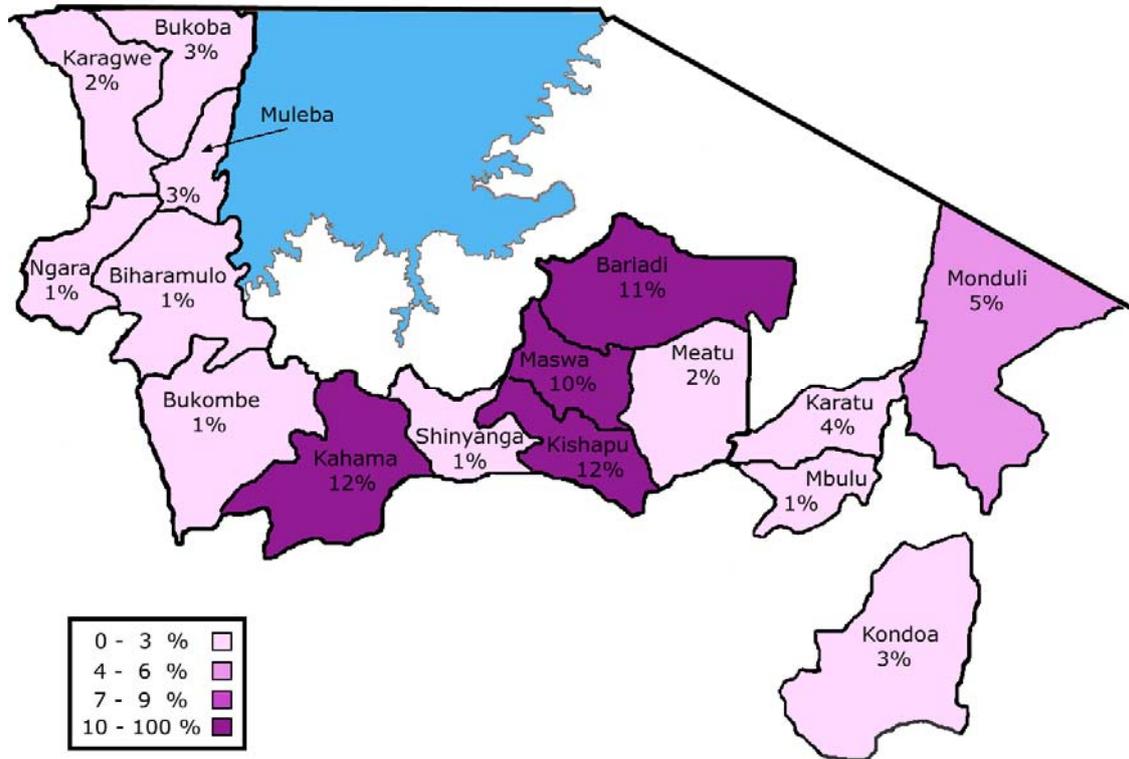
Map 33: Proportion of Households That Have a Toilet



In conclusion of this section, Map 34 shows the proportion of households that have electricity in each of the surveyed districts. Districts tend to either contain up to 5 percent of households with electricity or over 10 percent. In Ngara, Biharamulo, Bukombe and Shinyanga Rural districts, only 1 percent of households had electricity at the time of the survey. In contrast, in Kahama, Kishapu, Maswa and Bariadi districts this proportion ranges from 10 to 12 percent. Shinyanga region is the only area where proportions of households with electricity exceed 5 percent in some of the districts. Across the rural districts of Kagera region, electricity was found in between 1 and 3 percent of households, while in the surveyed areas of the Northern Highlands in between 1 and 5 percent.



Map 34: Proportion of Households That Have Electricity



7.6 Asset Ownership

In conclusion of this chapter, Table 18 presents rates of ownership of selected assets in the surveyed districts. In rural districts of Kagera region, as well as the surveyed ones in the Northern Highlands a radio is the most commonly held asset. In the majority of rural districts in Kagera, over half of the households were found to possess a radio; in the surveyed districts of the Northern Highlands, this proportion ranges from 34 percent in Monduli to 52 percent in Karatu. Across the majority of rural districts in Shinyanga region, on the other hand, the most commonly owned asset is a bicycle; ownership rates of this asset range from 49 percent in Bariadi to 68 percent in Bukombe and Kahama districts. In contrast, a motorcycle is the least widely held asset in the majority of the surveyed districts, with the exception of Bariadi district, where it is as widespread as a bank account. Overall, rates of motorcycle ownership range from 0 percent in the majority of the surveyed districts in the Northern Highlands, to 4 percent in Karagwe. All of the selected assets are held by a higher proportion of households in Kahama than any other surveyed district. Bicycles, motorcycles and irons are least likely to be found in a Monduli household, while phones and bank accounts are held by the lowest proportion of households in Meatu.

**Table 18: Household Ownership of Selected Assets**

	Bicycle	Motorcycle	Phone	Iron	Radio	Bank Account
Kagera						
Karagwe	37	04	02	16	55	06
Bukoba Rural	46	01	08	26	57	10
Muleba	37	02	06	14	45	08
Biharamulo	58	03	05	24	66	06
Ngara	30	01	04	18	48	10
Shinyanga						
Kishapu	57	1	6	24	48	10
Shinyanga Rural	65	1	3	17	50	3
Maswa	54	1	4	19	50	7
Meatu	50	0	2	11	38	2
Bariadi	49	2	4	25	55	2
Bukombe	68	1	3	33	71	10
Kahama	68	5	17	40	76	17
Northern Highlands						
Monduli	14	0	7	7	37	4
Karatu	32	1	12	22	52	9
Mbulu	36	0	2	17	34	4
Kondoa	35	0	3	18	46	4



8 POVERTY PROFILE

8.1 Introduction

In conclusion of the comparative report, this chapter examines the relationship between some of the main welfare indicators discussed throughout the report and household poverty status. The scope of the CWIQ surveys conducted in the 16 districts under comparison did not include collection of household expenditure data. However, using other variables, household consumption expenditure has been predicted to allow a more in-depth analysis of the data. The first part of this chapter explains how predicted consumption was calculated and demonstrates the reliability of this variable. An overview of the distribution of poverty and levels of inequality across the surveyed districts are examined in the section that follows. The last 4 sections focus on poverty trends in the specific areas examined in the preceding chapters; these areas include household characteristics, education, health and child nutrition.

8.2 Predicting Household Consumption Expenditure

8.2.1 Background Information

It is difficult, expensive and time consuming to collect reliable household consumption expenditure data. One reason for this is that consumption modules are typically very lengthy. In addition, household consumption patterns differ across districts, regions and seasons; hence multiple visits have to be made to the household for consumption data to be reliable.

However, household consumption expenditure data allows more extensive and useful analysis of patterns observed in survey data and renders survey outcomes more useful in policy determination. Because of this, the Tanzanian government has become increasingly interested in developing ways of using non-expenditure data to predict household consumption and, from this, poverty measures.

8.2.2 Methodology

There is a core set of variables that are incorporated in the majority of surveys. These variables inform on household assets and amenities, education level of the head of household, amount of land owned by the household and others. By observing the impact these have on the consumption expenditure of the household in an expenditure survey, a relationship can be calculated. These variables are called poverty predictors and can be used to determine household expenditure levels in non-expenditure surveys such as the



CWIQ. This means that, for instance, a household that is headed by an individual who has post secondary school education, with every member in a separate bedroom and that has a flush toilet, is more likely to belong to a higher income quintile than one where the household head has no education, a pit latrine is used and there are four people per bedroom. This is, of course, a very simplified example; however, these are some of the variables used to calculate the relationship between such information and the consumption expenditure of the household.

In the case of the specific CWIQ surveys under discussion, the data collected in the *Household Budget Survey 2000/01* (HBS) was used to select the poverty predictors and determine the quantitative relationship between these and household consumption. Work was then done to investigate the specific characteristics of each area in order to ensure that the model developed accurately represents the particular district.

Some caveats are in order when tabulating variables used as poverty predictors on poverty status. Poverty status is defined as a weighted average of the poverty predictors, hence it should come as no surprise that poverty predictors are correlated to them. For instance, education of the household head is one of the variables included in the equation used to calculate household consumption. The relationship is set as a positive one, consequently when observing the patterns in the data this relationship may be positive by construction. The variables used to calculate predicted household consumption differ across the surveyed areas. Three separate sets of variables were used – one for the rural districts in Kagera region, one for the rural districts of Shinyanga region and one for the districts surveyed in the Northern Highlands¹⁰. Across the 3 sets, however, there are a number of core variables in common; these are shown in Table 19.

Table 19: Core Variables Used to Predict Consumption Expenditure

<i>Basic Variables</i>	<i>Food Security</i>
Age of household head	Problems satisfying food needs
Household size	Number of meals per day
Education of household head	Number of days meat was consumed
Activity of household head	
<i>Household Assets</i>	<i>Household Amenities</i>
Farm land owned	Source of water
Radio, radio cassette, music system	
Iron, electric or charcoal	
Saving/current bank account	

8.2.3 Poverty Lines and Poverty Rates

Once the consumption level of a household has been predicted, it is compared to the Basic Needs Poverty Line set by National Bureau of Statistics (NBS) on the basis of the 2000/01 HBS. The exact procedure by which this line has been set is described in detail in 2000/01 HBS report. In short, the Basic Needs Poverty Line is defined by what a

¹⁰ See individual reports for exact variables used in each instance: www.edi-africa.com/research/cwiq.htm



household, using the food basket of the poorest 50 percent of the population, needs to consume to satisfy its basic food needs to attain 2,200 Kcal/day per adult equivalent. The share of non-food expenditures of the poorest 25 percent of households is then added. The Basic Needs Poverty Line is set at TZS 7,253 per 28 days per adult equivalent unit in 2000/1 prices; households consuming less than this are assumed to be unable to satisfy their basic food and non-food needs.

8.2.4 Accuracy

Household consumption, predicted using the method described above, is then used to classify households as poor or non-poor, i.e. to determine whether a household's monthly consumption per adult equivalent unit is below or above the Basic Needs Poverty Line. This binary approach allows two types of mistakes associated with the prediction:

1. A poor household is predicted to be non-poor
2. A non-poor household is predicted to be poor

One way of determining the accuracy of the poverty predictors is to see how many mistakes of each type the model makes. To do this the poverty predictor model is applied to the actual consumption expenditure data – the HBS data. Results of this exercise are presented in Table 20 and show that the first type of mistake happens more frequently than the second type in all 3 instances. Overall, between 11 and 12 percent of households were wrongly predicted to be non-poor, and between 7 and 10 percent were wrongly predicted to be poor.

Table 20: Accuracy of Poverty Predictors in Categorising Poor and Non-Poor Households

	Actually Poor – Predicted Non-poor	Actually Non-poor – Predicted Poor
Rural Districts of Kagera Region	12	7
Rural Districts of Shinyanga Region	11	9
Northern Highlands DRDP Districts (Monduli, Karatu, Mbulu, Kondoia)	11	10

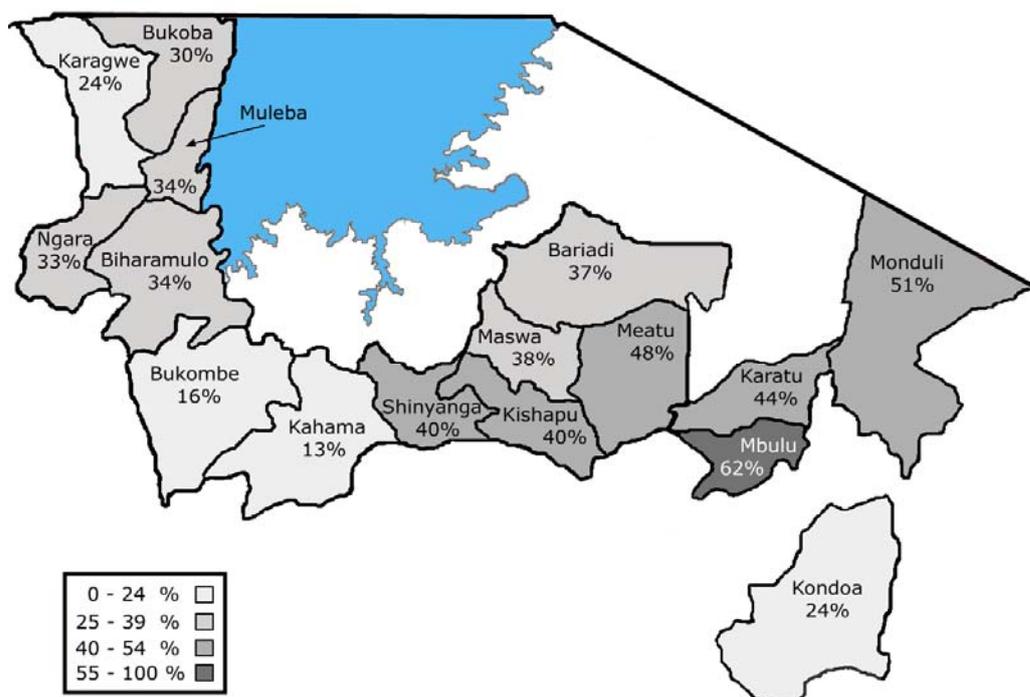
Predicting the poverty rate is not the purpose of CWIQ. Expenditure surveys, such as the 2000/2001 Household Budget Survey, are much better suited for informing on this variable. However, such large scale surveys have insufficient number of observations to inform on district level trends. The district level CWIQ surveys, on the other hand, are large enough to allow detailed district level analysis. The accuracy with which households can be classified by poverty status using the CWIQ gives credence to the use of predicted poverty level as a variable.



8.3 Incidence of Poverty and Consumption Inequality

This section focuses on trends in poverty rates and consumption inequality in the surveyed area. Map 35 shows the proportion of households living below the Basic Needs Poverty Line in each of the surveyed districts, at the time of the survey. By far the highest poverty rate was found in Mbulu district, where more than 3 out of 5 households are poor, at 62 percent. The only other district with a poverty rate that exceeds 50 percent is Monduli, where 51 percent of households were poor at the time of the survey. In contrast, in Kahama and Bukombe districts poor households constitute less than a fifth of all households, at 13 and 16 percent respectively. Karagwe and Kondoa are the only other districts where the poverty rate is below 30 percent. In the majority of the surveyed districts, poor households make up between 30 and 48 percent of households in the district. Variation in poverty rates is highest across the surveyed districts of the Northern Highlands, where it ranges from 24 percent in Kondoa to 62 percent in Mbulu.

Map 35: Household Poverty Rate (percentage of households below the Basic Needs Poverty Line)

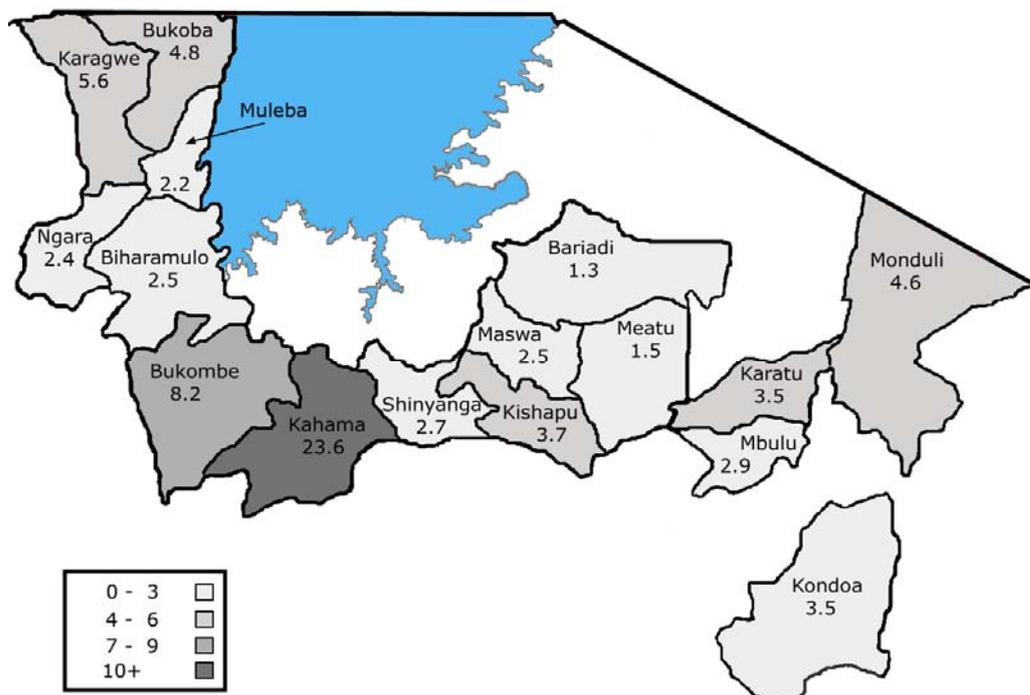


Further, the quintile dispersion ratio method is used to demonstrate the level of consumption inequality in each of the surveyed districts. The quintile dispersion ratio is a ratio of the total consumption in the highest quintile to that in the lowest quintile. In other words, it shows how many times higher the consumption of 20 percent of the richest households is than that of 20 percent of the poorest households.



The results indicate that inequality is highest in Kahama district, where total consumption of the richest 20 percent of households is 24 times that of the poorest 20 percent (Map 36). This ratio is 3 times higher than the second highest one of 8 in the neighbouring district of Bukombe. In the majority of the surveyed districts, the dispersion ratio ranges from 2 to 4, indicating that the richest 20 percent of the households consume between 2 and 4 times more than the poorest 20 percent. Bariadi and Meatu districts appear to have relatively less consumption inequality; the consumption of the richest 20 percent of households in these districts is no more than 1.5 times higher than that of the poorest 20 percent.

Map 36: Consumption Inequality: Quintile Dispersion Ratio¹



1. Ratio of total consumption expenditure of households in the highest consumption quintile to total consumption expenditure of households in the lowest consumption quintile



8.4 Poverty and Household Characteristics

Mean household size is greater among poor than non-poor households in all of the surveyed districts. As shown in Table 21, in the majority of instances, poor households contain at least 2 more members than non-poor households. The most substantial disparities in sizes of poor and non-poor households were found across the rural districts of the Shinyanga region. For instance, in Kahama district non-poor households contain, on average, 4 fewer members than poor households. In Monduli district, on the other hand, poor and non-poor households tend to be close in size; non-poor households here have, on average, only 0.5 more members than poor households. Overall, while non-poor households range from an average size of 4.2 members (Kondoa) to 7.4 members (Shinyanga Rural), poor households contain between an average of 5.1 and 10.4 members (in Monduli and Bukombe districts respectively).

Table 21: Mean Household Size by Household Poverty Status

	Non-Poor	Poor
Kagera		
Karagwe	4.6	6.7
Bukoba Rural	4.5	6.6
Muleba	4.2	6.5
Biharamulo	5.1	7.3
Ngara	4.5	6.9
Shinyanga		
Kishapu	6.0	9.9
Shinyanga Rural	7.4	9.1
Maswa	6.3	9.4
Meatu	6.7	9.5
Bariadi	5.8	9.1
Bukombe	6.5	10.4
Kahama	5.6	9.7
Northern Highlands		
Monduli	4.6	5.1
Karatu	3.8	7.2
Mbulu	4.4	7.5
Kondoa	4.2	6.3

In all of the surveyed districts, it was found that formal schooling is more widespread among household heads of non-poor than those of poor households. The proportion of non-poor households headed by those with no formal education is highest in Kondoa district, at 45 percent. Poor households in the same category are most widespread in Monduli, constituting 73 percent of all poor households in this district. The lowest proportion of poor households headed by individuals with no formal education, on the other hand, was found in Mbulu district, where just over a third (34 percent) of



households are in this position. This proportion is more than twice as high as the lowest proportion of non-poor households headed by an individual with no formal education, found in Bukombe district (16 percent). In consistency with these trends, between 15 and 30 percent of non-poor households are headed by an individual with no formal education in the majority of districts, compared to over 40 percent of poor households. Overall, the most substantial difference between proportions of heads of poor and non-poor households with no formal schooling was found in Bariadi district; the former is 34 percentage points lower than the latter.

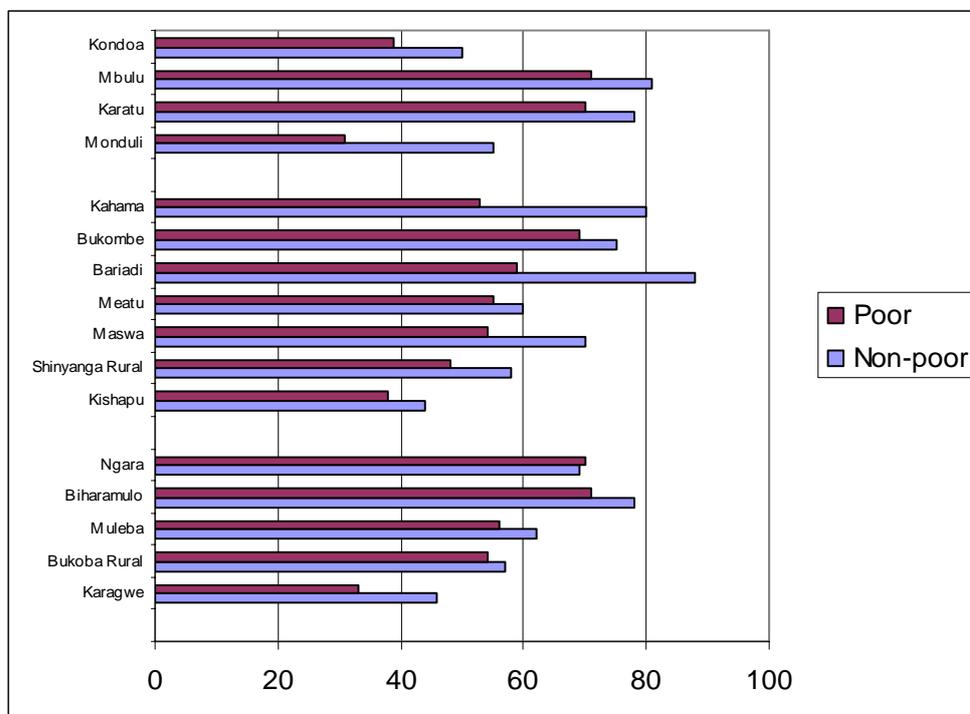
Table 22: Proportion of Households Headed by Individuals with No Formal Schooling by Household Poverty Status

	Non-Poor	Poor
Kagera		
Karagwe	25	54
Bukoba Rural	19	43
Muleba	28	44
Biharamulo	22	49
Ngara	30	38
Shinyanga		
Kishapu	33	55
Shinyanga Rural	41	55
Maswa	37	55
Meatu	44	56
Bariadi	24	58
Bukombe	16	36
Kahama	17	44
Northern Highlands		
Monduli	35	73
Karatu	22	42
Mbulu	27	34
Kondoa	45	52



Access to water is defined as the proportion of households located within 30 minutes of travel from the nearest source of water. Figure 2 shows that with the exception of Ngara district, access to water is higher among non-poor than poor households in all of the surveyed districts. Among non-poor households access ranges from 44 percent in Kishapu district to 88 percent in Bariadi district. Among poor households, on the other hand, this access rate ranges from 31 percent in Monduli to 71 percent in Biharamulo and Mbulu districts. Ngara district is characterised by the lowest disparity in rates of access to water by household poverty status. This is also the only district where the proportion of poor households with access to water is higher than that of non-poor households; the difference is only 1 percentage point, however. In contrast, in Bariadi and Kahama districts, access rates among non-poor households exceed those among poor households by, respectively, 29 and 27 percentage points.

Figure 2: Access to Water Source by Household Poverty Status

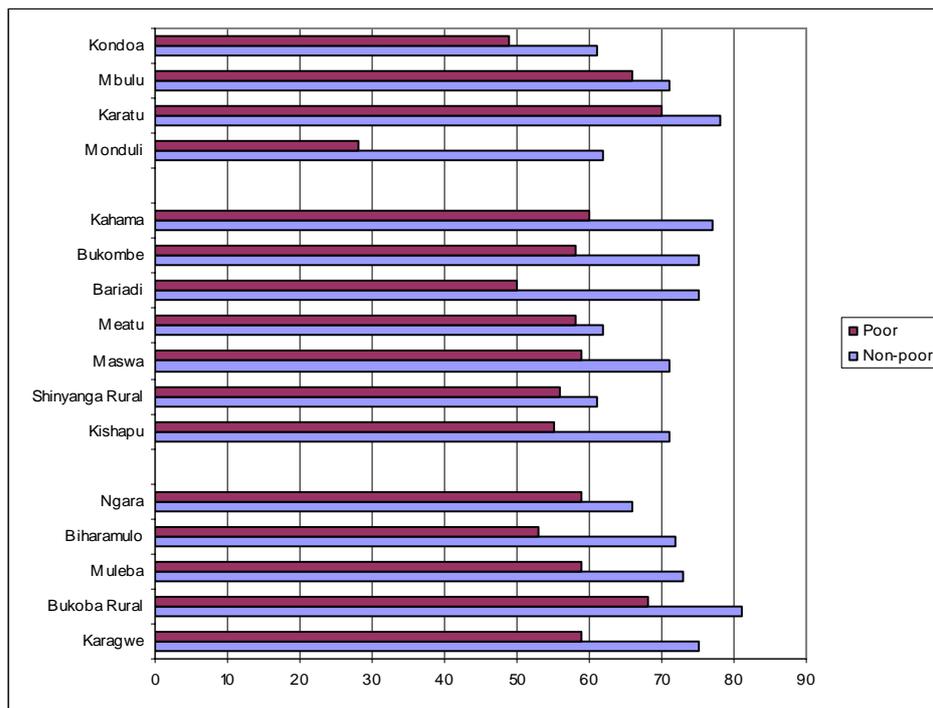




8.5 Poverty and Education

An adult¹¹ is considered literate if he/she claims of be able to read and write. Figure 3 shows that in all of the surveyed districts literacy rate is higher among adults from non-poor households than those from poor ones. In fact, the lowest literacy rate among non-poor adults, which was found in Shinyanga Rural and Kondoa districts, is only 9 percentage points lower than the highest literacy among poor adults, found in Karatu district. Even in Karatu, however, 30 percent of adults from poor households are unable to read and write. In contrast, in Bukoba Rural where literacy rate among adults from non-poor households is highest, only 19 percent were illiterate at the time of the survey. The most substantial disparity in literacy rates by household poverty status was found in Monduli district. Here the proportion of literate adults from non-poor households is 34 percentage points higher than that among adults from poor households, at 62 and 28 percent respectively.

Figure 3: Adult Literacy Rate by Household Poverty Status



Access rates¹² among individuals of primary and secondary school age are disaggregated by poverty status in Table 23. The lowest primary school access rates, among children from both poor and non poor households, were found in Karagwe district. At the time of the survey, 41 percent of 7 to 13 year olds from non-poor households and only a quarter

¹¹ In this section adults include all individuals over the age of 14

¹² See Chapter 3 for definition



of those from poor households were able to get to a primary school within 30 minutes of travel in this district. Highest access rate among children from non-poor households was found in Bariadi district, at 76 percent. In contrast, among children from poor households the highest access rate was only 59 percent, found in Bukombe district.

Although in all of the surveyed districts, primary school access is higher among children from non-poor than poor households, there is substantial variation in the magnitude of this difference. In fact, this difference ranges from only 5 percentage points in Bukoba Rural district to 45 percentage points in Bariadi district. The average difference in primary school access rates among children from poor and non-poor households across the surveyed districts in the 3 main survey areas ranges from 21 percent in Shinyanga region to 12 percent in Kagera region.

Secondary school access rate among individuals of secondary school age from non-poor households also tends to be higher than that among members of poor households in the majority of the surveyed districts. Shinyanga region contains the districts with the lowest and highest secondary school access rates among residents of non-poor households. While in Shinyanga Rural district this access rate is only 5 percent, in Bariadi district it is 10 times higher, at 50 percent. The lowest secondary school access rate among the reference population from poor households was found in Bukombe and Kondoa districts (1 percent)

As in the instance of trends in access at primary level, the magnitude of the differences between access rates among individuals from poor and non-poor households varies substantially across the surveyed districts. Most noticeably, in 4 out of the 5 rural districts in Kagera region, the secondary school access rate is up to 8 percentage points higher among individuals from poor than non-poor households. This does not occur in the rest of the surveyed areas, where a higher proportion of members of non-poor households have access than those from poor households. This difference ranges from 2 percentage points in Shinyanga Rural district to 46 percentage points in Bariadi district.

Table 23: Access to Primary and Secondary Schools by Household Poverty Status

	<i>Access to Primary School</i>		<i>Access to Secondary School</i>	
	Non-Poor	Poor	Non-Poor	Poor
Kagera				
Karagwe	41	25	08	03
Bukoba Rural	54	49	12	17
Muleba	58	42	10	18
Biharamulo	66	56	42	25
Ngara	54	40	08	10
Shinyanga				
Kishapu	57	39	23	04
Shinyanga Rural	56	40	05	03

Poverty Profile



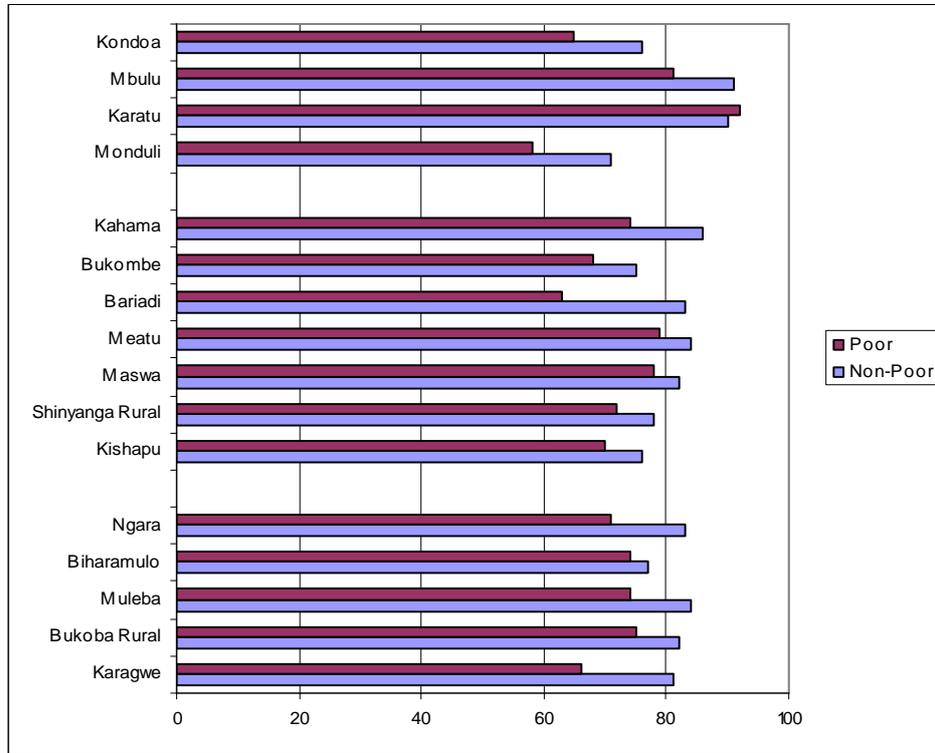
	<i>Access to Primary School</i>		<i>Access to Secondary School</i>	
	Non-Poor	Poor	Non-Poor	Poor
Maswa	52	36	23	10
Meatu	49	39	08	05
Bariadi	76	31	50	04
Bukombe	72	59	38	01
Kahama	70	41	17	03
Northern Highlands				
Monduli	30	18	09	02
Karatu	61	53	29	11
Mbulu	52	46	22	17
Kondoa	72	42	9	01

The primary school Net Enrolment Rate¹³ is higher among individuals from non-poor than poor households in all of the surveyed districts with the exception of Kahama (Figure 4). Among individuals from non-poor households, primary school enrolment rates range from 71 percent in Monduli district to 91 percent in Mbulu district. Among children from poor households, the NER ranges from 58 percent in Monduli district to 92 percent in Karatu district. Karatu is also the district where the difference between the NER of children from non-poor households and those from poor households is smaller than in the rest of the surveyed districts, at only 2 percentage points. In contrast, the largest difference was found in Bariadi district, where the primary school NER of children from non-poor households exceeds that of children from poor households by 20 percentage points.

¹³ See Chapter 3 for definition



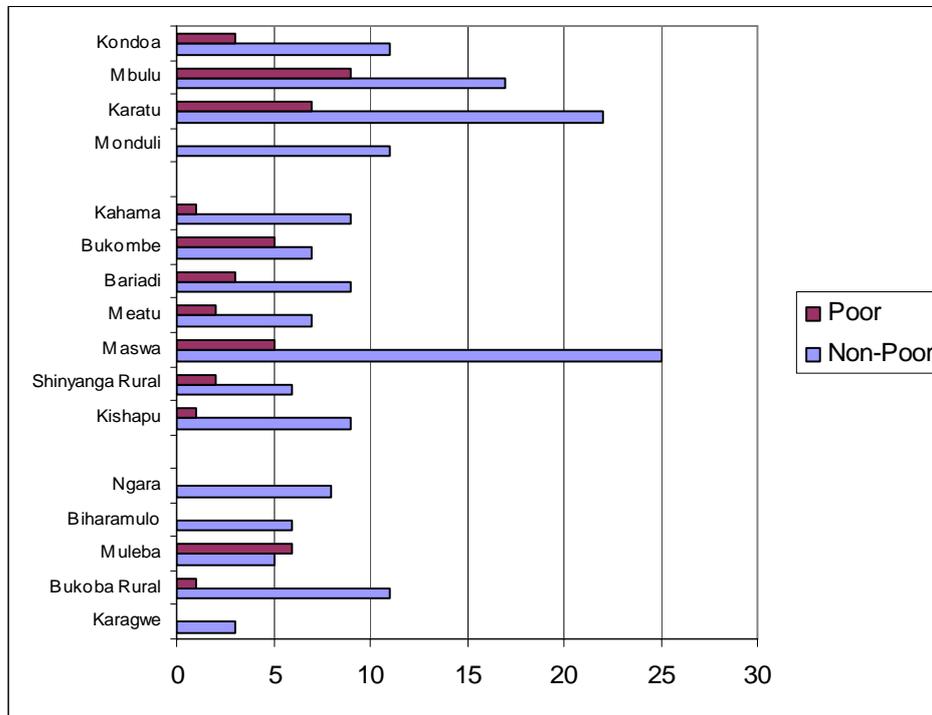
Figure 4: Primary School Net Enrolment Rate by Poverty Status



In 4 of the surveyed districts, none of the individuals of secondary school age from poor households were attending secondary school at the time of the survey. Further, the secondary school NER among those from poor households does not exceed 9 percent (Mbulu district). In contrast, the secondary school NER among members of non-poor households ranges from 3 percent in Karagwe district to 25 percent in Maswa district. Maswa is also the district where the NERs of individuals from poor and non-poor households differ most; the NER among individuals from non-poor households is 20 percentage points higher here than that among members of poor households. In contrast, in Muleba district, the NERs of these two groups are almost equal. Overall, in all of the surveyed districts, with the exception of Muleba district, secondary school NER is higher among individuals from non-poor than poor households.



Figure 5: Secondary School Net Enrolment Rate by Poverty Status



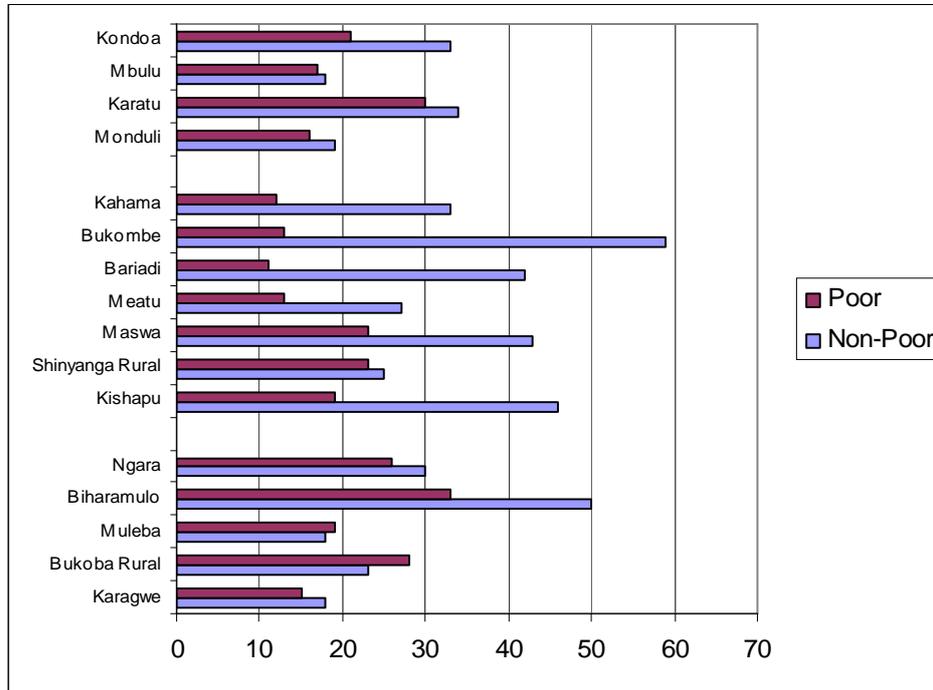
8.6 Poverty and Health

Access to health facilities¹⁴ is one of the main health indicators informed on by the CWIQ. Figure 6 shows disaggregation of health facility access rates by household poverty status. In the great majority of the surveyed districts a higher proportion of non-poor than poor households have access to health facilities. Bukoba Rural and Muleba districts are the exceptions to this trend; the health facility access rates among poor households are slightly higher here than those among non-poor households. Overall, the proportion of non-poor households located within 30 minutes of travel from the nearest health facility is highest in Bukombe district (59 percent) and lowest in Mbulu, Karagwe and Muleba districts (18 percent). Among poor households this indicator ranges from 11 percent in Bariadi district to 33 percent in Biharamulo. Finally, the differences between proportions of poor and non-poor households with access to health facilities are most substantial across districts located in Shinyanga region. In fact, this difference exceeds 10 percentage points in 6 out of the 7 rural districts in Shinyanga region, compared to only 1 out of 5 rural districts of Kagera region and 1 out of the 4 districts surveyed in the Northern Highlands.

¹⁴ See Chapter 4 for definition



Figure 6: Access to Health Facilities by Household Poverty Status



The Shinyanga Rural CWIQ Report discusses the difficulties of finding differences in health indicators by poverty status. In some instances this is caused by self-reporting bias; individuals from poor households may under-report illnesses compared to those from non-poor households. Consequently, direct comparison of basic health indicators by household poverty status may be less informative than comparison of indicators that are less likely to be affected by the reporting bias. One such indicator is the time taken off work due to illness. Table 24 shows the proportions of individuals from poor and non-poor households who reported incidence of illness in the 4 weeks preceding the survey and had taken more than 2 weeks off work as the result of the illness. Overall, the results indicate that in the majority of districts this proportion is slightly higher among the reference population from poor than non-poor households.



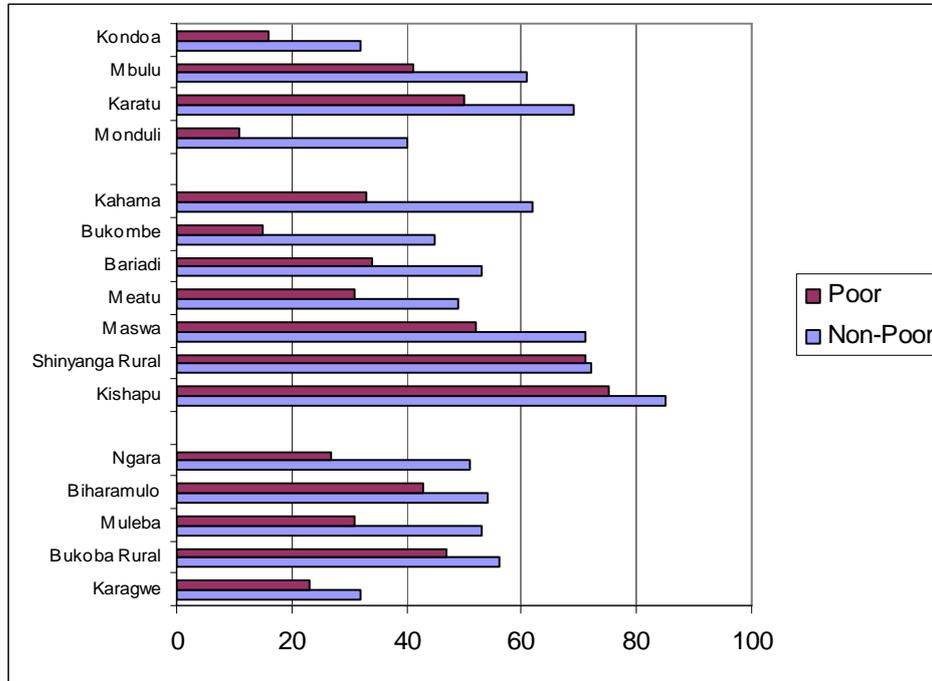
Table 24: Proportions of Members of Poor and Non-poor Households Who had been Ill in the 4 Weeks Preceding the Survey and had to Take More Than 2 Weeks Off from Work

	Non-Poor	Poor
Kagera		
Karagwe	10	09
Bukoba Rural	11	12
Muleba	12	17
Biharamulo	12	10
Ngara	08	06
Shinyanga		
Kishapu	12	10
Shinyanga Rural	06	07
Maswa	04	05
Meatu	10	09
Bariadi	06	12
Bukombe	05	08
Kahama	03	06
Northern Highlands		
Monduli	10	11
Karatu	09	16
Mbulu	10	18
Kondoa	11	11

Another potentially informative statistic of the disparity in health indicators between members of poor and non-poor households is the proportion of children from these 2 groups delivered in a hospital. This data is presented in Figure 7 for all deliveries that had taken place in the 5 years preceding the survey. The lowest proportion of children from non-poor households delivered in a hospital over the specified time-period was found in Kondoa and Karagwe districts, at 32 percent. In Kishapu district, on the other hand, the great majority (85 percent) of the reference population were in this group, at the time of the survey. In contrast, among children from poor households, proportions of hospital deliveries range from a tenth in Monduli district to 3 out of 4 in Kishapu district. In all of the surveyed districts, hospital deliveries are more widespread in non-poor than poor households. These differences range from 1 percentage point in Shinyanga Rural, to 30 percentage points in Bukombe district. In the majority of districts this difference exceeds 10 percentage points.



Figure 7: Proportion of Children Delivered in Hospitals/Maternity Wards Over the 5 Years Preceding the Survey by Household Poverty Status



8.7 Poverty and Child Malnutrition

8.7.1 Poverty and Stunting

The rate of stunting¹⁵ among children under the age of 5 from non-poor and poor households is highest in Karagwe district, at 48 and 53 percent respectively. In Mbulu, on the other hand, only 14 percent of the reference population from non-poor households were stunted at the time of the survey. The lowest rate of stunting among children from poor households was found in Kondoa district, where a fifth were suffering from this condition. Overall, highest rates of stunting were found in the rural districts of the Kagera region, where in the majority of districts over 40 percent of children from both poor and non-poor households were suffering from long-term malnutrition. In the great majority of the surveyed districts, the rate of stunting is higher among children from poor than non-poor households. This difference is most substantial in Kahama district, where the rate of stunting among children from non-poor households is 13 percentage points lower than that among children from poor households. In most of the surveyed districts, however, this difference does not exceed 10 percentage points.

¹⁵ See Chapter 5 for definition

**Table 25: Stunting Among Children Under 5 Years by Household Poverty Status**

	Non-Poor	Poor
Kagera		
Karagwe	48	53
Bukoba Rural	41	43
Muleba	39	42
Biharamulo	37	38
Ngara	41	45
Shinyanga		
Kishapu	22	33
Shinyanga Rural	32	33
Maswa	26	36
Meatu	28	40
Bariadi	29	29
Bukombe	33	26
Kahama	28	41
Northern Highlands		
Monduli	26	36
Karatu	19	28
Mbulu	14	24
Kondoa	21	21

8.7.2 Poverty and Wasting

Wasting rates¹⁶ among children under the age of 5 from poor and non-poor households are presented in Table 26. There does not appear to be as strong a correlation between poverty and short-term malnutrition as poverty and long-term malnutrition (Table 25). Wasting rates among children from non-poor households range from 3 percent in Mbulu and Kondoa districts to 15 percent in Bariadi. Among children from poor households, wasting rates range from also 3 percent in Mbulu to 10 percent in Biharamulo. In roughly half of the districts, however, short-term malnutrition is slightly more widespread among children from poor than non-poor households. In the other half of the surveyed districts, wasting is either equally widespread among under 5's from both groups, or more widespread among those from non-poor households..

¹⁶ See Chapter 5 for definition

**Table 26: Wasting Among Children Under 5 by Household Poverty Status**

	Non-Poor	Poor
Kagera		
Karagwe	05	08
Bukoba Rural	11	07
Muleba	06	08
Biharamulo	05	10
Ngara	08	08
Shinyanga		
Kishapu	06	06
Shinyanga Rural	05	06
Maswa	06	05
Meatu	06	07
Bariadi	15	05
Bukombe	04	01
Kahama	04	03
Northern Highlands		
Monduli	08	08
Karatu	04	06
Mbulu	03	03
Kondoa	03	04



REFERENCES

District Rural Development Programme. 2004. *Kagera Rural CWIQ: Baseline Survey on Poverty, Welfare and Services in Kagera Rural Districts*, Tanzania

District Rural Development Programme. 2004. *Rural Shinyanga CWIQ: Baseline Survey on Poverty, Welfare and Services in Rural Shinyanga Districts*, Tanzania

National Bureau of Statistics. 2002. *Household Budget Survey 2000/01*, Dar es Salaam

SNV. 2005. *Karatu District CWIQ: Baseline Survey on Poverty Welfare and Services in Karatu District*, Tanzania

SNV. 2005. *Kondoa District CWIQ: Baseline Survey on Poverty Welfare and Services in Kondoa District*, Tanzania

SNV, 2005. *Mbulu District CWIQ: Baseline Survey on Poverty Welfare and Services in Mbulu District*, Tanzania

SNV, 2005. *Monduli District CWIQ: Baseline Survey on Poverty Welfare and Services in Monduli District*, Tanzania