# Tanzania-Netherlands
# District Rural Development Programme

# KAGERA RURAL CWIQ
## Baseline Survey on Poverty, Welfare and Services in Kagera Rural Districts

# APRIL 2004

**Economic Development Initiatives**

## FOREWORD

The effective management of development of Kagera Region has the interest of many different stakeholders. Many share a common concern to alleviate poverty of our rural population. This report gives an overview of the extent of poverty in our communities. In addition it gives a representative view on utilisation and satisfaction of our rural population with the social services provided by the Government and Non Government agencies.

This book is unique as it is the first comprehensive survey of its kind to be administered in Kagera Region. The book should be appreciated as a baseline survey to measure changes overtime in household welfare and satisfaction levels with social services provided in result of development policies implemented.

It is my hope that this book will contribute to a better understanding of the daily problems of our rural population. I challenge all development stakeholders, both Government and Non-Government, to enhance collaboration in support of a comprehensive response to overcome the many developmental constraints in the context of National priorities and policies


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**Kagera Region**

## ACKNOWLEDGEMENTS

## ABBREVIATIONS

| | |
|---|---|
| CWIQ | Core Welfare Indicator Questionnaire |
| DRDP | District Rural Development Project |
| EDI | Economic Development Initiatives |
| HBS | Household Budget Survey |
| IFM | Institute of Financial Management |
| NBS | National Bureau of Statistics |
| URT | United Republic of Tanzania |
| AIDS | Acquired Immune Deficiency Syndrome |
| HIV | Human Immunodeficiency Virus |
| TZS | Tanzanian Shilling |
| PEDP | Primary Education Development Plan |
| NCHS | National Centre for Health Statistics |
| CDC | Centres for Disease Control and Prevention |
| WHO | World Health Organisation |

## DEFINITIONS

*General*

| | |
|---|---|
| Kagera Rural | Includes all rural districts in the Kagera region: Karagwe, Bukoba Rural, Muleba, Biharamulo and Ngara. |
| 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 Ratio | The ratio of all individuals attending school, irrespective of their age, to the population of children of school age. |
| Net Enrolment Ratio | The ratio of children of school age currently enrolled at school to the population of children of school age |
| Drop Out Rate | The ratio of children who left school in the current year to the total number of children enrolled this year i.e. including the drop outs (a child remains enrolled at school for a year after he/she stops attending). |

*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. |
| Chronic Malnutrition | Long-term malnutrition characterised by stunting |
| Acute Malnutrition | Short-term malnutrition characterised by wasting |

*Employment*

| | |
|---|---|
| Working Individual | An individual who had been engaged in any type of work in the week preceding the survey. |
| Underemployed Individual | An individual who was looking for additional work in the week preceding the survey and/or was ready to take on more work in the following four week period. |
| Non-working Individual | An individual who had not been involved in any type of work in the week preceding the survey. |
| Unemployed Individual | An individual who had not been engaged in any type of work in the week prior to the survey, but had been looking for work in the four weeks prior to the survey. |
| Economically Inactive Individual | An individual who had not been engaged in any type of work in the week prior to the survey and had not been looking for work in the four weeks prior to the survey. |
| Regular Employee | An individual who is paid a wage/salary. |
| Casual Employee | An individual who is paid an hourly/daily wage. |

*Welfare*

| | |
|---|---|
| Access to Drinking Water Facilities | Households located within 30 minutes of travel from the nearest drinking water facility. |

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# 1   INTRODUCTION

## 1.1   The Rural Kagera CWIQ

This report presents regional and district level analyses of data collected in the Rural Kagera Core Welfare Indicator Questionnaire (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 and satisfaction with social services.

The Rural Kagera CWIQ was sampled to be representative at district level in all five rural districts of Kagera: Ngara, Biharamulo, Muleba, Bukoba Rural and Karagwe. In each district 450 households were chosen to represent its population. Households were clustered in 30 Enumeration Areas per district and stratified in rural and peri-urban areas.

The survey started with the listing of the households in July 2003. All 2250 sampled households were visited and administered a questionnaire in November 2003. Data analysis started in the middle of December and took around three months to complete.

CWIQ aims at standardising its questionnaires to allow easy comparisons within and across countries as well as across time. Rural Kagera CWIQ was the first survey of its kind to be administered in Kagera Region. Repeating the survey in, say, one or two years time would be advisable as it will give an indication of the direction in which the welfare of households is changing and how this is influenced by the policies implemented. Although beyond the purpose of this study, the results of Rural Kagera CWIQ could be set against those of other CWIQ surveys that have been implemented in other districts of Tanzania: Mbeya Urban District, Singida Urban District and Mtwara Urban District. African countries that have implemented nationally representative CWIQ surveys include Malawi, Ghana and Kenya.

After this introduction, which includes a description of the survey methodology, the sampling frame and the key regional level findings, the report continues with regional level analysis of the data. Poverty, population characteristics, education, health, employment, household amenities, child delivery and nutrition are discussed respectively. The report then turns to discuss each district in more detail. Some of the key results for each district are highlighted and compared with results from other districts and the rural regional average. District reports, although more summary in scope, form stand-alone reports following the same structure as the regional report. Readers who are only interested in the data on a specific district could skip to the relevant district immediately. However, due to reasons related to sample size and to avoid excessive repetition, more detailed analysis can be found at regional level.

The survey was implemented by EDI (Economic Development Initiatives) a Tanzanian registered research, consultancy and training group on behalf of the DRDP (District Rural Development Programme) of the Netherlands Embassy. The report is aimed at national, regional and district level policy makers as well as the research and policy community at large.

## 1.2 Survey Methodology

Data from the 2002 Population and Housing Census was used to select 15 households in 30 Enumeration areas in each rural district of the Kagera region. This brings the total number of households to 450 per district or 2,250 at rural regional level. Selection of households did not include refugee camps. Households were further stratified into rural and peri-urban areas and given statistical weights reflecting the number of households they represent. Further details on the sample stratification are given in Table 1.

**Table 1: Sample stratification**

|  | Rural | | Peri-urban | |  |
|---|---|---|---|---|---|
|  | No. of selected Enumeration Areas | No. of selected households | No. of selected Enumeration Areas | No. of selected households | Total No. of Selected Households |
| Kagera Rural | 135 | 2,025 | 15 | 225 | 2,250 |
| 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 |

Due to logistical constraints the completed questionnaires could not be scanned and automatically analysed through CWIQ software. This meant that the lay-out of the questionnaire had to be redesigned slightly to allow easy manual data entry. In order to avoid any problems with coding, missing variables, outliers etc. and to keep continuous thorough checks throughout the data analysis process, all tables and figures were manually produced and assessed for consistency with the data.

CWIQ does not collect information on consumption and thus cannot directly calculate poverty rates. Therefore the 2000/01 Tanzania Household Budget Survey (HBS) was used to determine predictors of poverty that are included in CWIQ, or could be easily added without delaying the field work. Through regression analysis weights for each poverty predictor were determined. By way of this weighted sum of poverty predictors each household can be predicted to either lie above or below the poverty line. This allows Rural Kagera CWIQ to analyse all data by (predicted) poverty status of the household.

Listing of the households started in July 2003. By the end of October 2003 15 interviewers and 3 supervisors were trained; field work began around November 2003. By mid December 2004 the data were ready for analysis. The analysis phase took just over 3 months.

This report will not report on standard errors associated with the statistics presented. On average standard errors were very low at 0.97 percent. This shows that the magnitude of errors resulting from the design of the sample was very small and the statistics presented in this report are very close to their actual values.

## 1.3 Key Regional Findings

This section discusses key findings at regional level. Key findings for each separate district can be found at the beginning of each district report. Table 2 gives an overview of the core welfare indicators collected by CWIQ.

1. The rural districts of Kagera (Karagwe, Bukoba Rural, Muleba, Biharamulo and Ngara) have, a joint population of approximately 2,000,000 individuals living in 375,000 households. Although all live in rural districts, 20 percent of these people live in areas classified as peri-urban, with the remainder living in rural areas.

2. Rural Kagera CWIQ finds a poverty rate of 31 percent: a little under one out of three households live below the basic needs poverty line. However, as poor households are generally larger, 40 percent of the Kagera population lives in a poor household.

3. The overall literacy rate in Rural Kagera lies at 70 percent but hides large differences across gender, poverty status and area of residence. Rural Kagera CWIQ finds that 76 percent of men in the area are literate compared to 63 percent of women. Similarly, 61 percent of the poor can read and write, compared to 75 percent of the non-poor. Finally, while in peri-urban areas 80 percent of the population are literate, in rural areas this proportion is more than 6 percentage points lower, at 74 percent.

4. While nearly half of the children of primary school age live less than 30 minutes of travel from the nearest primary school, only 15 percent of individuals of secondary school age live within the same vicinity of the nearest secondary school.

5. The proportion of children from poor households who live less than 30 minutes travel to the nearest primary school is more than 10 percentage points lower than that of children from non-poor households: 61 percent and 75 percent respectively.

6. Access to primary schools is lowest in Karagwe, where only 35 percent of children can reach a primary school within 30 minutes compared to the average 50 percent. In contrast, in Biharamulo, where the access rate is highest, 61 percent of children can get to primary school within that time.

7.  68 percent of the respondents said they were satisfied with the educational facility. The reasons given for the dissatisfaction of the remaining 32 percent relate to logistical and organisational issues in the schooling system such as lack of books and supplies, poor facilities and a shortage of teachers. Very few people are dissatisfied with the quality of teaching.

8.  By the end of 2003 the Primary School Gross Enrolment Rate in Kagera had increased to nearly 100 percent from 62 percent in 1996. By the end of 2003, three out of four primary school aged children (7-13 years) were attending a primary school. These are impressive results by any standards and are most likely mainly to be attributed by the recent Primary Education Development Plan initiated by the Government of Tanzania in 2001.

9.  Further age breakdowns show that the majority of students still start school late and continue to lag behind throughout their schooling years. This is likely to have adverse future effects as children who start school late have less chance of finishing successfully and going on to further studies. Only just above 40 percent of the 7 year olds start primary school, while by the age of 11 around 90 percent of the children will be in school. Not surprisingly, it is found in Rural Kagera CWIQ that in Standard 1 class rooms only one quarter of the students are 7 years old while 50 percent are 8-10 years old. Only 16 percent of primary school children do not lag, while 45 percent lag behind 3 years or more.

10. 26 percent of households in the Kagera Rural area have access to a health facility, i.e. live within 30 minutes travel from one. In urban areas this proportion is significantly higher at 57 percent. In contrast, in rural areas it lies very low at 19 percent.

11. The access rate is highest in Biharamulo district where approximately 41% of households are located within 30 minutes travel to a health facility. Second highest access rate is in Ngara, while the lowest is in Karagwe where less than a fifth of households are located this close to a health facility.

12. The results indicate that 300,000 individuals (15 percent) of the Kagera Rural population had been ill and hence had experienced need for health services in the four weeks preceding the survey.

13. While access rates differ substantially between rural and peri-urban areas, the proportions of individuals using health facilities in rural and urban areas are almost identical at roughly 15 percent

14. Overall 78 percent of individuals who had consulted a health provider, had been satisfied with the service they received. No great variation in satisfaction rates was observed across the districts

15. No single problem with health service provision in the region is highlighted by the results of the survey. The highest proportion of individuals cited cost and unsuccessful treatment. Availability of medication and waiting time follow.

16. 57 percent of children born in the last five years were delivered at home and 43 percent in a hospital or a maternity ward. Children are more likely to be born at home in rural areas, in poor households and if they are born in Karagwe.

17. There are 133,000 children under five years old in Rural Kagera who are chronically malnourished (stunting, i.e. they are too short for their age) and 29,000 who are acutely malnourished (wasted, i.e. they are too light for their height). This is 43 and 8 percent of the population respectively.

**Table 2: Kagera Rural at a Glance**

| | Rural | Peri-Urban | Total |
|---|---|---|---|
| **POPULATION** | | | |
| **Total No. of Individuals** | **1,573,610** | **386,103** | **1,959,713** |
| **Total No. of Households** | **307,507** | **67,534** | **375,041** |
| **POVERTY** | | | |
| **% Households Living Under the Basic Needs Poverty Line** | **32** | **23** | **31** |
| **LITERACY** | | | |
| **Literacy Rate (for individuals over the age of 14)** | **67** | **80** | **70** |
| *non-poor* | 72 | 84 | 75 |
| *poor* | 60 | 67 | 61 |
| *male* | 74 | 86 | 76 |
| *female* | 61 | 74 | 63 |
| **PRIMARY SCHOOL** | | | |
| **Access** | **44** | **69** | **49** |
| **Satisfaction** | **64** | **79** | **67** |
| **Gross Enrolment Ratio** | **98** | **102** | **99** |
| *non-poor* | 105 | 106 | 101 |
| *poor* | 91 | 94 | 91 |
| *male* | 100 | 106 | 101 |
| *female* | 96 | 98 | 96 |
| **Net Enrolment Ratio** | **76** | **78** | **77** |
| *non-poor* | 81 | 80 | 81 |
| *poor* | 71 | 75 | 71 |
| *male* | 76 | 81 | 77 |
| *female* | 76 | 76 | 76 |
| **SECONDARY SCHOOL** | | | |
| **Access** | **6** | **46** | **15** |
| **Satisfaction** | **79** | **81** | **80** |
| **Gross Enrolment Ratio** | **2** | **16** | **5** |
| *non-poor* | 3 | 20 | 7 |
| *poor* | 1 | 8 | 2 |
| *male* | 2 | 9 | 3 |
| *female* | 3 | 21 | 7 |
| **Net Enrolment Ratio** | **2** | **13** | **4** |
| *non-poor* | 3 | 17 | 6 |
| *poor* | 1 | 6 | 2 |
| *male* | 2 | 8 | 3 |
| *female* | 2 | 17 | 6 |
| **HEALTH** | | | |
| **Access** | **19** | **57** | **26** |
| **Need** | **16** | **14** | **15** |
| **Use** | **15** | **16** | **15** |
| **Satisfaction** | **76** | **83** | **78** |
| **NUTRITION** | | | |
| **% of stunted children** | **43** | **40** | **43** |
| *boys* | 47 | 44 | 47 |
| *girls* | 39 | 36 | 39 |
| **% of wasted children** | **8** | **4** | **8** |
| *boys* | 10 | 6 | 9 |
| *girls* | 7 | 2 | 6 |

# 2  POVERTY PREDICTORS

The Kagera Rural CWIQ did not collect household expenditure data. However, using other variables, household consumption expenditure was predicted to allow more in-depth analysis of the data. This chapter explains how predicted consumption was calculated and how reliable it is. In the final part of the chapter selected poverty trends are examined.

## 2.1  Introduction

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 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.

There is a core set of variables that are included in the majority of surveys; these include information on household amenities, education level of the head of household, amount of land owned by a 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 Kagera CWIQ, the Household Budget Survey 2002 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 the Kagera region in order to ensure that the model developed accurately represents this region in particular. A short set of extra questions was added to Kagera CWIQ in order to enable the application of the optimal poverty prediction model.

## 2.2    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 NBS on the basis of the 2000/01 HBS. The exact procedure by which this line has been set is described in detail in HBS report (2002). In short, the Basic Needs Poverty Line is defined by 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.

## 2.3    Accuracy

CWIQ Kagera uses poverty predictors to classify households as poor or non-poor, i.e. to determine whether a household's monthly consumption per adult equivalent unit is under or above the Basic Needs Poverty Line. This binary approach allows mistakes to be classified into two categories:

1. An individual living in a poor household is predicted to be living in a non-poor household
2. An individual living in a non-poor household is predicted to be living in a poor household

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 Household Budget Survey Data. Results of this exercise show that the first type of mistake happens relatively frequently: the model wrongly predicts individuals living in a poor household to be living in a non-poor household in 11.5 percent of the cases. The second type of mistake is made less often: 6.6 percent of the population was predicted to be poor, while they were in fact non-poor.

**Table 3: Accuracy of poverty predictors in categorising Poor and Non-Poor Individuals**

|  | Actually Poor | Actually Non-poor |
|---|---|---|
| Predicted Poor | 19.7 | 6.6 |
| Predicted Non-poor | 11.5 | 62.2 |

The 2000/2001 Household Budget Survey finds that 23 percent of the households in the Kagera region are poor; 29 percent of the population live in poor households (NBS, 2002). Using the poverty predictors, the Kagera CWIQ estimates these numbers to be 31 percent and 40 percent respectively. The HBS is better suited for obtaining the Kagera regional poverty rate than the CWIQ. However, the larger sample size of CWIQ allows

poverty rates to be predicted at district level and allows disaggregation of a variety of statistics by poverty status, yielding more valuable policy information.

**Table 4: Accuracy of poverty predictors in predicting the regional poverty rate**

| Source | Percentage of Households Living Under the Basic Needs Poverty Line | Percentage of Individuals Living in Households Under the Basic Needs Poverty Line |
|---|---|---|
| CWIQ Kagera | 31 | 40 |
| HBS | 23 | 29 |

Some caveats are in order when tabulating variables used as poverty predictors on poverty status. Poverty status is defined as a weighted average of 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 is, for a large part, positive by construction. Table 5 lists the variables that have been used to calculate predicted household income

**Table 5: Variables used to predict consumption expenditure**

| *Basic Variables* | *Food Security* |
|---|---|
| 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 | |
| *Distance to nearest facility* | *Household Amenities* |
| Distance to the nearest food market | Material used to make roof |
| *Ownership of house, land, animals* | |
| Farm land owned | Material used to make walls |
| Farm land used, not owned | Source of water |
| *Ownership of Assets* | |
| Radio, radio cassette, music system | Type of toilet |
| Bicycle | Source of cooking fuel |
| Telephone | Source of light energy |
| Iron, electric or charcoal | Number of people per bedroom |
| Saving/current bank account | |

## *2.4    Disaggregating by Poverty Status*

Where feasible, statistics in each chapter will be disaggregated by poverty status. This allows more in-depth analysis of the data and the formulation of more poverty focussed interventions.

The remainder of this chapter presents an overview of prevalence of poverty in different parts of the Kagera region, as well as the levels of inequality in the region.

### 2.4.1   Poverty Distribution by Area and District of Residence

Overall, in Kagera Rural, the level of consumption in 31 percent of the households is below that required to satisfy basic needs as explained above. However, as shown in Figure 1, poor households are more prevalent in rural areas compared to peri-urban ones. In rural areas proportions of poor and non-poor households are almost identical to those true of the whole region. In peri-urban areas, however, poverty levels are noticeably lower in urban areas where the proportion of poor households is nearly ten percentage points lower than that in rural areas.

**Figure 1: Proportions of poor and non poor households in rural and urban areas**
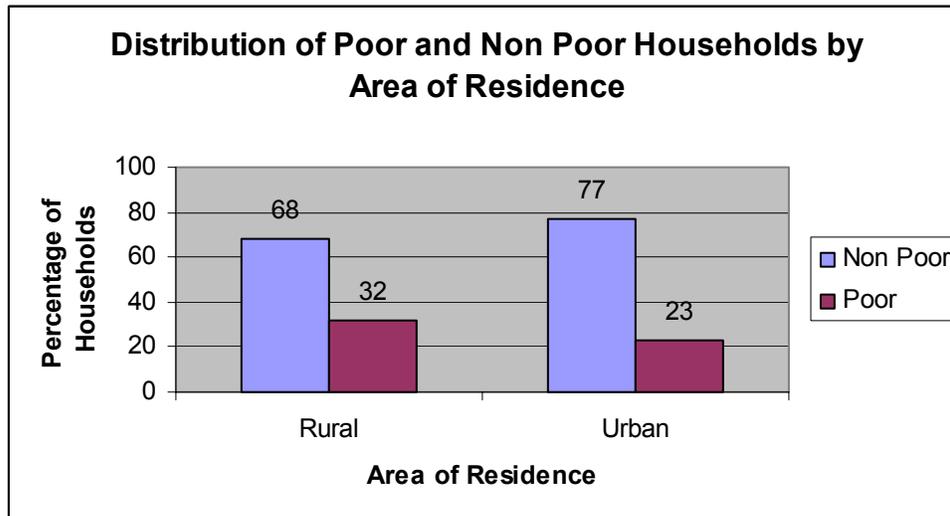


Further, poor households are most common in Muleba, Biharamulo, and Ngara districts; roughly 34 percent of all households in these areas are poor. Poverty levels are lowest in Karagwe district, where the proportion of poor households is almost equal to that in peri-urban areas (Figure 2)

**Figure 2: Proportions of poor and non poor households by district**
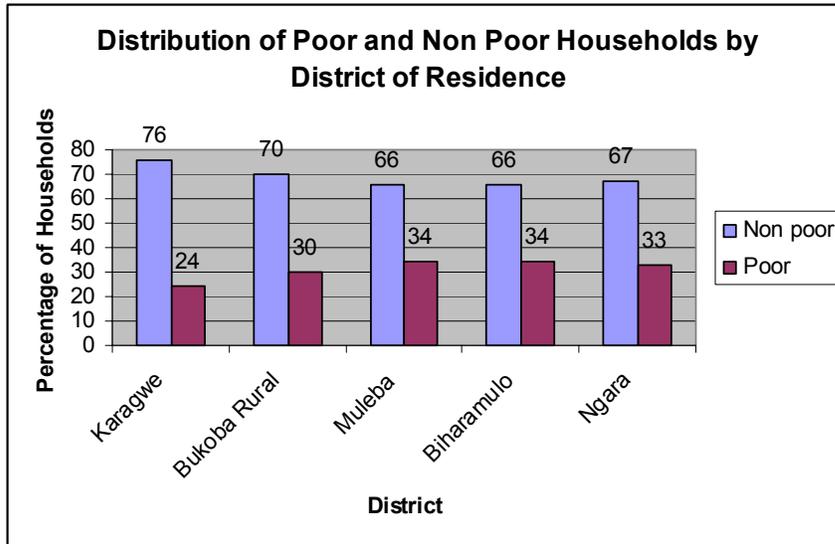


## 2.4.2 Inequality in Kagera

Poverty predictor analysis can give insights into inequality in Kagera. There are several measures of inequality, but one of the most informative in the context of this report is the share of total consumption that is consumed by the poor. The poor form 31 percent of the households in Kagera, however their consumption only accounts for 19 percent of total consumption in the region. The remaining 69 percent of households, classified as non-poor, hence consume 81 percent of total consumption (Figure 3).

This distribution is not highly skewed, but it should be kept in mind that inequality in consumption is typically lower than inequality in income and even more so in terms of asset holdings. In addition, regression analysis used to predict consumption expenditure in the Kagera CWIQ, is not a good instrument for predicting extremes. As the result, extreme high and extreme low consumption values are likely to be predicted closer to the mean than they are in reality, biasing the inequality measures downwards.

**Figure 3: Consumption inequality in Kagera region**
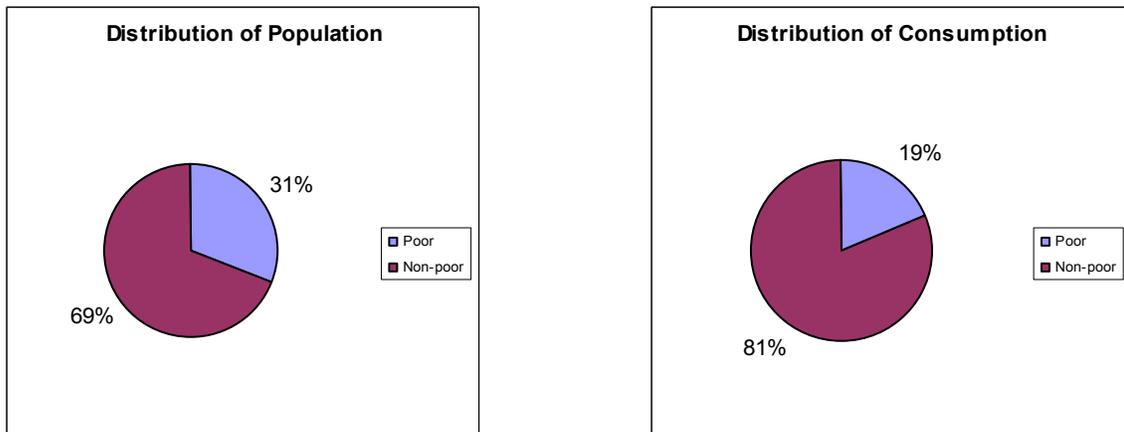
# 3   POPULATION AND HOUSEHOLD CHARACTERISTICS

## 3.1   *Introduction*

This chapter presents information on selected socioeconomic characteristics of individuals and households sampled in the Kagera Rural CWIQ[1] survey. At individual, level the information discussed includes geographic, income, gender and age distribution of the population. At household level information discussed includes the distribution of basic assets such as land holding and livestock, and distribution of households by household size. The education level, employment, marital status and gender of household heads are also examined.

## 3.2   *Population Characteristics (Table 6)*

Table 6 shows that at the time of the Kagera Rural CWIQ survey there were nearly two million individuals living in Rural Kagera. About 80 percent of these individuals lived in rural areas, with the remaining 20 percent living in peri-urban areas. Peri-urban areas are more urban than the villages but less urban than towns. Because there are typically only few peri-urban enumeration areas per district the peri-urban/rural distinction will only be used at regional level and not at district level.

Bukoba Rural and Karagwe are the most highly populated districts, each containing just under one quarter of the population of Kagera Rural; Muleba and Biharamulo follow, each containing about one fifth of the population. Ngara district is least populated with approximately 260,000 residents, who constituted 13 percent of the population of Kagera Rural.

According to the 2002 Population and Housing Survey, Karagwe District had the highest share of population, followed by Bukoba Rural. These figures, however, included the population of refugees. The figures presented in this report give the true current population characteristics of Kagera after repatriation of the largest share of refugees. The figures are in line with the 1988 Population and Housing Census showing Bukoba Rural as the most populated district, followed by Karagwe.

In order to examine the distribution of poverty in the population and disaggregate statistics by poverty status, individuals are categorised as living in a poor or non-poor household. 'Poor' status indicates that the individual is a member of a household where the level of consumption is below the Basic Needs Poverty Line. It is found that 40 percent of the individuals in Kagera Rural live in poor households.

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[1] Kagera Rural includes all Kagera districts except Bukoba Urban. Although a district at large may be classified as rural, it will typically still contain some semi-urban areas, for example the district capital. CWIQ Kagera is representative at district level and thus includes these areas. They are referred to as peri-urban areas in the text and where necessary and possible statistics are broken down across rural/peri-urban lines.

There were slightly fewer males in the population than females: for every 100 females, there were 97 males. Interestingly, this ratio has risen over the past 30 years from 91 males per 100 females in 1967 to its current level (URT, 2003).[2]

Kagera Rural has a young population. Almost 50 percent of the population is under the age of 15 years and only about 4 percent are 65 years of age or older. This puts the dependency ratio at 115, i.e. for every 100 people in the economically active age group (15-65 years old) there are 115 people in the economically inactive age group. This number has steadily increased over the years from 106 in 1978 to over 111 in 1988 (URT, 2003).[3] This is a surprising trend as development is often associated with declining dependency ratios. Although, because of its nature, this survey cannot give conclusive explanations for this trend, it seems likely that the HIV/AIDS epidemic in Kagera and its effect on prime-aged adult mortality is one of the causes.

**Table 6: Population characteristics**

|  | Weighted population total | Share of population |
|---|---|---|
| **Kagera Rural** | 1,959,713 | 100.0% |
| Rural | 1,573,610 | 80.3% |
| Peri-urban | 386,103 | 19.7% |
|  |  |  |
| **District of Residence** |  |  |
| Karagwe | 452,213 | 23.1% |
| Bukoba Rural | 460,651 | 23.5% |
| Muleba | 394,625 | 20.1% |
| Biharamulo | 392,913 | 20.0% |
| Ngara | 259,311 | 13.2% |
|  |  |  |
| **Poverty** |  |  |
| Poor | 779,524 | 39.8% |
| Non-Poor | 1,180,189 | 60.2% |
|  |  |  |
| **Gender** |  |  |
| Male | 965,352 | 49.3% |
| Female | 993,540 | 50.7% |
|  |  |  |
| **Age** |  |  |
| <15 | 977,277 | 49.9% |
| 15-64 | 910,371 | 46.5% |
| 65+ | 72,065 | 3.7% |

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[2] URT figure includes Bukoba Urban, but this is not expected to affect comparability.
[3] URT figures include Bukoba Urban, but this is not expected to affect comparability

## *3.3 Household Characteristics*

### 3.3.1 Households by area of residence and poverty status (Table 7)

The distribution of households between districts and rural/peri-urban areas follows the same pattern as that of individuals. Bukoba Rural and Karagwe districts contain nearly half of the rural Kagera households, while Ngara contains only 13 percent.

The household poverty figures in Table 7 show a large discrepancy compared to the individual figures of Table 6. Basic Needs Poverty in Kagera is usually taken to lie at 31 percent and the results of CWIQ confirm this. Not commonly acknowledged, however, is the fact that 40 percent of all individuals live in these poor households, yielding a worse picture of poverty in Kagera (see Box 1).

**Table 7: Households by area of residence**

**and poverty status**

| | Weighted households total | Share of population |
|---|---|---|
| **Kagera Rural** | 375,041 | 100.0% |
| Rural | 307,507 | 82.0% |
| Peri-urban | 67,534 | 18.0% |
| | | |
| **District** | | |
| Karagwe | 89,047 | 23.7% |
| Bukoba Rural | 90,502 | 24.1% |
| Muleba | 79,279 | 21.1% |
| Biharamulo | 67,131 | 17.9% |
| Ngara | 49,082 | 13.1% |
| | | |
| **Poverty** | | |
| Poor | 114,961 | 30.7% |
| Non-Poor | 260,080 | 69.3% |

**BOX 1: Household Poverty Underestimates Individual Poverty**

CWIQ Kagera predicts the household poverty level to be around 31 percent. However, this figure hides the fact that poor households are, on average, larger in size. The Rural Kagera CWIQ finds that 40 percent of all individuals live in poor households.

**Households and Individuals Living in Poverty in Rural Kagera**
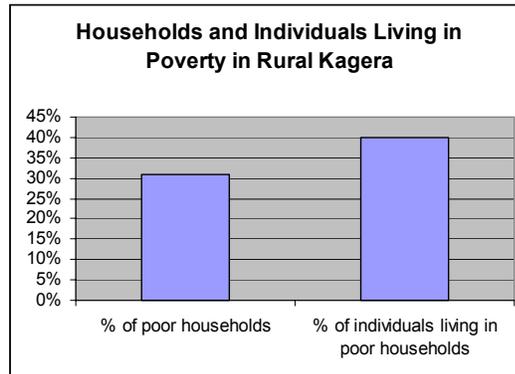
### 3.3.2 Household Size (Table 8)

Average household size in Rural Kagera at the time of the survey was 5.2 individuals per household. This figure was slightly lower for rural households than for peri-urban ones. Largest households were found in the Biharamulo district, where average household size is 5.8 people. Smallest households were found in Muleba, where average household size is slightly below 5 people per household. These results are consistent with the trend observed above; while the populations of Muleba and Biharamulo are almost identical, the proportion of households located in Biharamulo is lower than that in Muleba.

Non poor households tend to be smaller than poor ones. On average, the size of poor households exceeds that of non-poor ones by approximately 2 people. Hence, while 86 percent of poor households consist of at least 5 members, this is only the case for 46 percent of non poor households. Further, over 50 percent of households below the poverty line have at least seven members. In the case of non-poor households, the household size distribution is more even, with the highest proportion, 36 percent, of households consisting of 3 to 4 people.

Table 8 further shows that female headed households tend to be smaller than male headed households. While 30 percent of male headed households consist of over six members, this is the case for only 18 percent of female headed households. Largest proportion of female headed households consists of 3 to 4 people.

The size of the households does not vary substantially between households headed by individuals from different socio-economic groups. Agricultural households and those headed by unemployed individuals are, however, slightly larger on average than households from the other groups.

**Table 8: Household size: percentage distribution of households by household size and average household size**

| | 1 - 2 people | 3 - 4 people | 5 - 6 people | 7+ people | Share of population | Average household size |
|---|---|---|---|---|---|---|
| **Kagera Rural** | 13.5 | 28.2 | 30.1 | 28.1 | 100.0 | 5.2 |
| Rural | 14.6 | 28.7 | 30.1 | 26.6 | 82.0 | 5.1 |
| Peri-urban | 8.7 | 26.1 | 30.2 | 35.1 | 18.0 | 5.7 |
| **District** | | | | | | |
| Karagwe | 13.2 | 29.5 | 33.0 | 24.3 | 23.7 | 5.0 |
| Bukoba Rural | 13.9 | 30.0 | 29.9 | 26.2 | 24.1 | 5.0 |
| Muleba | 15.6 | 28.2 | 32.5 | 23.7 | 21.1 | 4.9 |
| Biharamulo | 10.3 | 23.5 | 26.9 | 39.3 | 17.9 | 5.8 |
| Ngara | 14.4 | 29.3 | 26.1 | 30.3 | 13.1 | 5.3 |
| **Poverty** | | | | | | |
| Poor | 2.0 | 11.8 | 35.8 | 50.5 | 30.7 | 6.8 |
| Non-Poor | 18.6 | 35.5 | 27.7 | 18.2 | 69.3 | 4.5 |
| **Gender of household head** | | | | | | |
| Male | 12.1 | 27.4 | 30.2 | 30.3 | 81.8 | 5.3 |
| Female | 19.9 | 31.9 | 30.0 | 18.3 | 18.2 | 4.6 |
| **Socio-economic group** | | | | | | |
| Public/Parastatal | 6.8 | 34.2 | 28.7 | 30.3 | 4.3 | 5.1 |
| Private Formal | 13.6 | 33.8 | 30.3 | 22.3 | 3.5 | 4.8 |
| Private Informal | 23.0 | 29.3 | 21.2 | 26.4 | 4.1 | 4.7 |
| Self-other | 11.0 | 32.6 | 29.4 | 27.0 | 7.4 | 5.1 |
| Self-agriculture | 13.6 | 27.2 | 30.6 | 28.6 | 75.7 | 5.3 |
| Unemployed | 14.6 | 26.5 | 33.4 | 25.5 | 4.8 | 5.3 |

### 3.3.3 Land Holdings (Table 9)

The results of the survey, presented in Table 9, show that around 60 percent of households own between 1 and 4 acres of land while 6 percent are landless. Being landless is not necessarily a sign of poverty. Indeed, many of these landless households are located in peri-urban areas and are not dependent on agriculture for their livelihood. Furthermore, 7 percent of the non-poor households are landless, compared to only 4 percent of the poor households. However, the non-poor households are not only more prominent at the bottom end of the distribution, but also at the top end; a slightly larger percentage of them own more than 4 acres of land.

The results further show that among the households who do not own any land, 57 percent actually still use land for agricultural purposes. 42 percent of those who do not own any land themselves, rent land, and 15 percent use open access land and private land provided for free; the rest (43 percent of those who do not own any land) do not use land at all. The majority of people who own some land do not use land that they do not own. This proportion increases with the size of the land holding.

**Table 9: Land holdings**

| | *Acres of land owned by the household* | | | | | |
| | None | < 1 | 1 - 2 | 2 - 4 | 4 - 6 | 6+ |
| --- | --- | --- | --- | --- | --- | --- |
| **Kagera Rural** | 6.0 | 6.4 | 27.0 | 33.5 | 18.9 | 8.2 |
| Rural | 3.7 | 5.4 | 28.7 | 34.3 | 19.5 | 8.5 |
| Peri-urban | 16.6 | 11.2 | 19.2 | 30.0 | 16.0 | 6.8 |
| | | | | | | |
| **Poverty** | | | | | | |
| Non-poor | 7.0 | 6.3 | 24.7 | 32.0 | 19.8 | 10.2 |
| Poor | 3.9 | 6.8 | 32.0 | 36.9 | 16.8 | 3.6 |
| | | | | | | |
| **Land used but not owned** | | | | | | |
| None | 43.2 | 63 | 73 | 77.6 | 83.4 | 89.4 |
| Paid | 42 | 15.5 | 14 | 12.4 | 8.1 | 7.7 |
| Free | 14.8 | 21.5 | 12.9 | 10 | 8.5 | 2.9 |

Note:
1. The proportions in the first two categories – area of residence and poverty status – add up to 100 percent as a row total while the proportions in the last category – land used but not owned – add up to 100 percent as a column total.

### 3.3.4 Livestock Holdings ( Table 10)

In collecting data on livestock holdings in the Kagera Rural area, a distinction was made between large livestock, such as cattle, and medium/small size livestock such as goats, pigs and sheep. Data was collected on livestock possession only; poultry was not included.

The results of the survey show that over half of the households in Kagera Rural as a whole possess no livestock. In rural areas this proportion is nearly ten percentage points smaller than in peri-urban areas.

The results show that the majority of households that own livestock hold small livestock only. This is especially so in the rural areas. In peri-urban areas a higher proportion of households hold large livestock only compared to rural areas.

Surprisingly, no large variation in livestock ownership is observable between poor and non-poor households. A slightly smaller proportion of non-poor households possess small livestock only, as compared to the poor households, while slightly larger proportion of non-poor households possess large livestock only. However, the differences in proportions do no exceed 2 percent.

**Table 10: Livestock holdings: percentage distribution of households by livestock holdings**

|  | *Ownership of Livestock* | | | |
|  | None | Small only | Large only | Both |
|---|---|---|---|---|
| **Kagera Rural** | 52.6 | 34.6 | 4.4 | 8.4 |
| Rural | 51.1 | 37.3 | 3.2 | 8.4 |
| Peri-urban | 59.5 | 22.5 | 9.6 | 8.3 |
| **Poverty** |  |  |  |  |
| Non-Poor | 52.2 | 34.0 | 5.0 | 8.9 |
| Poor | 53.7 | 36.0 | 3.0 | 7.3 |

## 3.4    Characteristics of Household Heads

### 3.4.1   Gender and Marital Status of Household Heads (Table 11)

Approximately a fifth of the households in the area are female-headed with no great variation between peri-urban and rural households – although a slightly smaller proportion of female headed households are found in peri-urban areas.

Most often households in Kagera Rural are headed by monogamous married individuals; almost 70 percent of household heads are in this category. Households headed by divorced or separated individuals are least common. In total, 6 percent of households are in these two categories. In both, rural and peri-urban areas households headed by widowed individuals are a second most common occurrence, closely followed by households headed by individuals in a polygamous marriage; these proportions are much smaller compared to that of households headed by monogamous individuals, at roughly 12 percent.

**Table 11: Gender and marital status of heads of household**

|  | Gender | | Marital Status | | | | | |
|---|---|---|---|---|---|---|---|---|
|  | Male | Female | Single | Monogam ous | Polygamo us | Widowed | Divorced | Separated |
| **Kagera Rural** | 306,747 | 68,294 | 14,900 | 250,274 | 40,153 | 45,733 | 12,157 | 11,538 |
|  | 81.8 | 18.2 | 4.0 | 66.7 | 10.7 | 12.2 | 3.2 | 3.1 |
| Rural | 250,657 | 56,650 | 12,782 | 204,063 | 33,337 | 37,773 | 10,238 | 9,070 |
|  | 81.5 | 18.5 | 4.2 | 66.4 | 10.8 | 12.3 | 3.3 | 2.9 |
| Peri-urban | 56,090 | 11,444 | 2,119 | 46,211 | 6,816 | 8,001 | 1,919 | 2,468 |
|  | 83.1 | 16.9 | 3.1 | 68.4 | 10.1 | 11.8 | 2.8 | 3.7 |

### 3.4.2   Household Heads by Employment Sector (Table 12)

Agriculture is the most common occupation in rural communities; as the survey was conducted on a rural level, the great majority of households were headed by self employed individuals from the agriculture sector. Overall, 76 percent of household heads in the area are in this category. The second largest proportion of household heads, are self-employed in non-agricultural occupations. The proportion of household heads in this group is substantially lower at only 7 percent.  5 percent of all households are headed by unemployed individuals.

As expected, the proportion of household heads employed in agriculture is substantially smaller in peri-urban areas (55 percent) than in rural areas (80 percent). However, the results of the survey indicate an even greater disparity between rural and peri-urban areas in the proportions of self employed household heads; there is over four times as high a

proportion of households in peri-urban areas headed by individuals in this group than in rural areas. Overall, the proportion of heads of household employed in all sectors other than agriculture is higher in peri-urban than in rural areas.

**Table 12: Household heads by socio-economic group[4]**

| | Public | Private formal | Private informal | Self-agriculture | Self-other | Unemployed | Not Specified |
|---|---|---|---|---|---|---|---|
| | | | | *Socio-economic group* | | | |
| **Kagera Rural** | 16,109 | 13,270 | 15,541 | 283,925 | 27,763 | 18,019 | 414 |
| | 4.3 | 3.5 | 4.1 | 75.7 | 7.4 | 4.8 | 0.1 |
| Rural | 10,586 | 8,807 | 12,208 | 246,771 | 13,861 | 15,093 | 180 |
| | 3.4 | 2.9 | 4 | 80.2 | 4.5 | 4.9 | 0.1 |
| Peri-urban | 5,523 | 4,462 | 3,333 | 37,154 | 13,902 | 2,926 | 235 |
| | 8.2 | 6.6 | 4.9 | 55 | 20.6 | 4.3 | 0.3 |

### 3.4.3 Household Heads by Education (Table 13)

Just under a third of household heads in Rural Kagera have had no formal education. While in rural areas a third of the household heads have never gone to school, which is slightly more than average, in peri-urban areas, this proportion is substantially below the average - only one fifth. Among those who received some formal education, the highest proportion completed primary school only. In this group, almost two thirds of household heads had completed or acquired some primary education only. In total, about 9 percent of household heads in the area are educated at a higher level than primary and only 2 percent have acquired post secondary education. Among heads of household in peri-urban areas, four times as high a proportion have had some secondary education compared to those in rural areas.

**Table 13: Household heads by education**

| | None | Some primary | Complete primary | Post primary | Some second-dary | Complete secon-dary | Post secon-dary | Not specified |
|---|---|---|---|---|---|---|---|---|
| | | | | *Level of education completed* | | | | |
| **Kagera Rural** | 114,984 | 60,392 | 167,198 | 3,778 | 18,233 | 1,144 | 8,580 | 732 |
| | 30.7 | 16.1 | 44.6 | 1 | 4.9 | 0.3 | 2.3 | 0.2 |
| Rural | 100,658 | 50,858 | 135,021 | 2,920 | 9,977 | 404 | 6,938 | 732 |
| | 32.7 | 16.5 | 43.9 | 0.9 | 3.2 | 0.1 | 2.3 | 0.2 |
| Peri-urban | 14,326 | 9,534 | 32,177 | 859 | 8,256 | 740 | 1,642 | 0 |
| | 21.2 | 14.1 | 47.6 | 1.3 | 12.2 | 1.1 | 2.4 | 0 |

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[4] Socio-economic group of the household is determined by the sector that the head of household is employed in.

# 4  EDUCATION

## *4.1    Introduction*

In the first part of this chapter, literacy rates in Kagera, school access levels and satisfaction with school are examined. The second part of the chapter focuses on trends in school enrolment and drop out rates in Kagera.

## *4.2    Selected Education Indicators (Table 14)*

### 4.2.1  Literacy

CWIQ measures literacy among individuals aged 15 years and older. Literacy is defined as the ability to read and write in any language, as reported by the respondent. Persons who can read, but cannot write are considered illiterate.

The results of the Kagera CWIQ indicate that the literacy rate in Rural Kagera is just under 70 percent. There is significant variation in literacy rates between men and women, as well as between residents of rural and peri-urban areas. Literacy rate is higher among the male population; 76 percent of men in the area are literate compared to 63 percent of women. A similar difference is observed between literacy rates in rural and peri-urban areas. While in peri-urban areas 80 percent of the population are literate, in rural areas this proportion is more than 13 percentage points lower, at 67 percent.

The results of the survey also show that literacy rate is higher among the non-poor population. A difference of 14 percentage points exists between the proportions of individuals in the poor population who are able to read and write, and of the non-poor population; 75 percent to 61 percent respectively.

The literacy rate is highest in Bukoba Rural at 77 percent and lowest in Ngara at 64 percent. Variation in literacy rate between the remaining three districts is within a margin of 6 percentage points.

Literacy rate is highest among individuals from households headed by government employees; 91 percent of persons aged 15 and above from this group are able to read and write in at least one language. In contrast only about two thirds of same age group from agricultural households, households headed by unemployed persons, and those working in the informal private sector can be categorized as literate.

**Table 14: Selected education indicators**

| | Literacy rate[1] | Primary School | | Secondary School | |
|---|---|---|---|---|---|
| | | Access[2] | Satisfaction[3] | Access[2] | Satisfaction[3] |
| **Kagera Rural** | 69.6 | 48.9 | 67.0 | 15.1 | 80.5 |
| Rural | 67.2 | 43.9 | 63.9 | 6.0 | 79.2 |
| Peri-urban | 79.6 | 68.5 | 78.7 | 46.2 | 81.1 |
| **District** | | | | | |
| Karagwe | 71.1 | 34.9 | 58.7 | 6.6 | 85.4 |
| Bukoba Rural | 76.6 | 51.4 | 58.7 | 14.3 | 72.1 |
| Muleba | 67.9 | 49.8 | 77.4 | 13.3 | 79.5 |
| Biharamulo | 64.5 | 61.0 | 72.1 | 33.9 | 89.0 |
| Ngara | 63.8 | 47.1 | 72.4 | 8.9 | 87.0 |
| **Poverty** | | | | | |
| Non poor | 74.5 | 53.5 | 66.0 | 15.2 | 78.6 |
| Poor | 60.6 | 43.5 | 68.4 | 15.0 | 88.8 |
| **Socio-economic group** | | | | | |
| Public/Parastatal | 90.8 | 80.0 | 71.7 | 16.9 | 100.0 |
| Private Formal | 80.4 | 72.1 | 70.4 | 32.5 | 100.0 |
| Private Informal | 67.0 | 52.7 | 82.6 | 39.6 | 10.4 |
| Self-other | 87.5 | 63.7 | 71.9 | 29.2 | 92.2 |
| Self-agriculture | 66.7 | 45.5 | 65.9 | 12.9 | 72.2 |
| Unemployed | 65.6 | 39.9 | 57.5 | 5.7 | 100.0 |
| **Gender** | | | | | |
| Male | 76.2 | 49.9 | 65.8 | 13.9 | 79.7 |
| Female | 63.4 | 47.8 | 68.4 | 16.4 | 80.9 |

1. Individuals aged 15 years and older
2. Reporting to live within 30 minutes travel to the nearest school
3. Proportion of children at school who cited no problem with the school

## 4.2.2 Access

Access is defined as the proportion of children living within 30 minutes of travel to the nearest school facility. Hence a child of primary school age has access to a primary school if he/she is able to get to a primary school in no more than 30 minutes of travel.

The results of the survey show a drastic difference between rates of access to primary and secondary schools. While nearly half of the children of primary school age live less than

30 minutes of travel from the nearest primary school, only 15 percent of individuals of secondary school age live within the same vicinity of the nearest secondary school.

A significantly higher proportion of individuals have access to primary and secondary schools in peri-urban areas when compared to rural areas. Almost 70 percent of children living in peri-urban areas have access to a primary school, in rural areas this proportion is under 45 percent. Similarly, while 46 percent of young people have access to a secondary school in peri-urban areas, only 6 percent do in rural areas.

Although no drastic difference exists in secondary school access rates between poor and non-poor households, the proportion of children from poor households who have access to primary school is 10 percentage points lower than that of children from non-poor households.

Access to primary schools is lowest in Karagwe, where only 35 percent of children can reach a primary school within 30 minutes compared to the average 50 percent. In contrast, in Biharamulo, where the access rate is highest, 61 percent of children can get to primary school within that time. Survey results show the same trend in access to secondary school – in Biharamulo the rate is 34 percent, while in Karagwe it is only 7 percent. Rates of access to primary and secondary schools in Ngara are second lowest after Karagwe – although a substantially higher proportion of children have access to primary school in Ngara than in Karagwe.

As with literacy rates, individuals from households headed by government employees, have highest rate of access to primary school, while those from the unemployed group have the lowest. There appears to be a correlation between literacy rate and primary school access rate once the population is disaggregated by socio-economic background. 80 percent of children from the Public/Parastatal group, where literacy rate is highest, have access to primary schools in contrast to only 40 percent of children from the unemployed group, characterised by lowest literacy rate. However, this trend is not observable in the case of access to secondary schools, although individuals from the unemployed group still have the lowest rate of access at 6 percent.

Access rate is a commonly used education indicator. It may also be useful to briefly examine proximity to school in more detail. Kagera rural has a young population, hence most households have children. Proximity of all households in the region to primary and secondary schools is therefore a relevant indicator; these figures are presented in Table 15. In brief, the results show that 77 percent of households in the region are located within an hour of travel from the nearest primary school. Still, nearly a quarter of all households are located more than an hour away from the nearest primary school. Although in peri-urban areas a much smaller proportion of households are located this far away from a primary school (7 percent), the majority of households are located in rural areas, where 26 percent of households are in this position. Further in peri-urban areas, twice as high a proportion of households are situated less than 15 minutes of travel from primary school, as in rural areas. Just as access rates to secondary schools are much lower than those to primary schools, so a much higher proportion of households are positioned

more than an hour away from the nearest secondary school; overall, 72 percent of households in the region are in this situation. Again in peri-urban areas this proportion is much smaller at only 35 percent. Here nearly 15 percent of households are based less than 15 minutes of travel from the nearest secondary school, compared to only 2 percent in rural areas.

**Table 15: Distribution of households by distance to the nearest school (in minutes of travel)**

| | Primary school | | | | | Secondary school | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | < 15 | 15 to 29 | 30 to 59 | 60+ | Share of population | < 15 | 15 to 29 | 30 to 59 | 60+ | Share of population |
| **Kagera Rural** | 27 | 21.8 | 28.1 | 22.8 | 100 | 4.3 | 7.7 | 15.6 | 72 | 100 |
| Rural | 22.8 | 21.9 | 28.8 | 26.3 | 82 | 2.1 | 4 | 13.4 | 80.1 | 82 |
| Peri-urban | 46.1 | 21.8 | 25.2 | 6.9 | 18 | 14.4 | 24.8 | 25.6 | 35.3 | 18 |
| | | | | | | | | | | |
| **District** | | | | | | | | | | |
| Karagwe | 16.9 | 19.8 | 29.4 | 33.6 | 23.7 | 1.1 | 4.1 | 14.7 | 79.6 | 23.7 |
| Bukoba Rural | 24.9 | 28.5 | 29.7 | 16.5 | 24.1 | 4.8 | 4.7 | 18.8 | 71.2 | 24.1 |
| Muleba | 26.5 | 23.5 | 32.4 | 17.5 | 21.1 | 1.2 | 11.0 | 16.5 | 71.0 | 21.1 |
| Biharamulo | 44.1 | 17.8 | 17.7 | 20.2 | 17.9 | 12.7 | 15.4 | 13.6 | 58.1 | 17.9 |
| Ngara | 26.3 | 16.2 | 30.5 | 27.0 | 13.1 | 2.6 | 4.0 | 12.8 | 80.6 | 13.1 |
| | | | | | | | | | | |
| **Poverty** | | | | | | | | | | |
| Non poor | 28.0 | 22.9 | 27.4 | 21.3 | 69.3 | 3.0 | 6.0 | 11.6 | 48.7 | 69.3 |
| Poor | 24.6 | 19.4 | 29.7 | 26.2 | 30.7 | 1.3 | 1.8 | 4.1 | 23.4 | 30.7 |
| | | | | | | | | | | |
| **Household size** | | | | | | | | | | |
| 1 to 2 | 23.7 | 23.6 | 31.1 | 21.2 | 13.5 | 5.3 | 5.8 | 19 | 69.9 | 13.5 |
| 3 to 4 | 27.7 | 22.8 | 26 | 23.1 | 28.2 | 3.6 | 7.7 | 15.8 | 72.6 | 28.2 |
| 5 to 6 | 24.3 | 23.6 | 27.7 | 24.3 | 30.1 | 3.8 | 7 | 15.8 | 72.9 | 30.1 |
| 7+ | 30.7 | 18.1 | 29.4 | 21.7 | 28.1 | 5 | 9.5 | 13.6 | 71.5 | 28.1 |
| | | | | | | | | | | |
| **Socio-economic group** | | | | | | | | | | |
| Public/Parastatal | 46.4 | 26.8 | 13.5 | 11.5 | 4.3 | 3.7 | 19.8 | 25.6 | 49 | 4.3 |
| Private Formal | 38.2 | 25.3 | 28.4 | 8.1 | 3.5 | 5.5 | 17.8 | 21.4 | 53.9 | 3.5 |
| Private Informal | 30.8 | 14.9 | 34.9 | 19.4 | 4.1 | 11.3 | 8 | 24.6 | 56.1 | 4.1 |
| Self-agriculture | 24.6 | 21.3 | 28.4 | 25.4 | 75.7 | 3.7 | 6 | 12.9 | 77.2 | 75.7 |
| Self-other | 35.7 | 25.8 | 24.6 | 13.9 | 7.4 | 7.8 | 16.1 | 26.4 | 49.7 | 7.4 |
| Unemployed | 21.6 | 22.9 | 36.8 | 18.7 | 4.8 | 2.1 | 3.3 | 21 | 73.6 | 4.8 |
| | | | | | | | | | | |
| **Gender of head of household** | | | | | | | | | | |
| Male | 27.1 | 21.4 | 27.7 | 23.5 | 81.8 | 3.8 | 7.8 | 15.4 | 72.7 | 81.8 |
| Female | 26.2 | 23.7 | 30.2 | 19.4 | 18.2 | 6.6 | 7.3 | 16.8 | 68.8 | 18.2 |

### 4.2.3  Satisfaction

Data on satisfaction with school was collected by asking individuals currently at school if there were any problems with the school. The satisfaction rate informs on the proportion of children at school who cited no problems with the school.

Results of the survey, presented in Table 14, show that less than half of the children attending primary school are dissatisfied with it. Satisfaction rates among children in primary schools range from 58 percent to 83 percent. Overall, in Kagera rural, 67 percent of individuals currently attending primary school are satisfied. In peri-urban areas this proportion is noticeably higher at nearly four fifths of the population, while in rural areas, slightly lower at 64 percent. Very little difference exists in satisfaction rates between children from non-poor and poor households, or between male and female students. Students from Muleba, Biharamulo and Ngara are noticeably more satisfied with the schools they attend than those from Karagwe and Bukoba Rural; in the former three districts satisfaction rates range from 72 percent to 77 percent, while in the latter two it is under 60 percent.

Individuals attending primary schools who come from households headed by an unemployed individual appear to be least satisfied with the schools they attend – only 58 percent of them cited no problems with school.

Satisfaction rates are even higher among secondary school students, however these figures have to be treated with caution as the sample of individuals who are currently in secondary school is very small, and is further reduced through disaggregation. This explains why 100 percent of individuals in some of the categories expressed satisfaction with their schools.  However, the sample is sufficiently large to indicate that overall more than 80 percent of secondary school students are satisfied with the schools they attend. In rural areas the satisfaction rate is only slightly lower than that in peri-urban areas.  No significant difference is noticeable in level of satisfaction between male and female students. Satisfaction levels are highest in Biharamulo, where only 11 percent of individuals in secondary school cited problems. In Bukoba Rural, on the other hand, this proportion is 18 percent; here the level of satisfaction is lowest.

Disaggregation by socio-economic group or poverty status of the household is not informative as in both instances most of the individuals are in one group (non poor and agriculture); hence satisfaction rates for most categories are based on the responses of less than 10 individuals. Nevertheless, a general trend of high satisfaction levels can be suggested.

## 4.2.4  Dissatisfaction (Table 16)

Results in Table 16 have been presented both as proportions and counts of people. This is thought to be helpful in instances of high data disaggregation. The dissatisfied population is much smaller than the satisfied one and once this population is disaggregated by reason and by selected characteristics, some categories have very few entries. In such cases it is easier to judge the significance of an issue mentioned by a given group of dissatisfied students by looking at the actual numbers of students.

Results of the survey indicate that predominantly dissatisfaction with school is due to poor availability of supplies such as books, as well as lack of teachers in schools; over half of the pupils who expressed dissatisfaction cited these two reasons. Bad condition of school facilities is another commonly given reason; 45 percent of students who were dissatisfied with school cited this as one of the complaints.

This trend is prevalent in both rural and peri-urban areas, although in peri-urban areas a slightly higher proportion (63 percent) of dissatisfied students mentioned lack of supplies – in rural areas this proportion is 56 percent.

In districts with highest rates of dissatisfaction, namely Karagwe and Bukoba Rural, slightly different reasons were given. In Karagwe, the main problems appear to be lack of teachers and the condition of the facilities – 74 percent and 55 percent of the dissatisfied population in the districts gave these reasons, respectively. In Bukoba Rural, on the other hand, lack of supplies was the most commonly cited problem – mentioned by nearly two thirds of the dissatisfied student population in the district.

> **Box 2: Reasons for Dissatisfaction**
>
> Kagera Rural CWIQ asked respondents whether or not they were satisfied with the school they were attending. Nearly 68 percent of the respondents said they were satisfied.  The reasons for which the remaining 32 percent were dissatisfied are summarised in the graph below. What stands out in this graph is that, in Rural Kagera as a whole, very few people are dissatisfied with the quality of teaching. The majority of problems relate to logistical and organisational issues in the schooling system such as  lack of books and supplies, poor facilities and a shortage of teachers.
>
> **Reasons for Dissatisfaction**
>
> | Books/Supplies | Poor Teaching | Lack of Teachers | Bad Condition of Facilities |
> |---|---|---|---|
> | 57 | 11 | 59 | 45 |

There are a substantially higher proportion of students dissatisfied in government schools in comparison to private or other types of schools[5]. As can be seen from Table 16, however, the sample of children in private and 'other' schools is small as most children attend government schools. In the instance of secondary schools, there is no one in the sample who attended a private school and was dissatisfied. As mentioned above, the sample of individuals in secondary

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[5] The category 'other' includes schools run by a church or religious organization, as well as by the community.

school is small to begin with – further disaggregation renders the results inconclusive. Although a number of primary school children from private schools were dissatisfied, within this small sample no specific problems were identified. In both primary and secondary government schools students were predominantly unhappy with insufficient quantities of school supplies, and lack of teachers. In government primary schools 60 percent of the dissatisfied students identified these as problems. In government secondary schools approximately 70 percent of the dissatisfied students felt availability of supplies was inadequate, while 90 percent felt that lack of teachers was a problem.

**Table 16: Children currently at school and dissatisfied with it and reasons for dissatisfaction**

| | Dissatisfaction | Reasons for dissatisfaction[1] | | | | |
| | | Books/ Supplies | Poor teaching | Lack of teachers | Bad condition of facilities | Other |
|---|---|---|---|---|---|---|
| **Kagera Rural** | 151,815 | 85,940 | 16,259 | 88,764 | 67,673 | 1,819 |
| | 32 | 56.6 | 10.7 | 58.5 | 44.6 | 1.2 |
| Rural | 129,700 | 72,056 | 15,103 | 76,612 | 60,530 | 1,452 |
| | 35.4 | 55.6 | 11.6 | 59.1 | 46.7 | 1.1 |
| Peri-urban | 22,115 | 13,885 | 1,156 | 12,152 | 7,144 | 367 |
| | 20.5 | 62.8 | 5.2 | 54.9 | 32.3 | 1.7 |
| | | | | | | |
| **District** | | | | | | |
| Karagwe | 42,355 | 22,203 | 2,944 | 31,489 | 23,237 | 385 |
| | 39 | 52.4 | 7 | 74.3 | 54.9 | 0.9 |
| Bukoba Rural | 46,699 | 29,321 | 3,909 | 22,364 | 15,267 | 103 |
| | 40.2 | 62.8 | 8.4 | 47.9 | 32.7 | 0.2 |
| Muleba | 20,558 | 12,055 | 3,417 | 10,873 | 8,828 | 0 |
| | 22.1 | 58.6 | 16.6 | 52.9 | 42.9 | 0 |
| Biharamulo | 25,345 | 13,672 | 4,979 | 15,908 | 10,676 | 889 |
| | 27.2 | 53.9 | 19.6 | 62.8 | 42.1 | 3.5 |
| Ngara | 16,858 | 8,690 | 1,011 | 8,130 | 9,665 | 442 |
| | 26.8 | 51.5 | 6 | 48.2 | 57.3 | 2.6 |
| | | | | | | |
| **Poverty** | | | | | | |
| Non poor | 90,763 | 51,247 | 9,955 | 55,320 | 38,046 | 974 |
| | 32.6 | 56.5 | 11 | 61 | 41.9 | 1 |
| Poor | 61,052 | 34,694 | 6,304 | 33,443 | 29,628 | 844 |
| | 31.1 | 56.8 | 10 | 54.8 | 48.5 | 1 |
| | | | | | | |
| **Socio-economic group** | | | | | | |
| Public/Parastatal | 6,085 | 2,863 | 1,362 | 5,284 | 1,470 | 79 |
| | 25 | 47 | 22.4 | 86.8 | 24.2 | 1.3 |
| Private Formal | 3,769 | 3,055 | 0 | 1,895 | 668 | 0 |
| | 23.2 | 81.1 | 0 | 50.3 | 17.7 | 0 |
| Private Informal | 3,284 | 2,664 | 0 | 1,459 | 892 | 0 |

| | Dissatisfaction | Reasons for dissatisfaction[1] | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | | Books/ Supplies | Poor teaching | Lack of teachers | Bad condition of facilities | Other |
| | 21.5 | 81.1 | 0 | 44.4 | 27.2 | 0 |
| Self-other | 9,596 | 4,570 | 2,128 | 3,571 | 4,363 | 103 |
| | 26.8 | 47.6 | 22.2 | 37.2 | 45.5 | 1.1 |
| Self-agriculture | 120,993 | 66,824 | 12,377 | 72,094 | 56,220 | 1,637 |
| | 33.5 | 55.2 | 10.2 | 59.6 | 46.5 | 1.4 |
| Unemployment | 8,089 | 5,964 | 393 | 4,460 | 4,061 | 0 |
| | 40.1 | 73.7 | 4.9 | 55.1 | 50.2 | 0 |
| **Gender** | | | | | | |
| Male | 81,111 | 44,365 | 9,971 | 48,340 | 38,271 | 998 |
| | 33.4 | 54.7 | 12.3 | 59.6 | 47.2 | 1.2 |
| Female | 70,704 | 41,575 | 6,289 | 40,423 | 29,403 | 821 |
| | 30.6 | 58.8 | 8.9 | 57.2 | 41.6 | 1.2 |
| **Type of school** | | | | | | |
| **Primary school** | | | | | | |
| Government | 135,950 | 81,237 | 14,547 | 81,423 | 62,911 | 1,819 |
| | 32.4 | 59.8 | 10.7 | 59.9 | 46.3 | 1.3 |
| Private | 109 | 0 | 0 | 0 | 0 | 0 |
| | 11.5 | 0 | 0 | 0 | 0 | 0 |
| Other | 932 | 0 | 488 | 0 | 150 | 0 |
| | 43.7 | 0 | 52.4 | 0 | 16.1 | 0 |
| **Secondary school** | | | | | | |
| Government | 2,333 | 1,612 | 612 | 2,083 | 687 | 0 |
| | 23.1 | 69.1 | 26.2 | 89.3 | 29.5 | 0 |
| Private | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 157 | 157 | 0 | 157 | 0 | 0 |
| | 8.7 | 100 | 0 | 100 | 0 | 0 |

1. In collecting data on reasons for dissatisfaction with school, interviewers allowed respondents to cite more than one reason. Consequently the proportions in the second half of the table may not add up to 100 percent. A total that exceeds 100 percent indicates that a high proportion of the dissatisfied population had given more than one reason, while a total that is under 100 percent indicates that while individuals said they were not fully satisfied with their school, no specific reasons was given for this.

## 4.3 Enrolment (Table 17)

There are two main indicators that inform on school enrolment: Gross Enrolment Rate (GER) and Net Enrolment Rate (NER). In the Kagera Rural CWIQ information on enrolment rates was collected by asking individuals whether they were currently at school and comparing this to the total number of children in the relevant age category.

Gross Enrolment Rate is defined as the ratio of all individuals attending school, irrespective of their age, to the population of children of school age. Hence if there is a

large proportion of non-school age individuals attending school, GER can exceed 100 percent. Primary school GER informs on the ratio of all individuals attending primary school to the population of primary school age children (7 to 13). Secondary school GER informs on the ratio of all individuals in secondary school to the population of secondary school age individuals (14 to 19). Gross enrolment rate gives a broad indication of participation in education. However, it is a vague statistic for analysis and it provides no precise information regarding the proportion of individuals of school and non school age individuals at school.

Net Enrolment Rate 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 currently in primary school to the population of children between those ages. Secondary school NER is the ratio of children between the ages of 14 and 19 currently in secondary school to the population of individuals in this age range. NER is a better statistic for analysis as it informs on attendance rates among school age children.

## 4.3.1  Primary School Enrolment

Overall, the results of the survey indicate that 77 percent of children between the ages of 7 and 13 are enrolled at primary school. Further, the proportion of individuals enrolled at primary school regardless of age constitutes 99 percent of children who are in the relevant age group as indicated by the Gross Enrolment Rate. The difference between the GER and the NER informs on school attendance by individuals of non school age as a proportion of the school age population. In Kagera rural non school age attendees make up 22 percent of the school age population.

Put in a historical perspective these figures are impressive. Data from 1996, shown in Figure 4, indicates that the Gross Enrolment Ratio was only just above 60 percent seven years ago; this is nearly 40 percentage point lower than the current Gross Enrolment Ratio. The most likely cause of this surge in Enrolment Ratios is the Primary Education Development Project initiated in July 2001.

**Figure 4: Gross enrolment ratios in Kagera over time**
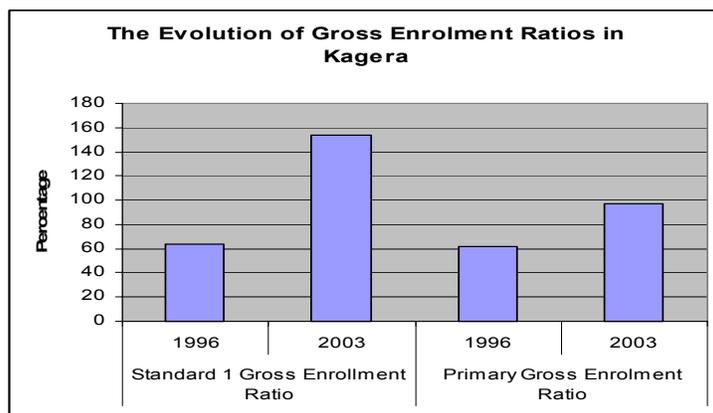
Neither NER nor GER vary significantly between peri-urban and rural areas. Similar proportions of individuals enrolled at primary school of non primary school age are also found in both categories. In both instances, however, slightly higher proportions were observed in peri-urban areas compared to rural areas.

Variation in both NER and GER across districts does not exceed 10 percent. Lowest enrolment rates were observed in Biharamulo District, where 73 percent of children of primary school age were enrolled in school at the time of the survey. In Muleba District the proportion of non primary school age individuals attending primary school is lowest compared to other districts. Here individuals attending primary school who are not in the 7-13 age-group make up 18 percent of the population of 7-13 year olds in the district.

Disaggregation of the data by poverty status shows that at the time of the survey the proportion of children of primary school age enrolled in primary school from non poor households exceeds that from poor households by 10 percentage points. No substantial disparity was observed between the proportions of non primary school age individuals enrolled in primary school in poor and non poor households.

Both Net and Gross Enrolment rates were highest among children from households headed by government employees; 91 percent of children of primary school age from this group were enrolled at primary school. A high proportion of school age children from households headed by private sector employees were also found to be attending school. Lowest NER was observed among children from households headed by self-employed farmers (75 percent). Enrolment at primary school by non primary school age individuals was highest among persons from households headed by government employees.

At primary level, school enrolment rates do not appear to be related to gender. Similar proportions of males and females of non school age and school age were attending primary school at the time of the survey; although a slight upward bias among boys is observed across the indicators.

## 4.3.2   Secondary School Enrolment

Both Net and Gross Enrolment rates in secondary schools are substantially lower than in primary schools. At the time of the survey, 4 percent of individuals of secondary school age were enrolled in secondary school. The proportion of non secondary school age individuals enrolled at secondary school made up less than 1 percent of the total secondary school age population in the region. In contrast to the pattern in primary school enrolment observed in rural and peri-urban areas, secondary school enrolment rate is much higher in peri-urban areas compared to rural areas. While only 2 percent of individuals from the relevant age group were found to be attending secondary school in rural areas, in peri-urban areas this proportion was more than six times higher (13 percent). In addition, the results show that at the time of the survey the proportion of non

secondary school individuals enrolled at secondary school was ten times higher in peri-urban areas than in rural ones.

Individuals of secondary school age are most likely to be enrolled at secondary school in the Bukoba Rural district; here 7 percent of individuals age 14-19 were enrolled at school. In contrast, in Karagwe, where the lowest secondary school NER was found, only 2 percent of individuals aged 14 to 19 were in secondary school.

The results of the survey indicate that children of secondary school age are more likely to be enrolled at a secondary school if they live in a non poor household. While only 2 percent of the population of 14-19 year olds from poor households go to school, the proportion of the population of children from the same age-group from non poor households enrolled at secondary school is three times greater.

Disaggregation of the data by employment of household head shows a similar enrolment pattern among secondary school children to that among primary school children. A higher proportion of children from households headed by individuals employed in sectors more common in peri-urban areas, attend secondary school compared to those who live with individuals employed in more rural based sectors. Hence highest NER's were found among children from private sector and non agriculture self-employed groups.

At the time of the survey, a substantially higher proportion of girls of secondary school age were enrolled at secondary school compared to boys from the same age group. In fact, twice as big a proportion of girls as boys from this population were attending secondary school.

## Table 17: Primary and secondary school enrolment rates

| | Primary School | | Secondary School | |
| --- | --- | --- | --- | --- |
| | Gross Enrolment | Net Enrolment | Gross Enrolment | Net Enrolment |
| **Kagera Rural** | 98.6 | 76.6 | 5.3 | 4.4 |
| Rural | 97.9 | 76.2 | 2.2 | 1.9 |
| Peri-urban | 101.7 | 78.3 | 15.7 | 12.8 |
| **District** | | | | |
| Karagwe | 101.2 | 75.3 | 2.9 | 1.8 |
| Bukoba Rural | 101.6 | 78.9 | 7.1 | 7.1 |
| Muleba | 96.9 | 78.8 | 6.4 | 5.6 |
| Biharamulo | 94.0 | 73.4 | 4.7 | 3.3 |
| Ngara | 99.6 | 76.9 | 5.1 | 4.0 |
| **Poverty** | | | | |
| Non poor | 101.0 | 81.2 | 7.4 | 6.4 |
| Poor | 91.4 | 71.3 | 2.3 | 1.7 |

|  | Primary School | | Secondary School | |
|---|---|---|---|---|
|  | Gross Enrolment | Net Enrolment | Gross Enrolment | Net Enrolment |
| **Socio-economic group** | | | | |
| Public/Parastatal | 114.9 | 90.8 | 15.2 | 15.2 |
| Private Formal | 101.5 | 83.6 | 18.3 | 13.5 |
| Private Informal | 102.7 | 79.6 | 5.9 | 5.9 |
| Self-other | 98.4 | 80.2 | 12.2 | 10.7 |
| Self-agriculture | 97.5 | 75.1 | 3.6 | 3.0 |
| Unemployed | 99.0 | 76.8 | 7.5 | 4.9 |
| **Gender** | | | | |
| Male | 101.0 | 77.2 | 3.3 | 3.0 |
| Female | 96.4 | 76.1 | 7.2 | 5.9 |

## 4.3.3 Lagging behind at school

When there is improvement in the enrolment rates of a country or region, it is useful to distinguish between two types of progress:

1. Children, who, for whatever reason, were unable to go to school, are given the opportunity to do so. These children tend to be too old for the grade they are in.

2. Children are able to begin school at the appropriate age, (at the age of seven in Tanzania) and have the opportunity to continue their educational career without delay.

Kagera has done extremely well in the former: more children than ever are now getting a chance to go to primary school. This is reflected in very high Gross Enrolment Rates for Standards 1-3. This is, most likely, due to the Primary Education Development Programme (PEDP).

**BOX 3: Catching Up and Lagging Behind: Education in Kagera**
Although Kagera has historically been a region of highly educated people, enrolment ratios in the region had plummeted by the end of the last century. After the introduction of the Primary Education Development Plan (PEDP) Kagera is catching up again. Results of the Rural Kagera CWIQ show that by the end of 2003 the Primary School Gross Enrolment Rate in Kagera had increased to nearly 100 percent from 62 percent in 1996. By the end of 2003, three out of four primary school aged children (7-13 years) was attending a primary school. These are impressive results by any standards

While the scope and future benefits of this catch up are enormous, further age breakdowns show that the majority of the students still start school late and keep on lagging behind during the rest of their schooling years. This is likely to have adverse future effects as children who start school late have less chance of finishing successfully and going on to further studies.

Only just above 40 percent of the 7 year olds start primary school, while by the age of 11 around 90 percent of the children will be in school. Not surprisingly, it is found in CWIQ Kagera that Standard 1 class rooms are only one quarter filled with 7 year olds and 50 percent with 8-10 year olds. The table in this box gives the percentage of primary school children that lag behind. Only 16 percent have no lag, while 45 percent lag behind 3 years or more.


Lagging Behind in Primary School

However, Kagera has scored very poorly in terms of getting its new school age generation into school. The majority of seven year olds are not enrolled in primary school and will only join at later ages. There are numerous disadvantages to creating such a gap. One of the most substantial is that children who start primary school late, are more likely to drop out before completing their education and hence are less likely to participate in higher education.

Results of the Rural Kagera CWIQ, presented in Table 18, show that a child is expected to join Standard 1 at the age of seven and, if he/she does not lag behind, enter Form 1 by the age of 14. Intake of individuals from higher age categories into Standards 1-3 is especially high; the number of children in these grades from higher age categories is greater than that of children of the appropriate ages. For example, for every 100 seven year olds there are 154 children in Standard 1 and for every 100 eight year olds in Rural Kagera, there are 171 children in Standard 2.

The number of children receiving any schooling (excluding nursery school) increases from 42 percent of the seven year olds to 90 percent of the 11 year olds, decreasing again after that to 39 percent of the 16 year olds and 12 percent of the 19 year olds.

Net Enrolment Ratio indicates what percentage of children are in the right grade for their age. The difference between the Net Enrolment Ratio and the percentage of children receiving any schooling informs on the proportions of children who are not in their 'normal' grade, sometimes because they are ahead, but mostly because they are behind.

**Table 18: Enrolment by age category**

| Age in Years | Corresponding Grade | Gross Enrolment Ratio[1] | Attendance Rate[2] | Net Enrolment Ratio[3] |
|---|---|---|---|---|
| 7 | Standard 1 | 154 | 42 | 35 |
| 8 | Standard 2 | 171 | 71 | 23 |
| 9 | Standard 3 | 135 | 80 | 11 |
| 10 | Standard 4 | 81 | 86 | 5 |
| 11 | Standard 5 | 81 | 90 | 5 |
| 12 | Standard 6 | 50 | 88 | 3 |
| 13 | Standard 7 | 9 | 88 | 0 |
| 14 | Form 1 | 10 | 72 | 1 |
| 15 | Form 2 | 11 | 55 | 2 |
| 16 | Form 3 | 5 | 39 | 0 |
| 17 | Form 4 | 3 | 28 | 0 |
| 18 | Form 5 | 0 | 15 | 0 |
| 19 | Form 6 | 0 | 12 | 0 |
| TOTAL | - | 99 | 63 | 77 |

1. The number of children in each grade, as a percentage of the number of children in the corresponding age category
2. The percentage of children in the age category who are at school (excluding nursery school)
3. The percentage of children in the age category who are in the corresponding grade

Table 19 further shows that on average 7 to 19 year old children who are at school are 2.3 years behind. The lag is small for lower age categories, but increases gradually. By the age of 13 children are more than 3 years behind on average, by the age of 16, this gap

increases to more than four years. Table 19 also shows the age distribution per grade of primary school in Rural Kagera. Shaded cells indicate the proportion of children in the correct grade for each age category. Only one quarter of Standard 1 classrooms is filled with children of the right age group (seven year olds). This number declines steadily for higher grades. In Standard 7, only 4 percent of the children are of the expected age group (13 years old). Most pupils in Standard 7 are 15 years old and 14 percent are over the age of 18.

**Table 19: Age distribution per grade in primary school (in percentage of total number of children attending that grade)**

| age in years | Average No. of Years School Going Children Lag Behind | Grade of Primary School | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | 0.0 | 25 | 4 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0.6 | 30 | 14 | 2 | 0 | 0 | 0 | 0 |
| 9 | 1.1 | 19 | 20 | 8 | 3 | 0 | 0 | 0 |
| 10 | 1.9 | 13 | 25 | 13 | 6 | 1 | 0 | 0 |
| 11 | 2.2 | 5 | 13 | 15 | 8 | 6 | 2 | 0 |
| 12 | 2.8 | 4 | 15 | 26 | 20 | 16 | 8 | 4 |
| 13 | 3.3 | 2 | 7 | 21 | 27 | 21 | 13 | 4 |
| 14 | 3.3 | 1 | 2 | 8 | 17 | 21 | 25 | 14 |
| 15 | 3.6 | 1 | 1 | 3 | 10 | 23 | 22 | 41 |
| 16 | 4.2 | 0 | 0 | 1 | 4 | 9 | 18 | 14 |
| 17 | 4.2 | 0 | 0 | 1 | 2 | 2 | 6 | 7 |
| 18 | 3.6 | 0 | 0 | 1 | 1 | 1 | 4 | 10 |
| 19 | 4.2 | 0 | 0 | 0 | 0 | 1 | 2 | 4 |
| Total | 2.3 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Note: shaded areas represent the proportion of children in the grade who have incurred no lag

## 4.4 *Primary and Secondary School Drop Out Rates (Table 20)*

Drop out rates are calculated by dividing the number of children who left school in the current year by the total number of children enrolled this year i.e. including the drop outs (a child remains enrolled at school for a year after he/she stops attending).

### 4.4.1 Primary School Drop Out Rates

Drop out rates are very low at primary school level. At the time of the survey, the total drop out rate among 7-13 year olds was 0.5 percent. No pattern is obvious other than that highest drop out rates were observed among the oldest children in primary school; nearly 2 percent of school children drop out at the age of 13.

Table 21 further informs on the reasons why children of primary school age drop out. The reference population includes not only children who attended school the year prior to the survey and were not attending school during the year of the survey, but all children of primary school age who had attended school at some point and were not in school at the

time of the survey; 5 percent of primary school age children were in this position. The results show, first of all, that many respondents did not specify a reason for non attendance. Of those who did, the majority gave age as one of or the only reason. The age category includes those who consider themselves or are considered by their family too young or too old to attend school. However, only 6 percent of the reference population stopped attending school for this reason. This result is consistent with the trend noted in Table 20; highest drop out rates were observed among the oldest children in primary school but the drop out rate even among these children was only 2 percent. Among other reasons given, dislike of school, illness and the cost of school were mentioned by 2 to 3 percent of the reference population.

## 4.4.2   Secondary School Drop Out Rates

The most striking feature of Table 20 is the fact that drop out rates in secondary schools are much higher than those in primary schools. Overall, 23 percent of children drop out of secondary school. A higher proportion of girls drop out throughout secondary school than boys. Between the ages of 14 and 17 the drop out rate for girls is higher than that for boys. At the age of 18 the pattern changes and a slightly higher proportion of boys drops out – 36 percent of 18 year old boys and 28 percent of girls of the same age who had previously been at school. By the age of 19 more than twice as high a proportion of boys drop out as girls (44 percent and 24 percent respectively).

Predominantly young people of secondary school age leave secondary school because they consider themselves too old to continue with education (Table 21). This suggests that the vast majority of teenagers in Rural Kagera do not even consider completing secondary school education as an option in life. The low expectation of ever attaining secondary education, shown by the high drop out rates, is likely to have been formed by other motives, such as financial constraints. In fact, age as a reason for non-attendance is likely to incorporate a variety of factors. For instance, one is more than likely to be expected to contribute to the household at secondary school age, and may be considered too old by the household to receive the financial support required to complete secondary school. Increased family responsibility and expectations of self-sufficiency faced by an individual as he/she gets older are, in fact, among others, the direct deterrents to completion of secondary school education reflected in the high proportion of individuals who give age as the reason for leaving school. Hence, the results in Table 21 show that almost 80 percent of secondary school age children who have left school consider themselves too old to be at school. Among other reasons given, 8 percent of non-attendees among 14 to 19 year olds, who have previously been at school, dropped out due to cost. However, as explained above, the deterrent effect of price is likely to be captured by the 'Age' category. Further, 5 percent mentioned dislike of school. Overall, over half of the children in the age group who had attended school previously, had left school.

**Table 20: Drop out rates by age and sex**

| | *Drop Out Rates (%)* | | |
|---|---|---|---|
| Age | Male | Female | Total |
| **Primary** | | | |
| Total | 0.5 | 0.5 | 0.5 |
| 7 | 0.0 | 0.7 | 0.4 |
| 8 | 0.0 | 0.6 | 0.3 |
| 9 | 0.0 | 0.0 | 0.0 |
| 10 | 0.4 | 0.6 | 0.5 |
| 11 | 0.0 | 0.0 | 0.0 |
| 12 | 0.8 | 0.0 | 0.4 |
| 13 | 2.1 | 1.9 | 1.7 |
| **Secondary** | | | |
| Total | 20.2 | 25.5 | 22.7 |
| 14 | 2.7 | 12.9 | 7.5 |
| 15 | 18.4 | 24.2 | 21.3 |
| 16 | 24.9 | 36.6 | 30.8 |
| 17 | 44.5 | 41.3 | 43.1 |
| 18 | 36.1 | 28.3 | 32.2 |
| 19 | 44.2 | 23.7 | 34.6 |

**Table 21: Reasons for non-attendance by age**

| | | *Age Group* | |
|---|---|---|---|
| | | 7 to 13 | 14 to 19 |
| | Reference Population[1] | | |
| | | 16,876 | 101,810 |
| | | 4.8 | 51.4 |
| Reasons not currently attending | Age | 1,129 | 79,834 |
| | | 6 | 78 |
| | Cost | 352 | 7,730 |
| | | 2.1 | 7.6 |
| | Work | 0 | 508 |
| | | 0 | 0.5 |
| | Dislike | 539 | 5,286 |
| | | 3.2 | 5.2 |
| | Illness | 448 | 2,222 |
| | | 2.7 | 2.2 |
| | Pregnancy | 0 | 756 |
| | | 0 | 0.7 |
| | Failed exams | 157 | 1,195 |
| | | 0.9 | 1.2 |
| | Marriage | 0 | 433 |
| | | 0 | 0.4 |
| | Other | 0 | 981 |
| | | 0 | 1.0 |

1. Children who have attended school at some point but were not attending any school regularly at the time of the survey

# 5   HEALTH

## 5.1   *Introduction*

The Kagera Rural CWIQ collected health information at household and individual level. At household level, survey data informs on the proximity of households to a health facility. On individual level, information collected includes data regarding the number of people who had been ill in the four weeks preceding the survey and what type of illness they had suffered from; number of people who had used a health service in the same time period; type of health provider used; satisfaction and reasons for dissatisfaction among users of health services; reasons for choosing not to consult a health professional.

## 5.2   *Selected Health Indicators (Table 22)*

### 5.2.1   Access to Health Services

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

The results of the survey indicate that approximately 26 percent of households in the Kagera Rural area have access to a health facility. In peri-urban areas this proportion is significantly higher – here 57 percent of households can access a health facility in the specified time. In contrast, in rural areas only 19 percent households can do the same.

Access rate is highest in Biharamulo district where approximately 41 percent of households are located within 30 minutes travel from a health facility. Second highest access rate is in Ngara, while the lowest is in Karagwe where less than a fifth of households are located within the vicinity of a health facility.

It is often stressed in literature that lack of access is a substantial obstacle for the poor to use of health services. It is, therefore, encouraging to see that in Kagera there is no great disparity in access between poor and non-poor households: in terms of distance the poor live only slightly further away from health facilities than the non-poor. The proportion of poor households with access to health facilities is only 2 percentage points smaller than that of non poor households.[6] This could be an advantage for Kagera policy makers in formulating pro-poor service delivery policies. Nevertheless, the results still have to be seen in the light of overall low access rates: even though the poor do not differ much from the rich in terms of access, still 74 percent of households in the region do not have access to health services.

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[6] Although the difference is small, statistical tests show that it is significant i.e. there is an actual difference in access rates. If a different sample of households in the region was examined, the same difference would be found.

Highest access rates were observed among households headed by individuals employed in the Public/Parastatal and Private Formal sectors; in both instances nearly half of the households were located within 30 minutes of travel from the nearest health facility. In part this trend is explained by the tendency of households headed by individuals who are employed in the Public/Parastatal and Formal Private sectors to be located in peri-urban areas, where the rate of access to health facilities is much higher than average. In contrast, only a fifth of households headed by an unemployed individual have access to a health facility.

While gender of the head of household is not relevant to the position of the household relative to a health facility, age appears to have some bearing on this indicator. A smaller proportion of individuals over the age of 60 have access to health facilities – approximately 23 percent live within the specified distance. Across the other age groups access rates range from 25 to 27 percent. As access is defined in terms of time to reach the health facility, this difference, may in part be due to decreasing mobility and consequent alteration in perception of distances. Another reason may be that old people tend to move to the more rural areas with worse access.

More detailed information regarding the proximity of households in the region to health facilities is presented in Table 23. Overall, it shows that access to health facilities is even lower than shown in Table 22; while only a quarter of the households in the region are located within 30 minutes of travel from the nearest health facility, more than half of the households are more than an hour away from one. In rural areas this proportion is even higher at nearly 61 percent of all households. The difference between rural and peri-urban areas is striking, with less than a fifth of peri-urban households situated more than an hour away from a health facility in peri-urban areas.

## 5.2.2  Need for Health Services

Need is defined as the proportion of individuals who had been ill during the four weeks preceding the survey. It must be noted that need is based on the self-reported responses of individuals regarding their health status, rather than a diagnosis by a health professional.

The results indicate that 300,000 individuals (15 percent) of the Kagera Rural population had been ill and hence had experienced need for health services in the four weeks preceding the survey. Level of need in rural and peri-urban areas was roughly the same. Illness was most common among people from the Bukoba Rural and Muleba districts – in both areas roughly 17 percent of the population had been ill. In Karagwe, the rate of need was lowest – here 13 percent of the population had experienced illness in the specified time-period.[7]

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[7] Interestingly, this difference was found to also be statistically significant. In other words, had results from a different sample been used, rates of need in Bukoba Rural and Muleba would most likely still be higher than in Karagwe.

No relationship appears to exist between need and household income; almost identical proportions of individuals reported illness in the poor and non-poor households. It needs to be pointed out here that instances of illness are self-reported. Studies have shown that higher education is correlated with higher awareness and hence higher reporting of illness. It is not impossible that the poor are underreporting illness.

Incidence of illness is lowest among people from households headed by an individual employed in the Public/Parastatal sector; only 11 percent of individuals from this group had experienced need for health services in the 4 weeks prior to the survey. This proportion is highest in the instance of households headed by unemployed individuals – here nearly a fifth of the people were in this category.

There appears to be a negative correlation between access to health facilities and incidence of illness. While highest access rates are observed among households headed by individuals employed in the Public/Parastatal sector, this is also the group with lowest incidence of illness. The reverse relationship is found among households headed by unemployed individuals.

There is no significant difference in the rates of need for health assistance between households headed by women and men. However, noticeable variation does exist if the population is disaggregated by age. Incidence of illness is highest among children under the age of 5 and individuals over the age of 50. The proportions in these groups of people range from 24 percent to 28 percent of the respective populations. Statistical tests show that this difference is not coincidental; the youngest and oldest individuals in the population are on average ill more often than others and had a different sample been used, the results would have, most likely, been the same.

## 5.2.3   Use of Health Services

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

The results indicate that 15 percent of individuals in the Kagera Rural area had used a health service in the four weeks preceding the survey. Interestingly, though overall the rate of health service use is equal to that of need, disaggregation of the population by age shows that in all age groups except for the under 5's the rate of use is slightly lower than that of need. Among the under 5's, however, over 33,000 more children had been taken to see a health professional than had been ill in the specified time period.

Strikingly, while access rates differ substantially between rural and peri-urban areas, the proportions of individuals using health facilities in rural and peri-urban areas are almost identical at roughly 15 percent. However, in peri-urban area this proportion represents a higher rate of need than use, while the reverse is true for rural areas.

Incidence of use is higher than that of illness in Karagwe and, more substantially, in Bukoba Rural. In the other three districts, the proportion of people who had been ill is greater than the proportion of individuals who had used a health service. However, this difference is under 1 percent of the population in all three cases. The highest rate of use of health facilities was observed in the Bukoba Rural District (18 percent); however, incidence of illness is also among the highest here at 17 percent.

Just as reported incidences of health service need are similar for individuals from poor and non poor households, so no substantial difference exists in rates of use between these two groups.

Need exceeds use among individuals from households headed by unemployed individuals and households that are headed by self-employed individuals in the agriculture sector. A higher proportion of women had consulted a health service provider than men in the month preceding the survey (16 and 15 percent respectively). Although this difference is very slight, it is statistically significant. Therefore, it appears that women tend to consult health providers more than men.

### 5.2.4 Satisfaction

The rate of satisfaction with health services is defined as the proportion of individuals who had consulted a health provider in the four weeks preceding the survey and cited no problems with the service provided.

Overall 78 percent of individuals, who had consulted a health provider, had been satisfied with the service they received. The satisfaction rate in peri-urban areas was slightly higher than that in rural areas. While in rural areas 76 percent were satisfied, in urban areas this proportion was 83 percent. No great variation in satisfaction rates was observed across the districts; the range is 4 percentage points with greatest proportion of satisfied individuals in Biharamulo, and lowest in Karagwe. Given that this difference is not statistically significant, most likely this trend is present in the specific sample only; there is no actual difference in satisfaction rates between the districts.

Health service users from poor and non poor households were found to be equally satisfied with the service they had received.[8]

A difference of 22 percentage points is observable in the satisfaction rates of the population after disaggregation by socio-economic status. While 88 percent of individuals from households headed by individuals employed in the Public/Parastatal sector cited no problems with health service used, only 66 percent of the individuals from the unemployed group did the same. Women tend to find health services more satisfactory than men; older individuals appear to find provision of health services more problematic than younger people. 84 percent of parents/guardians of children under the

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[8] The slight difference in proportions of satisfied health service users from poor and non poor households is not statistically significant and is therefore coincidental.

age of five, who had consulted a health professional regarding the health of the child, were satisfied with the service provided. In contrast, only 66 percent of individuals in the 50-59 age group had no complaints.

**Table 22: Selected health indicators**

| | Access[1] | Need[1] | Use[1] | Satisfaction[2] |
|---|---|---|---|---|
| | lives within 30 minutes from health facility | has been sick in past four weeks | has used a health facility in past 4 weeks | has used a health facility and was satisfied with it |
| **Kagera Rural** | 5,137 | 299,999 | 301,655 | 233,974 |
| | 26.2 | 15.3 | 15.4 | 77.6 |
| Rural | 294,174 | 246,871 | 241,959 | 184,729 |
| | 18.7 | 15.7 | 15.4 | 76.3 |
| Peri-urban | 219,484 | 53,128 | 59,696 | 49,245 |
| | 56.8 | 13.8 | 15.5 | 82.5 |
| **District** | | | | |
| Karagwe | 75,634 | 56,509 | 58,512 | 44,304 |
| | 16.7 | 12.5 | 12.9 | 75.7 |
| Bukoba Rural | 117,823 | 78,707 | 84,037 | 66,149 |
| | 25.6 | 17.1 | 18.2 | 78.7 |
| Muleba | 77,400 | 67,894 | 66,073 | 49,922 |
| | 19.6 | 17.2 | 16.7 | 75.6 |
| Biharamulo | 161,911 | 58,816 | 55,473 | 44,141 |
| | 41.2 | 15 | 14.1 | 79.6 |
| Ngara | 80,891 | 38,072 | 37,561 | 29,456 |
| | 31.2 | 14.7 | 14.5 | 78.4 |
| **Poverty** | | | | |
| Non poor | 322,226 | 179,410 | 184,438 | 142,043 |
| | 27.3 | 15.2 | 15.6 | 77 |
| Poor | 191,432 | 120,589 | 117,217 | 91,931 |
| | 24.6 | 15.5 | 15 | 78.4 |
| **Socio-economic group** | | | | |
| Public/Parastatal | 39,970 | 8,689 | 11,041 | 88 |
| | 48.3 | 10.5 | 13.3 | 79.7 |
| Private Formal | 31,182 | 10,620 | 12,073 | 9,687 |
| | 48.1 | 16.4 | 18.6 | 80.2 |
| Private Informal | 22,874 | 10,993 | 11,327 | 9,955 |
| | 30.9 | 14.9 | 15.3 | 87.9 |
| Self-other | 65,006 | 23,044 | 24,781 | 21,044 |
| | 45.2 | 16 | 17.2 | 84.9 |
| Self-agriculture | 333,821 | 224,873 | 221,586 | 170,753 |
| | 22.3 | 15 | 14.8 | 77.1 |
| Unemployed | 20,102 | 21,780 | 20,848 | 13,738 |
| | 20.7 | 22.4 | 21.5 | 65.9 |

# Kagera Rural CWIQ

| | Access[1] | Need[1] | Use[1] | Satisfaction[2] |
|---|---|---|---|---|
| | lives within 30 minutes from health facility | has been sick in past four weeks | has used a health facility in past 4 weeks | has used a health facility and was satisfied with it |
| **Gender of household head** | | | | |
| Male | 247,526 | 148,568 | 143,562 | 109,171 |
| | 25.6 | 15.4 | 14.9 | 76 |
| Female | 266,132 | 151,431 | 158,093 | 124,804 |
| | 26.8 | 15.2 | 15.9 | 78.9 |
| **Age** | | | | |
| 0 to 4 | 91,819 | 81,800 | 114,908 | 96,513 |
| | 26.9 | 24 | 33.7 | 84 |
| 5 to 9 | 88,641 | 40,448 | 33,013 | 24,914 |
| | 25.3 | 11.6 | 9.4 | 75.5 |
| 10 to 14 | 76,184 | 28,941 | 23,593 | 17,682 |
| | 26.7 | 10.1 | 8.3 | 74.9 |
| 15 to 19 | 54,227 | 18,847 | 15,561 | 10,943 |
| | 27.9 | 9.7 | 8 | 70.3 |
| 20 to 29 | 72,576 | 32,990 | 30,799 | 23,047 |
| | 26.2 | 11.9 | 11.1 | 74.8 |
| 30 to 39 | 53,819 | 31,097 | 26,491 | 19,769 |
| | 25.7 | 14.9 | 12.7 | 74.6 |
| 40 to 49 | 33,827 | 20,496 | 18,819 | 14,165 |
| | 26.2 | 15.9 | 14.6 | 75.3 |
| 50 to 59 | 20,169 | 17,929 | 14,574 | 9,631 |
| | 27 | 24 | 19.5 | 66.1 |
| 60+ | 22,396 | 27,451 | 23,898 | 17,310 |
| | 22.9 | 28 | 24.4 | 72.4 |

1. Percentages taken out of the whole population
2. Percentages taken out of the population who used health services (indicated in previous column)

**Table 23: Distribution of households by distance to the nearest health facility (in minutes of travel)**

|  | < 15 | 15 to 29 | 30 to 59 | 60+ | Share of Population |
|---|---|---|---|---|---|
| **Kagera Rural** | 13.60 | 12.0 | 21.2 | 53.0 | 100.0 |
| Rural | 8.70 | 10.0 | 20.6 | 60.5 | 82.0 |
| Peri-urban | 35.80 | 21.3 | 24.1 | 18.8 | 18.0 |
| **District** |  |  |  |  |  |
| Karagwe | 7.6 | 9.6 | 20.6 | 61.7 | 23.7 |
| Bukoba Rural | 11.8 | 12.9 | 23.9 | 51.2 | 24.1 |
| Muleba | 6.4 | 11.7 | 23.3 | 58.6 | 21.1 |
| Biharamulo | 30.5 | 13.9 | 16.7 | 38.7 | 17.9 |
| Ngara | 16.1 | 12.8 | 20.1 | 51.0 | 13.1 |
| **Poverty** |  |  |  |  |  |
| Non poor | 14.2 | 12.0 | 22.0 | 51.6 | 69.3 |
| Poor | 12.0 | 12.2 | 19.4 | 56.1 | 30.7 |
| **Household size** |  |  |  |  |  |
| 1 to 2 | 13.4 | 9.8 | 25.1 | 51.7 | 13.5 |
| 3 to 4 | 13.7 | 11.3 | 23.8 | 50.7 | 28.2 |
| 5 to 6 | 12.5 | 13.2 | 19.7 | 54.4 | 30.1 |
| 7+ | 14.6 | 12.7 | 18.4 | 54.3 | 28.1 |
| **Socio-economic group** |  |  |  |  |  |
| Public/Parastatal | 23.1 | 22.8 | 21.5 | 30.8 | 4.3 |
| Private Formal | 28.6 | 19.7 | 15.3 | 36.4 | 3.5 |
| Private Informal | 12.3 | 17.7 | 20.8 | 49.3 | 4.1 |
| Self-agriculture | 11.5 | 10.2 | 21.3 | 56.8 | 75.7 |
| Self-other | 24.1 | 20.4 | 20.0 | 35.6 | 7.4 |
| Unemployed | 10.0 | 7.7 | 26.8 | 55.5 | 4.8 |
| **Gender of head of household** |  |  |  |  |  |
| Male | 13.2 | 12.5 | 21.0 | 53.1 | 81.8 |
| Female | 14.9 | 9.7 | 22.0 | 52.6 | 18.2 |

## 5.3   Reasons for dissatisfaction (Table 24)

An individual is classed as dissatisfied with the health service he/she receives, if having used the service, he/she cites one or more problems with it. The satisfaction rate and the dissatisfaction rate add up to 100 percent as the population under observation in both cases consists only of individuals who had used a health service in the four weeks preceding the survey. Hence the trend in the dissatisfaction rate is the reverse to that described above regarding the satisfaction rate. Overall 22 percent of individuals who had used a health service in the specified time-frame had been dissatisfied with it.

The population of dissatisfied health service users is then categorised by reason for dissatisfaction.

No one problem with health service provision in the region is highlighted by the results of the survey. The highest proportion of individuals cited cost and unsuccessful treatment as reasons for dissatisfaction. Over a third of individuals in the dissatisfied group were unhappy due to one or both of these reasons. Availability of medication is also a common problem. More than a quarter (28 percent) of the dissatisfied users cited this reason. Approximately 28 percent of people also complained about the waiting time in health facilities. Although lack of medications is a common reason for dissatisfaction, lack of supplies does not appear to affect many individuals – only 4 percent of the dissatisfied population mentioned this issue.[9]

In peri-urban areas the cost of health services is more of a problem than in rural areas. While more than half of dissatisfied individuals in peri-urban areas found cost problematic, this proportion was less than a third (30 percent) in rural areas. In contrast, shortage of trained professionals appears to be more common in rural areas, where 17 percent of the dissatisfied individuals cited this problem – in peri-urban areas this proportion is half the size at 8 percent.

Cost is a difficulty experienced most in Biharamulo, where just under 56 percent of the dissatisfied health service users found the services too expensive. In the rest of the districts around 30 percent stated the same. In the Bukoba Rural district individuals were finding the waiting time in health facilities more of a burden than in other districts; here 42 percent cited this as a problem, whereas in other districts dissatisfaction rates due to waiting time ranged between 15 percent and 32 percent. In Karagwe and Bukoba Rural, health service users were more unhappy about shortage of health professionals, than the same group in the other three districts. Most equal distribution of dissatisfied individuals across the possible causes for dissatisfaction was found in Karagwe; in other words, the majority of commonly cited complaints regarding health service provision are relevant to the health facilities in this district.

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[9] This result should be treated with caution as lack of medication and lack of supplies are closely related categories

Surprisingly, cost appears to be more of a problem for individuals from non-poor households than poor ones.[10] For patients from poor households hygiene, waiting time, shortage of trained professionals and unsuccessful treatment were more of a problem than for the non poor. The latter group, on the other hand, complained about cost, lack of medicine and supplies more than the former.

Individuals from households headed by employees from the Public/Parastatal sector appear to object to the waiting time more than those from households headed by employees from other sectors. This could be due to higher living standards characteristic of this group and hence higher expectations from public services. 56 percent of the dissatisfied patients from this group mention waiting time as a problem. In the private informal sector, individuals tend to find insufficient availability of medication more of an issue than individuals from other groups. In comparison to other groups cost is least important to service users from households headed by self-employed and unemployed individuals.

Women appear to be more often dissatisfied with health services due to low standard of hygiene – 19 percent if women mentioned this problem compared to 11 percent of men. On the other hand, male patients are more concerned with the insufficient availability of needed medication.

Disaggregation of the data by type of health provider used indicates that, overall, individuals using private health care providers are most dissatisfied with the service they receive; nearly two fifths (38 percent) of individuals who had consulted a private doctor in the four weeks prior to the survey found the service dissatisfactory, as was the case for 24 percent of individuals who had gone to a private health centre/hospital. Dissatisfaction rate among government health centre and hospital patients is not much lower at 23 percent. Highest satisfaction rate was found among individuals who had consulted a traditional healer – only 3 percent of individuals from this group were not fully satisfied with the service provided.

The main problems with both government and private hospitals/health centres were waiting time and cost of the service. Availability of medications, however, appears to be a more immediate problem in government health facilities than private ones. While 35 percent of dissatisfied people who had used a government hospital cited this as a problem, only 7 percent did the same among private hospital patients. Cost is more of an issue in private institutions compared to public ones, however, not substantially; the difference in proportions is just over 10 percentage points. Unsuccessful treatment is the biggest complaint among individuals who had consulted a traditional healer – over two thirds of the dissatisfied patients of traditional healers cited this problem; the second highest rate was found among patient of private doctors at 43 percent.

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[10] Refer to Box 4 for further discussion of this trend.

## Table 24: Reasons for dissatisfaction with health services

| | | Reasons for dissatisfaction[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Dissatisfaction | Hygiene | Long wait | Shortage of trained professionals | Cost | No drugs available | Unsuccessful treatment | Lack of supplies | Other |
| **Kagera Rural** | 67,681 | 9,870 | 18,759 | 10,695 | 22,815 | 18,975 | 22,822 | 2,669 | 186 |
| | 22.4 | 14.6 | 27.7 | 15.8 | 33.7 | 28 | 33.7 | 3.9 | 0.3 |
| Rural | 57,230 | 8,652 | 16,090 | 9,826 | 17,239 | 17,057 | 19,775 | 2,497 | 186 |
| | 23.7 | 15.1 | 28.1 | 17.2 | 30.1 | 29.8 | 34.6 | 4.4 | 0.3 |
| Peri-urban | 10,451 | 1,217 | 2,670 | 869 | 5,576 | 1,918 | 3,047 | 172 | 0 |
| | 17.5 | 11.6 | 25.5 | 8.3 | 53.4 | 18.4 | 29.2 | 1.6 | 0 |
| **District** | | | | | | | | | |
| Karagwe | 14,209 | 2,583 | 4,593 | 2,979 | 3,842 | 5,416 | 5,783 | 712 | 0 |
| | 24.3 | 18.2 | 32.3 | 21 | 27 | 38.1 | 40.7 | 5 | 0 |
| Bukoba Rural | 17,889 | 1,345 | 7,572 | 5,062 | 5,174 | 4,881 | 3,188 | 293 | 0 |
| | 21.3 | 7.5 | 42.3 | 28.3 | 28.9 | 27.3 | 17.8 | 1.6 | 0 |
| Muleba | 16,151 | 2,687 | 2,794 | 1,113 | 4,767 | 3,850 | 6,093 | 1,292 | 186 |
| | 24.4 | 16.6 | 17.3 | 6.9 | 29.5 | 23.8 | 37.7 | 8 | 1.2 |
| Biharamulo | 11,329 | 1,545 | 1,740 | 1,039 | 6,298 | 2,901 | 4,333 | 34 | 0 |
| | 20.4 | 13.6 | 15.4 | 9.2 | 55.6 | 25.6 | 38.2 | 0.3 | 0 |
| Ngara | 8,104 | 1,710 | 2,061 | 502 | 2,734 | 1,927 | 3,425 | 339 | 0 |
| | 21.6 | 15.1 | 25.4 | 6.2 | 33.7 | 23.8 | 42.3 | 4.2 | 0 |
| **Poverty** | | | | | | | | | |
| Non poor | 42,395 | 5,611 | 10,318 | 5,812 | 15,310 | 12,610 | 13,879 | 1,925 | 186 |
| | 23 | 13.2 | 24.3 | 13.7 | 36.1 | 29.7 | 32.7 | 4.5 | 0.4 |
| Poor | 25,286 | 4,259 | 8,441 | 4,883 | 7,505 | 6,365 | 8,943 | 744 | 0 |
| | 21.6 | 16.8 | 33.4 | 19.3 | 29.7 | 25.2 | 35.4 | 2.9 | 0 |
| **Socio-economic group** | | | | | | | | | |
| Public/Parastatal | 2,242 | 340 | 1,255 | 118 | 956 | 685 | 483 | 204 | 0 |
| | 20.3 | 15.2 | 56 | 5.3 | 42.6 | 30.6 | 21.5 | 9.1 | 0 |
| Private Formal | 2,386 | 96 | 636 | 364 | 879 | 192 | 1,071 | 340 | 0 |
| | 19.8 | 4 | 26.7 | 15.3 | 36.8 | 8 | 44.9 | 14.2 | 0 |
| Private Informal | 1,372 | 381 | 553 | 394 | 0 | 655 | 434 | 0 | 0 |
| | 12.1 | 27.8 | 40.3 | 28.7 | 0 | 47.7 | 31.6 | 0 | 0 |
| Self-other | 3,738 | 498 | 325 | 504 | 1,728 | 904 | 1,121 | 172 | 0 |
| | 15.1 | 13.3 | 8.7 | 13.5 | 46.2 | 24.2 | 30 | 4.6 | 0 |
| Self-agriculture | 50,833 | 7,955 | 14,416 | 8,174 | 16,896 | 14,581 | 16,030 | 1,954 | 186 |
| | 22.9 | 15.6 | 28.4 | 16.1 | 33.2 | 28.7 | 31.5 | 3.8 | 0.4 |
| Unemployed | 7,110 | 599 | 1,575 | 1,139 | 2,356 | 1,958 | 3,683 | 0 | 0 |
| | 34.1 | 8.4 | 22.2 | 16 | 33.1 | 27.5 | 51.8 | 0 | 0 |
| **Gender** | | | | | | | | | |
| Male | 34,392 | 3,673 | 10,348 | 5,510 | 11,054 | 11,274 | 12,278 | 1,244 | 186 |
| | 24 | 10.7 | 30.1 | 16 | 32.1 | 32.8 | 35.7 | 3.6 | 0.5 |
| Female | 33,290 | 6,196 | 8,411 | 5,185 | 11,761 | 7,701 | 10,544 | 1,425 | 0 |
| | 21.1 | 18.6 | 25.3 | 15.6 | 35.3 | 23.1 | 31.7 | 4.3 | 0 |

| | Dissatisfaction | Reasons for dissatisfaction[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Hygiene | Long wait | Shortage of trained professionals | Cost | No drugs available | Unsuccessful treatment | Lack of supplies | Other |
| **Type of provider** | | | | | | | | | |
| Private Hospital | 4,734 | 1,032 | 1,724 | 642 | 1,822 | 347 | 785 | 80 | 0 |
| | 24.3 | 21.8 | 36.4 | 13.6 | 38.5 | 7.3 | 16.6 | 1.7 | 0 |
| Public Hospital | 34,999 | 5,412 | 11,797 | 6,907 | 9,632 | 12,272 | 10,959 | 1,681 | 0 |
| | 22.8 | 15.5 | 33.7 | 19.7 | 27.5 | 35.1 | 31.3 | 4.8 | 0 |
| Health Post | 7,515 | 975 | 1,970 | 1,291 | 2,886 | 2,235 | 1,536 | 190 | 0 |
| | 19.7 | 13 | 26.2 | 17.2 | 38.4 | 29.7 | 20.4 | 2.5 | 0 |
| Private Doctor/Dentist | 1,914 | 98 | 0 | 186 | 915 | 0 | 831 | 162 | 186 |
| | 38.2 | 5.1 | 0 | 9.7 | 47.8 | 0 | 43.4 | 8.5 | 9.7 |
| Traditional Healer | 2,266 | 45 | 340 | 190 | 114 | 395 | 1,525 | 170 | 0 |
| | 3.3 | 2 | 15 | 8.4 | 5 | 17.4 | 67.3 | 7.5 | 0 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

## 5.4   Reasons for not consulting a health provider when ill (Table 25)

Overall, the results of the survey show that nearly a quarter of individuals who had been ill in the four weeks preceding the survey had not consulted a health service provider.[11] In rural areas the rate of health facility use by ill individuals is slightly higher than in peri-urban areas. While in the former 24 percent of ill individuals had not consulted a health provider, in the peri-urban areas this proportion was 20 percent.

The highest proportion of individuals who had not consulted a health provider when ill was observed in the Bukoba Rural district. Here 30 percent of individuals who had been ill in the four weeks preceding the survey had not accessed a health facility – similarly in Biharamulo this proportion was 27 percent. Interestingly, Bukoba Rural district also had the highest rate of health service use compared to the other districts. Highest rates of non-use are found in Karagwe and Ngara, where the proportions of individuals not consulting were roughly 17 percent.

The choice to consult a health provider in time of illness does not differ from poor to non-poor households. This is a surprising result; contrary to what is found in many other countries, it suggests that health seeking behaviour in Kagera is not affected much by poverty status.

Highest proportion of individuals, who did not consult a health provider when ill, was found among individuals from households headed by informal private sector employees;

[11] This contributes to the information presented in Table 22. The results from this table indicate that while 15.3 percent of individuals had need for a health service in the four weeks preceding the survey, 15.4 percent of the population had consulted a health provider. Information in Table 25 allows further analysis of these results. Out of the 15.4 percent of individuals who had been ill, just under 24 percent had not consulted a health provider. Hence, a more definite analysis of the rates of use is possible: it can now be deduced that 24.1 percent of health service users had not identified themselves as having been ill in the four weeks preceding the survey.

38 percent of ill individuals from this group had not sought professional advice. Women appear to consult health professionals slightly more than men. Out of the population of women who had been ill in the specified time-period, 78 percent had accessed a health facility – among men this proportion was 75 percent. However, as this result is not statistically significant, it is likely to reflect a sample specific trend rather than a characteristic of the population.

Disaggregation of the population by type of illness shows that people are least likely to consult a health professional if they are having problems with their eyes, ear nose throat infections, dental problems or fever/malaria. On average, slightly over a quarter of individuals suffering from these conditions did not choose to consult a health provider. In contrast, the highest rates of consultation were found among individuals suffering from diarrhoea, or victims of accidents; only 15 percent and 17 percent of people who were experiencing these problems respectively, did not access a health service.

Most often people who were ill chose to not consult a health professional due to the expense. Over half of the ill population who had not accessed a health service specified cost as the reason. A high proportion of people also felt that there was no need to consult a health professional; slightly less than a third of ill individuals who had not consulted a health professional expressed this view. In both rural and peri-urban areas cost is the most substantial deterrent to use of health services. However, in rural areas a higher proportion of individuals who decided not to consult a health professional despite being ill, did so also because they felt there was no need and because of the distance to the nearest health facility. For instance, while in peri-urban areas distance was cited as a deterrent to use of health services by 8 percent of the reference population, this proportion was 15 percent of the same population in rural areas.

In Karagwe distance to health facilities is a more commonly cited problem than in the other four districts. Here, just under a fifth of the population of interest cited this as a reason. In all districts, over half of the non consulting ill population referred to cost of health services as a deterrent to use. This problem is especially prominent in Ngara and Muleba where 58 percent and 59 percent of the people gave this as a reason. A substantially greater proportion of individuals in the Bukoba Rural district felt that their illness did not warrant need for advice from health professionals, than is the case in the rest of the districts.

Just as in the instance of dissatisfied users of health services (Table 24), cost is not a more significant factor in the case of individuals from poor households compared to those from non poor households. Approximately equal proportions of individuals from both groups who had been ill and had not consulted a health provider, cited cost as a deterrent.

Distance appears to be a bigger deterrent to use of health services in time of illness for individuals suffering from eye problems, and ear, nose and throat disorders. Around a fifth of individuals, who had experienced these types of illnesses respectively, identified distance as an obstacle to use of health services. People who suffer from accidents, on the

other hand, appear to feel that there is no need to go to a health professional more often than individuals suffering from other illnesses.

**Table 25: Reasons for not consulting a health provider when ill**

| | Reference population[1] | Reasons for not consulting health professional when ill[2] | | |
| | | No Need | Cost | Distance |
| --- | --- | --- | --- | --- |
| **Kagera Rural** | 71,116 | 22,200 | 38,996 | 10,061 |
| | 23.7 | 31.2 | 54.8 | 14.1 |
| Rural | 60,305 | 19,898 | 33,153 | 9,200 |
| | 24.4 | 33 | 55 | 15.3 |
| Peri-urban | 10,811 | 2,302 | 5,843 | 860 |
| | 20.3 | 21.3 | 54 | 8 |
| | | | | |
| **District** | | | | |
| Karagwe | 9,647 | 2,776 | 5,290 | 1,717 |
| | 17.1 | 28.8 | 54.8 | 17.8 |
| Bukoba Rural | 23,742 | 10,162 | 12,121 | 3,336 |
| | 30.2 | 42.8 | 51.1 | 14.1 |
| Muleba | 15,310 | 4,022 | 9,052 | 2,185 |
| | 22.6 | 26.3 | 59.1 | 14.3 |
| Biharamulo | 15,797 | 3,971 | 8,668 | 2,232 |
| | 26.9 | 25.1 | 54.9 | 14.1 |
| Ngara | 6,619 | 1,269 | 3,865 | 591 |
| | 17.4 | 19.2 | 58.4 | 8.9 |
| | | | | |
| **Poverty** | | | | |
| Non poor | 42,448 | 12,859 | 23,250 | 6,277 |
| | 23.7 | 30.3 | 54.8 | 14.8 |
| Poor | 28,667 | 9,341 | 15,746 | 3,784 |
| | 23.8 | 32.6 | 54.9 | 13.2 |
| | | | | |
| **Socio-economic group** | | | | |
| Public/Parastatal | 841 | 332 | 245 | 0 |
| | 9.7 | 39.4 | 29.2 | 0 |
| Private Formal | 2,554 | 536 | 847 | 897 |
| | 24 | 21 | 33.2 | 35.1 |
| Private Informal | 4,185 | 1,326 | 2,859 | 0 |
| | 38.1 | 31.7 | 68.3 | 0 |
| Self-other | 4,815 | 2,673 | 1,185 | 391 |
| | 20.9 | 55.5 | 24.6 | 8.1 |
| Self-agriculture | 53,344 | 15,331 | 31,168 | 8,384 |
| | 23.7 | 28.7 | 58.4 | 15.7 |
| Unemployed | 5,378 | 2,003 | 2,691 | 389 |
| | 24.7 | 37.2 | 50 | 7.2 |
| | | | | |
| **Gender** | | | | |
| Male | 37,333 | 11,113 | 20,979 | 3,778 |
| | 25.1 | 29.8 | 56.2 | 10.1 |
| Female | 33,783 | 11,087 | 18,017 | 6,282 |

|  | Reference population[1] | Reasons for not consulting health professional when ill[2] | | |
|---|---|---|---|---|
|  |  | No Need | Cost | Distance |
|  | 22.3 | 32.8 | 53.3 | 18.6 |
| **Type of sickness/injury** |  |  |  |  |
| Fever/Malaria | 40,837 | 11,225 | 23,102 | 6,605 |
|  | 25.3 | 27.5 | 56.6 | 16.2 |
| Diarrhoea | 6,585 | 2,506 | 3,190 | 604 |
|  | 14.6 | 38.1 | 48.4 | 9.2 |
| Accident | 2,515 | 1,120 | 1,466 | 73 |
|  | 16.5 | 44.5 | 58.3 | 2.9 |
| Dental problem | 787 | 1,099 | 1,527 | 407 |
|  | 29.8 | 39.4 | 54.8 | 14.6 |
| Skin condition | 2,873 | 518 | 2,354 | 276 |
|  | 19.5 | 18 | 82 | 9.6 |
| Eye problem | 3,950 | 1,273 | 2,176 | 799 |
|  | 27.5 | 32.2 | 55.1 | 20.2 |
| Ear, nose, throat | 8,583 | 2,526 | 4,236 | 1,663 |
|  | 28 | 29.4 | 49.4 | 19.4 |
| Chronic condition | 12,931 | 5,058 | 6,608 | 1,335 |
|  | 22.8 | 39.1 | 51.1 | 10.3 |

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

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

## 5.5   Type of Illness (Table 26)

Of all the people who had been ill in the four weeks prior to the survey over half had suffered from fever/malaria. This is by far the most common affliction. Chronic conditions are also common; a fifth of the ill population reported this type of illness. 45,000 people (15 percent) had been ill with diarrhoea, and 10 percent with ear, nose and throat infections. The proportions of the population that had suffered from other illnesses specified in the survey are all under 10 percent.

While fever/malaria and chronic condition are, on average, the most commonly occurring illnesses, there is a definite correlation between age and the incidence of these. Fever/malaria is an illness most common among children under the age of 5, while chronic conditions are prevalent among the older population (50+). Hence, 65 percent of boys in the 0 to 4 age category, and 71 percent of girls in the same age group had suffered from fever/malaria. In contrast, only around 30 percent of the ill individuals in the 65+ age

> **Box 4: Equal in Health?**
> One of the most striking results in CWIQ Kagera is the complete absence of any significant difference between poor and non-poor households in terms of access, need, use, satisfaction, reasons for dissatisfaction and number of households not consulting a health professional when ill. This is contrary to what one would *a priori* expect. Several explanations are possible:
> 1. Illness data are self-reported, which may distort the results. For example, poor households are known to underreport illnesses compared to non-poor. This would misrepresent the need rates and the number of households not consulting a health professional when ill. Rates of use need to be seen in this light. Only access rates present a clearer picture of access being a problem for the population at large.
> 2. The poverty categories may not be fine enough to capture a wealth effect. There may indeed be a very flat effect on all households, with a wealth effect kicking in at a higher level of consumption.

group had suffered from this illness. In the interim age groups this proportion did not deviate substantially from around 50 percent. Unlike fever/malaria, chronic condition is an uncommon affliction among younger people; in all age groups preceding 50 to 64 for men and 30 to 49 for women, less than a fifth of ill individuals had suffered from a chronic condition. The proportion of ill people afflicted with this type of illnesses increases drastically among men above the age of 49. While only 28 percent of ill men between the ages of 50 and 64 suffered from chronic conditions, among those who had been ill in the 65+ group, this proportion was nearly a half. Among women chronic conditions become prevalent at an earlier age. From the age of 50, chronic conditions were observed to be a more common affliction than malaria. While 28 percent of women aged 30 to 49 who had been ill in the four weeks preceding the survey, had suffered from a chronic condition, among women aged 50 to 64 this proportion increased to 43 percent.

Diarrhoea is another illness more common among children – a higher proportion of children in the 0 to 4 age group suffered from this illness than in any other age category; for instance out of 25,330 0 to 4 year old boys who had been ill in the four weeks preceding the survey, more than 10,000 (25 percent) had diarrhoea. Among 15 to 29 year olds this proportion was only 12 percent.

**Table 26: Type of illness**

| | Fever /Malaria | Diarrhoea | Accident | Teeth | Skin condition | Eye | Ear, nose, throat | Chronic condition | Other |
|---|---|---|---|---|---|---|---|---|---|
| **Kagera Rural** | 161,558 | 45,001 | 15,234 | 9,368 | 14,730 | 14,343 | 30,655 | 56,754 | 2,028 |
| | 54 | 15 | 5 | 3 | 5 | 5 | 10 | 19 | 0.7 |
| **Male** | | | | | | | | | |
| Total | 77,340 | 24,983 | 10,839 | 4,417 | 7,804 | 7,243 | 13,598 | 27,562 | 989 |
| | 52 | 16 | 7 | 3 | 5 | 4 | 9 | 18 | 0 |
| 0 to 4 | 25,330 | 10,150 | 316 | 405 | 2,765 | 961 | 2,786 | 2,825 | 467 |
| | 65 | 25 | 0 | 1 | 7 | 2 | 7 | 7 | 1 |
| 5 to 9 | 9,241 | 2,968 | 544 | 901 | 2,548 | 151 | 2,192 | 3,515 | 0 |
| | 49 | 15 | 2 | 4 | 13 | 0 | 11 | 18 | 0 |
| 10 to 14 | 7,872 | 2,398 | 896 | 170 | 615 | 566 | 1,735 | 2,310 | 0 |
| | 51 | 15 | 5 | 1 | 4 | 3 | 11 | 14 | 0 |
| 15 to 29 | 11,596 | 3,056 | 2,869 | 1,143 | 495 | 1,152 | 1,684 | 4,614 | 357 |
| | 48 | 12 | 11 | 4 | 2 | 4 | 7 | 19 | 1 |
| 30 to 49 | 14,047 | 3,565 | 4,178 | 599 | 964 | 1,771 | 2,115 | 5,356 | 164 |
| | 52 | 13 | 15 | 2 | 3 | 6 | 7 | 19 | 0 |
| 50 to 64 | 5,713 | 1,013 | 1,506 | 336 | 202 | 1,278 | 1,195 | 3,424 | 0 |
| | 48 | 8 | 12 | 2 | 1 | 10 | 10 | 28 | 0 |
| 65+ | 3,541 | 1,829 | 527 | 860 | 213 | 1,361 | 1,888 | 5,515 | 0 |
| | 30 | 15 | 4 | 7 | 1 | 11 | 16 | 46 | 0 |
| **Female** | | | | | | | | | |
| Total | 84,218 | 20,017 | 4,394 | 4,950 | 6,924 | 7,099 | 17,056 | 29,191 | 1,038 |
| | 56 | 13 | 2 | 3 | 4 | 4 | 11 | 19 | 0 |
| 0 to 4 | 30,009 | 7,068 | 466 | 924 | 3,104 | 286 | 6,519 | 2,282 | 195 |
| | 71 | 16 | 1 | 2 | 7 | 0 | 15 | 5 | 0 |
| 5 to 9 | 11,916 | 2,347 | 588 | 0 | 1,537 | 764 | 3,662 | 3,282 | 186 |
| | 56 | 11 | 2 | 0 | 7 | 3 | 17 | 15 | 0 |
| 10 to 14 | 5,210 | 1,754 | 671 | 646 | 439 | 1,143 | 1,492 | 2,203 | 0 |
| | 39 | 13 | 5 | 4 | 3 | 8 | 11 | 16 | 0 |
| 15 to 29 | 17,815 | 3,468 | 1,036 | 1,215 | 372 | 1,141 | 1,316 | 4,774 | 164 |
| | 64 | 12 | 3 | 4 | 1 | 4 | 4 | 17 | 0 |
| 30 to 49 | 11,672 | 2,821 | 1,428 | 1,500 | 777 | 1,653 | 1,640 | 7,072 | 346 |
| | 47 | 11 | 5 | 6 | 3 | 6 | 6 | 28 | 1 |
| 50 to 64 | 4,326 | 1,755 | 0 | 370 | 164 | 843 | 1,402 | 5,035 | 145 |
| | 37 | 15 | 0 | 3 | 1 | 7 | 12 | 43 | 1 |
| 65+ | 3,270 | 802 | 203 | 293 | 528 | 1,267 | 1,022 | 4,541 | 0 |
| | 33 | 8 | 2 | 2 | 5 | 12 | 10 | 45 | 0 |

## 5.6 Type of hospital (Table 27)

Government hospitals are the most commonly used health facility. Over half (51 percent) of individuals who had consulted a health provider in the four weeks preceding the survey chose to go to a government hospital. Health posts are the second most commonly accessed type of health provider. 13 percent of individuals from the above group had used this type of provider. Interestingly, the proportion of individuals going to private hospitals in time of illness is almost equal to that of individuals going to traditional healers.

In rural areas, a slightly higher proportion of people chose to go to a government hospital. Here people are also more likely to go to a traditional healer than in peri-urban areas; the proportions are 7 percent and 4 percent respectively. The reverse relationship exists between the proportions of people from rural and peri-urban areas attending private hospitals.

Poverty status does not appear to play a significant part in the selection of type of health provider.

In comparison to other districts, residents of Karagwe are least likely to go to a private hospital. Only 4 percent of the people, who had consulted a health provider in this district, had chosen a private hospital. Use of public hospitals is least common in Muleba where only 42 percent chose this health provider compared to the 51 percent average. Regional hospitals are least likely to be attended by people from Karagwe and Ngara, which is not surprising as this hospital is particularly difficult to reach from those two districts.

One noticeable disparity between the choices made by individuals from different socio-economic groups is that individuals from households headed by employees of the formal private sector are least likely to use government hospitals – only 44 percent of this population chose this health provider as compared to individuals from the other groups, among who more than half had made the same decision. This result is consistent with the observed tendency of households headed by individuals thus employed to be based in peri-urban areas characterised by a higher rate of private facility use compared to rural areas.

**Table 27: Type of hospital**

|  | Private Hospital | Government Hospital | Health Post | Private Doctor/Dentist | Traditional Healer | Regional Hospital | Missionary Hospital | Pharmacy | Other |
|---|---|---|---|---|---|---|---|---|---|
| **Kagera Rural** | 19,468 | 153,647 | 38,049 | 5,010 | 20,228 | 10,670 | 28,540 | 25,499 | 174 |
|  | 6.5 | 51 | 12.6 | 1.7 | 6.7 | 3.5 | 9.5 | 8.5 | 0.1 |
| Rural | 13,994 | 125,265 | 31,036 | 3,310 | 17,968 | 7,881 | 21,059 | 20,901 | 174 |
|  | 5.8 | 51.9 | 12.8 | 1.4 | 7.4 | 3.3 | 8.7 | 8.7 | 0.1 |
| Peri-urban | 5,474 | 28,382 | 7,013 | 1,701 | 2,260 | 2,789 | 7,480 | 4,598 | 0 |
|  | 9.2 | 47.5 | 11.7 | 2.8 | 3.8 | 4.7 | 12.5 | 7.7 | 0 |
| **District** |  |  |  |  |  |  |  |  |  |
| Karagwe | 2,037 | 34,210 | 7,861 | 143 | 2,594 | 487 | 4,885 | 5,930 | 174 |
|  | 3.5 | 58.7 | 13.5 | 0.2 | 4.4 | 0.8 | 8.4 | 10.2 | 0.3 |
| Bukoba Rural | 5,885 | 40,896 | 10,761 | 1,846 | 7,581 | 6,285 | 7,767 | 2,914 | 0 |
|  | 7 | 48.7 | 12.8 | 2.2 | 9 | 7.5 | 9.3 | 3.5 | 0 |
| Muleba | 4,019 | 27,890 | 9,301 | 1,107 | 5,065 | 2,207 | 9,167 | 7,317 | 0 |
|  | 6.1 | 42.2 | 14.1 | 1.7 | 7.7 | 3.3 | 13.9 | 11.1 | 0 |
| Biharamulo | 5,567 | 28,936 | 5,964 | 1,799 | 3,695 | 1,645 | 2,203 | 5,586 | 0 |
|  | 10 | 52.2 | 10.8 | 3.2 | 6.7 | 3 | 4 | 10.1 | 0 |
| Ngara | 1,960 | 21,715 | 4,162 | 115 | 1,293 | 45 | 4,518 | 3,752 | 0 |
|  | 5.2 | 57.8 | 11.1 | 0.3 | 3.4 | 0.1 | 12 | 10 | 0 |
| **Poverty** |  |  |  |  |  |  |  |  |  |
| Non poor | 12,073 | 92,680 | 22,268 | 3,072 | 11,732 | 6,519 | 18,249 | 17,575 | 0 |
|  | 6.6 | 50.3 | 12.1 | 1.7 | 6.4 | 3.5 | 9.9 | 9.5 | 0 |
| Poor | 7,395 | 60,967 | 15,781 | 1,938 | 8,496 | 4,151 | 10,291 | 7,924 | 174 |
|  | 6.3 | 52.1 | 13.5 | 1.7 | 7.3 | 3.5 | 8.8 | 6.8 | 0.1 |
| **Socio-economic group** |  |  |  |  |  |  |  |  |  |
| Public/Parastatal | 861 | 5,730 | 415 | 0 | 577 | 0 | 2,100 | 1,359 | 0 |
|  | 7.8 | 51.9 | 3.8 | 0 | 5.2 | 0 | 19 | 12.3 | 0 |
| Private Formal | 1,326 | 5,278 | 2,366 | 729 | 196 | 357 | 1,166 | 655 | 0 |
|  | 11 | 43.7 | 19.6 | 6 | 1.6 | 3 | 9.7 | 5.4 | 0 |
| Private Informal | 487 | 5,820 | 1,216 | 293 | 657 | 434 | 1,735 | 685 | 0 |
|  | 4.3 | 51.4 | 10.7 | 2.6 | 5.8 | 3.8 | 15.3 | 6 | 0 |
| Self-other | 2,758 | 12,731 | 1,871 | 0 | 810 | 796 | 3,516 | 2,299 | 0 |
|  | 11.1 | 51.4 | 7.6 | 0 | 3.3 | 3.2 | 14.2 | 9.3 | 0 |
| Self-agriculture | 12,621 | 113,292 | 29,418 | 3,754 | 17,416 | 7,463 | 17,762 | 19,508 | 174 |
|  | 5.7 | 51.2 | 13.3 | 1.7 | 7.9 | 3.4 | 8 | 8.8 | 0.1 |
| Unemployed | 1,417 | 10,795 | 2,763 | 234 | 571 | 1,620 | 2,261 | 994 | 0 |
|  | 6.9 | 52.3 | 13.4 | 1.1 | 2.8 | 7.8 | 10.9 | 4.8 | 0 |

## 5.7 Reproductive Health (Table 28)

The majority of women who had a live birth in the twelve months preceding the survey were between the ages of 20 and 39. Approximately 85 percent of new mothers were in that age range. Almost equal proportions of women, around 30 percent, had given birth between the ages of 25 and 29, and 30 and 39; the proportion of women who were between the ages of 20 and 24 is only slightly lower at 26 percent. Almost all the women who had had a live birth in the twelve months preceding the survey had received pre-natal care (98 percent).

Surprisingly, women from non-poor households tend to give birth at a younger age than women from poor households. Out of the women from non poor households who had given birth in the year preceding the survey, nearly half were under the age of 25. In contrast, less than a quarter of new mothers from poor households were in the same age group.

On average, the age distribution of new mothers in rural areas is very similar to that among women from poor households. The pattern observed in peri-urban areas, however, is drastically different. Here women tend to give birth at a younger age. The majority of women who had given birth in the specified timeframe were between the ages of 15 and 24. A quarter of the women who had had a live birth were under 20 years of age. On the other hand, while in rural areas nearly a third of the women who had given birth were in their thirties, only 17 percent of new mothers in peri-urban areas were in this age group.

The highest proportion of older mothers is found in Karagwe, where just under 45 percent of women who had given birth in the previous year had been 30 years of age or older. In the same district, only 1 percent of the population of interest had been younger that 20. In contrast, in Biharamulo district, 16 percent of new mothers were under the age of 20 and just under 35 percent were over the age of 30. Overall, child-birth at a younger age appears to be more common in Biharamulo, Muleba and Bukoba Rural districts than in Ngara and Karagwe.

**Table 28: Women who had a live birth in the year preceding the survey by age of the mother; proportion of mothers who had a live birth and had received pre-natal care in the year preceding the survey**

|  | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 39 | 40+ | Pre-natal care |
|---|---|---|---|---|---|---|
| **Kagera Rural** | 6,289 | 16,369 | 18,059 | 18,301 | 3,553 | 59,843 |
|  | 10.1 | 26.2 | 28.9 | 29.2 | 5.7 | 98.4 |
| Rural | 3,477 | 13,249 | 15,386 | 16,466 | 2,910 | 49,256 |
|  | 6.8 | 25.7 | 29.9 | 32 | 5.7 | 98.1 |
| Peri-urban | 2,812 | 3,120 | 2,673 | 1,835 | 643 | 10,587 |
|  | 25.4 | 28.1 | 24.1 | 16.6 | 5.8 | 100 |
| **District** |  |  |  |  |  |  |
| Karagwe | 150 | 3,115 | 2,820 | 4,539 | 393 | 10,646 |
|  | 1.4 | 28.3 | 25.6 | 41.2 | 3.6 | 100 |
| Bukoba Rural | 1,669 | 3,623 | 5,866 | 3,668 | 1,269 | 15,853 |
|  | 10.4 | 22.5 | 36.4 | 22.8 | 7.9 | 100 |
| Muleba | 1,710 | 3,773 | 3,790 | 4,155 | 114 | 12,105 |
|  | 12.6 | 27.9 | 28 | 30.7 | 0.8 | 93.7 |
| Biharamulo | 2,126 | 3,232 | 3,526 | 3,096 | 1,158 | 12,697 |
|  | 16.2 | 24.6 | 26.8 | 23.6 | 8.8 | 98.7 |
| Ngara | 634 | 2,625 | 2,058 | 2,844 | 619 | 8,542 |
|  | 7.2 | 29.9 | 23.4 | 32.4 | 7 | 100 |
| **Poverty** |  |  |  |  |  |  |
| Non poor | 4,510 | 12,348 | 10,275 | 8,182 | 1,215 | 35,318 |
|  | 12.3 | 33.8 | 28.1 | 22.4 | 3.3 | 99 |
| Poor | 1,779 | 4,021 | 7,785 | 10,120 | 2,338 | 24,525 |
|  | 6.8 | 15.4 | 29.9 | 38.9 | 9 | 97.5 |
| **Socio-economic group** |  |  |  |  |  |  |
| Public/Parastatal | 0 | 842 | 1,179 | 507 | 0 | 2,528 |
|  | 0 | 33.3 | 46.6 | 20.1 | 0 | 100 |
| Private Formal | 852 | 495 | 573 | 280 | 0 | 1,814 |
|  | 38.7 | 22.5 | 26 | 12.7 | 0 | 92.6 |
| Private Informal | 34 | 801 | 1,689 | 850 | 162 | 3,536 |
|  | 0.9 | 22.6 | 47.8 | 24 | 4.6 | 100 |
| Self-other | 990 | 1,729 | 1,599 | 614 | 442 | 4,992 |
|  | 18.4 | 32.2 | 29.7 | 11.4 | 8.2 | 100 |
| Self-agriculture | 4,210 | 11,475 | 12,854 | 15,329 | 2,949 | 44,856 |
|  | 9 | 24.5 | 27.5 | 32.7 | 6.3 | 98.2 |
| Unemployed | 203 | 1,027 | 166 | 721 | 0 | 2,117 |
|  | 9.6 | 48.5 | 7.9 | 34.1 | 0 | 100 |

# 6  CHILD DELIVERY AND NUTRITION

## 6.1  Introduction

This chapter presents information on child delivery and nutrition. All households with children under the age of five years were included in the analysis. The child delivery section discusses the facilities and type of assistance used by women in the Kagera region when giving birth. The child nutrition section discusses the trends in malnutrition among children across the region, some characteristics of households with malnourished children, as well as the characteristics of the mothers of malnourished children.

## 6.2  Child Delivery

### 6.2.1  Facilities used to give birth (Table 29)

The results of the survey show that the majority of mothers in the region give birth at home. 57 percent of children born in the last five years were delivered at home and 43 percent in a hospital or a maternity ward. Children are more likely to be born at home in rural areas, where 63 percent of births were conducted in the house, and only 36 percent in a hospital. The opposite tendency is prevalent in peri-urban areas where only a quarter of children were born at home, and the rest in a hospital.

Home births are least common in Bukoba Rural and Biharamulo, where roughly half of the children born in the last five years were delivered in a hospital. In contrast, women in Karagwe, tend to give birth at home – in the last five years the proportion of children born at home in Karagwe was 15 percent more than the average. Home births are also common in Ngara and Muleba where roughly 60 percent of births took place at home in the same time period.

Women from poor households are more likely to give birth at home than women from non poor households. While just under half of the women from non poor households had gone to a hospital to give birth in the last five years, only about a third of the women from poor households did the same.

Although no substantial difference is observable between male and female headed households, a slightly higher proportion of women from female headed households did choose to go to a hospital to give birth.

Home births are most common among women from households headed by self-employed individuals from the agriculture sector; out of nearly 250,000 new mothers in this group, roughly 150,000 (61 percent) had a home birth. Similarly, more than half of the women who had given birth in the last five years from households headed by formal private

sector employees had delivered at home (53 percent). In contrast, less than a third of new mothers from households headed by government employees had not gone to a hospital.

**Table 29: Type of facilities used in child-birth**

|  | Hospital/Maternity ward | Home | Other | Share of population |
|---|---|---|---|---|
| **Kagera Rural** | 138,002 | 183,516 | 1,522 | 323,039 |
|  | 42.7 | 56.8 | 0.5 | 100 |
| Rural | 96,487 | 169,532 | 1,522 | 267,541 |
|  | 36.1 | 63.4 | 0.6 | 82.8 |
| Peri-urban | 41,514 | 13,984 | 0 | 55,498 |
|  | 74.8 | 25.2 | 0 | 17.2 |
| **District** |  |  |  |  |
| Karagwe | 20,498 | 50,503 | 349 | 71,350 |
|  | 28.7 | 70.8 | 0.5 | 22.1 |
| Bukoba Rural | 37,472 | 33,946 | 305 | 71,722 |
|  | 52.2 | 47.3 | 0.4 | 22.2 |
| Muleba | 28,874 | 39,235 | 104 | 68,213 |
|  | 42.3 | 57.5 | 0.2 | 21.1 |
| Biharamulo | 33,576 | 33,419 | 576 | 67,571 |
|  | 49.7 | 49.5 | 0.9 | 20.9 |
| Ngara | 17,582 | 26,413 | 188 | 44,183 |
|  | 39.8 | 59.8 | 0.4 | 13.7 |
| **Poverty** |  |  |  |  |
| Non poor | 89,687 | 95,243 | 843 | 185,772 |
|  | 48.3 | 51.3 | 0.5 | 57.5 |
| Poor | 48,315 | 88,273 | 679 | 137,267 |
|  | 35.2 | 64.3 | 0.5 | 42.5 |
| **Gender of household head** |  |  |  |  |
| Male | 118,220 | 160,968 | 1,522 | 280,709 |
|  | 42.1 | 57.3 | 0.5 | 86.9 |
| Female | 19,782 | 22,548 | 0 | 42,330 |
|  | 46.7 | 53.3 | 0 | 13.1 |
| **Socio-economic group** |  |  |  |  |
| Public/Parastatal | 9,396 | 4,145 | 0 | 13,541 |
|  | 69.4 | 30.6 | 0 | 4.2 |
| Private Formal | 6,046 | 6,942 | 0 | 12,987 |
|  | 46.6 | 53.4 | 0 | 4 |
| Private Informal | 6,620 | 6,071 | 0 | 12,691 |
|  | 52.2 | 47.8 | 0 | 3.9 |
| Self-other | 14,857 | 11,975 | 0 | 26,832 |
|  | 55.4 | 44.6 | 0 | 8.3 |
| Self-agriculture | 95,560 | 149,241 | 1,522 | 246,322 |
|  | 38.8 | 60.6 | 0.6 | 76.3 |
| Unemployed | 5,524 | 4,962 | 0 | 10,486 |
|  | 52.7 | 47.3 | 0 | 3.2 |

## 6.2.2  Delivery Assistance (Table 30)

Women in Kagera Rural tend to seek help from a traditional birth assistant when giving birth. Nearly half of the women who had given birth in the last five years had been assisted in this way. In contrast, only 5 percent of women had given birth under the supervision of a doctor. Women are also more likely to give birth in the presence of a nurse than a midwife (24 percent and 14 percent respectively). Just under 10 percent of women had given birth with other assistance or by themselves.

In rural areas traditional birth assistants are consulted more than average. 55 percent of live births in rural areas are assisted by a traditional birth assistant, in contrast to peri-urban areas where this proportion constitutes only a fifth of all deliveries. In peri-urban areas women tend to give birth in the presence of a nurse - over twice as high a proportion of women use a nurse in peri-urban areas than a traditional birth assistant. This is consistent with the greater tendency of women to go to a hospital to give birth in peri-urban areas compared to rural ones. While on average only 5 percent of expectant mothers in rural areas consult a doctor when giving birth, in peri-urban areas this proportion is almost twice as high at 9 percent. The proportion of women from peri-urban areas who are assisted by a midwife in giving birth is 10 percentage points higher than in rural areas.

Overall, women from peri-urban areas tend to use medically trained assistants (doctors and nurses) when giving birth more than women from rural areas. In contrast, women from rural areas tend to consult traditional health professionals (midwives and traditional birth assistants) more than women from peri-urban areas.

The majority of births in the last five years in Karagwe, Muleba and Ngara were conducted in the presence of a traditional birth assistant. However, the proportion of women in Ngara who had consulted a doctor when giving birth is twice as high as that in Karagwe; 6 percent and 3 percent respectively. Nurses are more likely to be consulted in Bukoba Rural and Biharamulo, where they had assisted in approximately a third of live births in the last five years. Traditional birth assistants help deliver children least often in Bukoba Rural and Biharamulo compared to the other three districts. In contrast, highest proportions of births are conducted without assistance or with an alternative type of help in these districts compared to the rest of the region.

Twice as high a proportion of women from non poor households seek help from a doctor when giving birth compared to women in the same situation from poor households. In contrast, traditional birth assistants are more likely to be present at a birth in a poor household than non poor. In contrast, a substantially higher proportion of non poor women had consulted a nurse when giving birth compared to women from poor households – 29 percent and 18 percent respectively.

While on average nearly a quarter of women give birth in the presence of a nurse, in female headed households this proportion is noticeably higher at about 32 percent. In comparison to women from female headed households, women from male headed

households are aided in giving birth by a traditional birth assistant more often – 39 percent and 51 percent respectively.

Although on average traditional birth assistants are consulted by just under half of women when giving birth, less that a third of new mothers from households headed by government employees had used this type of assistance in the last five years. Instead, women from this group had given birth in the presence of a nurse or a doctor more often than women from other groups. Doctors were least involved in delivering children of women from households headed by formal private sector employees and self-employed individuals from the agriculture sector; only 3 percent and 4 percent of these women respectively had been assisted by a doctor. Instead, in the agriculture sector the highest proportion of women had given birth unassisted or with an alternative source of help compared to women from other groups. Midwives are most commonly used by women from households headed by government employees or self-employed individuals at 20 percent and 17 percent respectively, compared to the average 14 percent.

**Table 30: Distribution of women who had given birth in the five years preceding the survey by type of delivery assistance used**

| | Doctor | Nurse | Midwife | T.B.A. | Other/Self | Share of population |
|---|---|---|---|---|---|---|
| **Kagera Rural** | 15,238 | 77,756 | 44,636 | 159,278 | 26,402 | 323,309 |
| | 4.7 | 24.1 | 13.8 | 49.3 | 8.2 | 100 |
| Rural | 10,430 | 52,319 | 32,430 | 147,864 | 24,767 | 267,811 |
| | 3.9 | 19.5 | 12.1 | 55.2 | 9.2 | 82.8 |
| Peri-urban | 4,807 | 25,437 | 12,205 | 11,414 | 1,635 | 55,498 |
| | 8.7 | 45.8 | 22 | 20.6 | 2.9 | 17.2 |
| **District** | | | | | | |
| Karagwe | 2,152 | 9,918 | 8,226 | 46,431 | 4,623 | 71,350 |
| | 3 | 13.9 | 11.5 | 65.1 | 6.5 | 22.1 |
| Bukoba Rural | 3,622 | 21,893 | 13,167 | 25,615 | 7,424 | 71,722 |
| | 5.1 | 30.5 | 18.4 | 35.7 | 10.4 | 22.2 |
| Muleba | 2,469 | 17,659 | 8,090 | 38,615 | 1,528 | 68,361 |
| | 3.6 | 25.8 | 11.8 | 56.5 | 2.2 | 21.1 |
| Biharamulo | 4,292 | 20,636 | 8,043 | 25,880 | 8,923 | 67,773 |
| | 6.3 | 30.4 | 11.9 | 38.2 | 13.2 | 21 |
| Ngara | 2,702 | 7,651 | 7,110 | 22,736 | 3,904 | 44,103 |
| | 6.1 | 17.3 | 16.1 | 51.6 | 8.9 | 13.6 |
| **Poverty** | | | | | | |
| Non poor | 10,985 | 53,231 | 24,700 | 83,653 | 13,203 | 185,772 |
| | 5.9 | 28.7 | 13.3 | 45 | 7.1 | 57.5 |
| Poor | 4,253 | 24,525 | 19,935 | 75,624 | 13,199 | 137,537 |
| | 3.1 | 17.8 | 14.5 | 55 | 9.6 | 42.5 |

|  | Doctor | Nurse | Midwife | T.B.A. | Other/Self | Share of population |
|---|---|---|---|---|---|---|
| **Gender of head of household** |  |  |  |  |  |  |
| Male | 13,838 | 64,438 | 37,932 | 142,840 | 21,932 | 280,979 |
|  | 4.9 | 22.9 | 13.5 | 50.8 | 7.8 | 86.9 |
| Female | 1,399 | 13,319 | 6,704 | 16,438 | 4,471 | 42,330 |
|  | 3.3 | 31.5 | 15.8 | 38.8 | 10.6 | 13.1 |
| **Socio-economic group** |  |  |  |  |  |  |
| Public/Parastatal | 1,080 | 5,384 | 2,719 | 3,878 | 481 | 13,541 |
|  | 8 | 39.8 | 20.1 | 28.6 | 3.6 | 4.2 |
| Private Formal | 383 | 4,695 | 996 | 6,129 | 785 | 12,987 |
|  | 2.9 | 36.2 | 7.7 | 47.2 | 6 | 4 |
| Private Informal | 901 | 4,552 | 1,070 | 5,114 | 1,054 | 12,691 |
|  | 7.1 | 35.9 | 8.4 | 40.3 | 8.3 | 3.9 |
| Self-other | 2,302 | 9,566 | 4,433 | 9,598 | 933 | 26,832 |
|  | 8.6 | 35.6 | 16.5 | 35.8 | 3.5 | 8.3 |
| Self-agriculture | 9,664 | 50,234 | 34,127 | 130,170 | 22,477 | 246,672 |
|  | 3.9 | 20.4 | 13.8 | 52.8 | 9.1 | 76.3 |
| Unemployed | 909 | 3,324 | 1,291 | 4,209 | 673 | 10,405 |
|  | 8.7 | 31.9 | 12.4 | 40.5 | 6.5 | 3.2 |

## *6.3 Child Nutrition*

### 6.3.1 Types of measurement

Two standard measurements of physical growth that describe the nutritional status of a child are presented:

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

The anthropometric calculations were conducted using the 1978 CDC/WHO growth reference curves which are a normalized version of the 1977 National Centre for Health Statistics (NCHS) reference curves.

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 short for his/her age – stunted. A child is considered severely stunted when he/she is below minus three standard deviations from the median of the reference population. Stunting is a consequence of long term malnutrition; it is indicative of long-term inadequacy of

nutrient intake, and commonly associated with poor economic conditions and chronic or repeated infections.

Weight-for-height is a measure of body mass in relation to body length 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, hence a child who is severely wasted (below minus three standard deviations from the median of the reference population) is at an increased risk of mortality. Wasting is indicative of insufficiency in tissue and fat mass compared to the amount expected given the child's height. Wasting occurs as the result of inadequate intake of nutrients immediately preceding the survey. Therefore, wasting is not necessarily the result of insufficient food intake but could also, for instance, be the result of recent severe illness. Occurrence of wasting varies considerably by season.

Another measurement commonly used is weight-for-age. A child who is below two standard deviations from the median of the reference population is considered underweight. However, a child may be underweight because he/she is stunted, wasted or both. Interpretation of this indicator is complex and inconclusive. For this reason it was not incorporated into this report.

## 6.3.2   Malnutrition in Kagera Rural (Table 31)

Overall, results of the survey show that more that 133,000 children (43 percent) in Kagera Rural under the age of five were stunted at the time of the survey; of these, just under 58,000 children (slightly over 18 percent) were found to be severely stunted. In general, stunting is slightly more common in rural areas compared to peri-urban areas at about 43 percent and 40 percent respectively.

At the time of the survey, roughly 29,000 children (8 percent) under the age of five were suffering from acute malnutrition, otherwise known as wasting, with evidence of severe wasting found in slightly over 5,000 children (2 percent of children in the area). Wasting is much more common in rural areas compared to peri-urban areas. While in rural areas the proportion of wasted children was roughly the same as the average, in peri-urban areas it was half of the average rate – 8 percent and 4 percent respectively. The proportion of



severely wasted children in rural areas was four times as high as that in peri-urban areas – 2 percent and 0.5 percent of children respectively.
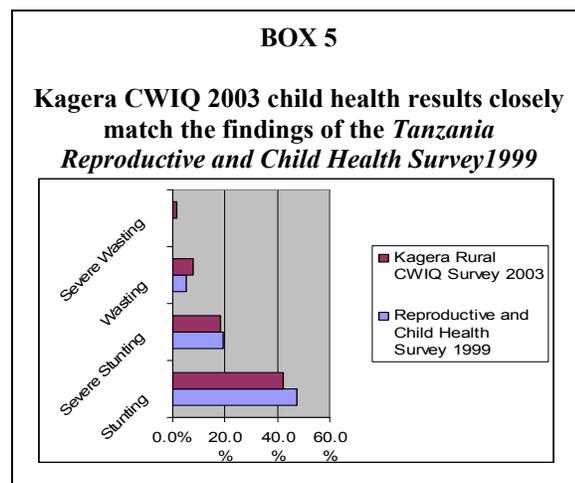
On district level, both stunting and severe stunting were most common among children in Karagwe, compared to the rest of the region. While on average about 43 percent of children in the area were too short for their age, in Karagwe this proportion was 50 percent. In contrast, in Biharamulo, where the lowest rate of stunting was observed, only 37 percent of children were stunted at the time of the survey. In the rest of the districts rates of stunting did not deviate from the average by more than 2 percentage points.

While stunting rates were highest in Karagwe, the proportion of children who were too thin for their height was lowest in this district at 6 percent and highest in Bukoba Rural at 9 percent; in the latter district occurrence of severe wasting was also more common than in the rest of the surveyed districts. In Biharamulo and Ngara the proportions of wasted children were roughly equal to the average for children in Kagera Rural as a whole.

The results of the survey further show that boys under the age of five tend to suffer from long and short-term malnutrition more than girls. Nearly half of the boys from this age group were too short for their age (47 percent), while among girls this was the case for 39 percent. 9 percent of boys in the age group were too thin for their height; among girls this proportion was smaller at 6 percent.

As stunting is a long term effect of malnutrition, it is more likely to occur among the older children. Highest rates of stunting were observed among three and four year old boys. Almost three fifths of four year old boys in the area are too short for their age (58 percent). In contrast, less than a fifth of babies (both male and female) are stunted before the age of one (19 percent). Among boys stunting is prevalent at an earlier age than girls. While half of the one year old boys were found to be stunted, among one year old girls, only slightly over a quarter were in the same condition. Highest rates of stunting in girls were observed in two and three year olds.

Wasting, a more immediate measure of malnutrition, was most common among boys under the age of three, and girls under the age of two. In the instance of both boys and girls, highest tendency to wasting was observed among toddlers before their second birthday; between the ages of one and two almost 16 percent of boys and 12 percent of girls in the area were too thin for their height. Much higher rates of severe wasting were also observed in this age group.

**Table 31: Stunting and wasting rates among children under the age of five**

|  | Stunted (-2 SD) | Severely stunted (-3 SD) | Wasted (-2 SD) | Severely wasted (-3SD) | Share of population |
| --- | --- | --- | --- | --- | --- |
| **Kagera Rural** | 133,372 | 57,831 | 23,925 | 5,233 | 323,309 |
|  | 42.5 | 18.4 | 7.6 | 1.7 | 100 |
| Rural | 112,351 | 47,307 | 21,765 | 4,969 | 267,811 |
|  | 43.1 | 18.2 | 8.3 | 1.9 | 82.8 |
| Peri-urban | 21,021 | 10,524 | 2,160 | 264 | 55,498 |
|  | 39.6 | 19.8 | 4 | 0.5 | 17.2 |
|  |  |  |  |  |  |
| **District** |  |  |  |  |  |
| Karagwe | 34,966 | 15,070 | 4,334 | 918 | 71,350 |
|  | 49.5 | 21.3 | 6.2 | 1.3 | 22.1 |
| Bukoba Rural | 28,802 | 11,551 | 6,366 | 2,120 | 71,722 |
|  | 41.9 | 16.8 | 9.2 | 3.1 | 22.2 |
| Muleba | 26,972 | 12,143 | 4,771 | 915 | 68,361 |
|  | 40.6 | 18.3 | 7.2 | 1.4 | 21.1 |
| Biharamulo | 23,996 | 11,495 | 5,038 | 660 | 67,773 |
|  | 37 | 17.7 | 7.6 | 1 | 21 |
| Ngara | 18,637 | 7,572 | 3,416 | 620 | 44,103 |
|  | 43.3 | 17.6 | 7.8 | 1.4 | 13.6 |
|  |  |  |  |  |  |
| **Gender and age in completed years** |  |  |  |  |  |
| **Male** |  |  |  |  |  |
| Total | 70,224 | 31,662 | 14,136 | 2,822 | 150,544 |
|  | 46.6 | 21 | 9.2 | 1.8 | 100 |
| 0 | 4,963 | 2,445 | 2,989 | 178 | 26,595 |
|  | 18.7 | 9.2 | 10.9 | 0.6 | 17.7 |
| 1 | 16,953 | 8,043 | 5,343 | 1,236 | 33,636 |
|  | 50.4 | 23.9 | 15.7 | 3.6 | 22.3 |
| 2 | 13,588 | 6,839 | 2,518 | 440 | 27,910 |
|  | 48.7 | 24.5 | 8.9 | 1.5 | 18.5 |
| 3 | 17,249 | 7,370 | 2,090 | 473 | 32,336 |
|  | 53.3 | 22.8 | 6.4 | 1.4 | 21.5 |
| 4 | 17,471 | 6,966 | 1,197 | 494 | 30,067 |
|  | 58.1 | 23.2 | 4 | 1.6 | 20 |
|  |  |  |  |  |  |
| **Female** |  |  |  |  |  |
| Total | 63,148 | 26,168 | 9,790 | 2,412 | 163,243 |
|  | 38.7 | 16 | 6 | 1.5 | 100 |
| 0 | 6,214 | 2,365 | 2,855 | 705 | 31,549 |
|  | 19.7 | 7.5 | 9.2 | 2.3 | 19.3 |
| 1 | 8,264 | 3,050 | 3,685 | 1,113 | 30,351 |
|  | 27.2 | 10 | 12 | 3.6 | 18.6 |

| | Stunted (-2 SD) | Severely stunted (-3 SD) | Wasted (-2 SD) | Severely wasted (-3SD) | Share of population |
|---|---|---|---|---|---|
| 2 | 16,331 | 8,006 | 1,325 | 187 | 33,600 |
| | 48.6 | 23.8 | 3.9 | 0.6 | 20.6 |
| 3 | 19,177 | 7,586 | 1,570 | 407 | 39,425 |
| | 48.6 | 19.2 | 4 | 1 | 24.2 |
| 4 | 13,162 | 5,162 | 355 | 0 | 28,318 |
| | 46.5 | 18.2 | 1.2 | 0 | 17.3 |

### 6.3.3  Nutritional Status of Children by Selected Characteristics of Mothers

The decisions made by the person who takes main responsibility for raising a child are a crucial determinant of the welfare of the child. This person is most often the mother of the child. It is, therefore, important to examine the relationship between certain characteristics of mothers, such as education and age, and the health of the child.

**Presence of the Mother**

To begin with, results of the survey show that who the individual looking after the child is, has an impact on the health of the child. Children who are looked after by their mother are at a significantly lower risk of suffering from malnutrition than those who live separately from their mothers. The results are presented in Box 6.

**Education of the Mother (Table 32)**

Another factor that appears to have a substantial impact on the likelihood of malnutrition among children is the level of education of their mothers. Both short and long term malnutrition is more common among children of mothers who

> **BOX 6**
> **Children living separately from their mothers are more malnourished**
> CWIQ Kagera finds that long term malnutrition is more common among children who live in a different household from their mother or those whose mother has died. 51 percent of these children are stunted which is indicative of long term malnutrition; only 42 percent of children living with their mothers have the same condition. Almost the same gap is observed in the instance of severely stunted children at 26 percent in motherless households compared to 18 percent among children living with their mothers.
>
> 
> **Malnourishment among Children Living with and Without their Mothers**

have had no formal education. Almost half of children under the age of five whose mothers have never attended school are too short for their age, compared to just under 40 percent of children whose mothers have acquired some formal education. The rate of severe stunting is also higher among children from the former group compared to the latter at 25 percent and 15 percent respectively. Similarly, the rate of wasting among
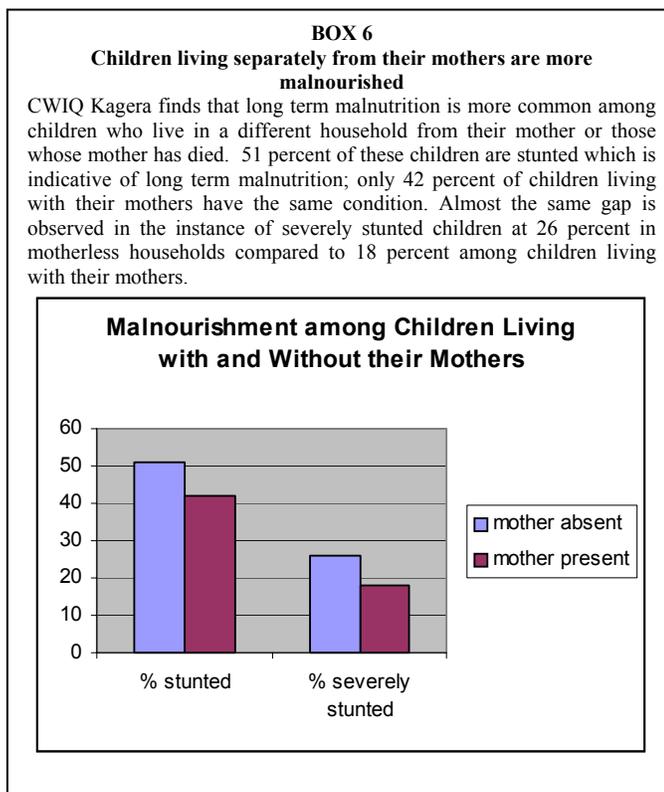
children of mothers with no formal education exceeds that among children of educated mothers by 4 percentage points.

**Table 32: Distribution of malnourished children by education of the mother**

|  | Stunted (-2 SD) | Severely stunted (-3 SD) | Wasted (-2 SD) | Severely wasted (-3 SD) | Share of population |
|---|---|---|---|---|---|
| **Kagera Rural** | 121,261 | 51,434 | 21,740 | 4,764 | 289,445 |
|  | 41.9 | 17.8 | 7.5 | 1.6 | 100 |
| **Formal Education** |  |  |  |  |  |
| Some | 77,323 | 28,333 | 12,224 | 2,864 | 195,067 |
|  | 39.6 | 14.5 | 6.2 | 1.4 | 67.4 |
| None | 43,938 | 23,101 | 9,517 | 1,900 | 94,378 |
|  | 46.6 | 24.5 | 10.2 | 2 | 32.6 |

**Age of the Mother (Table 33)**

Another factor that appears to have some bearing on the nutritional status of the child is the age of the mother. Surprisingly, children of younger mothers tend to suffer from malnutrition less than children of older mothers. As the sample of wasted children is substantially smaller than that of stunted children, it would not be informative to disaggregate the data by the age of the mother. However, the results of the survey do show that children of teenage mothers are a little less likely to suffer from stunting than children of older mothers; while 14 percent of children of mothers under the age of 20 were found to be stunted, just under a fifth of children of mothers in their thirties were in the same condition. The variation observed, however, is not as substantial as in the preceding analysis.

**Table 33: Distribution of malnourished children by age of the mother**

|  | Stunted (-2 SD) | Severely stunted (-3 SD) | Share of population |
|---|---|---|---|
| **Kagera Rural** | 133,604 | 57,831 | 314,019 |
|  | 42.5 | 18.4 | 100 |
| **Age of mother** |  |  |  |
| Teen-age | 5,515 | 1,985 | 13,972 |
|  | 39.5 | 14.2 | 4.9 |
| 20 - 29 | 63,405 | 26,597 | 153,892 |
|  | 41.2 | 17.3 | 54.4 |
| 30 - 39 | 41,125 | 17,945 | 96,101 |
|  | 42.8 | 18.7 | 34 |
| 40+ | 8,052 | 3,288 | 18,837 |
|  | 42.7 | 17.5 | 6.7 |

## 6.3.4  Nutritional Status of Children by Selected Household Characteristics (Table 34)

Occurrence of both stunting and wasting was found to be more common in children from poor households compared to children from non poor households. This difference is particularly noticeable in the proportions of severely stunted children. While 16 percent of children from non poor households are much too short for their age, almost a quarter of children from poor households are equally malnourished. Wasting is also more common in children from poor households; 7 percent of children from non poor households are too thin for their height and about 9 percent from poor households.

Stunting is distinctly more prevalent among children from poor households, while even though the proportion of children from poor households who were found to be wasted is also higher, the difference is not statistically significant. Hence the difference in the nutritional status of children from poor and non poor households is more likely to be due to the quality of the food consumed rather than the quantity. While children from poor households consume sufficient quantities of food to avoid wasting, the nutritional content of their diet does not appear to be sufficient to sustain long term health. Hence, in the long-term a substantially higher proportion of children from poor households do not grow at a healthy rate.

No substantial variation in occurrence of malnutrition between children from male and female headed households was observed. Severe wasting appears to be slightly more common in female households, while slightly higher proportions of stunted and wasted children were found in male headed households.

The results of the survey suggest that malnutrition most commonly occurs among children from households headed by self-employed individuals in the agriculture sector and those employed in the private formal sector; 45 percent and 41 percent of children from these households respectively were stunted at the time of the survey. The highest proportions of severely stunted children were also observed in these categories. Out of roughly 247,000 children from agricultural households, 47,000 (nearly a fifth) were too short for their age by a substantial amount. In contrast, less than a tenth of the children from households headed by government employees were stunted to an equally severe level.

Children from households headed by formal private sector employees are more vulnerable to wasting than those from other socio-economic groups; the rate of wasting in this group is 14 percent compared to the 8 percent average; the highest rate of severe wasting was also found in this group. Wasting is least common among children from households headed by unemployed or self-employed individuals at roughly 2 percent in both groups.

**Table 34: Distribution of malnourished children by selected household characteristics**

| | Stunted (-2 SD) | Severely stunted (-3 SD) | Wasted (-2 SD) | Severely wasted (-3 SD) | Share of population |
|---|---|---|---|---|---|
| **Kagera Rural** | 133,372 | 57,831 | 23,925 | 5,233 | 323,309 |
| | 42.5 | 18.4 | 7.6 | 1.7 | 100 |
| | | | | | |
| **Poverty** | | | | | |
| Non poor | 75,374 | 28,891 | 12,501 | 2,644 | 185,772 |
| | 41.6 | 15.9 | 6.9 | 1.5 | 57.5 |
| Poor | 57,998 | 28,940 | 11,424 | 2,589 | 137,537 |
| | 43.8 | 21.8 | 8.5 | 1.9 | 42.5 |
| | | | | | |
| **Gender of head of household** | | | | | |
| Male | 116,185 | 51,053 | 21,293 | 4,435 | 280,979 |
| | 42.6 | 18.7 | 7.8 | 1.6 | 86.9 |
| Female | 17,187 | 6,778 | 2,633 | 798 | 42,330 |
| | 42 | 16.6 | 6.3 | 1.9 | 13.1 |
| | | | | | |
| **Socio-economic group** | | | | | |
| Public/Parastatal | 4,243 | 985 | 743 | 200 | 13,541 |
| | 33.2 | 7.7 | 5.8 | 1.5 | 4.2 |
| Private Formal | 4,999 | 2,612 | 1,716 | 366 | 12,987 |
| | 41.2 | 21.5 | 13.7 | 2.9 | 4 |
| Private Informal | 3,987 | 2,171 | 455 | 0 | 12,691 |
| | 31.4 | 17.1 | 3.7 | 0 | 3.9 |
| Self-other | 8,592 | 3,791 | 596 | 261 | 26,832 |
| | 33.1 | 14.6 | 2.3 | 1 | 8.3 |
| Self-agriculture | 108,046 | 46,955 | 20,163 | 4,406 | 246,672 |
| | 45.1 | 19.6 | 8.3 | 1.8 | 76.3 |
| Unemployed | 3,326 | 1,317 | 252 | 0 | 10,405 |
| | 32 | 12.7 | 2.4 | 0 | 3.2 |

## 6.4   Characteristics of Malnourished Children (Table 35)

**Food Need**

Data on food need was collected by asking households (usually the head of household) how often they are unable to acquire the quantity of food necessary to feed all members of the household. Some variation in stunting rates is apparent between households where food need is a common occurrence and those where it is rare or does not happen at all; variation in proportions, however, does not exceed 10 percentage points. Nevertheless, the highest proportion of stunted children is found in households where there is often not enough food; almost half of the children from these households are stunted. In contrast, the proportions of stunted children from households where food need is seldom or never

experienced are roughly 40 percent. The smallest proportion of stunted children was observed in households where there is never enough food. This is explained by the fact that all 222 children in this category are in fact severely stunted. Hence, while 37 percent is the lowest proportion in the instance of stunted children, it is the highest proportion n the case of severely stunted children. On average, 18 percent of children under the age of five in Rural Kagera are severely stunted; among children from households where food supply is never sufficient, this proportion is about twice as high. The second largest proportion of severely stunted children is found among children from households where food supply is often insufficient.

No strong relationship is observable between prevalence of food need and wasting. However, the sample of wasted children is much smaller than that of stunted, hence meaningful disaggregation of this data is difficult.

**Meat Consumption**
As part of the Kagera Rural CWIQ, information was collected on how often meat was consumed in households per week. For the purpose of analysis of the effects of meat consumption on children's nutrition status, the data was split into two categories: households where meat was consumed at least once a week, and those where meat was not consumed as often as this. The results indicate that while intake of meat does not appear to affect nutrition status of children in the long term, it does have an impact in the short term. Hence, both wasting and severe wasting is noticeably more common among children from households where meat is not consumed on a weekly basis. The proportion of children who are severely underweight for their height among those who live in households where meat is not eaten every week is twice as high as that of children from households where it is (2 percent and 1 percent respectively). Similarly, wasting was observed in almost 10 percent of children from households where meat is not consumed every week, compared to 5 percent of children in households where it is.

One would expect meat consumption to be reflected in stunting rates as well. Children who have sufficient intake of iron and protein are more likely to grow at a healthy rate, than children who do not consume food of the same nutritional value. However, stunting is a long term effect of malnourishment, while the response to a question regarding consumption of meat is likely to be indicative of the short term – for instance the last month. Consequently, longer term data on consumption of meat would be necessary to reliably determine whether there is a relationship between this variable and stunting rates.

**Access to Health Facilities**
A household is classed as having access to health facilities if it is located within 30 minutes of travel from the nearest health facility.

Results of the survey show that both stunting and wasting is more prevalent among children who do not have access to health facilities compared to those who do. This is especially true in the instance of children who are suffering from wasting. While the difference between the proportions of stunted children who have access to health facilities and those who do not is less than 4 percentage points, the proportion of wasted

children in the latter category is almost twice as big as that in the former. While among children who have access to health facilities 5 percent were too light for their height at the time of the survey, among children who did not have access to health facilities this proportion was 9 percent.

**Health Status**
Recent illness is not likely to have an impact on the long-term nutritional status of children – stunting. However, severe recent illness is often the cause of wasting; if a child had been sick in the four weeks preceding the survey, he/she is likely to have not yet regained the weight lost through the illness.

Results in Table 35 show the expected trends. While no difference is observable between the proportions of stunted children among those who had and had not been ill in the four weeks preceding the survey, children from the former category appear  more likely to suffer from wasting than those from the latter at 9 percent and 7 percent respectively.

**Table 35: Distribution of malnourished children by selected characteristics of their life-styles**

|  | Stunted (-2 SD) | Severely stunted (-3SD) | Wasted (-2 SD) | Severely wasted (-3 SD) | Share of population |
|---|---|---|---|---|---|
| **Kagera Rural** | 133,372 | 57,831 | 23,925 | 5,233 | 313,786 |
|  | 42.5 | 18.4 | 7.6 | 1.7 | 100 |
| **Food need** |  |  |  |  |  |
| Always | 222 | 222 | 0 | 0 | 594 |
|  | 37.4 | 37.4 | 0 | 0 | 0.2 |
| Often | 41,414 | 20,037 | 6,008 | 2,106 | 87,844 |
|  | 47.1 | 22.8 | 6.8 | 2.4 | 28 |
| Sometimes | 17,352 | 7,225 | 4,148 | 1,266 | 39,340 |
|  | 44.1 | 18.4 | 10.6 | 3.3 | 12.5 |
| Seldom | 48,681 | 20,213 | 11,281 | 1,861 | 124,375 |
|  | 39.1 | 16.3 | 9 | 1.5 | 39.6 |
| Never | 25,703 | 10,135 | 2,488 | 0 | 61,635 |
|  | 41.7 | 16.4 | 4 | 0 | 19.6 |
| **Consumption of meat per week** |  |  |  |  |  |
| None | 82374 | 34,912 | 18,168 | 4,161 | 194,482 |
|  | 42.4 | 18 | 9.3 | 2.1 | 62 |
| Some | 50998 | 22,919 | 5,757 | 1,073 | 119,305 |
|  | 42.7 | 19.2 | 4.8 | 0.9 | 38 |
| **Access to health facilities** |  |  |  |  |  |
| Yes | 33,463 | 14,205 | 4,270 | 746 | 83,723 |
|  | 40 | 17 | 5 | 0.9 | 26.7 |
| No | 99,909 | 43,625 | 19,656 | 4,488 | 229,580 |
|  | 43.5 | 19 | 8.6 | 2 | 73.3 |
| **Recent illness** |  |  |  |  |  |
| Yes | 32,875 | 13,540 | 7,173 | 1,649 | 76,813 |
|  | 42.8 | 17.6 | 9.3 | 2.1 | 24.5 |
| No | 100,497 | 44,291 | 16,753 | 3,585 | 236,974 |
|  | 42.4 | 18.7 | 7 | 1.5 | 75.5 |

# 7 EMPLOYMENT

## 7.1 Introduction

In the beginning of the chapter the employment status of the whole adult population of Kagera Rural is examined. This analysis includes every individual over the age of 14 years. The working population is then examined in more detail; distribution of the working population by source of employment, sector of employment and occupation is looked at. In the last section of the chapter the economically inactive part of the adult population is analysed by reasons for economic inactivity.[12]

## 7.2 Employment status (Table 36)

The adult population of Kagera is divided into two main categories: working and non working. The working population consists of adults who had been engaged in any type of work in the week preceding the survey. Within the working population a distinction is made between those who are employed to capacity, and those who are underemployed. An individual is considered underemployed if he/she was looking for additional work in the week preceding the survey and/or was ready to take on more work in the following four week period. The reverse is true in the instance of individuals who are categorised as employed to capacity.

The non-working population consists of individuals who had not been involved in any type of work in the week preceding the survey. It is sub-divided into those who are unemployed and those who are economically inactive. The former category contains individuals who had not been engaged in any type of work in the week prior to the survey, but had been looking for work in the four weeks prior to the survey. Individuals are classed as economically inactive, if they had not been engaged in any type of work in the week prior to the survey and had not been looking for work in the four weeks prior to the survey.

### 7.2.1 Working Population

Overall, 84 percent of individuals over the age of 14 were working at the time of the survey. A higher proportion of rural residents were working compared to the peri-urban population. While in rural areas 86 percent of individuals were working, in peri-urban areas this proportion was almost 10 percentage points lower. The majority of households

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[12] Data on employment indicators is presented in both counts and percentages as counts of people in the analysed categories may be useful for some policy makers.

in rural areas possess land which can be, and often is, a source of employment. As possession of land is less common in peri-urban areas (although still prevalent), a higher proportion of individuals here are reliant on the job market for employment.

Although the difference in employment rates between individuals from poor and non poor households is only 3 percentage points, statistical tests show that it is significant. Employment rate among individuals from poor households is, therefore, slightly lower than that among individuals from non poor households; the difference is not coincidental.

There is also little difference between the rates of employment among men and women (82 percent and 86 percent respectively). Again, this result is statistically significant and, therefore, representative of the region rather than just the specific sample.

Disaggregation of the working population by age shows large variations in employment rates between the different age groups. The highest rates of employment were found among individuals in the 30-49 age group. After this age, employment rates for men and women begin to decline. This fall is more drastic in the instance of women; while 95 percent of women aged 30-49 were employed, in the 65+ age-group this proportion was more that 40 percentage points lower. In the instance of men, the difference in employment rates between the two age groups is roughly half of this at just over 20 percentage points (98 percent and 76 percent respectively).

No striking variation in employment rates was found between districts. Employment rate was highest in Karagwe where 87 percent of individuals over the age of 14 were working at the time of the survey. In Bukoba Rural, where the lowest employment rate was found, 80 percent of the population were working. Employment rates in Biharamulo and Ngara were almost equal at 85 percent and 86 percent of the respective populations of interest.

Within the working population, more than one fifth of the individuals were under-employed at the time of the survey. Under-employment rates were roughly the same in rural and peri-urban areas.

Individuals from non poor households were found to be more willing to take on additional work compared to those from poor households. Under employment rate in the former group was 6 percentage points higher than that in the latter group.

The highest proportion of individuals employed to capacity among men was found in the 65+ age-group. This is to be expected given that as people get older they are able to work less. In the case of women, however, the highest proportion of fully employed individuals was found in the 50-64 age group, while the second highest was in the 30-49 age group (81 and 77 percent respectively). This trend may be explained by the highly demanding household duties that women must fulfil at this stage in their life. From the age of 30 to the age of 64 women are most likely to be raising children and looking after a larger household than is the case for older or younger women.

Under-employment rates are similar across the districts; variation is within the margin of 10 percentage points. Under-employment rate is highest in Bukoba Rural and lowest in Ngara at 24 percent and 18 percent respectively.

**Table 36: Distribution of the population by employment status[1]**

| | Working | | | Not working | | | |
|---|---|---|---|---|---|---|---|
| | Employed to capacity | Under-employed | Total | Unemp-loyed | Economi-cally inactive | Total | Share of population |
| **Kagera Rural** | 610,318 | 212,720 | 823,038 | 8,804 | 150,289 | 159,093 | 982,131 |
| | 62.1 | 21.7 | 83.8 | 0.9 | 15.3 | 16.2 | 100 |
| Rural | 504,427 | 166,687 | 671,114 | 4,894 | 108,109 | 113,003 | 784,118 |
| | 64.3 | 21.3 | 85.6 | 0.6 | 13.8 | 14.4 | 79.8 |
| Peri-urban | 105,891 | 46,033 | 151,924 | 3,910 | 42,180 | 46,090 | 198,014 |
| | 53.5 | 23.2 | 76.7 | 2 | 21.3 | 23.3 | 20.2 |
| **District** | | | | | | | |
| Karagwe | 145,375 | 52,205 | 197,580 | 272 | 28,146 | 28,418 | 225,998 |
| | 64.3 | 23.1 | 87.4 | 0.1 | 12.5 | 12.6 | 23.0 |
| Bukoba Rural | 137,120 | 57,473 | 194,593 | 3,038 | 45,148 | 48,186 | 242,779 |
| | 56.5 | 23.7 | 80.2 | 1.3 | 18.6 | 19.9 | 24.7 |
| Muleba | 122,279 | 44,856 | 83,568 | 3,507 | 33,315 | 36,822 | 203,958 |
| | 60 | 22 | 82 | 1.7 | 16.3 | 18 | 20.8 |
| Biharamulo | 120,770 | 35,065 | 155,835 | 1,720 | 25,719 | 27,439 | 183,274 |
| | 65.9 | 19.1 | 85 | 0.9 | 14 | 14.9 | 18.7 |
| Ngara | 84,773 | 23,122 | 107,895 | 267 | 17,961 | 18,228 | 126,123 |
| | 67.2 | 18.3 | 85.5 | 0.2 | 14.2 | 14.4 | 12.8 |
| **Poverty** | | | | | | | |
| Non poor | 389,448 | 151,879 | 541,327 | 3,057 | 94,338 | 97,395 | 638,722 |
| | 61 | 23.8 | 84.8 | 0.5 | 14.8 | 15.3 | 65.0 |
| Poor | 220,870 | 60,842 | 281,712 | 5,747 | 55,951 | 61,698 | 343,409 |
| | 64.3 | 17.7 | 82 | 1.7 | 16.3 | 18 | 35.0 |
| **Gender and Age Male** | | | | | | | |
| Total | 264,029 | 145,623 | 409,652 | 2,626 | 66,063 | 68,689 | 478,341 |
| | 55.2 | 30.4 | 85.6 | 0.5 | 13.8 | 14.3 | 48.7 |
| 15-29 | 105,809 | 56,931 | 162,740 | 2,492 | 50,146 | 52,638 | 215,379 |
| | 49.1 | 26.4 | 75.5 | 1.2 | 23.3 | 24.5 | 21.9 |
| 30-49 | 95,580 | 69,870 | 165,450 | 133 | 4,086 | 4,219 | 169,668 |
| | 56.3 | 41.2 | 97.5 | 0.1 | 2.4 | 2.5 | 17.3 |
| 50-64 | 35,452 | 15,625 | 51,077 | 0 | 2,310 | 2,310 | 53,387 |
| | 66.4 | 29.3 | 95.7 | 0.0 | 4.3 | 4.3 | 5.4 |

| | Working | | | Not working | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| | Employed to capacity | Under-employed | Total | Unemp-loyed | Economi-cally inactive | Total | Share of population |
| 65+ | 27,189 | 3,197 | 30,386 | 0 | 9,521 | 9,521 | 39,907 |
| | 68.1 | 8.0 | 76.1 | 0.0 | 23.9 | 23.9 | 4.1 |
| **Female** | | | | | | | |
| Total | 346,131 | 67,097 | 413,228 | 6,021 | 84,226 | 90,247 | 503,475 |
| | 68.7 | 13.3 | 82.0 | 1.2 | 16.7 | 17.9 | 51.3 |
| 15-29 | 161,340 | 32,557 | 193,897 | 5,277 | 56,241 | 61,518 | 255,415 |
| | 63.2 | 12.7 | 75.9 | 2.1 | 22.0 | 24.1 | 26.0 |
| 30-49 | 130,201 | 30,406 | 160,607 | 744 | 7,353 | 8,097 | 168,703 |
| | 77.2 | 18.0 | 95.2 | 0.4 | 4.4 | 4.8 | 17.2 |
| 50-64 | 38,406 | 3,050 | 41,456 | 0 | 5,742 | 5,742 | 47,198 |
| | 81.4 | 6.5 | 87.9 | 0.0 | 12.2 | 12.2 | 4.8 |
| 65+ | 16,184 | 1,085 | 17,269 | 0 | 14,890 | 14,890 | 32,159 |
| | 50.3 | 3.4 | 53.7 | 0.0 | 46.3 | 46.3 | 3.3 |

1 Population includes individuals over the age of 14

## 7.2.2  Non-Working Population

The non-working population of Kagera Rural comprises 16 percent of the total population aged 15 years and older. In numbers this means that out of almost a million of adults in the region, nearly 160,000 had not been working in the week preceding the survey. The majority of the individuals in this category were found to be economically inactive at 15 percent of the total population of interest. Only 1 percent, or just under 10,000 people, in the region were not working but were seeking employment at the time of the survey.

Overall, almost a quarter of individuals in peri-urban areas were not working at the time of the survey; in rural areas this proportion was noticeably lower at 14 percent.

Comparison of individuals from poor and non poor households shows that a slightly higher proportion of individuals of working age from poor households were found to be seeking employment at the time of the survey at 2 percent compared to 0.5 percent among the non poor.

Overall, non-employment rate in Kagera was higher among women at 18 percent compared to 14 percent among men

Highest proportion of job-seeking non-employed individuals was found in the 15 to 29 age group; this is the case for both men and women.

Highest proportion of economically active but non-working individuals was found in the Muleba and Bukoba Rural districts. Here 2 percent and 1 percent of the working age

populations, respectively, were seeking employment at the time of the survey. These are also the districts with the highest proportions of non-working individuals of working age.

## 7.3   Type of Employment (Table 37)

To determine the employment status of the working population, respondents were asked how they were being paid for their main job. The answers were then categorized into *wage/salary, casual (hourly/daily), unpaid contributing worker* and *self-employed*. The employment status of each of these groups respectively was defined as *regular employee, casual employee, unpaid worker* and *self-employed*.

Results of the survey indicate that the great majority of working individuals, 90 percent, are self-employed. As the population of Kagera region is predominantly rural, the majority of individuals are self-employed in the agriculture sector. Regular employees comprise the second largest group at 5 percent of the working population.

As expected, in rural areas, the proportion of self-employed individuals in the working population is higher than in peri-urban areas. Hence, while in rural areas, 92 percent of employed individuals were self-employed at the time of the survey, in peri-urban areas this proportion was over 10 percentage points lower.  In contrast, while 10 percent of the working population in peri-urban areas were categorized as regular employees, only 3 percent of employed individuals in rural areas fitted into this category.

A higher proportion of individuals from non poor households find regular employment than is the case for individuals from poor households. Among individuals from poor households, casual employment is more common than it is for individuals from non-poor households. Same proportions of poor and non poor household members are self-employed.

No striking difference is evident in the employment status of individuals across the surveyed districts. The majority of working individuals in every district are self employed. In Bukoba Rural, the distribution of the working population across the other three types of employment is more equal than in the other four districts; 4 to 5 percent of the working population are found in each of the non self-employed categories.

 A slightly higher proportion of women are self-employed. In total, 13 percent of men are in the regular employees, casual employees, and unpaid workers categories in comparison to 7 percent of the working women. The highest proportion of individuals with regular employment was observed among people in the 30 to 49 age group. Highest proportion of unpaid workers was observed among working individuals in the 15 to 29 age group.

**Table 37: Distribution of the employed population by type of employment**

|  | Regular employee | Casual employee | Unpaid worker | Self-employed | Share of population |
|---|---|---|---|---|---|
| **Kagera Rural** | 36,602 | 29,498 | 16,538 | 738,890 | 821,528 |
|  | 4.5 | 3.6 | 2.0 | 89.9 | 100.0 |
| Rural | 21,341 | 20,695 | 11,866 | 615,985 | 669,887 |
|  | 3.2 | 3.1 | 1.8 | 92 | 81.5 |
| Peri-urban | 15,171 | 8,803 | 4,672 | 122,223 | 150,869 |
|  | 10.1 | 5.8 | 3.1 | 81 | 18.4 |
| **District** |  |  |  |  |  |
| Karagwe | 8,386 | 3,852 | 2,046 | 182,915 | 197,198 |
|  | 4.3 | 2 | 1 | 92.8 | 24.0 |
| Bukoba Rural | 8,839 | 8,395 | 9,046 | 168,047 | 194,325 |
|  | 4.5 | 4.3 | 4.7 | 86.5 | 23.7 |
| Muleba | 7,363 | 8,546 | 1,796 | 149,273 | 166,978 |
|  | 4.4 | 5.1 | 1.1 | 89.4 | 20.3 |
| Biharamulo | 6,571 | 5,692 | 3,027 | 139,514 | 154,804 |
|  | 4.2 | 3.7 | 2 | 90.1 | 18.8 |
| Ngara | 5,354 | 3,013 | 624 | 98,460 | 107,451 |
|  | 5.0 | 2.8 | 0.6 | 91.6 | 13.1 |
| **Poverty** |  |  |  |  |  |
| Non poor | 28,904 | 15,118 | 9,744 | 485,604 | 539,370 |
|  | 5.4 | 2.8 | 1.8 | 90.0 | 65.7 |
| Poor | 7,608 | 14,380 | 6,794 | 252,604 | 281,387 |
|  | 2.7 | 5.1 | 2.4 | 89.8 | 34.3 |
| **Gender and age** |  |  |  |  |  |
| **Male** |  |  |  |  |  |
| Total | 23,575 | 21,185 | 7,253 | 356,441 | 408,454 |
|  | 5.8 | 5.2 | 1.8 | 87.3 | 49.7 |
| 15-29 | 6,447 | 12,360 | 6,558 | 136,662 | 162,027 |
|  | 4.0 | 7.6 | 4.0 | 84.3 | 19.7 |
| 30-49 | 13,253 | 6,933 | 176 | 144,703 | 165,066 |
|  | 8.0 | 4.2 | 0.1 | 87.7 | 20.1 |
| 50-64 | 3,631 | 1,441 | 520 | 45,384 | 50,976 |
|  | 7.1 | 2.8 | 1.0 | 89.0 | 6.2 |
| 65+ | 244 | 451 | 0 | 29,691 | 30,386 |
|  | 0.8 | 1.5 | 0.0 | 97.7 | 3.7 |

| | Regular employee | Casual employee | Unpaid worker | Self-employed | Share of population |
|---|---|---|---|---|---|
| **Female** | | | | | |
| Total | 13,027 | 8,313 | 9,285 | 382,292 | 412,916 |
| | 3.2 | 2.0 | 2.2 | 92.6 | 50.3 |
| 15-29 | 5,841 | 4,840 | 7,988 | 174,916 | 193,585 |
| | 3.0 | 2.5 | 4.1 | 90.4 | 23.6 |
| 30-49 | 6,686 | 3,340 | 990 | 149,591 | 160,607 |
| | 4.2 | 2.1 | 0.6 | 93.1 | 19.5 |
| 50-64 | 421 | 0 | 307 | 40,728 | 41,456 |
| | 1.0 | 0.0 | 0.7 | 98.2 | 5.0 |
| 65+ | 78 | 133 | 0 | 17,057 | 17,269 |
| | 0.5 | 0.8 | 0.0 | 98.8 | 2.1 |

## 7.4   Employment sector (Table 38)

Rather than limiting the distinction between sectors of employment to private and public, five types were identified in the Kagera Rural CWIQ survey: *Government, Parastatal, Private Business, Private Person/Household,* and *Self-Employed*.

Overall, as shown in previous tables, the majority of the working population are self-employed. The second largest employment sector in the area consists of individuals working for a private person or household; 7 percent of the working population were employed in this sector at the time of the survey.  In peri-urban areas this proportion is almost twice as high as in rural areas at 11 percent and 6 percent respectively. This result is consistent with the findings presented in Table 37 which shows that casual employment is more common in peri-urban areas. Some disparity exists between the proportions of individuals employed in a private business in rural areas compared to peri-urban areas. Again, a higher proportion of working peri-urban residents are in this category at 7 percent compared to 3 percent in rural areas.

The results of the survey indicate that individuals from non poor households tend to occupy government and parastatal posts more often than those from poor households.

The lowest proportion of self-employed individuals was found in the working population of Bukoba Rural district. 80 percent of the working individuals in Bukoba Rural were self-employed compared to 91 percent in Karagwe, the district with the largest proportion of individuals in this sector. Members of the working population in Bukoba Rural tend to be employed in private businesses or by an individual/household more often than in other districts. In total, roughly 17 percent of working individuals in Bukoba Rural were in these two sectors; which is more than twice as high as in Karagwe where only 6 percent of the working population were in these sectors.

Disaggregation of the employed population by age and gender reveals that overall women tend to be self-employed more often than men; this result confirms the trend noted in

Table 37. The highest proportion of non self-employed workers for both men and women was found in the 15-29 age group. Both men and women are more likely to be employed by a private individual or household at this age than at an older age. 13 percent of working men and 9 percent of working women aged 15-29 were employed in this sector at the time of the survey. Employment in the government sector for both men and women is most common between the ages of 30 and 49. 6 percent of working men and 3 percent of working women of this age were working in government/parastatal posts. The proportion of self-employed individuals increases with age. As people get older, they are likely to either set up a business or focus more on working their land.

**Table 38: Distribution of the working population by employment sector**

| | Government | Parastatal | Private business | Private person/ household | Self | Share of population |
|---|---|---|---|---|---|---|
| **Kagera Rural** | 19,721 | 5,130 | 30,039 | 55,349 | 711,288 | 821,528 |
| | 2.4 | 0.6 | 3.7 | 6.7 | 86.6 | 100.0 |
| Rural | 11,967 | 3,556 | 19,090 | 39,000 | 596,248 | 669,862 |
| | 1.8 | 0.5 | 2.8 | 5.8 | 89 | 81.5 |
| Peri-urban | 7,754 | 1,575 | 10,949 | 16,348 | 114,463 | 151,088 |
| | 5.1 | 1 | 7.2 | 10.8 | 75.8 | 18.4 |
| **District** | | | | | | |
| Karagwe | 4,868 | 1,239 | 4,755 | 7,259 | 179,077 | 197,198 |
| | 2.5 | 0.6 | 2.4 | 3.7 | 90.8 | 24.0 |
| Bukoba Rural | 4,355 | 851 | 11,111 | 22,590 | 155,711 | 194,618 |
| | 2.2 | 0.4 | 5.7 | 11.6 | 80.0 | 23.7 |
| Muleba | 4,593 | 1,598 | 6,133 | 10,763 | 144,111 | 167,197 |
| | 2.7 | 1.0 | 3.7 | 6.4 | 86.2 | 20.4 |
| Biharamulo | 3,514 | 763 | 5,511 | 9,894 | 134,545 | 154,227 |
| | 2.3 | 0.5 | 3.6 | 6.4 | 87.2 | 18.8 |
| Ngara | 2,392 | 679 | 2,530 | 4,843 | 97,267 | 107,711 |
| | 2.2 | 0.6 | 2.3 | 4.5 | 90.3 | 13.1 |
| **Poverty** | | | | | | |
| Non poor | 16,921 | 4,095 | 19,462 | 33,852 | 465,593 | 539,923 |
| | 3.1 | 0.8 | 3.6 | 6.3 | 86.2 | 65.7 |
| Poor | 2,801 | 1,036 | 10,577 | 21,497 | 245,118 | 281,027 |
| | 1.0 | 0.4 | 3.8 | 7.6 | 87.2 | 34.2 |
| **Gender and age** | | | | | | |
| **Male** | | | | | | |
| Total | 12,420 | 3,410 | 18,314 | 32,875 | 341,436 | 408,454 |
| | 3.0 | 0.8 | 4.5 | 8.0 | 83.6 | 49.7 |

|        | Government | Parastatal | Private business | Private person/ household | Self | Share of population |
|--------|------------|------------|------------------|---------------------------|------|---------------------|
| 15-29  | 605        | 1,857      | 9,512            | 20,998                    | 129,054 | 162,027          |
|        | 0.4        | 1.1        | 5.9              | 13.0                      | 79.6 | 19.7                |
| 30-49  | 9,716      | 1,108      | 8,011            | 8,412                     | 137,818 | 165,066          |
|        | 5.9        | 0.7        | 4.9              | 5.1                       | 83.5 | 20.1                |
| 50-64  | 2,099      | 445        | 790              | 2,579                     | 45,063 | 50,976            |
|        | 4.1        | 0.9        | 1.6              | 5.1                       | 88.4 | 6.2                 |
| 65+    | 0          | 0          | 0                | 886                       | 29,500 | 30,386            |
|        | 0.0        | 0.0        | 0.0              | 2.9                       | 97.1 | 3.7                 |
|        |            |            |                  |                           |      |                     |
| **Female** |        |            |                  |                           |      |                     |
| Total  | 7,301      | 1,720      | 11,725           | 22,474                    | 369,695 | 412,916          |
|        | 1.8        | 0.4        | 2.8              | 5.4                       | 89.5 | 50.3                |
| 15-29  | 1,701      | 1,207      | 6,257            | 16,532                    | 167,889 | 193,585          |
|        | 0.9        | 0.6        | 3.2              | 8.5                       | 86.7 | 23.6                |
| 30-49  | 5,216      | 513        | 3,918            | 4,663                     | 146,296 | 160,607          |
|        | 3.2        | 0.3        | 2.4              | 2.9                       | 91.1 | 19.5                |
| 50-64  | 384        | 0          | 563              | 795                       | 39,714 | 41,456            |
|        | 0.9        | 0.0        | 1.4              | 1.9                       | 95.8 | 5.0                 |
| 65+    | 0          | 0          | 987              | 485                       | 15,797 | 17,269            |
|        | 0.0        | 0.0        | 5.7              | 2.8                       | 91.5 | 2.1                 |

## 7.5 Occupation (Table 39)

As expected, agriculture is by far the most common occupation. The majority of the working population in the region are self-employed; individuals working in agriculture tend to be self-employed. The least common occupations are mining and administration. Roughly equal numbers of people were working in manufacturing, construction and transport at the time of the survey; in total 3 percent of the working population were employed in these industries. Trade is the second most common occupation after agriculture; 6 percent of the working population were involved in trade at the time of the survey.

Agriculture is, of course, a much more common occupation in rural areas than in peri-urban ones; the proportion of working individuals in agriculture from rural areas exceeds that from peri-urban areas by as much as 25 percentage points. In peri-urban areas, on the other hand, transport, trade, and services are more common occupations than in rural areas. While a total of only 6 percent of the working population are employed in these sectors, this is the case for over a quarter of the peri-urban working population.

Distribution of the working population by occupation is similar across the districts. In Biharamulo district, however, a noticeably larger proportion of the working population are employed in trade. This is also the district with the lowest proportion of individuals

employed in agriculture. Bukoba Rural has the highest proportion of people employed in manufacturing compared to the other districts, while in Karagwe a greater majority of individuals are in agriculture than in the rest of the districts.

The trend observed in Table 37 and Table 38 in patterns of employment of working men compared to working women, is confirmed by the results in Table 39. Working men are more likely to be employed in the non agriculture (non self-employed) occupations than working women. The proportion of men in agriculture is 10 percentage points lower than that of women. Higher proportions of men are found to be working across all the other industries.

Both men and women tend to take up employment in non-agriculture industries between the ages of 15 and 49. In both instances, the highest proportion of individuals gets involved in the health/education, trade, and service industries. Again this is consistent with the trend noted in Table 37 and Table 38: self-employment is least common in the 15 to 29 and 30 to 49 age groups.

**Table 39**: **Distribution of the working population by occupation**

| | Agricul-ture | Mining | Manufac-turing | Construction | Transport | Trade | Services | Education/Health | Adminis-tration | Share of population |
|---|---|---|---|---|---|---|---|---|---|---|
| **Rural** | | | | | | | | | | |
| **Kagera** | 710,758 | 2,357 | 7,133 | 7,631 | 7,200 | 50,647 | 23,579 | 9,694 | 1,597 | 820,595 |
| | 86.6 | 0.3 | 0.9 | 0.9 | 0.9 | 6.2 | 2.9 | 1.2 | 0.2 | 100.0 |
| Rural | 610,703 | 2,006 | 4,719 | 5,642 | 3,290 | 23,245 | 13,449 | 6,197 | 694 | 669,945 |
| | 91.2 | 0.3 | 0.7 | 0.8 | 0.5 | 3.5 | 2 | 0.9 | 0.1 | 81.6 |
| Peri-urban | 100,055 | 351 | 2,414 | 1,989 | 3,910 | 27,402 | 10,130 | 3,497 | 903 | 150,650 |
| | 66.4 | 0.2 | 1.6 | 1.3 | 2.6 | 18.2 | 6.7 | 2.3 | 0.6 | 18.4 |
| **District** | | | | | | | | | | |
| Karagwe | 176,316 | 165 | 2,060 | 1,968 | 813 | 6,799 | 6,784 | 1,767 | 526 | 197,198 |
| | 89.4 | 0.1 | 1 | 1 | 0.4 | 3.4 | 3.4 | 0.9 | 0.3 | 24.0 |
| Bukoba Rural | 169,134 | 910 | 3,094 | 3,141 | 1,498 | 10,662 | 3,706 | 1,960 | 514 | 194,618 |
| | 86.9 | 0.5 | 1.6 | 1.6 | 0.8 | 5.5 | 1.9 | 1 | 0.3 | 23.7 |
| Muleba | 143,174 | 739 | 690 | 1,545 | 1,533 | 10,445 | 5,731 | 2,161 | 377 | 166,393 |
| | 86 | 0.4 | 0.4 | 0.9 | 0.9 | 6.3 | 3.4 | 1.3 | 0.2 | 20.3 |
| Biharamulo | 128,034 | 451 | 632 | 431 | 2,566 | 16,977 | 3,062 | 2,342 | 180 | 154,676 |
| | 82.8 | 0.3 | 0.4 | 0.3 | 1.7 | 11 | 2 | 1.5 | 0.1 | 18.8 |
| Ngara | 94,101 | 92 | 658 | 545 | 789 | 5,765 | 4,296 | 1,465 | 0 | 107,711 |
| | 87.4 | 0.1 | 0.6 | 0.5 | 0.7 | 5.4 | 4 | 1.4 | 0 | 13.1 |
| **Poverty** | | | | | | | | | | |
| Non poor | 460,866 | 1,559 | 4,917 | 5,101 | 4,617 | 37,417 | 14,952 | 8,965 | 1,597 | 539,991 |
| | 85.3 | 0.3 | 0.9 | 0.9 | 0.9 | 6.9 | 2.8 | 1.7 | 0.3 | 65.8 |
| Poor | 249,892 | 798 | 2,216 | 2,530 | 2,583 | 13,230 | 8,627 | 729 | 0 | 280,604 |
| | 89.1 | 0.3 | 0.8 | 0.9 | 0.9 | 4.7 | 3.1 | 0.3 | 0 | 34.2 |

| | Agricul-ture | Mining | Manufac-turing | Construction | Transport | Trade | Services | Education/ Health | Adminis-tration | Share of population |
|---|---|---|---|---|---|---|---|---|---|---|
| **Gender and Age** | | | | | | | | | | |
| **Male** | | | | | | | | | | |
| Total | 334,209 | 1,667 | 6,422 | 7,631 | 5,846 | 31,386 | 13,817 | 5,910 | 1,219 | 408,107 |
| | 81.9 | 0.4 | 1.6 | 1.9 | 1.4 | 7.7 | 3.4 | 1.4 | 0.3 | 49.7 |
| 15-29 | 129,886 | 362 | 3,041 | 3,711 | 3,367 | 15,259 | 5,947 | 455 | 0 | 162,027 |
| | 80.2 | 0.2 | 1.9 | 2.3 | 2.1 | 9.4 | 3.7 | 0.3 | 0.0 | 19.7 |
| 30-49 | 129,906 | 1,089 | 2,573 | 3,481 | 2,233 | 14,552 | 6,242 | 4,069 | 702 | 164,847 |
| | 78.8 | 0.7 | 1.6 | 2.1 | 1.4 | 8.8 | 3.8 | 2.5 | 0.4 | 20.1 |
| 50-64 | 45,291 | 0 | 809 | 439 | 147 | 1,028 | 1,229 | 1,386 | 518 | 50,847 |
| | 89.1 | 0.0 | 1.6 | 0.9 | 0.3 | 2.0 | 2.4 | 2.7 | 1.0 | 6.2 |
| 65+ | 29,126 | 216 | 0 | 0 | 98 | 547 | 399 | 0 | 0 | 30,386 |
| | 95.9 | 0.7 | 0.0 | 0.0 | 0.3 | 1.8 | 1.3 | 0.0 | 0.0 | 3.7 |
| **Female** | | | | | | | | | | |
| Total | 376,392 | 690 | 710 | 0 | 1,354 | 19,262 | 9,762 | 3,784 | 377 | 412,331 |
| | 91.3 | 0.2 | 0.2 | 0.0 | 0.3 | 4.7 | 2.4 | 0.9 | 0.1 | 50.2 |
| 15-29 | 174,373 | 351 | 710 | 0 | 0 | 12,044 | 4,995 | 960 | 0 | 193,435 |
| | 90.1 | 0.2 | 0.4 | 0.0 | 0.0 | 6.2 | 2.6 | 0.5 | 0.0 | 23.6 |
| 30-49 | 145,010 | 0 | 0 | 0 | 953 | 6,433 | 4,575 | 2,824 | 377 | 160,172 |
| | 90.5 | 0.0 | 0.0 | 0.0 | 0.6 | 4.0 | 2.9 | 1.8 | 0.2 | 19.5 |
| 50-64 | 40,932 | 114 | 0 | 0 | 0 | 218 | 192 | 0 | 0 | 41,456 |
| | 98.7 | 0.3 | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 | 5.1 |
| 65+ | 16,076 | 225 | 0 | 0 | 401 | 567 | 0 | 0 | 0 | 17,269 |
| | 93.1 | 1.3 | 0.0 | 0.0 | 2.3 | 3.3 | 0.0 | 0.0 | 0.0 | 2.1 |

## 7.6  *Economic Inactivity (Table 40)*

The economically inactive population of Kagera is 44 percent male and 56 percent female. Overall, economically inactive individuals make up 15 percent of the population aged 15 years and more in the region. Roughly 40 percent of these individuals are students. This is the most common reason for economic inactivity in the region. Infirmity, household/family duties, and age are also frequently cited explanations of economic inactivity. In total these reasons explain economic inactivity of 91 percent of the economically inactive population.

In rural areas, infirmity is a much more common reason for economic inactivity than in peri-urban areas. In peri-urban areas, only a tenth of the economically inactive population are unable to work due to illness, while in rural areas this proportion is nearly a quarter (22 percent). There are a noticeably higher proportion of people in peri-urban areas who are not working and not looking for work because they feel that there is no work available. In rural areas only 2 percent of the inactive population give this as the reason – while in peri-urban areas this proportion is 7 percent. Household and family duties are also more of a deterrent in peri-urban areas. Almost a quarter of the urban economically

inactive population are too busy with their families, and only 15 percent are in the same position in rural areas.

No striking difference is apparent between reasons for the economic inactivity of individuals from poor households and non poor households. While participation in education is the dominant explanation in both cases, the proportion of economically inactive individuals who are students from non poor households is approximately 5 percentage points higher than is the case for the economically inactive individuals from poor households. While infirmity is the second most commonly cited reason for economic inactivity in the instance of individuals from poor households, it is not as common among economically inactive individuals from non poor households (23 percent and 17 percent respectively).

As expected, women are deterred from working by household and family duties more often than men. While nearly a quarter (22 percent) of economically inactive women are not working due to their responsibilities at home, only 11 percent of men cited this as the reason. Women are also more likely to be inactive due to age. 18 percent of the female economically inactive population are in this position due to age; again roughly 11 percent of the male economically inactive population gave this reason.

Comparison of distributions of the economically inactive population between districts reveals some variation. In Biharamulo a higher proportion of economically inactive individuals are unable to work due to the demands of their household and family duties. A substantially smaller proportion of economically inactive residents of Karagwe are discouraged by unavailability of work compared to the other districts. Seasonal inactivity, on the other hand, is the least common deterrent in Ngara and Biharamulo compared to the rest of the region. Here age and infirmity are more frequent causes of economic inactivity than is the case in other districts.

As expected, education is the dominant cause for economic inactivity among younger men and women – ones in the 15 to 29 age-group. The smallest proportion of economically inactive individuals is in the 30 to 49 age-group. Only 3 percent of the economically inactive population are men of this age, and 5 percent of women. The main reason why a man of that age would be inactive is infirmity, while for women household and family duties are also a common cause. 8 percent of the economically inactive population are men who are 50 years of age and older; these men are unable to work due to old age and infirmity. Women of the same age make up 14 percent of the economically inactive population. Some of these women continue to be deterred from taking on employment by household and family duties; 12 percent of women in the 50 to 64 age-group are unable to work for this reason.  The majority, however, are also unable to work due to old age and infirmity.

**Table 40: Distribution of the economically inactive population by reason for not working**

| | No work available | Seasonal inactivity | Student | Household/ Family duties | Age | Infirmity | Other | Share of population |
|---|---|---|---|---|---|---|---|---|
| **Kagera** | | | | | | | | |
| **Rural** | 5,231 | 1,567 | 60,432 | 25,656 | 22,279 | 28,378 | 5,895 | 149,438 |
| | 3.5 | 1.0 | 40.4 | 17.2 | 14.9 | 19.0 | 3.9 | 100.0 |
| Rural | 2,447 | 1,190 | 42,281 | 15,994 | 16,871 | 24,062 | 4,414 | 107,258 |
| | 2.3 | 1.1 | 39.4 | 14.9 | 15.7 | 22.4 | 4.1 | 71.8 |
| Peri-urban | 2,785 | 377 | 18,151 | 9,662 | 5,408 | 4,316 | 1,481 | 42,180 |
| | 6.6 | 0.9 | 43.0 | 22.9 | 12.8 | 10.2 | 3.5 | 28.2 |
| | | | | | | | | |
| **District** | | | | | | | | |
| Karagwe | 143 | 352 | 15,357 | 4,362 | 1,787 | 5,029 | 981 | 28,010 |
| | 0.5 | 1.3 | 54.8 | 15.6 | 6.4 | 18 | 3.5 | 18.7 |
| Bukoba Rural | 2,238 | 192 | 15,528 | 6,938 | 8,161 | 8,915 | 2,979 | 44,951 |
| | 5 | 0.4 | 34.5 | 15.4 | 18.2 | 19.8 | 6.6 | 30.1 |
| Muleba | 1,303 | 1,023 | 11,712 | 4,564 | 6,916 | 6,602 | 838 | 32,957 |
| | 4 | 3.1 | 35.5 | 13.8 | 21.0 | 20.0 | 2.5 | 22.1 |
| Biharamulo | 849 | 0 | 10,253 | 6,411 | 2,915 | 4,462 | 668 | 25,558 |
| | 3.3 | 0.0 | 40.1 | 25.1 | 11.4 | 17.5 | 2.6 | 17.1 |
| Ngara | 699 | 0 | 7,582 | 3,382 | 2,500 | 3,369 | 429 | 17,961 |
| | 3.9 | 0.0 | 42.2 | 18.8 | 13.9 | 18.8 | 2.4 | 12.0 |
| | | | | | | | | |
| **Poverty** | | | | | | | | |
| Non poor | 3,002 | 747 | 39,637 | 16,486 | 14,241 | 15,763 | 3,970 | 93,845 |
| | 3.2 | 0.8 | 42.2 | 17.6 | 15.2 | 16.8 | 4.2 | 62.8 |
| Poor | 2,229 | 820 | 20,796 | 9,170 | 8,038 | 12,614 | 1,925 | 55,593 |
| | 4 | 1.5 | 37.4 | 16.5 | 14.5 | 22.7 | 3.5 | 37.2 |
| | | | | | | | | |
| **Gender and Age** | | | | | | | | |
| **Male** | | | | | | | | |
| Total | 3,167 | 824 | 31,342 | 7,111 | 7,174 | 14,026 | 2,207 | 65,850 |
| | 4.8 | 1.3` | 47.6 | 10.8 | 10.9 | 21.3 | 3.4 | 44.1 |
| 15-29 | 3,112 | 824 | 31,150 | 6,949 | 535 | 5,202 | 2,162 | 49,934 |
| | 6.2 | 1.6 | 62.4 | 13.9 | 1.1 | 10.4 | 4.3 | 33.4 |
| 30-49 | 54 | 0 | 0 | 162 | 0 | 3,824 | 45 | 4,086 |
| | 1.3 | 0.0 | 0.0 | 4.0 | 0.0 | 93.6 | 1.1 | 2.7 |
| 50-64 | 0 | 0 | 192 | 0 | 351 | 1,767 | 0 | 2,310 |
| | 0.0 | 0.0 | 8.3 | 0.0 | 15.2 | 76.5 | 0.0 | 1.5 |
| 65+ | 0 | 0 | 0 | 0 | 6,288 | 3,233 | 0 | 9,521 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 66.0 | 34.0 | 0.0 | 6.4 |

| | No work available | Seasonal inactivity | Student | Household/ Family duties | Age | Infirmity | Other | Share of population |
|---|---|---|---|---|---|---|---|---|
| **Female** | | | | | | | | |
| Total | 2,065 | 744 | 29,090 | 18,545 | 15,105 | 14,352 | 3,687 | 83,587 |
| | 2.5 | 0.9 | 34.8 | 22.2 | 18.1 | 17.2 | 4.4 | 55.9 |
| 15-29 | 1,962 | 367 | 28,868 | 15,825 | 600 | 4,517 | 3,463 | 55,603 |
| | 3.5 | 0.7 | 51.9 | 28.5 | 1.1 | 8.1 | 6.2 | 37.2 |
| 30-49 | 103 | 377 | 222 | 1,781 | 103 | 4,767 | 0 | 7,353 |
| | 1.4 | 5.1 | 3.0 | 24.2 | 1.4 | 64.8 | 0.0 | 4.9 |
| 50-64 | 0 | 0 | 0 | 699 | 2,058 | 2,760 | 255 | 5,742 |
| | 0.0 | 0.0 | 0.0 | 12.2 | 35.8 | 48.1 | 3.9 | 3.8 |
| 65+ | 0 | 0 | 0 | 239 | 12,343 | 2,308 | 0 | 14,890 |
| | 0.0 | 0.0 | 0.0 | 1.6 | 82.9 | 15.5 | 0.0 | 10.0 |

# 8  PERCEPTIONS OF WELFARE STATUS AND CHANGE

The first part of this chapter presents information on the perceptions of the economic situation in the community and in the household. The second part of the chapter briefly discusses prevalence of food need in the region, as well as changes in land holding over the year preceding the survey.

## 8.1  *Economic Situation*

Analysis in this section is based solely on the perception of the interviewees and not on any other indicators.

### 8.1.1  Perception of Economic Situation in the Community (Table 41)

As part of the survey one individual[13] per household was asked to comment on the economic situation in the community compared to the previous year - whether it had changed for better/worse or had remained the same.

Results in Table 41 show that the majority of people in the region felt that the economic situation in the community had deteriorated. In total, roughly 77 percent of households believed that the economic situation in the community had either gotten worse (41 percent) or had gotten much worse (36 percent) compared to the previous year. In peri-urban areas this proportion was smaller at 70 percent, while in rural ones roughly the same as the average. The biggest difference between rural and peri-urban areas is observable in the proportions of households that felt no change for the better or worse has occurred; in peri-urban areas over a fifth of the households expressed this view while in rural areas this proportion was only 13 percent.

On the whole, individuals from smaller households appear to view the economic situation in the household more optimistically than those from larger households; the differences are not substantial however. For instance, while around 74 percent of households consisting of 1 to 2 people rated the economic situation as worse or much worse, just under 80 percent of households with 7 or more members did the same.

Larger land holders appear more likely to view the economic situation of the community as improving compared to those who own little land. Landless households were most optimistic; 17 percent rated the situation as improving compared to the 7 to 10 percent among land owners. Landless households are predominantly headed by traders and individuals from peri-urban areas not reliant on land for their livelihood.

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[13] Usually the individual asked about household level information was the head of household although in instances where he/she was unavailable a different member of the household provided the information for this section of the survey

No substantial difference was observed between the perception of the economic situation in male and female headed households. In contrast, those who have had no formal education tended to feel that the situation in the community had deteriorated substantially; 43 percent of households headed by individuals with no formal education thought the economic situation in the community had gotten much worse compared to 33 percent of households headed by individuals with completed primary education.[14]

**Table 41: Perception of economic situation in the community compared to the year before the survey**

|  | Much worse | Worse | Same | Better | Much better | Don't know | Share of population |
|---|---|---|---|---|---|---|---|
| **Kagera Rural** | 36.1 | 41.2 | 14.5 | 08.0 | 00.1 | 00.1 | 100.0 |
| Rural | 37.8 | 41.0 | 13.2 | 07.7 | 00.2 | 00.1 | 82.0 |
| Peri-urban | 27.9 | 41.9 | 20.8 | 09.4 | 00.0 | 00.0 | 18.0 |
| **Household size** | | | | | | | |
| 1-2 | 38.4 | 35.9 | 16.4 | 08.9 | 00.0 | 00.4 | 13.5 |
| 3-4 | 36.7 | 40.8 | 13.9 | 08.4 | 00.2 | 00.0 | 28.2 |
| 5-6 | 36.7 | 41.4 | 14.1 | 07.8 | 00.0 | 00.0 | 30.1 |
| 7+ | 33.6 | 43.9 | 14.7 | 07.5 | 00.3 | 00.0 | 28.1 |
| **Area of land owned by the household** | | | | | | | |
| None | 38.0 | 31.3 | 14.1 | 16.5 | 00.0 | 00.0 | 06.0 |
| < 1 acre | 25.4 | 47.1 | 19.2 | 08.2 | 00.0 | 00.0 | 06.4 |
| 1-1.99 acres | 39.9 | 38.2 | 14.7 | 06.9 | 00.3 | 00.0 | 27.0 |
| 2-3.99 acres | 37.1 | 40.2 | 15.0 | 07.4 | 00.1 | 00.2 | 33.5 |
| 4-5.99 acres | 33.5 | 47.7 | 12.0 | 06.7 | 00.0 | 00.0 | 18.9 |
| 6+ acres | 32.1 | 42.7 | 14.4 | 10.9 | 00.0 | 00.0 | 08.2 |
| **Gender of the head of household** | | | | | | | |
| Male | 36.1 | 41.7 | 14.4 | 07.8 | 00.1 | 00.0 | 81.8 |
| Female | 35.9 | 39.1 | 15.4 | 09.0 | 00.2 | 00.3 | 18.2 |
| **Education level of the head of household** | | | | | | | |
| None | 42.6 | 37.7 | 14.7 | 04.8 | 00.0 | 00.2 | 30.7 |
| Some Primary | 37.2 | 39.1 | 14.4 | 09.0 | 00.3 | 00.0 | 16.1 |
| Complete Primary | 32.9 | 43.3 | 13.9 | 09.7 | 00.1 | 00.0 | 44.6 |
| Post Primary | 17.1 | 59.3 | 20.0 | 03.5 | 00.0 | 00.0 | 01.0 |
| Some Secondary | 32.7 | 44.9 | 15.7 | 06.7 | 00.0 | 00.0 | 04.9 |
| Complete Secondary | 18.7 | 41.3 | 40.0 | 00.0 | 00.0 | 00.0 | 00.3 |
| Post Secondary | 18.4 | 47.8 | 14.6 | 17.3 | 01.9 | 00.0 | 00.0 |

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[14] Disaggregation of the data by education level of the household head leads to categories with very small shares of the population. For instance, only 0.3 percent of household heads in the region have completed secondary school. Such sample size is not sufficient for meaningful analysis. Therefore, comparisons are made primarily between those with no education and those who have completed primary school education (these are the largest categories in the sample)

## 8.1.2   Perception of economic situation in the household (Table 42)

Heads of household were further asked to comment on the economic situation in the household as compared to the previous year. A slightly higher proportion of households viewed their situation as better than last year compared to those who thought the community was doing better, at 12 and 8 percent respectively. Fewer household heads felt that the household was doing much worse than those who thought that the economic situation in the community had deteriorated.

Severe deterioration in the economic situation of the household was more common in rural areas compared to peri-urban. Almost twice as high a proportion of households in rural areas felt their economic situation was much worse compared to the previous year than the proportion of households with the same view in peri-urban areas.

The proportion of small households (1 to 2 people) who were in a worse economic situation is nearly 10 percentage points smaller than the proportion of large households (7+ people), at 39 and 48 percent respectively.

Substantial deterioration in the economic situation of households was most common among households who owned some land but not more than two acres. The proportion of households in a much worse economic situation compared to the previous year is roughly 6 percentage points higher than average. On the other hand, the same proportion among those who owned more than six acres of land is 8 percentage points lower than average. Compared to households that hold less land, this is also the group where the economic situation of the highest proportion of households had improved (19 percent compared to the average of 12 percent).

Variation in perception of household economic situation between male and female headed households is minimal.

The economic situation in households headed by individuals with complete primary school education is better than in households headed by individuals with no formal education. While 27 percent of households headed by an individuals educated at primary level were much worse off than in the previous year, 36 percent of households headed by individuals with no formal education expressed the same view.

**Table 42: Perception of economic situation of the household compared to the year before the survey**

|  | Much worse | Worse | Same | Better | Much better | Share of population |
|---|---|---|---|---|---|---|
| **Kagera Rural** | 30.4 | 43.4 | 12.7 | 12.4 | 01.0 | 100.0 |
| Rural | 33.1 | 42.9 | 10.8 | 12.2 | 01.0 | 82.0 |
| Peri-urban | 18.4 | 45.9 | 21.0 | 13.5 | 01.1 | 18.0 |
| **Household size** | | | | | | |
| 1-2 | 32.8 | 38.6 | 14.8 | 12.6 | 01.1 | 13.5 |
| 3-4 | 30.3 | 40.8 | 14.8 | 12.8 | 01.3 | 28.2 |
| 5-6 | 32.5 | 44.0 | 09.9 | 12.5 | 01.2 | 30.1 |
| 7+ | 27.2 | 47.8 | 12.5 | 11.9 | 00.5 | 28.1 |
| **Area of land owned by household** | | | | | | |
| None | 34.2 | 41.0 | 12.6 | 11.2 | 01.0 | 06.0 |
| < 1 acre | 36.0 | 41.0 | 15.9 | 04.8 | 02.3 | 06.4 |
| 1-1.99 acres | 36.6 | 37.2 | 14.4 | 10.7 | 01.2 | 27.0 |
| 2-3.99 acres | 28.9 | 43.8 | 12.9 | 13.8 | 00.6 | 33.5 |
| 4-5.99 acres | 24.9 | 52.2 | 08.9 | 12.9 | 01.2 | 18.9 |
| 6+ acres | 22.0 | 45.9 | 12.2 | 18.7 | 01.1 | 08.2 |
| **Gender of household head** | | | | | | |
| Male | 29.6 | 44.1 | 12.1 | 13.0 | 01.1 | 81.8 |
| Female | 34.1 | 40.2 | 15.1 | 10.0 | 00.6 | 18.2 |
| **Education level of household heads** | | | | | | |
| None | 36.2 | 41.0 | 11.9 | 10.0 | 00.8 | 30.7 |
| Some Primary | 34.7 | 44.8 | 11.3 | 08.1 | 01.1 | 16.1 |
| Complete Primary | 27.4 | 43.0 | 13.4 | 15.5 | 00.7 | 44.6 |
| Post Primary | 09.4 | 71.6 | 15.5 | 03.5 | 00.0 | 01.0 |
| Some Secondary | 16.6 | 46.8 | 15.8 | 15.3 | 05.5 | 04.9 |
| Complete Secondary | 00.0 | 93.0 | 07.0 | 00.0 | 00.0 | 00.3 |
| Post Secondary | 24.5 | 46.5 | 13.2 | 15.8 | 00.0 | 02.3 |

## 8.2   Selected Welfare Indicators

Information in this part of the chapter is based solely on the assessment of the respondent; no measurements were made by the interviewers.

### 8.2.1   Change in Land Holding (Table 43)

In order to assess changes in land holding that had taken place in the year preceding the survey, respondents were asked whether at the time of the survey they possessed more, less, or the same amounts of land as in the previous year. Overall, the results show no major change in land holding in the year preceding the survey. At the time of the survey 76 percent of households possessed the same amount of land as in the previous year. Only 11 percent of the households experienced a decrease in land holding, while 7 percent experienced an increase.

The same trend is observed in rural and peri-urban areas although as a much higher proportion of households in peri-urban areas possess no land, the proportion of households where land holding has remained constant is below the average at 70 percent.

By far the highest proportion of landless households is located in Biharamulo; 17 percent of households have no land here compared to the 6 percent average. Hence, the lowest proportions are observed here across the rest of the categories. Among the rest of the districts, largest decreases in land holding took place in Bukoba Rural and Muleba. Roughly 13 percent of households in these two districts had less land than in the previous year. However, Muleba is also the district in which the largest proportion of households acquired more land in the year preceding the survey.

Decrease in land holding was slightly more common among poor households than non poor ones. While 13 percent of poor households had less land than in the previous year at the time of the survey, this proportion was 10 percent among the non poor households.

The most substantial decrease in land holding was experienced by large households (7+ people); 13 percent of these households had less land at the time of the survey than the previous year compared to 9 percent of small households (1 to 2 people). The highest proportion of large households, however, also experienced the most increase in land holding; 9 percent of these households had more land at the time of the survey than in the previous year, compared to 5 percent of small households.

Most change in land holding was observed among households that owned six or more acres of land. Nearly a fifth of these households had more land at the time of the survey than in the previous year (compared to an average of 7 percent in this category). Loss of land was most common among households with less than 2 acres of land; between 12 and 14 percent of households in these categories had less land at the time of the survey than in the previous year.

Acquisition of land was more common in male headed households. While 80 percent of female headed households had the same amount of land at the time of the survey as in the previous year and 4 percent had more, these proportions in the instance of male headed households were 75 and 8 percent respectively.

Biggest decrease in land holding was observed in households headed by individuals with no education or incomplete primary school education. The highest proportion of households who had acquired additional land in the year preceding the survey were those headed by individuals with some secondary school education.

**Table 43: Distribution of households by change in land holding over the year preceding the survey**

|  | No holding | Less | Same | More | Share of the population |
|---|---|---|---|---|---|
| **Kagera Rural** | 6.0 | 10.5 | 76.1 | 7.4 | 100.0 |
| Rural | 3.7 | 10.9 | 77.5 | 7.9 | 82.0 |
| Peri-urban | 16.6 | 8.8 | 69.8 | 4.8 | 18.0 |
| **District** |  |  |  |  |  |
| Karagwe | 2.5 | 8.6 | 81.1 | 7.8 | 23.7 |
| Bukoba Rural | 2.9 | 13.6 | 77.6 | 5.9 | 24.1 |
| Muleba | 3.7 | 12.6 | 74.4 | 9.3 | 21.1 |
| Biharamulo | 16.8 | 6.5 | 69.9 | 6.8 | 17.9 |
| Ngara | 7.1 | 10.0 | 75.8 | 7.1 | 13.1 |
| **Poverty** |  |  |  |  |  |
| Non poor | 7.0 | 9.6 | 76.2 | 7.2 | 69.3 |
| Poor | 3.9 | 12.5 | 76.0 | 7.7 | 30.7 |
| **Household size** |  |  |  |  |  |
| 1 to 2 | 9.5 | 8.5 | 77.4 | 4.5 | 13.5 |
| 3 to 4 | 8.3 | 9.8 | 75.1 | 6.8 | 28.2 |
| 5 to 6 | 4.6 | 9.7 | 78.1 | 7.6 | 3.1 |
| 7+ | 3.6 | 12.9 | 74.4 | 9.1 | 28.1 |
| **Area of land owned by household** |  |  |  |  |  |
| None | 100.0 | 0.0 | 0.0 | 0.0 | 6.0 |
| < 1 acre | 0.0 | 11.8 | 85.9 | 2.3 | 6.4 |
| 1-1.99 acres | 0.0 | 13.5 | 82.4 | 4.1 | 27. |
| 2-3.99 acres | 0.0 | 1.6 | 81.0 | 8.4 | 33.5 |
| 4-5.99 acres | 0.0 | 8.9 | 81.2 | 9.9 | 18.9 |
| 6+ acres | 0.0 | 1.4 | 72.1 | 17.6 | 8.2 |
| **Gender of household head** |  |  |  |  |  |
| Male | 5.8 | 1.7 | 75.4 | 8.1 | 81.8 |
| Female | 6.8 | 9.7 | 79.5 | 4.1 | 18.2 |
| **Education level of household head** |  |  |  |  |  |
| None | 3.1 | 11.2 | 8.1 | 5.6 | 3.7 |
| Some Primary | 4.8 | 11.6 | 75.2 | 8.4 | 16.1 |
| Complete Primary | 7.3 | 1.3 | 74.2 | 8.3 | 44.6 |
| Post Primary | 8.9 | 0.0 | 82.5 | 8.6 | 1.0 |
| Some Secondary | 13.7 | 8.8 | 67.3 | 10.1 | 4.9 |
| Complete Secondary | 48.3 | 0.0 | 51.7 | 00.0 | 0.3 |
| Post Secondary | 6.9 | 7.9 | 85.2 | 00.0 | 2.3 |

## 8.2.2 Food Need (Table 44)

The Kagera Rural CWIQ survey collected information on how often households had difficulty satisfying food need. In the majority of households food need was never or rarely a problem. Still a substantial proportion of households (slightly under a third) in the region often or always experience food shortages. Food shortage appears to be more of a problem in rural areas compared to peri-urban areas. In rural areas food need is often experienced in 32 percent of households, compared to 21 percent in peri-urban households. Similarly, while sufficient quantities of food are always or nearly always available in 72 percent of peri-urban households, this is the case for only 57 percent of rural households.

Food shortages are most common in households in Muleba; just under 40 percent of households here often have problems satisfying food need compared to the 30 percent average. In Biharamulo, on the other hand, only just over a fifth of households often experience food need, and 67 percent never or seldom experience this problem (compared to the average of 60 percent).

As expected, food shortages are a more common occurrence in poor households compared to non poor households. 40 percent of poor households often do not have enough food, while only a quarter of non poor households have the same problem equally often. In 64 percent of non poor households food need is never or rarely an issue; this is only true for less than half of the poor households.

Food shortages are least common in landless households and those that own more than 6 acres of land. In total just under 70 percent of households with six acres of land or more never or rarely have problems satisfying food need. This is also true for the same proportion of landless households. In contrast, only just over a half of households with 1 to 2 acres of land are equally food secure. Food shortages are most common in households that own some land but less than 1 acre; just under a half of these households often do not have enough food to satisfy the need of all household members.

In female headed households food shortages are more common than in male headed households. In over one out of three female headed households food need is often a problem; this is only true for slightly more than one out of four male headed households.

Food shortages are most common in households headed by individuals who have had no formal education. In 41 percent of these households there is often not enough food compared to only 23 percent of households where the head had completed primary school.

**Table 44: Distribution of households by difficulty experienced in satisfying food needs during the year before the survey**

| | Never | Seldom | Sometimes | Often | Always | Share of population |
|---|---|---|---|---|---|---|
| **Total** | 20.1 | 39.1 | 10.9 | 29.7 | 0.2 | 100.0 |
| Rural | 18.1 | 38.4 | 11.8 | 31.5 | 0.1 | 82.0 |
| Peri-urban | 29.1 | 42.50 | 6.6 | 21.2 | 0.6 | 18.0 |
| **District** | | | | | | |
| Karagwe | 24.3 | 35.1 | 15.1 | 25.6 | 0.0 | 23.7 |
| Bukoba Rural | 17.8 | 42.6 | 7.0 | 31.8 | 0.7 | 24.1 |
| Muleba | 13.3 | 39.6 | 7.9 | 38.9 | 0.2 | 21.1 |
| Biharamulo | 24.7 | 42.3 | 11.2 | 21.8 | 0.0 | 17.9 |
| Ngara | 21.5 | 34.9 | 14.8 | 28.7 | 0.0 | 13.1 |
| **Poverty** | | | | | | |
| Non poor | 24.8 | 39.0 | 10.7 | 25.3 | 0.2 | 69.3 |
| Poor | 9.5 | 39.4 | 11.3 | 39.5 | 0.3 | 30.7 |
| **Household size** | | | | | | |
| 1 to 2 | 2.2 | 36.0 | 9.2 | 34.5 | 0.0 | 13.5 |
| 3 to 4 | 21.7 | 39.3 | 1.4 | 28.0 | 0.6 | 28.2 |
| 5 to 6 | 21.0 | 39.4 | 8.1 | 31.4 | 0.0 | 3.1 |
| 7+ | 17.5 | 4.1 | 15.2 | 27.1 | 0.1 | 28.1 |
| **Area of land owned by household** | | | | | | |
| None | 28.6 | 39.9 | 7.7 | 22.8 | 1.0 | 6.0 |
| < 1 acres | 2.3 | 24.1 | 8.7 | 46.9 | 0.0 | 6.4 |
| 1-1.99 acres | 11.2 | 41.2 | 9.3 | 37.9 | 0.4 | 27.0 |
| 2-3.99 acres | 21.4 | 41.1 | 11.0 | 26.6 | 0.0 | 33.5 |
| 4-5.99 acres | 22.3 | 39.6 | 12.6 | 25.3 | 0.2 | 18.9 |
| 6+ acres | 33.2 | 34.5 | 15.9 | 16.4 | 0.0 | 8.2 |
| **Gender of household head** | | | | | | |
| Male | 21.0 | 39.5 | 1.9 | 28.2 | 0.3 | 81.8 |
| Female | 16.0 | 37.3 | 1.8 | 35.9 | 0.0 | 18.2 |
| **Education level household head** | | | | | | |
| None | 14.1 | 34.1 | 11.0 | 40.6 | 0.2 | 3.7 |
| Some Primary | 15.1 | 35.9 | 12.4 | 35.6 | 0.9 | 16.1 |
| Complete Primary | 22.1 | 44.0 | 1.6 | 23.3 | 0.0 | 44.6 |
| Post Primary | 3.7 | 33.8 | 29.8 | 5.7 | 0.0 | 1.0 |
| Some Secondary | 47.6 | 39.0 | 6.7 | 6.8 | 0.0 | 4.9 |
| Complete Secondary | 16.5 | 51.7 | 31.7 | 0.0 | 0.0 | 0.3 |
| Post Secondary | 36.4 | 35.0 | 3.3 | 25.2 | 0.0 | 2.3 |

# 9   SPOTLIGHT ON KARAGWE

## 9.1   *Key Findings of Rural Kagera CWIQ for Karagwe*

1. Karagwe district constitutes 23 percent of the households in Kagera Rural, and is the second most populated district in the region.

2. Karagwe has by far the lowest poverty rate in the Kagera Region. Just under a fifth of the poor households in Kagera Rural are located here.

3. Households in Karagwe are, on average, slightly smaller than the average household in the region at 5 members. It is characterized by a large proportion of female headed households compared to the other districts.

4. Livestock ownership and large-scale land ownership is more common in Karagwe than in the majority of the other districts.

5. Despite having the worst primary and secondary school access rates in the region, literacy rate in Karagwe is among the highest in the region.

6. Nearly two out of five students in Karagwe complain about their schools; this is more than in Kagera Rural as a whole. In primary schools, especially, satisfaction rates are lower than in the rest of the region. Secondary school satisfaction rate is in the middle of the distribution, slightly higher than the regional average. Lack of teachers, especially, appears to be more of a problem in Karagwe than in the other rural districts.

7. Karagwe has the second highest proportion of its 7 to 13 year old population out of school. The primary school gross enrolment ratio is among the highest in the region, while the secondary school gross enrolment ratio is by far the lowest in Kagera Rural. This is also the district where children lag behind at school by the highest number of years.

8. Health facility access, need, use and satisfaction rates in Karagwe are the worst in the region. For instance, less than a fifth of the households here are located within 30 minutes of travel from a health facility compared to over a quarter of households in Kagera Rural as a whole.

9. Compared with the rural Kagera average, a higher proportion of people reported shortage of trained professionals and unsuccessful treatment as reasons for dissatisfaction with health facilities. Across the board, complaints were received regarding all areas of health provision, with the exception of lack of supplies, from at least a fifth of the dissatisfied health service users.

10. The proportion of births in Karagwe conducted in a hospital or maternity ward is strikingly lower than anywhere else in Kagera Rural.

11. The proportion of children under the age of five who are too short for their age (stunted) is higher in Karagwe than in any other rural district. Every other child under the age of five in this district is chronically malnourished. In contrast, the proportion of infants who are too light for their height (wasted) is lower in Karagwe than the rest of the region.

12. Nearly two out of three adults in Karagwe are employed to full capacity. This proportion is slightly higher than the rural regional average, but is not the highest in the region.

13. Reported rate of food need in Karagwe is among the lowest in the region. The proportions of households reporting deterioration in the economic situation of the household and the community do not deviate substantially from the average.

14. Access to drinking water facilities in Karagwe is less widespread than anywhere else in Kagera Rural. More than two out of five households in the district are located more than 30 minutes of travel from the nearest source of drinking water.

## 9.2  Poverty

Figure 5 shows the basic needs poverty rates for Kagera Rural and for all of its different rural districts, as imputed by the poverty predictors in the Kagera Rural CWIQ survey. The top line represents the poverty rate in Karagwe. The results show that 24 percent of households in Karagwe live under the basic needs poverty line. The poverty rate thus defined is substantially lower than the rural regional average and the poverty rate in every other district. While poverty rates do not vary substantially across the districts, Karagwe is the exception to the trend with a noticeably lower prevalence of poverty.

Figure 6 shows that there are just under 21,400 households in Karagwe living below the basic needs poverty line. Although the proportion of poor households in the districts is substantially smaller than in the rest of the region, as Karagwe is the second most populated district in the area, these households constitute a fifth of all poor households in the region.

**Figure 5: Basic needs poverty rates in Karagwe**
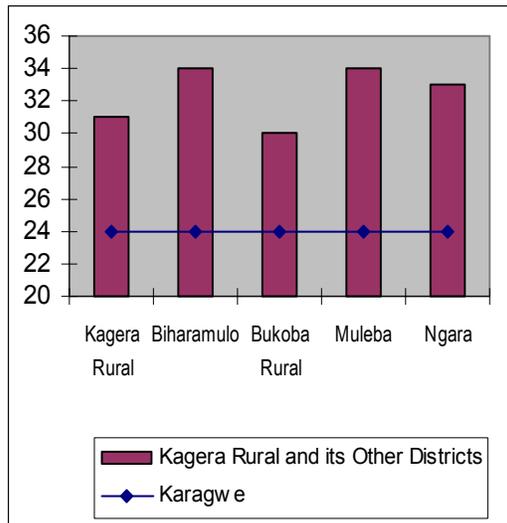


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 6: Karagwe's share of the poor households in Kagera Rural**
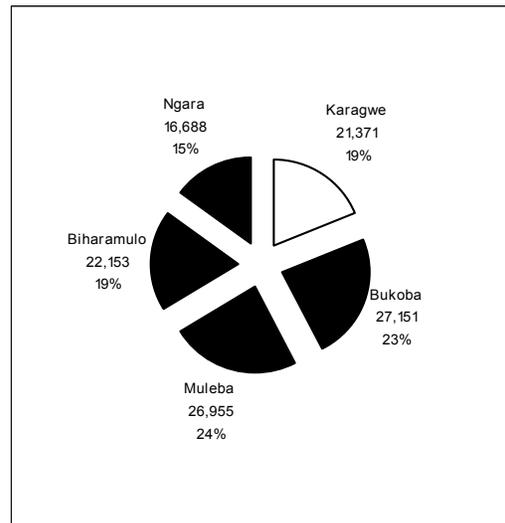


* This figure does not present a formal statistical test of differences in means

## 9.3 Population

On average households in Karagwe are slightly smaller than in the other rural districts in the region. While the average household size in the region is 5.2 people, in Karagwe, an average household consists of 5 people. However, as shown in Figure 7, the average size of households in Karagwe is equal to that in Bukoba Rural and only a little larger than that in Muleba.

Female headed households are more common in Karagwe than in the majority of the other districts in the region; 19 percent of the households in this district are headed by a female. This proportion is close to the regional average of 18 percent and equal to the proportion of female headed households in Muleba. Figure 8 provides a detailed picture.

**Figure 7: Average household size (Karagwe)**
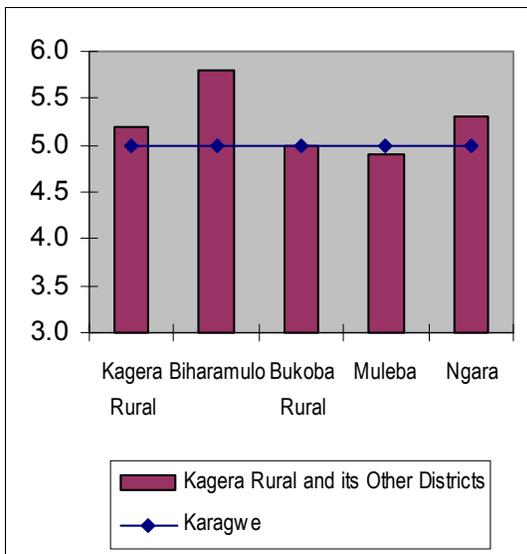


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

**Figure 8: Percentage of female household heads in (Karagwe)**
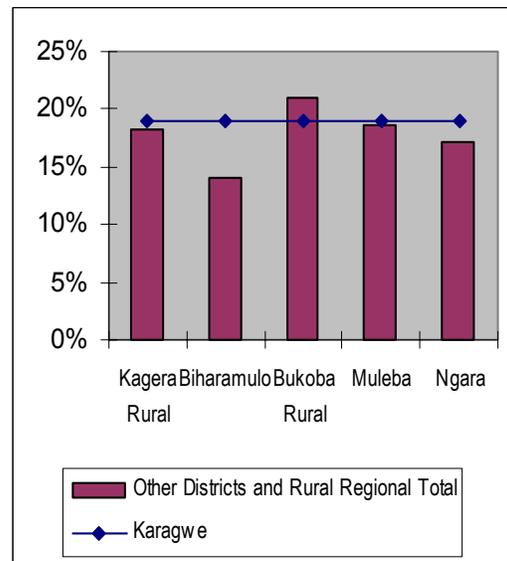


\* This figure does not present a formal statistical test of differences in means

As indicated in Figure 9, livestock holding is relatively common in Karagwe. 47 percent of the households in the district own some livestock compared to the rural regional average of 53 percent. While the highest proportion of households that possess livestock are located in Biharamulo, Karagwe is a close second; the proportions of households possessing livestock in these two districts are almost identical. Further, Table 45 shows that, compared to other districts, the proportion of households possessing only large livestock is lowest, while the proportion of households holding small livestock only is highest. On average 35 percent of households in the region hold small livestock only, in Karagwe this proportion is 6 percentage points higher.

**Figure 9: Percentage of households owning no livestock (Karagwe)**
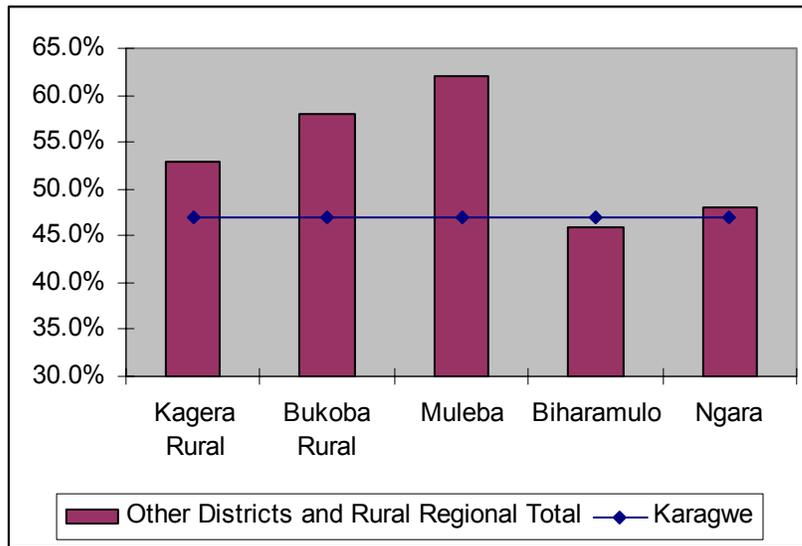


**Table 45: Type of livestock owned (Karagwe)**

|  | Livestock owned[1] | | | | |
|---|---|---|---|---|---|
|  | None | Large only | Small only | Both | Share of population |
| Kagera Rural | 53 | 4 | 35 | 8 | 100 |
| Karagwe | 47 | 3 | 41 | 10 | 24 |
| Bukoba Rural | 58 | 4 | 31 | 7 | 24 |
| Muleba | 62 | 5 | 27 | 6 | 21 |
| Biharamulo | 46 | 6 | 38 | 10 | 18 |
| Ngara | 48 | 3 | 38 | 10 | 13 |

1. Livestock does not include poultry

Large-scale land ownership is more common in Karagwe than in Kagera Rural as a whole. Figure 10 shows that while on average 8 percent of households in the area possess at least six acres of land, in Karagwe this proportion is slightly higher at 10 percent. Large-scale land ownership is least common in Bukoba Rural and Muleba; only 4 percent of households in these two districts possess more than six acres of land. Overall, Karagwe has the second highest proportion of large land-owners after Biharamulo where slightly fewer than one in six households holds over six acres of land. More detailed break-down of land ownership in Karagwe is presented in Table 46. Out of the surveyed districts, Karagwe has the smallest proportion of landless households. Overall, households in Karagwe tend to possess more land than average. For instance, while in Kagera Rural 52 percent of households possess two to six acres of land, in Karagwe this proportion is 59 percent.

**Figure 10: Percentage of households owning at least 6 acres of land (Karagwe)**
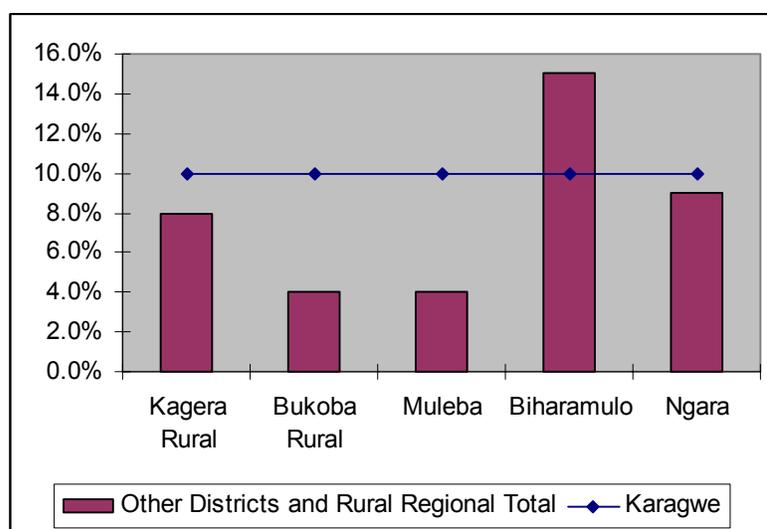


**Table 46: Amount of land owned (Karagwe)**

|  | Land Ownership | | | | | |
|---|---|---|---|---|---|---|
|  | None | <1 acre | 1-1,99 acres | 2-3,99 acres | 4-5,99 acres | 6+ acres | Share of population |
| Kagera Rural | 6 | 6 | 27 | 34 | 19 | 8 | 100 |
| Karagwe | 3 | 5 | 23 | 40 | 20 | 10 | 24 |
| Bukoba Rural | 3 | 4 | 35 | 36 | 18 | 4 | 24 |
| Muleba | 4 | 12 | 38 | 29 | 13 | 4 | 21 |
| Biharamulo | 17 | 3 | 13 | 27 | 25 | 15 | 18 |
| Ngara | 7 | 8 | 20 | 35 | 20 | 9 | 13 |

## 9.4 Education

Table 47 shows that Karagwe has the second highest literacy rate in the area. The literacy rate in Karagwe is slightly higher than the rural average rate across the region. 71 percent of the population aged 15 years or older in Karagwe are able to read and write in at least one language, compared to 70 percent in Kagera Rural as a whole. Bukoba Rural is the only district with a higher literacy rate at 77 percent.

Access rates to primary and secondary schools in Karagwe are the worst in the area. Only just over a third of children of primary school age in the district are able to get to a primary school within 30 minutes of travel; this does not compare well with the rural regional average of nearly 50 percent. In addition, only 7 percent of children of secondary school age in Karagwe have access to secondary schools, compared to the rural regional average of 15 percent. Access rates in Karagwe are substantially lower than even those in Ngara, the second worst district in terms of school access. For instance, in Ngara primary school access rate still exceeds that of Karagwe by more than 10 percentage points.

Primary school students in Karagwe and Bukoba Rural are less satisfied with the schools they attend than the rest of the student population in the area. The proportions of satisfied primary school students in these two districts are nearly 10 percentage points smaller than the average. In contrast, secondary school students in Karagwe appear to be roughly as happy with the schools they attend as those across the region - even slightly more so. While in Kagera Rural as a whole 81 percent of secondary school pupils cite no problems with their school, in Karagwe this proportion is higher at 85 percent.

**Table 47: Literacy rates, access to and satisfaction with primary and secondary schools (Karagwe)**

|  | Literacy rate[1] | Primary School | | Secondary School | |
|---|---|---|---|---|---|
|  |  | Access[2] | Satisfaction[3] | Access[2] | Satisfaction[3] |
| **Kagera Rural** | 70 | 49 | 67 | 15 | 81 |
| Karagwe | 71 | 35 | 59 | 7 | 85 |
| Bukoba Rural | 77 | 51 | 59 | 14 | 72 |
| Muleba | 68 | 50 | 77 | 13 | 80 |
| Biharamulo | 65 | 61 | 72 | 34 | 89 |
| Ngara | 64 | 47 | 72 | 9 | 87 |

1. Individuals aged 15 years and older
2. Reporting to live within 30 minutes travel to the nearest school
3. Proportion of children at school who cited no problem with the school

The main reasons for dissatisfaction are reported in Table 48. The most striking result here is the noticeably higher proportion pupils complaining about lack of teachers. On average nearly 60 percent of dissatisfied students find this problematic; in Karagwe this proportion is as high as 74 percent. In contrast, the rate of complaints regarding poor teaching is lowest in this region as is that regarding lack of books and supplies. More so than in the rest of the districts, lack of teachers stands out as the most prominent problem in Karagwe's schools.

**Table 48: Children currently at school and dissatisfied with it and reasons for dissatisfaction (Karagwe)**

| | | *Reasons for dissatisfaction*[1] | | | | |
| | Dissatis-faction | Books/ supplies | Poor teaching | Lack of teachers | Bad condition of facilities | Other |
|---|---|---|---|---|---|---|
| **Kagera Rural** | 32 | 57 | 11 | 59 | 45 | 1 |
| Karagwe | 39 | 52 | 7 | 74 | 55 | 1 |
| Bukoba Rural | 40 | 63 | 8 | 48 | 33 | 0 |
| Muleba | 22 | 59 | 17 | 53 | 43 | 0 |
| Biharamulo | 27 | 54 | 20 | 63 | 42 | 4 |
| Ngara | 27 | 52 | 6 | 48 | 57 | 3 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

While primary school Gross Enrolment Rate in Karagwe is second highest in the region after Bukoba Rural, at 101 percent, enrolment rate into secondary school is by far the lowest in the region at only 3 percent. In fact, secondary school GER is less than half of that in Bukoba Rural, the district with the highest secondary school GER, and more than 2 percentage points lower the regional average GER. Comparisons with other parts of Kagera Rural are given in Figure 11 and Figure 12

**Figure 11: Primary school Gross Enrolment Ratios (Karagwe)**
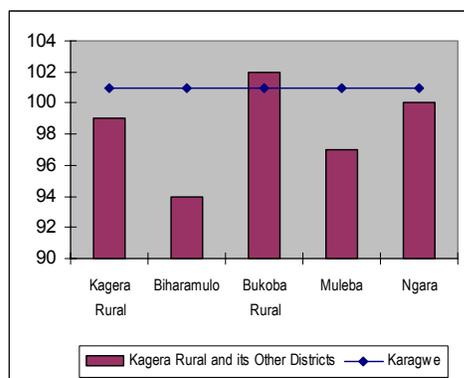


*  This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 12: Secondary school Gross Enrolment Ratios (Karagwe)**
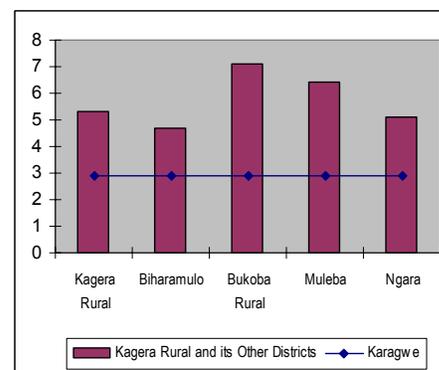


*  This figure does not present a formal statistical test of differences in mean

Despite the high primary school enrolment rate, Karagwe also has the second highest proportion of 7 to 13 year olds not attending school in the region. The rate of non attendance, however, is nearly the same as the regional average at roughly a quarter of the children in the age group.

Figure 13 shows that this does not compare favourably with some of the other districts in the region such as Bukoba Rural and Muleba where only around a fifth of the children in the age group were out of school at the time of the survey.

Figure 14 shows that there is little difference in terms of the number of years children lag behind at school. However, the number of years children lag behind at school in Karagwe and Biharamulo is higher than in the rest of the region at 2.4 years.

**Figure 13: Percentage of children age 7-13, who are not attending school (Karagwe)**
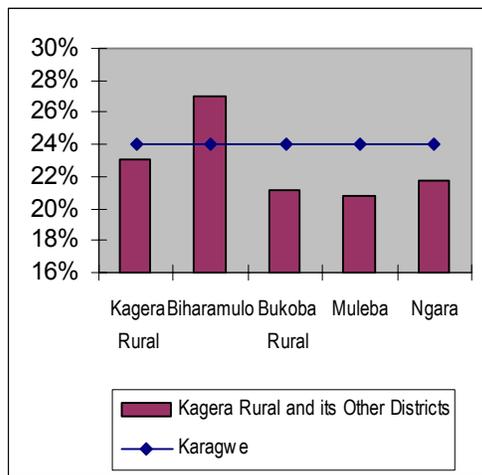


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

**Figure 14: Years of lag at school by school-going children aged 7-19 (Karagwe)**
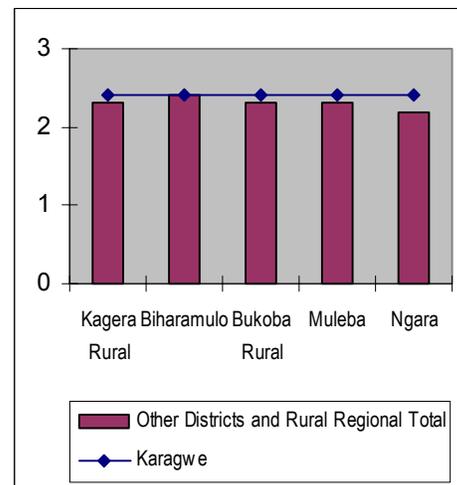


\* This figure does not present a formal statistical test of differences in means

## 9.5 Health

The rate of access to health facilities in Karagwe is the lowest in the region. Less than a fifth (17 percent) of all households in the district are located within 30 minutes of travel from the nearest health facility. This is nearly ten percentage points lower than the average access rate for Kagera Rural. Comparisons with other Kagera districts are given in Figure 15.

The rate of need of health facilities – defined as the percentage of households reporting an illness in the past 4 weeks – is lowest in Karagwe at 13 percent compared to the rural regional average of 15 percent. However, as can be seen from Figure 16, variation in rates of need across the district does not exceed 5 percentage points.

**Figure 15: Access to Health Facilities: % of households living within 30 minutes of travel (Karagwe)**
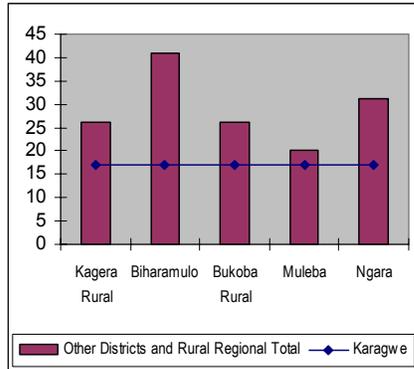


* This figure does not present a formal statistical test of differences in means

**Figure 16: Need for Health Facilities: % of people reporting an illness in past 4 weeks (Karagwe)**
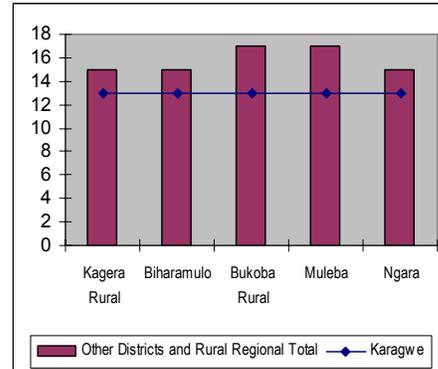


* This figure does not present a formal statistical test of differences in means

As shown in Figure 17, the rate of health facility use in Karagwe is the lowest in the area. Roughly 13 percent of the people in Karagwe had consulted a health provider in the four weeks preceding the survey compared to the rural average of 15 percent. Variation in the rate of use across the districts, again, does not exceed 5 percentage points.

Overall, roughly 76 percent of those who had used a health facility in Karagwe were satisfied with the service they received. Even though, as can be seen in Figure 18, this is the lowest satisfaction rate in the region, variation in satisfaction rates across the districts does not exceed 4 percentage points.

**Figure 17: Use of Health Facilities: % of people reported to have visited one in the past 4 weeks (Karagwe)**
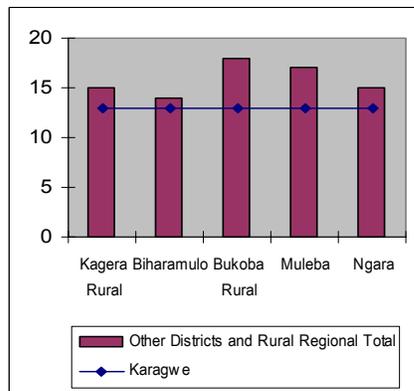


* This figure does not present a formal statistical test of differences in means

**Figure 18: Satisfaction with Health Facilities: % of users in past 4 weeks who reported to be satisfied (Karagwe)**
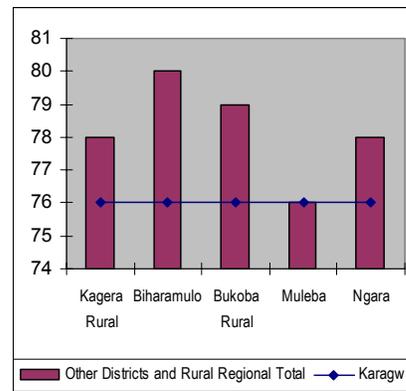


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

Table 49 gives the main reasons for dissatisfaction with health services. Compared to the rural regional trend, health facility users in Karagwe complain about unsuccessful treatment and shortages of trained professionals more than average. Overall, there is a more even distribution of complaints in Karagwe than in the other districts; all problems but lack of supplies, had been mentioned by at least roughly a fifth of the dissatisfied population and more in the majority of cases.

**Table 49: Reasons for dissatisfaction with health services (Karagwe)**

| | Dissati-sfaction | *Reasons for dissatisfaction[1]* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Hygiene | Long wait | Shortage of trained professionals | Cost | No drugs available | Unsuc-cessful treatment | Lack of supplies | Other |
| **Kagera Rural** | 22 | 15 | 28 | 16 | 34 | 28 | 34 | 4 | 0 |
| Karagwe | 24 | 18 | 32 | 21 | 27 | 38 | 41 | 5 | 0 |
| Bukoba Rural | 21 | 8 | 42 | 28 | 29 | 27 | 18 | 2 | 0 |
| Muleba | 24 | 17 | 17 | 7 | 30 | 24 | 38 | 8 | 1 |
| Biharamulo | 20 | 14 | 15 | 9 | 56 | 26 | 38 | 0 | 0 |
| Ngara | 22 | 15 | 25 | 6 | 34 | 24 | 42 | 4 | 0 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

## 9.6   Child Delivery and Nutrition

Figure 19 shows that the rate of use of health facilities to deliver a child in Karagwe is much lower than anywhere else in the region. Less than 30 percent of women in Karagwe had given birth in a hospital or maternity ward in the twelve months preceding the survey. This is substantially lower than the 43 percent of women who had done so across the rural area of the region. Figure 19 also shows that Karagwe compares unfavourably to the rest of the districts, where rates of hospital use in delivering a child are all over 40 percent.

**Figure 19: Percentage of mothers delivering in a hospital or maternity ward (Karagwe)**
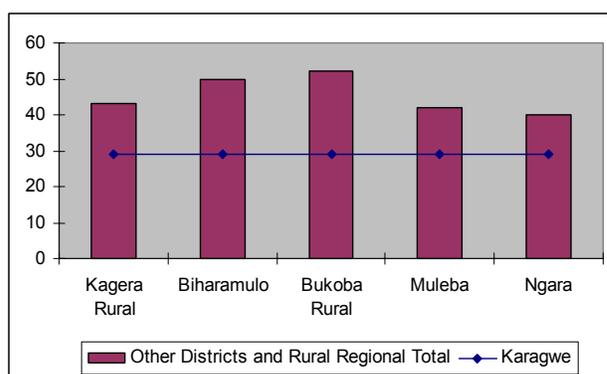


*  This figure does not present a formal statistical test of differences in means

As can be seen in Figure 20, the proportion of stunted children under the age of five in Karagwe is higher than anywhere else in the region. Every other child under the age of five in Karagwe is too short for his/her age and is hence suffering from chronic malnutrition. Stunting rates do not exceed 43 percent in any of the other rural districts.

Set against the finding of Karagwe as the district with lowest poverty rates, this is a surprising result. Such outcome may in part be explained by people's diet (which in turn may depend on lack of knowledge on nutrition) rather than related to poverty as such.

In contrast, Figure 21 indicates that wasting is less common in Karagwe than in the rest of the region, but the difference is small. While, on average, 8 percent of children under the age of five in the region are too light for their height, in Karagwe this proportion is even lower at 6 percent.

**Figure 20: Percentage of chronically malnourished children (stunting at -2sd): Karagwe**
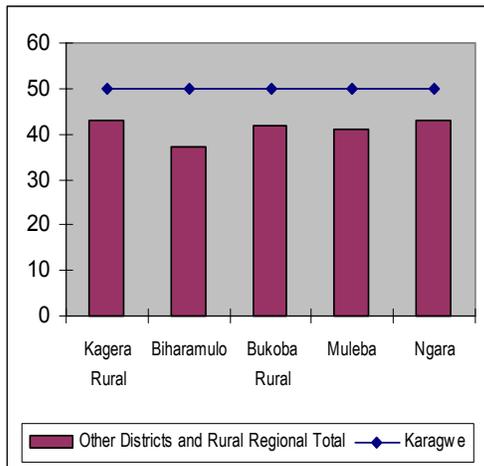


* This figure does not present a formal statistical test of differences in means

**Figure 21: Percentage of acutely malnourished children (wasting at -2sd): Karagwe**
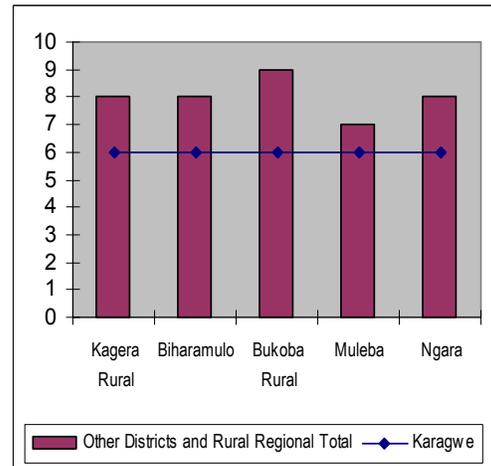


This figure does not present a formal statistical test of differences in means

## 9.7  Employment

The proportion of non-working or non employed individuals Karagwe is lower than in the majority of the districts in Kagera Rural. 36 percent of individuals aged 15 years and older in the district are not employed to full capacity, compared to 43 percent in Bukoba Rural, where unemployment and underemployment are most common. As can be seen in Figure 22, the percentage of reference population employed to full capacity in Karagwe is only slightly higher than the rural regional average.

**Figure 22: Percentage of population employed to full capacity (Karagwe)[1]**
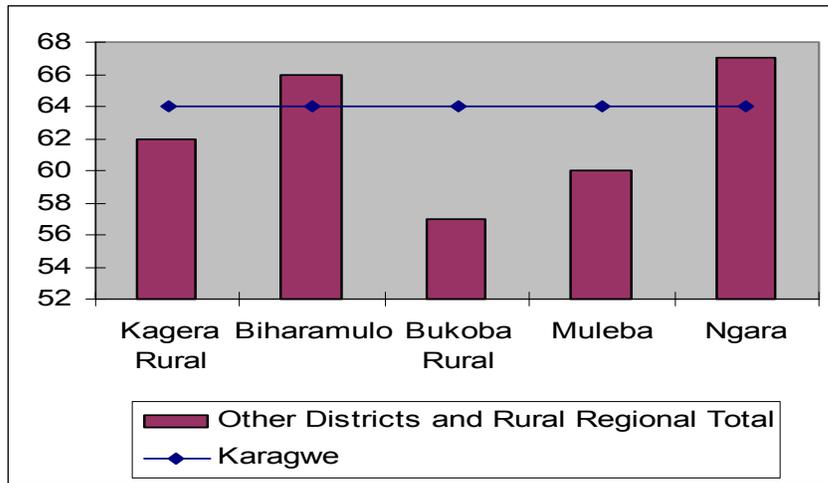


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

## 9.8  Other Welfare Indicators

Figure 23 shows that reported food need is among the lowest in Karagwe. Nearly a quarter of the households in the district claim to have not experienced food shortages at any point in the year preceding the survey; this is almost equal to the proportion of households reporting no food need in Biharamulo – the district with the lowest rate of food need in the region. This compares well to the region as a whole. In Kagera Rural, a fifth of the households reported no food shortages in the year preceding the survey; in Muleba, the district with highest rates of food need, only 13 percent of households were in the same position.

Figure 24 shows that Karagwe scores worse on access to drinking water than any other district in the region. Only 43 percent of households in the district are located within 30 minutes of travel from the nearest source of drinking water. The drinking water access rate in Karagwe is more than 10 percentage points lower than the average access rate for the area and more than 30 percentage points lower than the access rate in Biharamulo – the district with the highest rate of access to drinking water facilities.

**Figure 23: Percentage of household reporting never to face food shortages (Karagwe)**
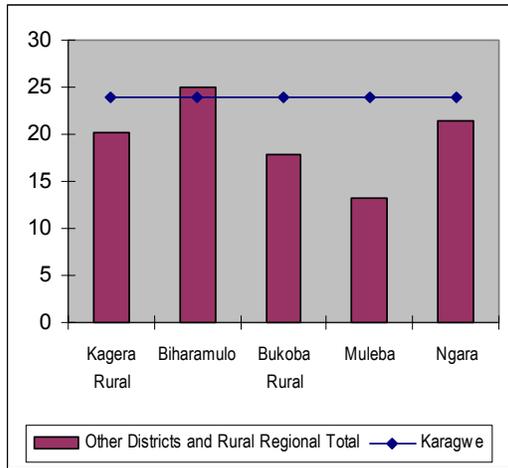


* This figure does not present a formal statistical test of differences in means

**Figure 24: Percentage of households with access to drinking water facilities (Karagwe)**
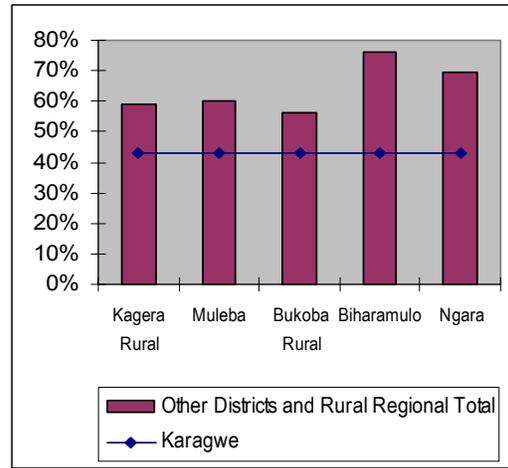


* This figure does not present a formal statistical test of differences in means

Figure 25 informs on the proportion of households who had reported a worsening of the economic situation in the community. The proportion of households assessing the situation in the community as worse or much worse in Karagwe is among the lowest in the region. Despite, among others, high stunting rates among infants, low access rates to health facilities, and high rates of non-attendance among primary school age children, the proportion of households noting deterioration in the economic situation in the community is 4 percentage points lower than the rural regional average and more than 10 percentage points lower than that in Muleba. Nevertheless, still, 73 percent of households did report deterioration in the economic situation of the community.

Similarly, Figure 26 indicates that the assessment of the economic situation in the households of Karagwe compared to the previous year was also slightly more positive than in the region as a whole. Variation in proportions of households citing deterioration in the economic situation of the household is smaller than in the previous instance. Nevertheless, this proportion in Karagwe is still five percentage points lower than that in Muleba – the district with the highest proportion of households reporting deterioration.

**Figure 25: Percentage of households who feel that the economic situation in the *community* has deteriorated in the year preceding the survey (Karagwe)**
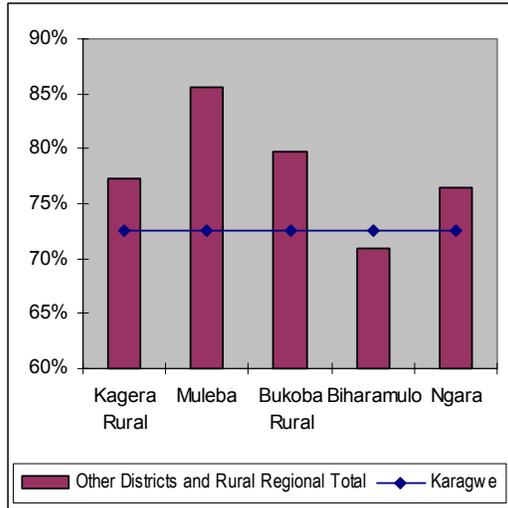
**Figure 26: Percentage of households who feel that the economic situation in the *household* has deteriorated in the year preceding the survey (Karagwe)**



\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0



\*
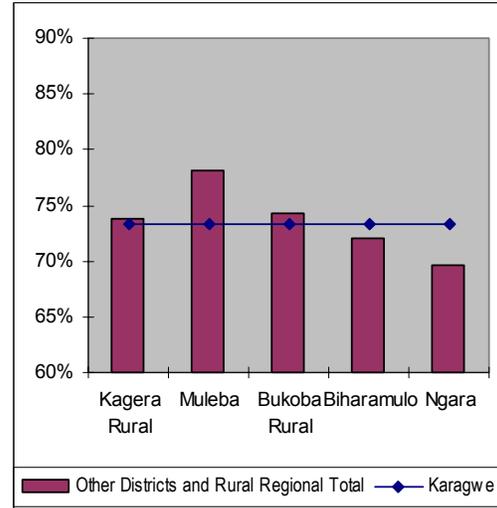
This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

# 10 SPOTLIGHT ON BUKOBA RURAL

## 10.1 Key Findings of Rural Kagera CWIQ for Bukoba Rural

1. The largest share of households is found in Bukoba Rural district. Nearly a quarter of the households in Kagera Rural (24 percent) are located in Bukoba Rural district.

2. Bukoba Rural has the second lowest poverty rate in Kagera Rural. However, as this is the most highly populated district in the area, the second largest proportion of poor households in Kagera Rural is located here.

3. Average household size in Bukoba Rural is at the lower end of the distribution with 5 people per household. The proportion of female headed households is higher here than in the rest of Kagera Rural.

4. Livestock ownership and large-scale land ownership is not as common in Bukoba Rural as in the majority of the other rural districts.

5. While physical access rates to primary and secondary schools in the district are close to the average, the literacy rate here is by far the highest in the area.

6. Satisfaction levels in both primary and secondary schools are lowest in the region. While, as in the rest of the area, lack of teachers and bad conditions of facilities are among the most commonly cited problems in the district, they are not as prevalent as in Kagera Rural as a whole. Lack of books and supplies, on the other hand, appear to be more of a problem than in the other districts.

7. Bukoba Rural has the lowest proportion of its 7 to 13 year old population out of school. Both primary and secondary school Gross Enrolment Rates in this district are the highest in Kagera Rural.

8. While the level of access to health facilities in Bukoba Rural is roughly equal to that in Kagera Rural as a whole, reported rates of need and use of health facilities are highest in the area.

9. The level of satisfaction with health service provision in Bukoba Rural is close to that in the whole of Kagera Rural. However, the reasons for dissatisfaction differ from the general trend; waiting time and lack of trained professionals are much more commonly cited complaints in Bukoba Rural than in the rest of the districts.

10. The proportion of births in Bukoba Rural conducted in a hospital or maternity ward is by far the highest in Kagera Rural.

11. The proportion of children under the age of five in Bukoba Rural who are too short for their age (stunted) is roughly equal to the rural average. However, the rate of acute malnutrition here (wasting) is higher than in the rest of Kagera Rural.

12. Bukoba Rural has the highest proportion of unemployed and underemployed individuals over the age of 14. The proportion of the reference population employed to capacity here is the lowest in the region.

13. Bukoba Rural has the second highest percentage of respondents reporting a food shortage in the year preceding the survey. This is also the district with the second highest proportions of households reporting deterioration in the economic situation of both the community and the households.

14. Bukoba Rural is characterised by the second lowest rate of access to drinking water facilities. 44 percent of the households in the district are located more than 30 minutes of travel from the nearest source of drinking water.

## 10.2 Poverty

Figure 27 shows the basic needs poverty rates for Kagera Rural and for all of its different rural districts, as imputed by the poverty predictors in the Kagera Rural CWIQ survey. The top line represents the poverty rate in Bukoba Rural. The results show that 30 percent of the households in Bukoba Rural live under the basic needs poverty line. The poverty rate thus defined is slightly lower than the rural regional average. Poverty rate in Bukoba Rural is the second lowest in the region after Karagwe. Overall, poverty rates across the districts do not vary substantially with the exception of Karagwe.

Figure 28 shows that there are over 27,000 households in Bukoba Rural living below the basic needs poverty line. Although the poverty rate in Bukoba Rural is second lowest in the region, as it is the most populated district in the region, the poor households here make up 23 percent of all poor households in Kagera Rural.

**Figure 27: Basic needs poverty rates (Bukoba Rural)**
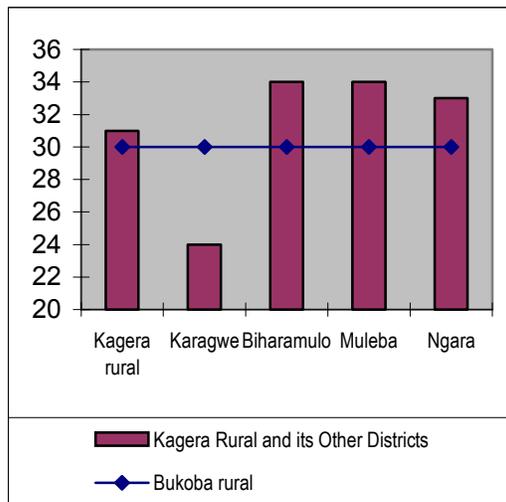


Kagera Rural and its Other Districts

Bukoba rural

\*  This figure does not present a formal statistical test of differences in means

\*\* The y-axis does not start at 0

**Figure 28: Bukoba Rural's share of the poor households in Kagera Rural**
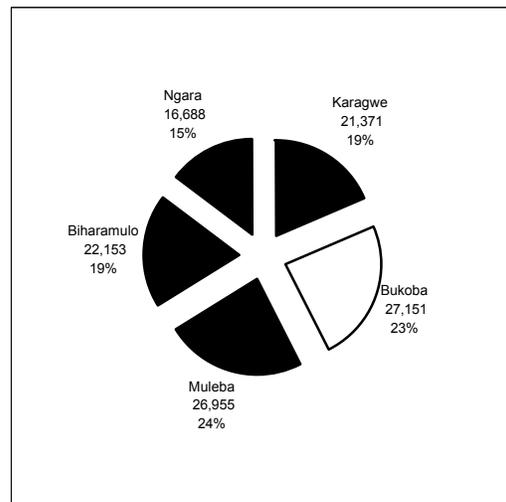


\*  This figure does not present a formal statistical test of differences in means

## 10.3 Population

The average size of the households in Bukoba Rural is smaller than the average size of the households in Kagera Rural as a whole. The average household size in the region is 5.2 people, in Bukoba Rural it is slightly smaller at 5 people per household.

Female headed households are more common in Bukoba Rural than in any of the other districts in the region; 21 percent of the households in this district are headed by females

compared to the rural regional average of 18 percent. Figure 30 provides a detailed picture.

**Figure 29: Average household size (Bukoba Rural)**
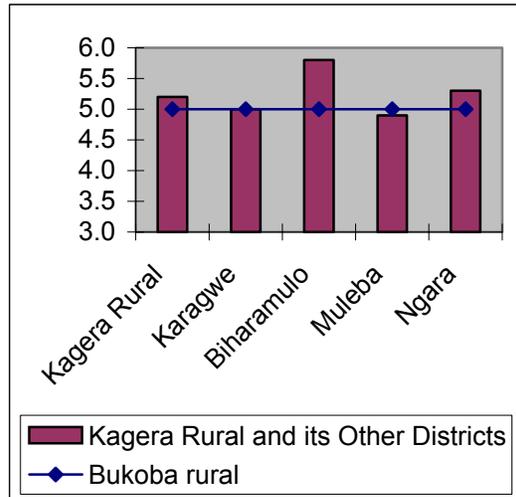


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**Figure 30: Percentage of female household heads (Bukoba Rural)**
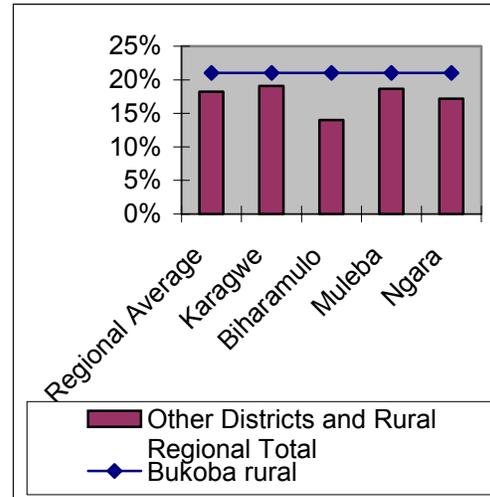


* This figure does not present a formal statistical test of differences in means

Figure 31 shows that livestock holding is not as prevalent in Bukoba Rural as in the majority of the other districts. Almost three fifths of the households in the district (58 percent) do not own any livestock compared to the regional average of 53 percent. Further, this is reflected most in the proportion of households holding small/medium size livestock only. As shown in Table 50, proportions of households owning large livestock only or both small and large livestock in Bukoba Rural do not differ substantially from the trends observed in the rest of the region. However, while in Biharamulo and Karagwe 38 percent and 41 percent of households respectively hold small livestock only, in Bukoba Rural this proportion is only 31 percent.

**Figure 31: Percentage of households owning no livestock (Bukoba Rural)**
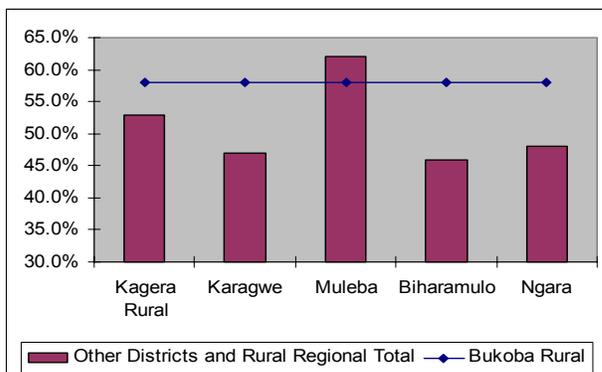


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Table 50: Type of livestock owned (Bukoba Rural)[1]**

|  | | Livestock owned | | | |
|---|---|---|---|---|---|
|  | None | Large only | Small only | Both | Share of population |
| **Kagera Rural** | 53 | 4 | 35 | 8 | 100 |
| Karagwe | 47 | 3 | 41 | 10 | 24 |
| Bukoba Rural | 58 | 4 | 31 | 7 | 24 |
| Muleba | 62 | 5 | 27 | 6 | 21 |
| Biharamulo | 46 | 6 | 38 | 10 | 18 |
| Ngara | 48 | 3 | 38 | 10 | 13 |

1. Livestock does not include poultry

Large-scale land ownership is less common in Bukoba Rural and Muleba than anywhere else in Kagera Rural. Figure 32 shows that while on average 8 percent of households in the area possess at least six acres of land, in Bukoba Rural the proportion is half of this at 4 percent. In Biharamulo, on the other hand, where large-scale land ownership is more prevalent than in the rest of the region, nearly four times as high a proportion of households own at least six acres of land as in Bukoba Rural.

The tendency to smaller-scale land ownership in Bukoba Rural can be observed in Table 51. Out of the surveyed districts, Bukoba Rural has the second highest proportion of households owning one to two acres of land after Muleba at 35 percent, compared to the 27 percent rural regional average.

**Figure 32: Percentage of households owning at least 6 acres of land (Bukoba Rural)**
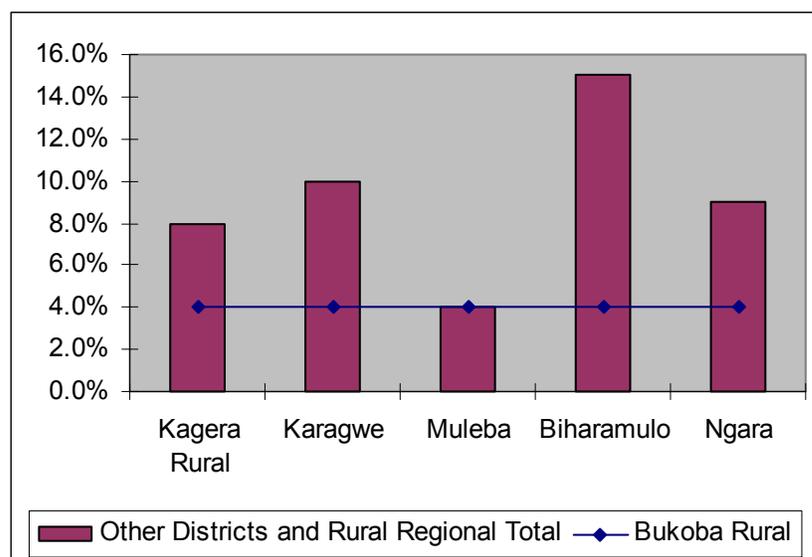


* This figure does not present a formal statistical test of differences in means

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**Table 51: Amount of land owned (Bukoba Rural)**

| | | | Land Ownership | | | | |
|---|---|---|---|---|---|---|---|
| | None | <1 acre | 1-1,99 acres | 2-3,99 acres | 4-5,99 acres | 6+ acres | Share of population |
| **Kagera Rural** | 6 | 6 | 27 | 34 | 19 | 8 | 100 |
| Karagwe | 3 | 5 | 23 | 40 | 20 | 10 | 24 |
| Bukoba Rural | 3 | 4 | 35 | 36 | 18 | 4 | 24 |
| Muleba | 4 | 12 | 38 | 29 | 13 | 4 | 21 |
| Biharamulo | 17 | 3 | 13 | 27 | 25 | 15 | 18 |
| Ngara | 7 | 8 | 20 | 35 | 20 | 9 | 13 |

## 10.4 Education

Bukoba Rural has by far the highest literacy rate in the region. 77 percent of the population aged 15 years or above in Bukoba Rural are able to read and write in at least one language, compared to 70 percent in Kagera Rural as a whole. Table 52 shows that not only is the literacy rate in Bukoba Rural substantially higher than average, it is also significantly ahead of the rest of the districts; there is a difference of 6 percentage points between the literacy rate in Bukoba Rural and that in Karagwe, the district with the second highest literacy rate in the region.

Primary school access rate in Bukoba Rural is close to the rural average for the region at 51 percent and is the second highest in the region after Biharamulo. Secondary school access rate in Bukoba Rural is also close to the rural average for the region at 14 percent. Table 52 shows that while these rates are close to those in Muleba, Ngara and Kagera Rural as a whole, they are not nearly as good as access rates in Biharamulo, where three fifths of 7 to 13 year olds, and over a third of 14 to 19 year olds live no more than 30 minutes of travel from primary and secondary schools respectively.

Primary and secondary school students in Bukoba Rural are less satisfied with the schools they attend than pupils in the rest of the region. While on average 67 percent of primary school pupils cite no problems with the schools they attend, in Bukoba Rural this proportion is nearly ten percentage points lower at 59 percent. A similar difference in satisfaction rates is evident between secondary school students in Bukoba Rural and Kagera Rural as a whole. Secondary school satisfaction rate in Bukoba Rural appears especially low when compared to Ngara and Biharamulo where proportions of satisfied students make up close to 90 percent of the secondary school student population.

**Table 52: Literacy rates, access to and satisfaction with primary and secondary schools (Bukoba Rural)**

| | Adult Literacy rate[1] | Primary School | | Secondary School | |
|---|---|---|---|---|---|
| | | Access[2] | Satisfaction[3] | Access[2] | Satisfaction[3] |
| **Kagera Rural** | 70 | 49 | 67 | 15 | 81 |
| Karagwe | 71 | 35 | 59 | 7 | 85 |
| Bukoba Rural | 77 | 51 | 59 | 14 | 72 |
| Muleba | 68 | 50 | 77 | 13 | 80 |
| Biharamulo | 65 | 61 | 72 | 34 | 89 |
| Ngara | 64 | 47 | 72 | 9 | 87 |

1. Individuals aged 15 years and older
2. Reporting to live within 30 minutes travel to the nearest school
3. Proportion of children at school who cited no problem with the school

The main reasons for dissatisfaction are reported in Table 53. Complaints regarding lack of books and supplies are slightly more common in Bukoba Rural than in other districts. In contrast, lack of teachers and bad conditions of facilities are less of a problem in this district than in the rest of the region.

**Table 53: Children currently at school and dissatisfied with it and reasons for dissatisfaction (Bukoba Rural)**

| | Dissatis-faction | Reasons for dissatisfaction[1] | | | | |
|---|---|---|---|---|---|---|
| | | Books/ Supplies | Poor teaching | Lack of teachers | Bad condition of facilities | Other |
| **Kagera Rural** | 32 | 57 | 11 | 59 | 45 | 1 |
| Karagwe | 39 | 52 | 7 | 74 | 55 | 1 |
| Bukoba Rural | 40 | 63 | 8 | 48 | 33 | 0 |
| Muleba | 22 | 59 | 17 | 53 | 43 | 0 |
| Biharamulo | 27 | 54 | 20 | 63 | 42 | 4 |
| Ngara | 27 | 52 | 6 | 48 | 57 | 3 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

Both primary and secondary school Gross Enrolment Rates are higher in Bukoba Rural than in the rest of the region. The primary school GER exceeds the rural regional average by three percentage points, and the GER in Biharamulo, where lowest primary school GER is found, by nearly 10 percentage points. Secondary school GER in Bukoba Rural is more than twice as high as that in Karagwe, the district with the lowest secondary school GER in the region. Comparisons with other parts of Kagera are presented in Figure 33 and Figure 34.

**Figure 33: Primary school Gross Enrolment Ratios (Bukoba Rural)**
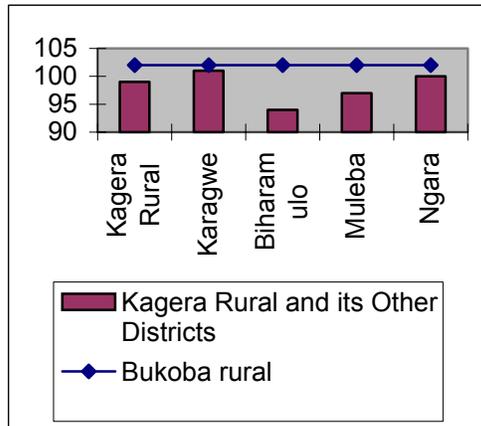


* This figure does not present a formal statistical test of differences in means
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**Figure 34: Secondary school Gross Enrolment Ratios (Bukoba Rural)**
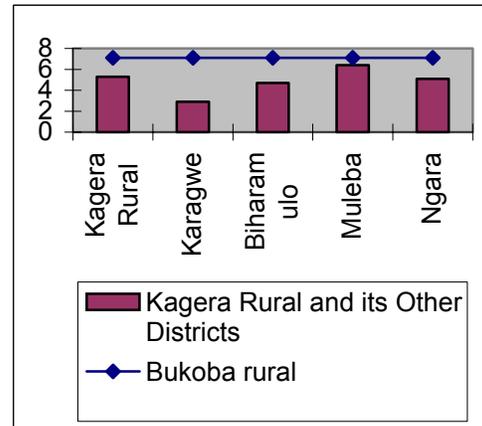


* This figure does not present a formal statistical test of differences in means

Not only is the primary school Gross Enrolment Rate in Bukoba Rural the highest in the region, the highest attendance rate by primary school age children is also found here. Only just over a fifth of all 7 to 13 year olds living in Bukoba Rural were not attending school at the time of the survey. Figure 35 shows that this compares favourably with all other districts in the survey: nowhere else in Kagera Rural is the proportion of 7 to 13 year olds out of school so low.

Figure 36 shows that the number of years children lag behind at school in Bukoba Rural is equal to the rural regional average at 2.3 years.

**Figure 35: Percentage of children age 7-13 who are not attending school (Bukoba Rural)**
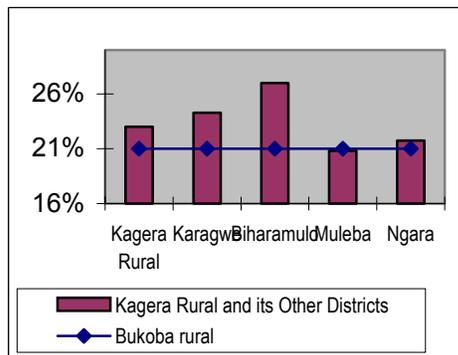


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 36: Years of lag at school by school-going children aged 7-19 (Bukoba Rural)**
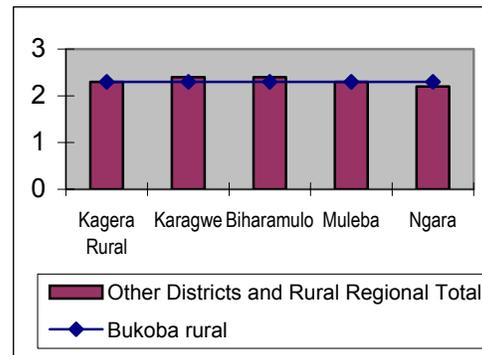


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This figure does not present a formal statistical test of differences in mean

## 10.5 Health

Access rate to health facilities in Bukoba Rural is the same as that for the region as a whole. In Kagera Rural and in Bukoba Rural just over a quarter (26 percent) of households are located within 30 minutes of travel from a health facility. Comparisons with other Kagera Rural districts are given in Figure 37.

The rate of need of health facilities – defined as the percentage of households reporting an illness in the past 4 weeks – is highest in Bukoba Rural and Muleba at 17 percent. However, as can be seen from Figure 38, variation in rates of need across the district does not exceed 5 percentage points.

**Figure 37: Access to Health Facilities: % of households living within 30 minutes travel (Bukoba Rural)**
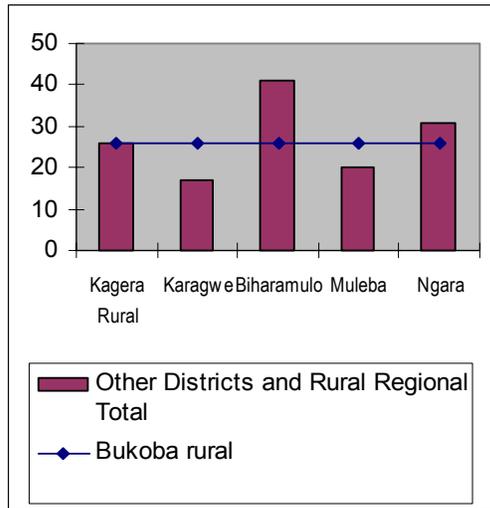


*  This figure does not present a formal statistical test of differences in means

**Figure 38: Need for Health Facilities: % of people reporting an illness in past 4 weeks (Bukoba Rural)**
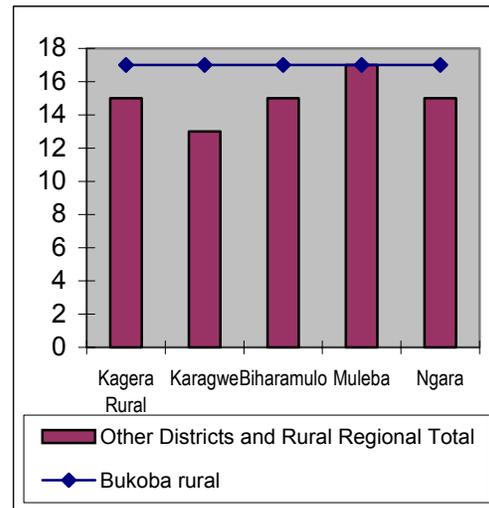


*  This figure does not present a formal statistical test of differences in means

Figure 39 shows that use of health facilities in Bukoba Rural is more widespread than in the rest of the region. Roughly 17 percent of the people in Bukoba Rural had consulted a health provider in the four weeks preceding the survey compared to an average of 15 percent across the region.

Overall, approximately 79 percent of those who had used a health facility in Bukoba Rural were satisfied with the service they received.  As can be seen in Figure 40, this is the second highest satisfaction rate in the region, superseded only by Biharamulo.  Again, however, variation in satisfaction rates across the districts does not exceed 5 percentage points.

**Figure 39: Use of Health Facilities: % of people reported to have visited one in the past 4 weeks (Bukoba Rural)**
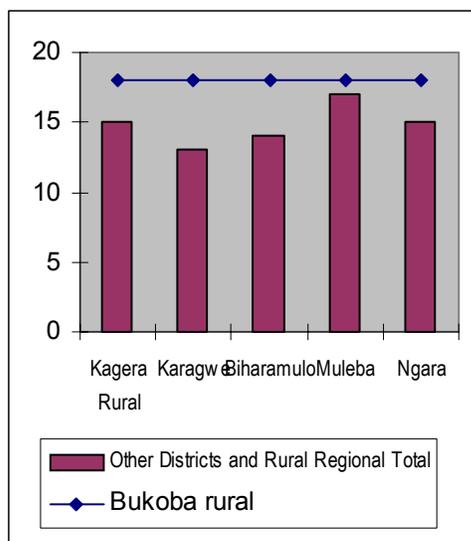
**Figure 40: Satisfaction with Health Facilities: % of users in past 4 weeks who reported to be satisfied (Bukoba Rural)**
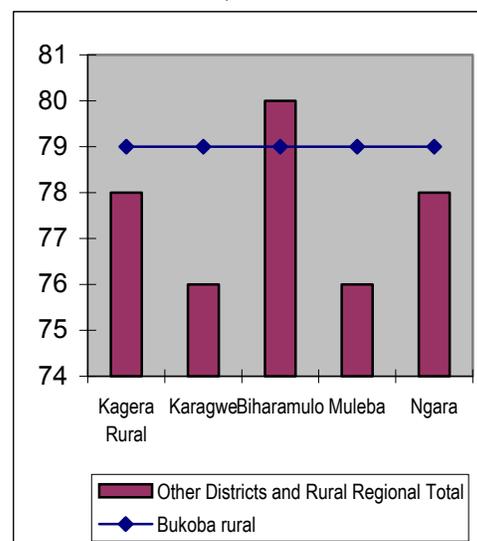


* This figure does not present a formal statistical test of differences in means



* This figure does not present a formal statistical test of differences in means
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Table 54 gives the reasons for dissatisfaction with health services. Compared to other districts, health facility users in Bukoba Rural appear to be less dissatisfied with the effectiveness of the treatment received and the level of hygiene in health facilities. However, there is a noticeably higher proportion of dissatisfied individuals complaining about waiting time and shortage of trained professionals here.

**Table 54: Reasons for dissatisfaction with health services (Bukoba Rural)**

| | Dissatis-faction | Reasons for dissatisfaction[1] | | | | | | | |
| | | Hygiene | Long wait | Shortage of trained professio-nals | Cost | No drugs available | Unsuccess-ful treatment | Lack of supplies | Other |
|---|---|---|---|---|---|---|---|---|---|
| **Kagera Rural** | 22 | 15 | 28 | 16 | 34 | 28 | 34 | 4 | 0 |
| Karagwe | 24 | 18 | 32 | 21 | 27 | 38 | 41 | 5 | 0 |
| Bukoba Rural | 21 | 8 | 42 | 28 | 29 | 27 | 18 | 2 | 0 |
| Muleba | 24 | 17 | 17 | 7 | 30 | 24 | 38 | 8 | 1 |
| Biharamulo | 20 | 14 | 15 | 9 | 56 | 26 | 38 | 0 | 0 |
| Ngara | 22 | 15 | 25 | 6 | 34 | 24 | 42 | 4 | 0 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

## 10.6 Child Delivery and Nutrition

Figure 41 shows that mothers in Bukoba Rural district tend to give birth in hospitals and maternity wards much more often than in other rural parts of the region. The proportion of women who had given birth in a hospital or a maternity ward in the last five years, is nearly 10 percentage points higher in Bukoba Rural than in the Kagera Rural area as a whole.

**Figure 41: Percentage of mothers delivering in a hospital or maternity ward (Bukoba Rural)**
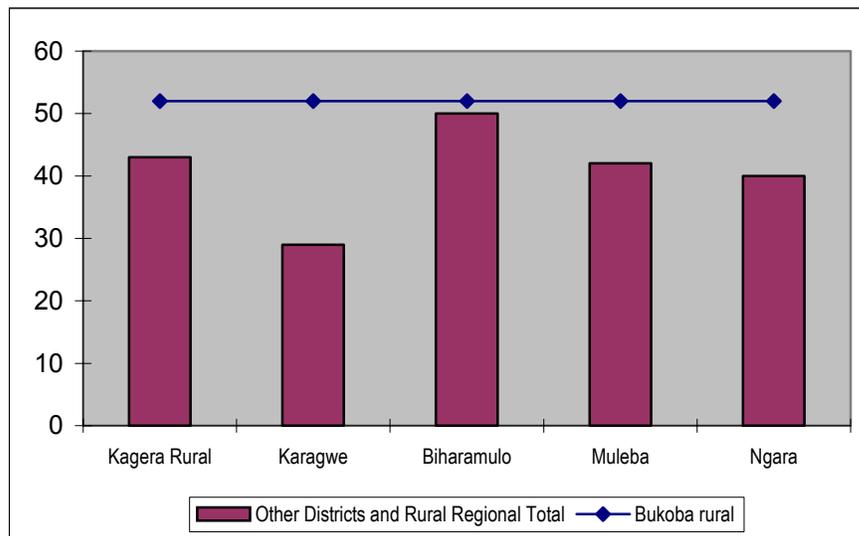


* This figure does not present a formal statistical test of differences in means

As indicated in Figure 42, the rate of chronic malnourishment among children under the age of five in Bukoba Rural is roughly equal to the average rate for the area at 42 percent. This means that more than two out of every five children in the district are suffering from long-term malnutrition.

Acute malnourishment (wasting) is more common in Bukoba Rural than any other district. Here 9 percent of children under the age of five are too light for their height compared to 8 percent in Kagera Rural as a whole.

**Figure 42: Percentage of chronically malnourished children (stunting at -2sd): Bukoba Rural**
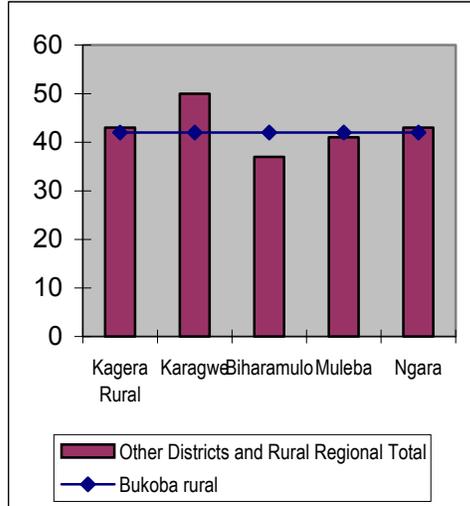


* This figure does not present a formal statistical test of differences in means

**Figure 43: Percentage of acutely malnourished children (wasting at -2sd): Bukoba Rural**
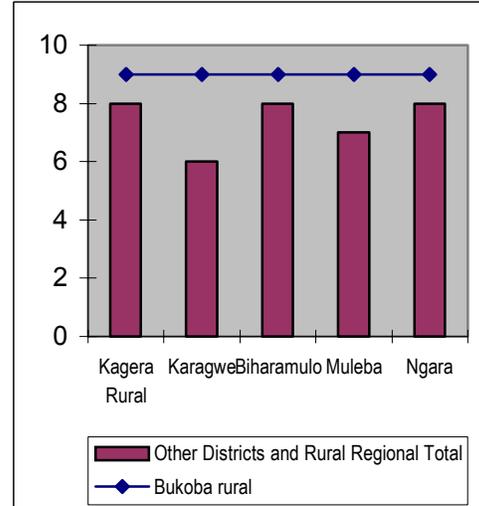


* This figure does not present a formal statistical test of differences in means

## 10.7 Employment

Compared to the rest of the region, Bukoba Rural has the lowest proportion of individuals employed to full capacity. Over two fifths of individuals aged 15 and older in the district are either not working or are underemployed. While in Kagera Rural region as a whole 62 percent of over fourteen year-olds are employed to full capacity, this is the case for 57 percent of the reference population in Bukoba Rural.

**Figure 44: Percentage of population employed to full capacity (Bukoba Rural)[1]**
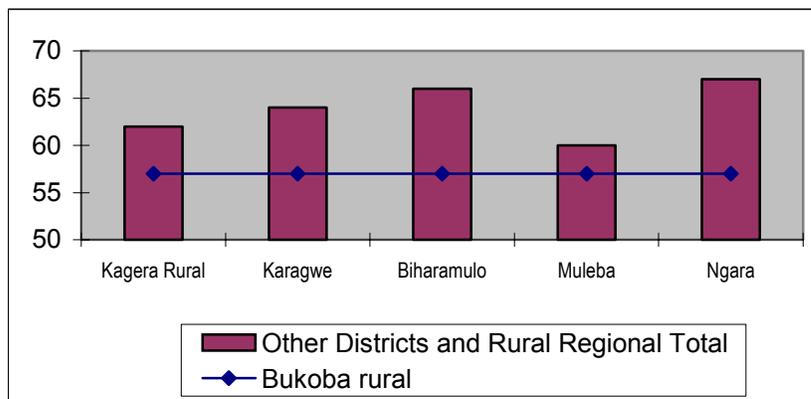


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

## 10.8 Other Welfare Indicators

Figure 45 shows that reported food need is second highest in Bukoba Rural. Only 18 percent of households in this district claim to not have experienced food need in the year preceding the survey. This proportion is not substantially smaller than the average for Kagera Rural (20 percent). With 82 percent of households reporting occurrence of food need in the year preceding the survey, the rate of food shortage occurrence is still at the lower end of the distribution.

Figure 46 indicates that the rate of access to drinking water facilities in Bukoba Rural is the second lowest in the region after Karagwe. However, while in Karagwe only 43 percent of households are located within 30 minutes of travel from the nearest drinking water facility, in Bukoba Rural this proportion is more than 10 percentage points higher at 56 percent.

**Figure 45: Percentage of household reporting never to face food shortages (Bukoba Rural)**
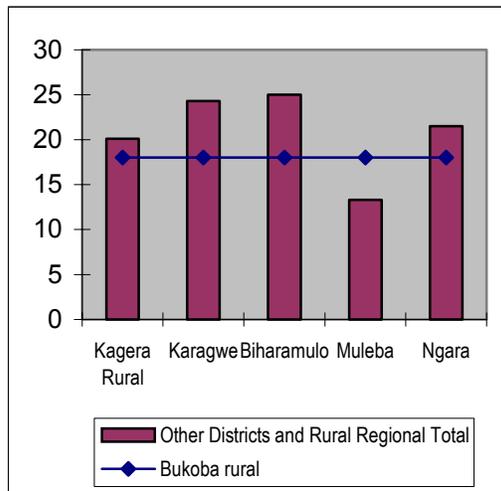


**Figure 46: Percentage of households with access to drinking water facilities (Bukoba Rural)**



\* This figure does not present a formal statistical test of differences in means
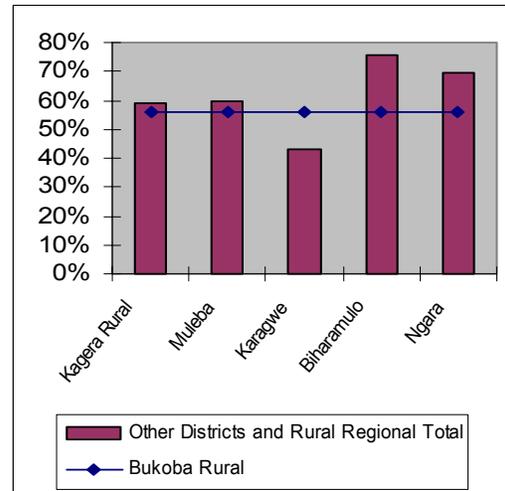
\* This figure does not present a formal statistical test of differences in means

Figure 47 informs on the proportion of households who had reported a worsening of the economic situation in the community. The second highest proportion of households assessing the situation in the community as worse or much worse is found in Bukoba Rural. One fifth of the households in the district had assessed the situation as the same or improving compared to the previous year. The proportion of households in Bukoba Rural reporting deterioration in the economic situation of the community over the year preceding the survey is only three percentage points higher than the average for the area. The most optimistic outlook was found in Biharamulo where nearly 30 percent of households cited no change or improvement in the economic situation of the community.

Similarly, Figure 48 indicates that the assessment of the economic situation in the households of Bukoba Rural compared to the previous year was also less positive than in the majority of the districts. The proportion of households citing deterioration in the economic situation of the household in Bukoba Rural is equal to the average in Kagera Rural at 74 percent.

**Figure 47: Percentage of households who feel that the economic situation in the *community* has deteriorated in the year preceding the survey (Bukoba Rural)**
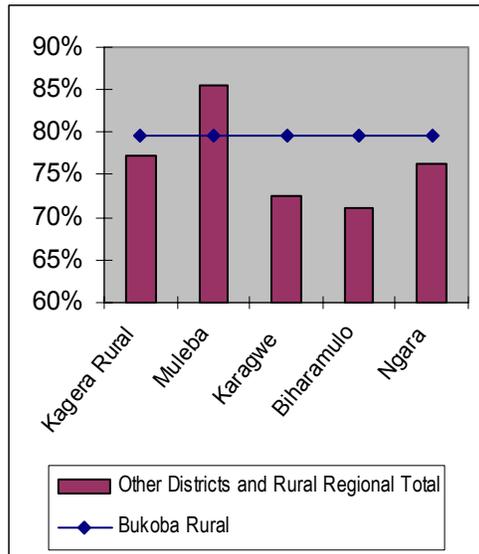
**Figure 48: Percentage of households who feel that the economic situation in the *household* has deteriorated in the year preceding the survey (Bukoba Rural)**



*  This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0
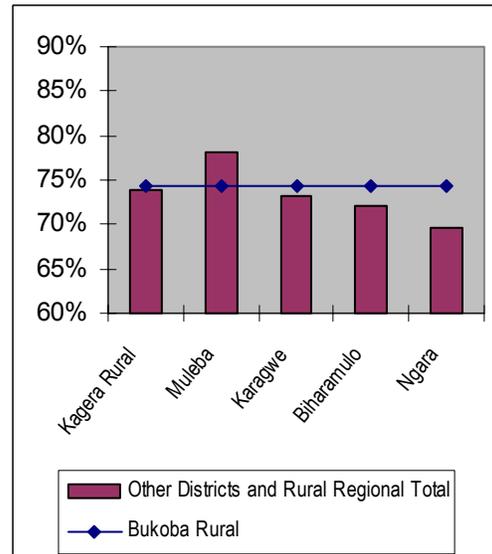


*  This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

# 11 SPOTLIGHT ON MULEBA

## 11.1 Key Findings of Rural Kagera CWIQ for Muleba

1. Muleba district contains a fifth of the households in Kagera Rural

2. Muleba has the highest poverty rate in the Kagera Region. Nearly a quarter of the poor households in Kagera Rural are located here.

3. Muleba has the smallest households, with, on average, 4.9 members. It is characterized by a large proportion of female headed households compared to other districts.

4. Livestock ownership and large-scale land ownership is less prevalent in Muleba than in the rest of the region.

5. Both physical access rates to school and literacy rates in Muleba are roughly equal to the rural regional average.

6. Less than a quarter of students complain about their schools which is much less than in Kagera Rural as a whole. In primary schools, especially, satisfaction rates are higher than in the rest of the region. The pattern of complaints is typical of the region as a whole, with lack of teachers, books, and supplies being most common causes for discontent.

7. Muleba has the lowest percentage of its 7 to 13 year old population out of school. The primary school Gross Enrolment Ratio is among the lowest in the region after Biharamulo. In contrast, the secondary school Gross Enrolment Ratio is second best after Bukoba Rural.

8. Health facility access rates in Muleba are among the worst in the region: only one out of five households here are located within 30 minutes travel from a health facility. Rates of need and use of health facilities are among the highest in the area, while satisfaction rates are lower than in all the other districts.

9. Compared with the Kagera Rural average, a smaller proportion of people reported long waits, and shortages of trained professionals as reasons for dissatisfaction with health facilities. Lack of supplies, on the other hand, was a more commonly cited problem.

10. The proportion of births in Muleba conducted in a hospital or maternity ward is roughly the same as the average for Kagera Rural.

11. The proportions of children under the age of five who are too short for their age (stunted) and those who are too light for their height (wasted) are slightly below average. Despite the fact that the stunting rate is below average in Muleba, it is still high at 41 percent. In contrast, only 7 percent of children under the age of five are wasted in Muleba.

12. Three out of every five individuals over the age of 14 are employed to capacity in Muleba. This proportion is close to the rural regional average, although it also constituted the second lowest proportion of fully employed individuals after Bukoba Rural.

13. Muleba has the highest percentage of respondents reporting a food shortage in the year preceding the survey. This is also the district with the highest proportions of households reporting deterioration in the economic situation in both the community and the households.

14. Rates of access to drinking water in Muleba are roughly equal to the average. Two out of five households in the district are located more than 30 minutes of travel from the nearest source of drinking water.

## 11.2 Poverty

Figure 49 shows the basic needs poverty rates for Kagera Rural and for all of its different rural districts, as imputed by the poverty predictors in the Kagera Rural CWIQ survey. The top line represents the poverty rate in Muleba. The results show that 34 percent of the households in Muleba live under the basic needs poverty line. The poverty rate thus defined is higher than the regional average and higher than every other district, except Biharamulo, which is at the same level. Overall, poverty rates across the districts do not vary substantially with the exception of Karagwe. Figure 50 shows that there are almost 27,000 households in Muleba living below the basic needs poverty line. These households make up nearly a quarter of all poor households in the Kagera Rural Region.

**Figure 49: Basic needs poverty rates (Muleba)**
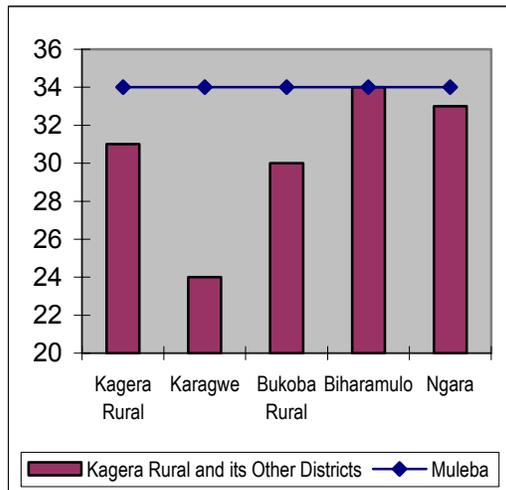


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 50: Muleba's share of the poor households in Kagera Rural**
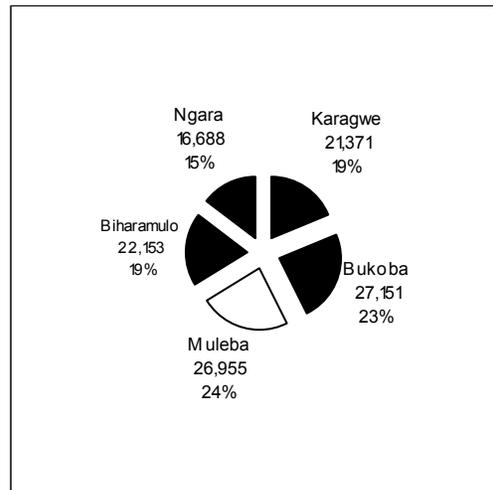


* This figure does not present a formal statistical test of differences in means

## 11.3 Population

On average, the size of the households in Muleba is smaller than in the rest of Kagera Rural. While the average household size in the region is 5.2 people, in Muleba, households consist of, on average, 4.9 people. However, as shown in Figure 51, the average size of households in Muleba is not substantially smaller than the rural regional average or that in the districts with the second smallest households; in both Karagwe and Bukoba Rural an average household consists of only 0.1 more people than in Muleba at 5 people per household

Female headed households are more common in Muleba than in the majority of the other districts in the region; 19 percent of the households in this district are headed by females.

This proportion is close to the rural regional average of 18 percent and equal to the proportion of female headed households in Karagwe. Figure 52 provides a detailed picture.

**Figure 51: Average household size (Muleba)**
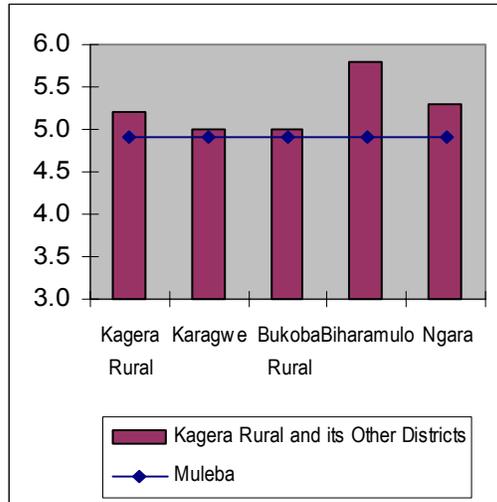


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

**Figure 52: Percentage of female household heads (Muleba)**
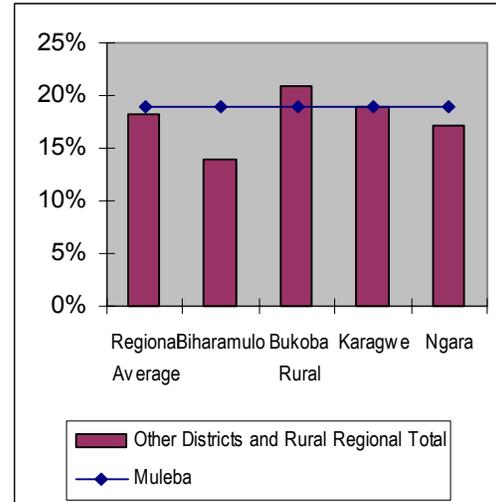


This figure does not present a formal statistical test of differences in means

Livestock holding is least widespread in Muleba as indicated by Figure 53. Over three fifths (62 percent) of the households in the district do not own any livestock compared to the rural regional average of 53 percent. Further, this is reflected most in the proportion of households holding small/medium size livestock only. As shown in Table 55, proportions of households owning large livestock only or both small and large livestock in Muleba do not differ substantially from the trends observed in the rest of the region. However, while on average, 35 percent of households in Kagera Rural possess small livestock only, in Muleba this proportion is 8 percentage points lower at 27 percent.

**Figure 53: Percentage of households owning no livestock (Muleba)**
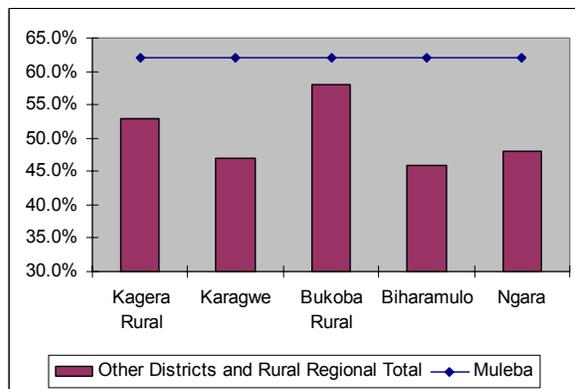


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

**Table 55: Type of livestock owned (Muleba)**

| | None | Large only | Small only | Both | Share of population |
|---|---|---|---|---|---|
| | | | *Livestock owned[1]* | | |
| **Kagera Rural** | 53 | 4 | 35 | 8 | 100 |
| Karagwe | 47 | 3 | 41 | 10 | 24 |
| Bukoba Rural | 58 | 4 | 31 | 7 | 24 |
| Muleba | 62 | 5 | 27 | 6 | 21 |
| Biharamulo | 46 | 6 | 38 | 10 | 18 |
| Ngara | 48 | 3 | 38 | 10 | 13 |

1. Livestock does not include poultry

Large-scale land ownership is less common in Muleba than in Kagera Rural as a whole. Figure 54 shows that while on average 8 percent of households in the area possess at least six acres of land, in Muleba the proportion is half of this at 4 percent; the same proportion of large-scale land owners was found in Bukoba Rural. In Biharamulo, on the other hand, where large-scale land ownership is more prevalent than in the rest of the region, nearly four times as high a proportion of households own at least six acres of land as in Muleba.

Muleba's tendency to smaller-scale land ownership is shown in Table 56. Out of the surveyed districts, Muleba has the highest proportion of households owning one to two acres of land at 38 percent, compared to the 27 percent rural regional average.In contrast, the lowest proportion of households owning two to six acres of land is found here at 44 percent compared to the rural regional average of 61 percent.

**Figure 54: Percentage of households owning at least 6 acres of land (Muleba)**
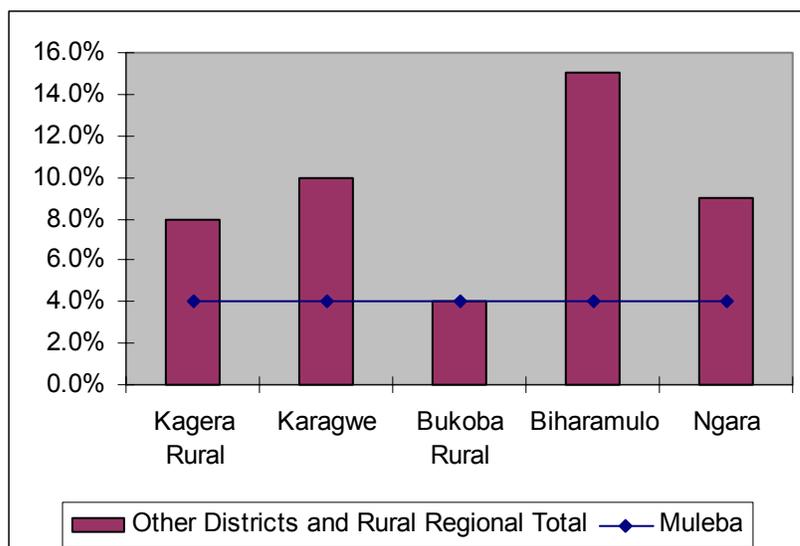


* This figure does not present a formal statistical test of differences in means

**Table 56: Amount of land owned (Muleba)**

| | | | | Land Ownership | | | |
|---|---|---|---|---|---|---|---|
| | None | <1 acre | 1-1,99 acres | 2-3,99 acres | 4-5,99 acres | 6+ acres | Share of population |
| **Kagera Rural** | 6 | 6 | 27 | 34 | 19 | 8 | 100 |
| Karagwe | 3 | 5 | 23 | 40 | 20 | 10 | 24 |
| Bukoba Rural | 3 | 4 | 35 | 36 | 18 | 4 | 24 |
| Muleba | 4 | 12 | 38 | 29 | 13 | 4 | 21 |
| Biharamulo | 17 | 3 | 13 | 27 | 25 | 15 | 18 |
| Ngara | 7 | 8 | 20 | 35 | 20 | 9 | 13 |

## 11.4 Education

The literacy rate in Muleba is only slightly lower than the average rate across the region. 68 percent of the population over 14 years of age in Muleba are able to read and write in at least one language, compared to 70 percent in Kagera Rural as a whole. Table 57 shows that although the literacy rate in Muleba is higher than that in Biharamulo and Ngara, it is still substantially lower than in Bukoba Rural.

Access rates to primary and secondary schools in Muleba are close to the rural average for the region. Half of the children of primary school age in the district are able to get to a primary school within 30 minutes of travel; 13 percent of the secondary school age children are able to get to a secondary school within the same amount of time. Table 57 shows that while these rates are close to those in Bukoba Rural and Kagera Rural as a whole, they are not nearly as good as access rates in Biharamulo, where three fifths of 7 to 13 year olds, and over a third of 14 to 19 year olds live no more than 30 minutes of travel away from primary and secondary schools respectively.

Primary school students in Muleba are substantially more satisfied with the schools they attend than the rest of the children in the region. As many as 77 percent of students cited no problems with the school they attend; this satisfaction rate in 10 percentage points higher than the rural regional average. In contrast, secondary school students in Muleba do not appear to be as happy with the schools they attend as those in the majority of the other rural districts in the area. Although the proportion of satisfied students in Muleba's secondary schools is almost equal to the rural regional average at 80 percent, it is not as high as the satisfaction rates in Ngara and Biharamulo, where proportions of satisfied students make up close to 90 percent of the secondary school student population.

**Table 57: Literacy rates, access to and satisfaction with primary and secondary schools (Muleba)**

|  | Literacy rate[1] | Primary School | | Secondary School | |
|---|---|---|---|---|---|
|  |  | Access[2] | Satisfaction[3] | Access[2] | Satisfaction[3] |
| **Kagera Rural** | 70 | 49 | 67 | 15 | 81 |
| Karagwe | 71 | 35 | 59 | 7 | 85 |
| Bukoba Rural | 77 | 51 | 59 | 14 | 72 |
| Muleba | 68 | 50 | 77 | 13 | 80 |
| Biharamulo | 65 | 61 | 72 | 34 | 89 |
| Ngara | 64 | 47 | 72 | 9 | 87 |

1. Individuals aged 15 years and older
2. Reporting to live within 30 minutes travel to the nearest school
3. Proportion of children at school who cited no problem with the school

The main reasons for dissatisfaction are reported in Table 58. The most striking result here is the large proportion of students who are dissatisfied because of poor teaching. Nowhere else in rural Kagera, except for Biharamulo, is this complaint so prominent. As is the case across the region, lack of books and supplies, as well as lack of teachers remain the most commonly cited problem among dissatisfied students.

**Table 58: Children currently at school and dissatisfied with it and reasons for dissatisfaction (Muleba)**

|  | Dissatis-faction | Reasons for dissatisfaction[1] | | | | |
|---|---|---|---|---|---|---|
|  |  | Books/supplies | Poor teaching | Lack of teachers | Bad condition of facilities | Other |
| **Kagera Rural** | 32 | 57 | 11 | 59 | 45 | 1 |
| Karagwe | 39 | 52 | 7 | 74 | 55 | 1 |
| Bukoba Rural | 40 | 63 | 8 | 48 | 33 | 0 |
| Muleba | 22 | 59 | 17 | 53 | 43 | 0 |
| Biharamulo | 27 | 54 | 20 | 63 | 42 | 4 |
| Ngara | 27 | 52 | 6 | 48 | 57 | 3 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

While enrolment rate into primary schools in Muleba is second lowest in the region, enrolment into secondary schools is second highest. In fact, the secondary school Gross Enrolment Ratio in Muleba is more than twice as high as that in Karagwe, where the lowest secondary school enrolment rate is found. Comparisons with other parts of Kagera Rural are given in Figure 55 and Figure 56.

**Figure 55: Primary school Gross Enrolment Ratios (Muleba)**
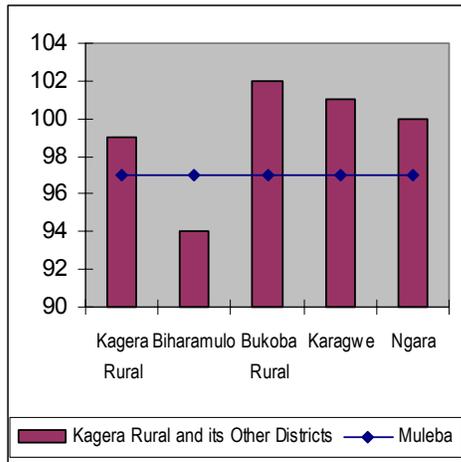


*  This figure does not present a formal statistical test of differences in means
** The y-axis does not start at

**Figure 56: Secondary school Gross Enrolment Ratios (Muleba)**



*
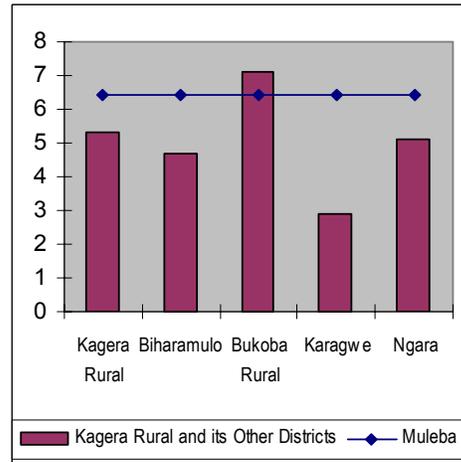
This figure does not present a formal statistical test of differences in means

Muleba and Bukoba Rural have the lowest proportions of 7 to 13 year old children not attending school at just over a fifth of all children in this age group. Figure 57 shows that this compares favourably with the rest of the rural areas in the region and especially with Biharamulo and Karagwe where around a quarter of the 7 to 13 year old children were out of school at the time of the survey.

Figure 58 shows that there is little difference in terms of the number of years children lag behind at school. In Muleba the number of years children lag behind at school is equal to the rural regional average at 2.3 years.

**Figure 57: Percentage of children age 7-13, who are not attending school (Muleba)**
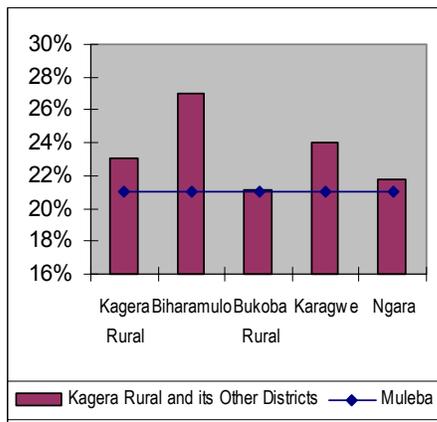


*  This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 58: Years of lag at school by school-going children aged 7-19 (Muleba)**
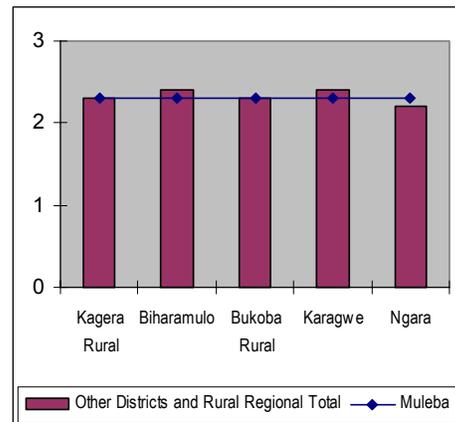


*  This figure does not present a formal statistical test of differences in means

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## 11.5 Health

The rate of access to health facilities in Muleba is second lowest in the region. Only a fifth of all households in the district are located within 30 minutes of travel from the nearest health facility. This is 6 percentage points lower than the average access rate for Kagera Rural, and is only slightly higher than the access rate in Karagwe, where the lowest rate is found. Comparisons with other Kagera Rural districts are given in Figure 59.

The rate of need for health facilities – defined as the percentage of households reporting an illness in the past 4 weeks – is highest in Muleba and Bukoba Rural at 17 percent. However, as can be seen from Figure 60, variation in rates of need across Kagera Rural does not exceed 5 percentage points.

**Figure 59: Access to Health Facilities: % of households living within 30 minutes of travel (Muleba)**
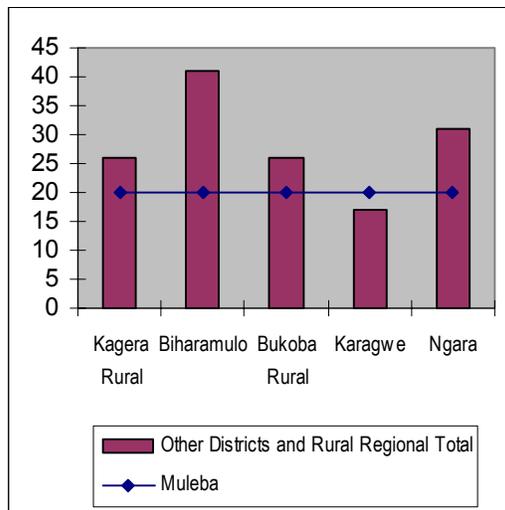


* This figure does not present a formal statistical test of differences in means

**Figure 60: Need for Health Facilities: % of people reporting an illness in past 4 weeks (Muleba)**
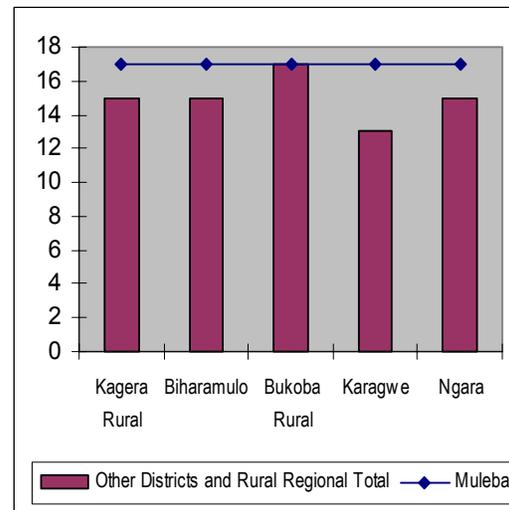


* This figure does not present a formal statistical test of differences in means

Figure 61 shows that health facilities are slightly more widely used in Muleba than in all other districts in Kagera Rural with the exception of Bukoba Rural. Roughly 17 percent of people in Muleba had consulted a health provider in the four weeks preceding the survey, compared to the rural average of 15 percent across the region.
Overall, roughly 76 percent of those who had used a health facility in Muleba were satisfied with the service they received. Even though, as can be seen in Figure 62, this is the lowest satisfaction rate in the region, variation in satisfaction rates across the districts does not exceed 4 percentage points.

**Figure 61: Use of Health Facilities: % of people reported to have visited one in the past 4 weeks (Muleba)**
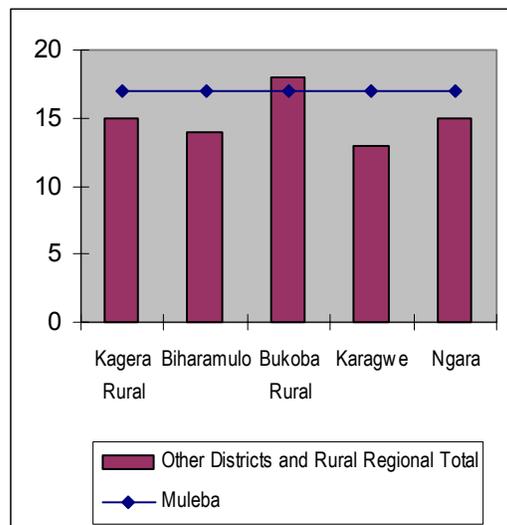


* This figure does not present a formal statistical test of differences in means

**Figure 62: Satisfaction with Health Facilities: % of users in past 4 weeks who reported to be satisfied (Muleba)**
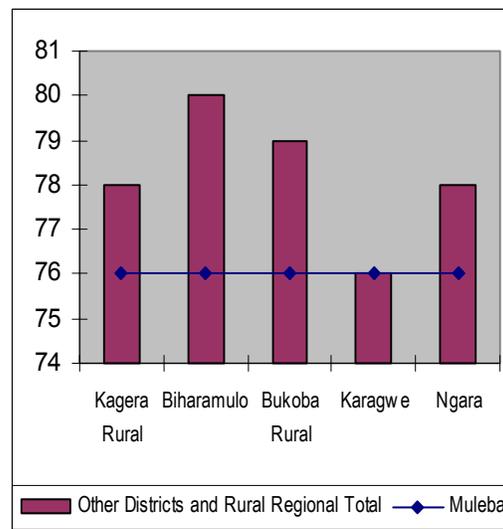


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

Table 59 gives the reasons for dissatisfaction. Compared to the regional trend, health facility users in Muleba report long wait and shortage of trained professionals much less frequently, while lack of supplies is more of a problem. In keeping with the regional trend, however, cost, lack of medication, and unsuccessful treatment remain the most commonly cited complaints.

**Table 59: Reasons for dissatisfaction with health services (Muleba)**

| | Dissatis-faction | Hygiene | Long wait | Shortage of trained professionals | Cost | No drugs available | Unsuc-cessful treatment | Lack of supplies | Other |
|---|---|---|---|---|---|---|---|---|---|
| **Kagera Rural** | 22 | 15 | 28 | 16 | 34 | 28 | 34 | 4 | 0 |
| Karagwe | 24 | 18 | 32 | 21 | 27 | 38 | 41 | 5 | 0 |
| Bukoba Rural | 21 | 8 | 42 | 28 | 29 | 27 | 18 | 2 | 0 |
| Muleba | 24 | 17 | 17 | 7 | 30 | 24 | 38 | 8 | 1 |
| Biharamulo | 20 | 14 | 15 | 9 | 56 | 26 | 38 | 0 | 0 |
| Ngara | 22 | 15 | 25 | 6 | 34 | 24 | 42 | 4 | 0 |

*Reasons for dissatisfaction[1]*

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

## 11.6 Child Delivery and Nutrition

Figure 63 shows that the rate of use of health facilities in delivering children in Muleba is representative of Kagera Rural as a whole.

**Figure 63: Percentage of mothers delivering in a hospital or maternity ward (Muleba)**
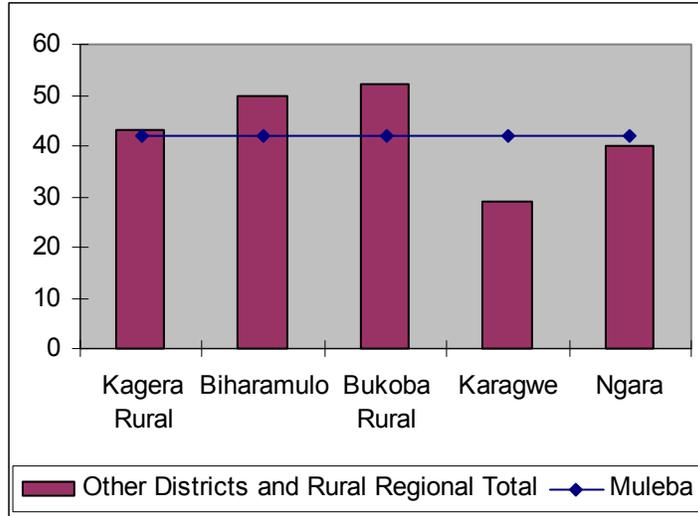


\* This figure does not present a formal statistical test of differences in means

As can be seen in Figure 64 and Figure 65 rates of both chronic and acute malnutrition in Muleba tend to be at the lower end of the distribution. Proportions of stunted and wasted children in Muleba are slightly smaller than average. Nevertheless, approximately two out of five children under the age of five in Muleba are too short for their age. Wasting is not common among children in Muleba; 7 percent of children under the age of five are too thin for their height. Stunting is least prevalent in Biharamulo, whereas wasting is least common in Karagwe; in both instances second lowest rates in the region are found in Muleba.

**Figure 64: Percentage of chronically malnourished children (stunting at -2sd): Muleba**
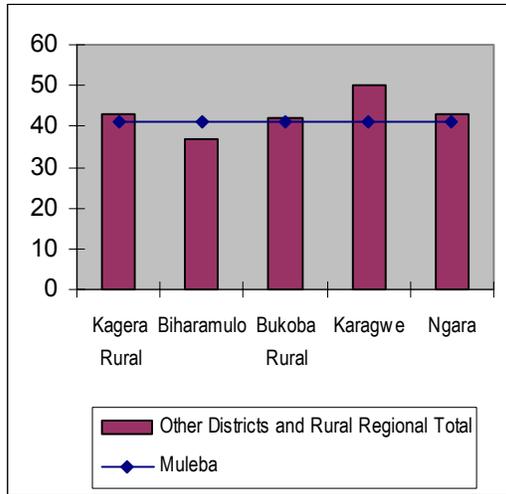


\* This figure does not present a formal statistical test of differences in means

**Figure 65: Percentage of acutely malnourished children (wasting at -2sd): Muleba**
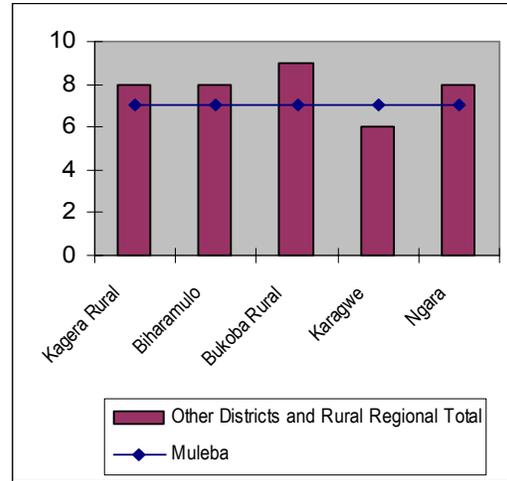


\* This figure does not present a formal statistical test of differences in means

## 11.7 Employment

Muleba has the smallest share of individuals over the age of 14 employed to full capacity after Bukoba Rural. Three out of five people over the age of 14 in Muleba are fully employed; the rest are either underemployed or not working. Figure 66 shows that the proportion of fully employed individuals in Muleba is close to the rural regional average and substantially smaller than that in Ngara, where more than two thirds of the reference population are employed to capacity.

**Figure 66: Percentage of population employed to full capacity (Muleba)[1]**
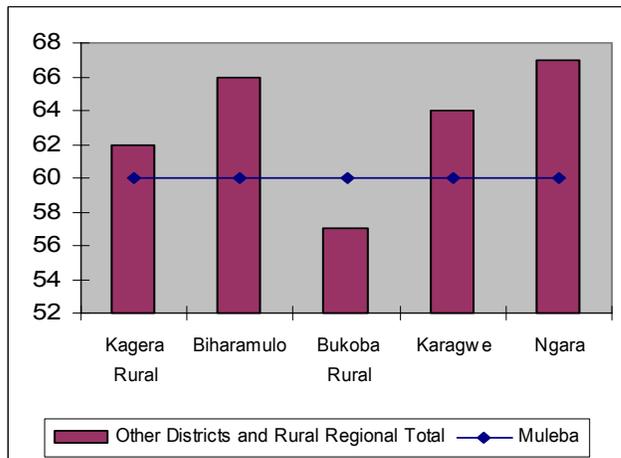


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0
1 Population includes individuals over the age of 14

## 11.8 Other Welfare Indicators

Figure 67 shows that reported food need is highest in Muleba. Only 13 percent of households in this district claim to not have experienced food need in the year preceding the survey. This compares badly to the rest of the region; in Kagera Rural as a whole a fifth of the households had not faced food need in the same time-period. In Biharamulo and Karagwe this proportion was as high as a quarter of the households. With 87 percent of households reporting occurrence of food need in the year preceding the survey, food shortage is a substantially bigger problem in Muleba than in the rest of Kagera Rural.

Muleba does not score badly on access to drinking water compared to the other districts. Although a higher proportion of households in Biharamulo and Ngara are able to get to a source of drinking water within 30 minutes of travel than in Muleba, the access rate here is equal to the rural regional average. Figure 68 indicates that three out of every five households in Muleba are located within 30 minutes of travel from the nearest drinking water facility. This is a substantially higher percentage than is the case in Karagwe where the worst access rates are found; here only 43 percent of households have access to drinking water facilities.

**Figure 67: Percentage of household reporting never to face food shortages (Muleba)**
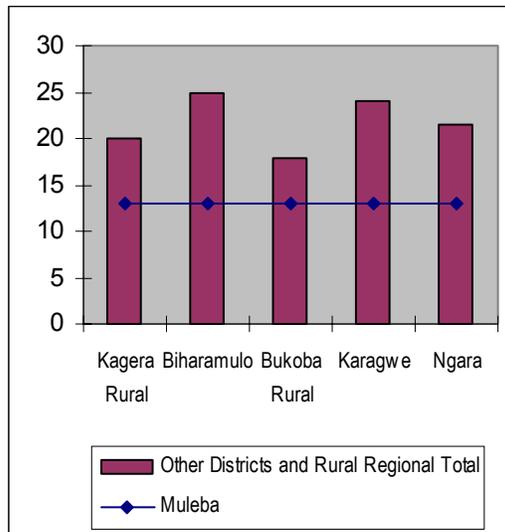


\* This figure does not present a formal statistical test of differences in means

**Figure 68: Percentage of households with access to drinking water facilities (Muleba)**
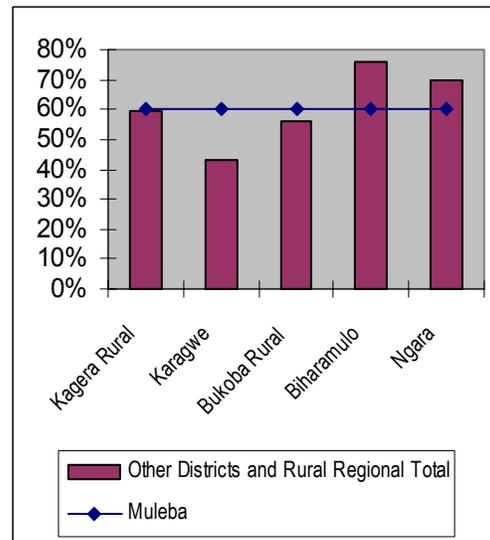


\* This figure does not present a formal statistical test of differences in means

Figure 69 informs on the proportion of households who had reported a worsening of the economic situation in the community. By far the highest proportion of households assessing the situation in the community as worse or much worse is found in Muleba. Only 14 percent of the households in the district had assessed the situation as the same or

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improving compared to the previous year. The proportion of households in Muleba reporting deterioration in the economic situation of the community over the year preceding the survey is nearly 10 percentage points higher than the rural regional average. The most optimistic outlook was found in Biharamulo, where nearly 30 percent of households cited no deterioration in the economic situation of the community.

Similarly, Figure 70 indicates that the assessment of the economic situation in the households of Muleba compared to the previous year was also less positive than in the rest of the region. Variation in proportions of households citing deterioration in the economic situation of the household is smaller than in the previous instance. Nevertheless, this proportion in Muleba is still 4 percentage points higher than average at 78 percent.

**Figure 69: Percentage of households who feel that the economic situation in the *community* has deteriorated in the year preceding the survey (Muleba)**
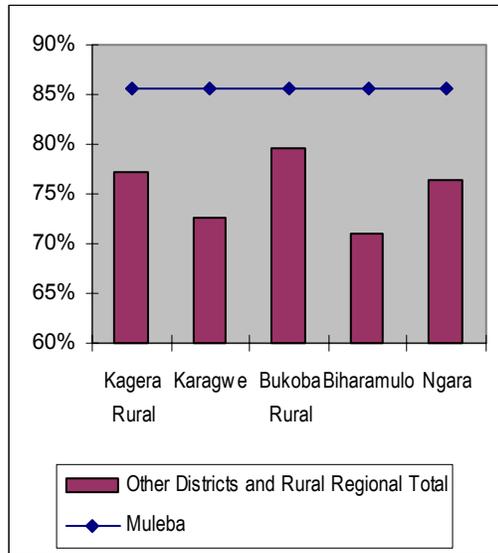


\* This figure does not present a formal statistical test of differences in means
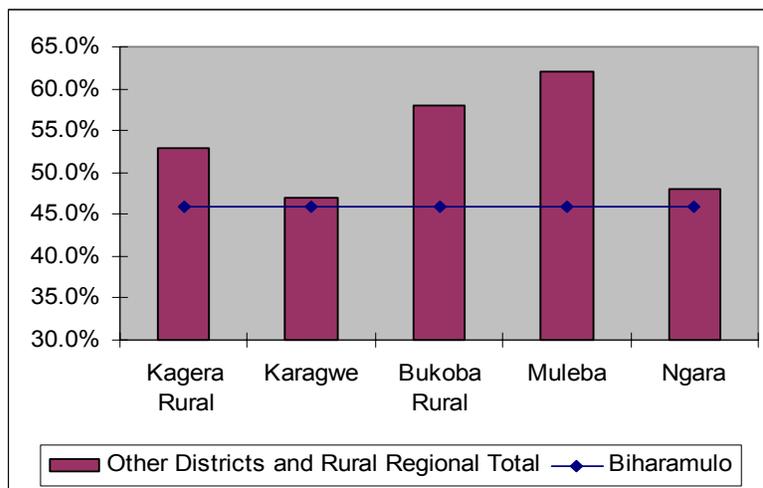\*\* The y-axis does not start at 0

**Figure 70: Percentage of households who feel that the economic situation in the *household* has deteriorated in the year preceding the survey (Muleba)**
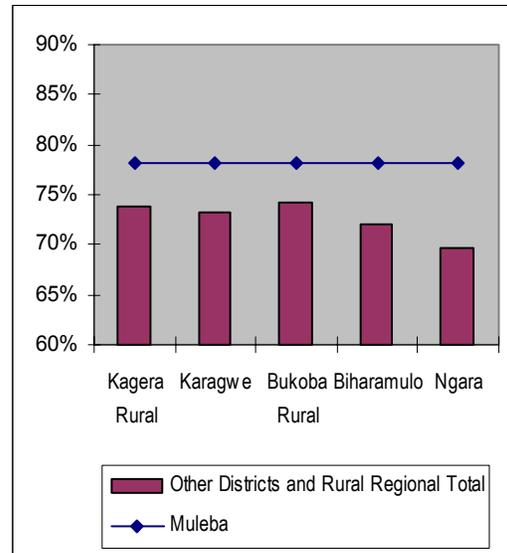


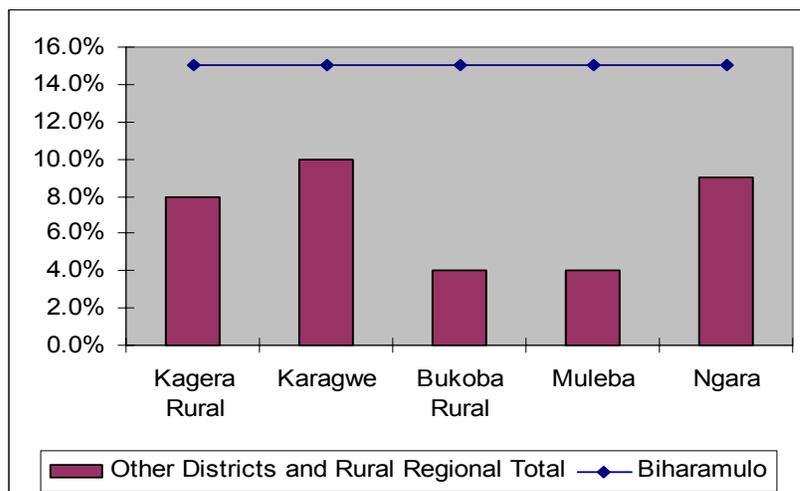\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

# 12 SPOTLIGHT ON BIHARAMULO

## 12.1 Key Findings of Rural Kagera CWIQ for Biharamulo

1. A fifth of households in Kagera Rural are located in Biharamulo.

2. Poverty rates in Biharamulo are among the highest in the Kagera Rural Region. It is home to about one fifth of the poor households in Kagera Rural.

3. Biharamulo has the largest households, with on average 5.8 members. Compared to the other rural districts in the region it has the lowest proportion of female headed households.

4. Both large-scale land holding (ownership of over 6 acres of land) and livestock holding are more common in Biharamulo than in the rest of the rural districts in the region. Interestingly, this is also the district with the largest proportion of landless households.

5. Despite the fact that most households have easy physical access to schools, illiteracy in Biharamulo is high.

6. Well over a quarter of the primary school students complain about their school. Most of them mention poor teaching and lack of teachers as the main problem. This is a very different pattern from what is seen in other districts, where poor teaching is rarely mentioned, and where lack of books and supplies are more commonly cited problems.

7. Biharamulo has the largest percentage of its 7 to 13 year old population out of school. The primary school Gross Enrolment Ratio is the lowest in the region, while the secondary school Gross Enrolment Ratio is lowest after Karagwe.

8. Biharamulo boasts by far the highest access rates to health facilities: over 40 percent of its households are located within 30 minutes of travel from a health facility. Need for and use of health facilities lie around the rural regional average and the satisfaction rate is slightly higher than in other rural districts

9. Compared to the Kagera Rural average, a smaller proportion of people reported long waits, shortages of trained professionals, and lack of supplies as reasons for dissatisfaction with health facilities.

10. About half of the births in Biharamulo were conducted in a hospital or maternity ward; the highest proportion in the survey.

11. It is found that 37 percent of children under the age of five in Biharamulo are too short for their age. Even though Biharamulo performs better in this respect than any other district in Kagera Rural, this figure remains high. Only 8 percent of children under the age of five are too light for their height. This is the same figure as the rural regional average.

12. Together with Ngara, Biharamulo has the lowest proportion of people who are either not working or are underemployed.

13. Biharamulo has the lowest percentage of respondents reporting a food shortage in the year preceding the survey. Rates of reported deterioration of the economic situation in the community and the household are also low here.

14. Biharamulo has the highest rates of access to drinking water facilities in Kagera Rural; less than a quarter of the households here are located further than 30 minutes of travel from the nearest drinking water facility.

## 12.2 Poverty

Figure 71 shows the basic needs poverty rates for Kagera Rural and for all of its different rural districts, as imputed by the poverty predictors in the Kagera Rural CWIQ survey. The top line represents the poverty rate in Biharamulo. The results show that 34 percent of the households in Biharamulo live below the basic needs poverty line. The poverty rate thus defined is higher than the rural regional average and higher than every other district, except Muleba which is at the same level.

Figure 72 shows that Biharamulo has 22,153 households living under the basic needs poverty line; this constitutes 19 percent of all households in Kagera Rural.

**Figure 71: Basic needs poverty rates (Biharamulo)**
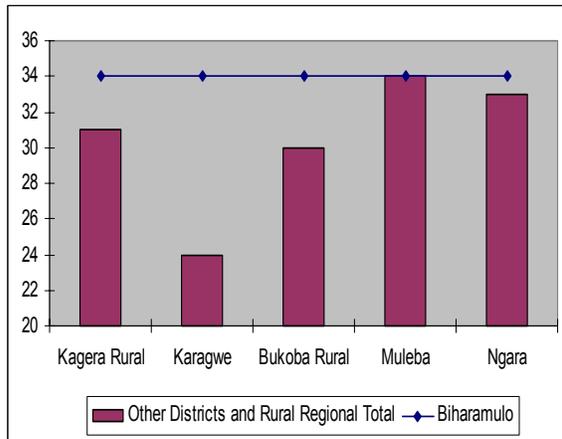


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 72: Biharamulo's share of the poor households in Kagera Rural**
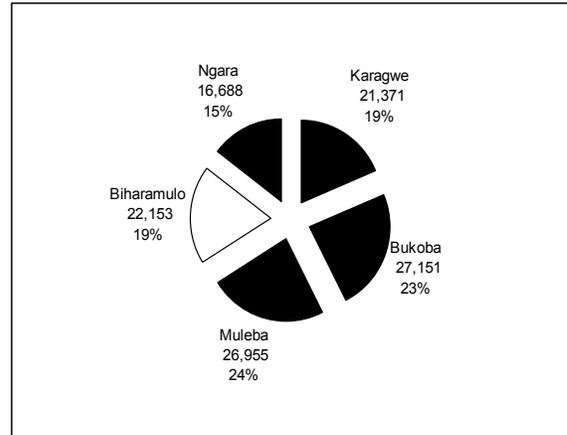


* This figure does not present a formal statistical test of differences in means

## 12.3 Population

One of the most striking features of the Biharamulo population is the large size of its households. Figure 73 shows that with on average 5.8 people living in each household, it lies far above the rural regional average of 5.2 members. Ngara follows at a distance with only 5.3 people living in an average household.

Biharamulo is the district with the lowest proportion of female headed households. The difference is particularly striking compared to Bukoba Rural where the proportion of female headed households is 6 percentage points higher.

**Figure 73: Average household size (Biharamulo)**
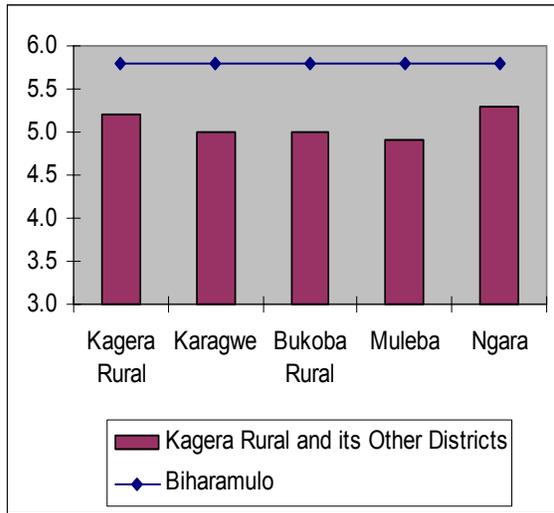


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 74: Percentage of female household heads (Biharamulo)**
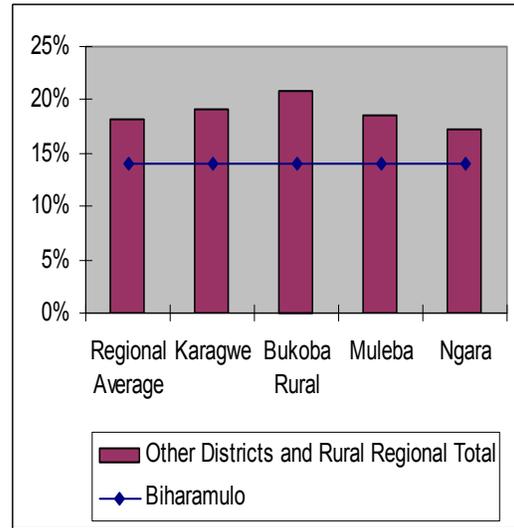


* This figure does not present a formal statistical test of differences in means

Livestock holding is more prevalent in Biharamulo than in the other rural districts of Kagera, as indicated by Figure 75. The proportion of households holding no livestock is lower here than in the rest of the region at 46 percent and is 7 percentage points higher than the average for the whole of Kagera Rural. As shown in Table 60, proportions of Biharamulo households owning large livestock, small livestock, and both types of livestock exceed the average for the area.

**Figure 75: Percentage of households owning no livestock (Biharamulo)**



* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Table 60: Type of livestock owned**

| | None | Large only | Small only | Both | Share of population |
|---|---|---|---|---|---|
| | | | *Livestock owned[1]* | | |
| **Kagera Rural** | 53 | 4 | 35 | 8 | 100 |
| Karagwe | 47 | 3 | 41 | 10 | 24 |
| Bukoba Rural | 58 | 4 | 31 | 7 | 24 |
| Muleba | 62 | 5 | 27 | 6 | 21 |
| Biharamulo | 46 | 6 | 38 | 10 | 18 |
| Ngara | 48 | 3 | 38 | 10 | 13 |

1. Livestock does not include poultry

Figure 76 shows that the proportion of households owning more than 6 acres of land in Biharamulo is nearly twice as high as that in Kagera Rural as a whole. 15 percent of households in the district hold over 6 acres of land, compared to 8 percent in Kagera Rural. Interestingly, Table 61 further indicates that Biharamulo is also the district with by far the highest proportion of landless households compared to the other districts. In fact, this proportion is nearly three times as high in Biharamulo as the average for the area.

**Figure 76: Percentage of households owning at least 6 acres of land (Biharamulo)**



* This figure does not present a formal statistical test of differences in means

**Table 61: Amount of land owned (Biharamulo)**

| | | | Land Ownership | | | | |
|---|---|---|---|---|---|---|---|
| | None | <1 acre | 1-1,99 acres | 2-3,99 acres | 4-5,99 acres | 6+ acres | Share of population |
| **Kagera Rural** | 6 | 6 | 27 | 34 | 19 | 8 | 100 |
| Karagwe | 3 | 5 | 23 | 40 | 20 | 10 | 24 |
| Bukoba Rural | 3 | 4 | 35 | 36 | 18 | 4 | 24 |
| Muleba | 4 | 12 | 38 | 29 | 13 | 4 | 21 |
| Biharamulo | 17 | 3 | 13 | 27 | 25 | 15 | 18 |
| Ngara | 7 | 8 | 20 | 35 | 20 | 9 | 13 |

## 12.4 Education

Biharamulo scores badly on literacy rates. 35 percent of its population aged 15 and over is illiterate. Table 62 shows that only Ngara does worse.

Biharamulo has very good access rates to both primary and secondary schools compared to other districts. Over 60 percent of households are located within 30 minutes of travel from a primary school; a third live within 30 minutes travel from a secondary school. Table 62 indicates that this is 12 percentage points over the rural regional average, and better than any other rural district in the Kagera Region.

Students in Biharamulo are relatively satisfied with the schools they attend. 72 percent of primary school students report no problems at their school, which is the highest proportion after Muleba. The satisfaction rate in secondary schools is even higher. Just under 90 percent of secondary school children in Biharamulo are satisfied with their school; this is the highest satisfaction rate in the region.

**Table 62: Literacy rates, access to and satisfaction with primary and secondary schools (Biharamulo)**

| | Literacy rate[1] | Primary School | | Secondary School | |
|---|---|---|---|---|---|
| | | Access[2] | Satisfaction[3] | Access[2] | Satisfaction[3] |
| **Kagera Rural** | 70 | 49 | 67 | 15 | 81 |
| Karagwe | 71 | 35 | 59 | 7 | 85 |
| Bukoba Rural | 77 | 51 | 59 | 14 | 72 |
| Muleba | 68 | 50 | 77 | 13 | 80 |
| Biharamulo | 65 | 61 | 72 | 34 | 89 |
| Ngara | 64 | 47 | 72 | 9 | 87 |

1. Individuals aged 15 years and older
2. Reporting to live within 30 minutes travel to the nearest school
3. Proportion of children at school who cited no problem with the school

The main reasons for dissatisfaction are reported in Table 63. The most striking result here is the large number of students who are dissatisfied because of lack of teachers and poor teaching. Nowhere else in Kagera Rural are these complaints as prominent as in Biharamulo (among dissatisfied students).

**Table 63: Children currently at school and dissatisfied with it and reasons for dissatisfaction (Biharamulo)**

| | Dissatis-faction | Books/ Supplies | Poor teaching | Lack of teachers | Bad condition of facilities | Other |
|---|---|---|---|---|---|---|
| | | *Reasons for dissatisfaction [1]* | | | | |
| **Kagera Rural** | 32 | 57 | 11 | 59 | 45 | 1 |
| Karagwe | 39 | 52 | 7 | 74 | 55 | 1 |
| Bukoba Rural | 40 | 63 | 8 | 48 | 33 | 0 |
| Muleba | 22 | 59 | 17 | 53 | 43 | 0 |
| Biharamulo | 27 | 54 | 20 | 63 | 42 | 4 |
| Ngara | 27 | 52 | 6 | 48 | 57 | 3 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

Biharamulo does not perform well in terms of enrolment. Out of all rural districts it has the lowest primary school Gross Enrolment Ratio and the second lowest secondary school Gross Enrolment Ratio. Comparisons with other parts of Kagera are given in Figure 77 and Figure 78.

**Figure 77: Primary school Gross Enrolment Ratios (Biharamulo)**
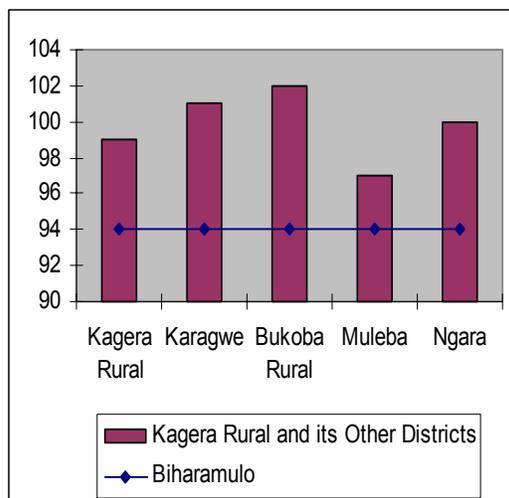


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 78: Secondary school Gross Enrolment Ratios (Biharamulo)**
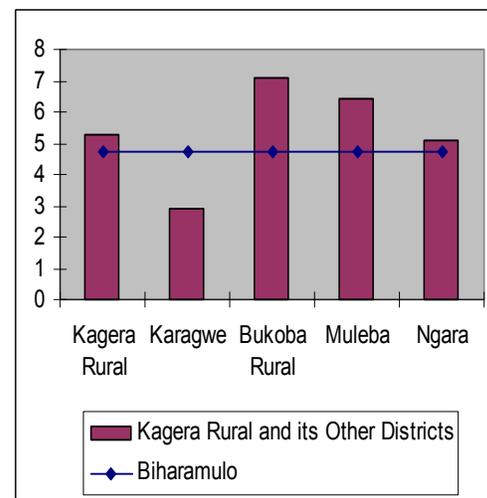


* This figure does not present a formal statistical test of differences in means

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Around 27 percent of 7 to 13 year olds living in Biharamulo were attending school at the time of the survey. Figure 79 shows that this does not compare favourably with all other districts in the survey: nowhere else in rural Kagera are so many 7 to 13 year olds out of school.

Figure 80 shows that there is little difference in terms of the lag children have at school. Together with Karagwe, Biharamulo's 7 to 19 year olds lag at school by the highest average number of years, but the differences across the districts are very small.

**Figure 79: Percentage of children age 7-13 who are not attending school (Biharamulo)**
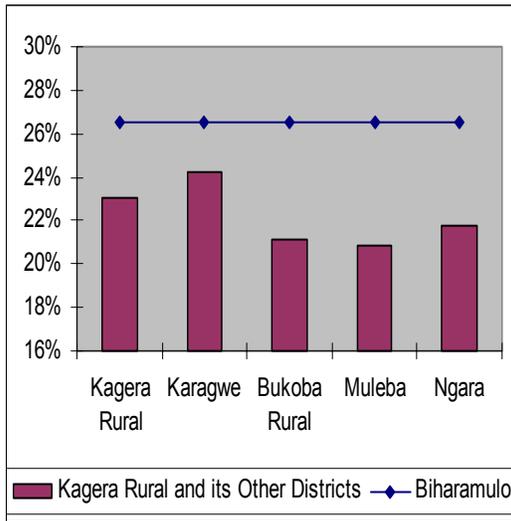
**Figure 80: Years of lag at school by school-going children aged 7-19 (Biharamulo)**





* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0
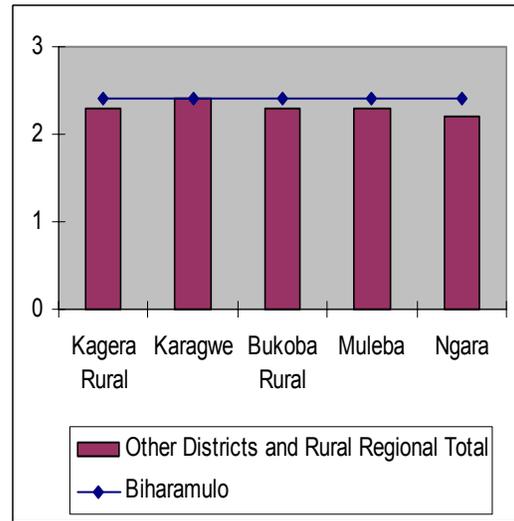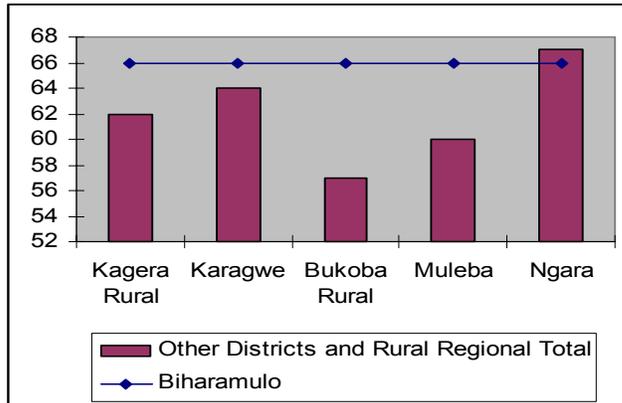
* This figure does not present a formal statistical test of differences in means

## 12.5 Health

Biharamulo has the best rate of access to health facilities in Kagera Rural. 41 percent of households are located within 30 minutes of travel from the nearest health facility. This is substantially higher than the rural regional average of 26 percent. Comparisons with other districts in Kagera are given in Figure 81.

Need for health facilities – defined as the percentage of households reporting an illness in the past 4 weeks – is not different from the rural regional mean, as can be seen from Figure 82.

**Figure 81: Access to Health Facilities: % of households living within 30 minutes travel (Biharamulo)**
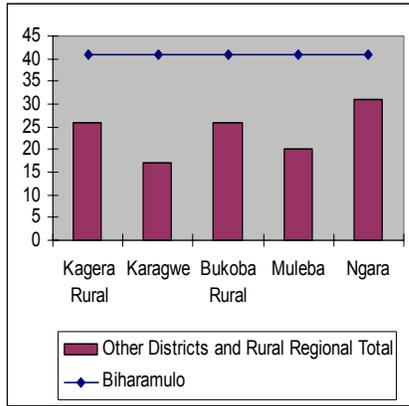


* This figure does not present a formal statistical test of differences in means

**Figure 82: Need for Health Facilities: % of people reporting an illness in past 4 weeks (Biharamulo)**
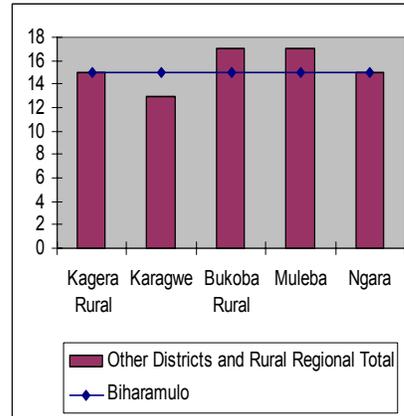


* This figure does not present a formal statistical test of differences in means

Figure 83 shows that Biharamulo is not different from other rural districts in Kagera in terms of use of health facilities. Around 14 percent of its population visited a health facility in the 4 weeks preceding the interview shows that satisfaction rates with health facilities in Biharamulo are high. Out of all the people who visited a health facility in the four weeks preceding the survey, 80 percent reported to be satisfied. The regional satisfaction rate does not differ much, lying at 78 percent. Health facility users in Karagwe and Muleba are least satisfied with the service, but the differences are not big in percentage points.

**Figure 83: Use of Health Facilities: % of people reported to have visited one in the past 4 weeks (Biharamulo)**
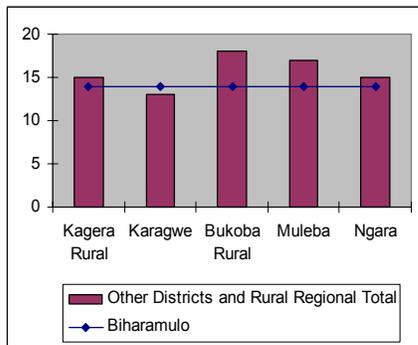


* This figure does not present a formal statistical test of differences in means

**Figure 84: Satisfaction with Health Facilities: % of users in past 4 weeks who reported to be satisfied (Biharamulo)**
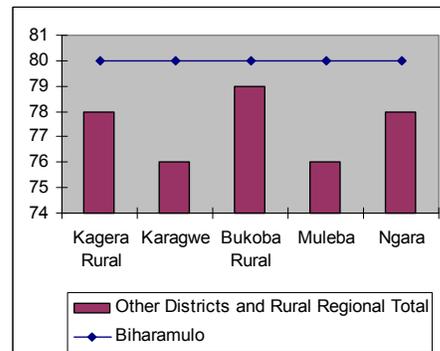


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

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Table 64 gives the reasons for dissatisfaction. Compared to other districts, health facility users in Biharamulo report cost most frequently as a reason for dissatisfaction. Compared to the Kagera Rural average, less people reported long waits, shortages of trained professionals and lack of supplies as a reason for dissatisfaction.

**Table 64: Reasons for dissatisfaction with health services (Biharamulo)**

| | Dissatis-faction | *Reasons for dissatisfaction[1]* | | | | | | | |
| | | Hygiene | Long wait | Shortage of trained professio nals | Cost | No drugs available | Unsuccess ful treatment | Lack of supplies | Other |
|---|---|---|---|---|---|---|---|---|---|
| **Kagera Rural** | 22 | 15 | 28 | 16 | 34 | 28 | 34 | 4 | 0 |
| Karagwe | 24 | 18 | 32 | 21 | 27 | 38 | 41 | 5 | 0 |
| Bukoba Rural | 21 | 8 | 42 | 28 | 29 | 27 | 18 | 2 | 0 |
| Muleba | 24 | 17 | 17 | 7 | 30 | 24 | 38 | 8 | 1 |
| Biharamulo | 20 | 14 | 15 | 9 | 56 | 26 | 38 | 0 | 0 |
| Ngara | 22 | 15 | 25 | 6 | 34 | 24 | 42 | 4 | 0 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

## 12.6 Child Delivery and Nutrition

Figure 85 shows that Biharamulo district outperforms most districts in terms of the proportion of mothers delivering in a hospital or maternity ward. Only Bukoba Rural has a smaller proportion of mothers delivering at home.

**Figure 85: Percentage of mothers delivering in a hospital or maternity ward (Biharamulo)**
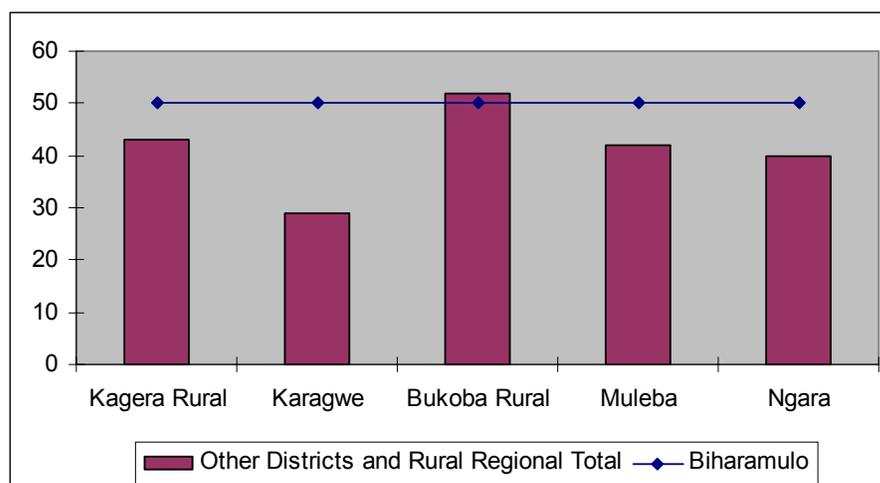


* This figure does not present a formal statistical test of differences in means

Figure 86 and Figure 87 give information on the nutritional status of children under five years of age in Biharamulo compared to the other rural districts in the Kagera region.

Biharamulo has the smallest proportion of chronically malnourished (stunted) children under the age of five. Still, in absolute terms chronic malnourishment should be considered as highly prevalent: 37 percent of children under 5 years of age in Biharamulo are too short for their age. This rate is, however, better than the rural regional average of 43 percent. Karagwe has the highest percentage of stunted children at 50 percent.

With 8 percent of children suffering from acute malnourishment, Biharamulo lies in the middle of the distribution. In line with the rural regional average, a relatively small proportion of children are too light for their height.

**Figure 86: Percentage of chronically malnourished children (stunting at -2sd): Biharamulo**
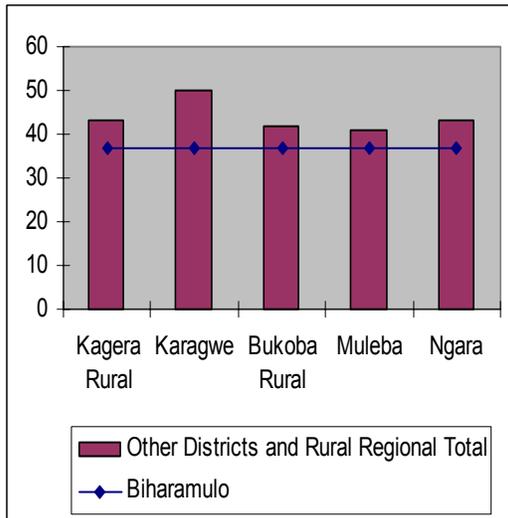


* This figure does not present a formal statistical test of differences in means

**Figure 87: Percentage of acutely malnourished children (wasting at -2sd): Biharamulo**
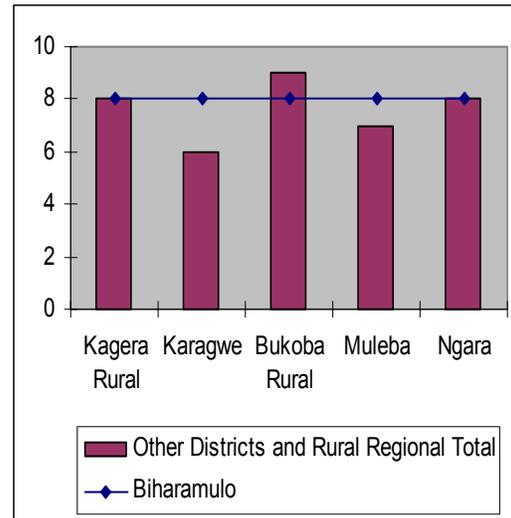


* This figure does not present a formal statistical test of differences in means

## 12.7 Employment

After Ngara, Biharamulo has the largest share of its working population employed to full capacity. Two thirds of its population over 14 years of age is fully employed; the rest are either unemployed or underemployed. Figure 88 shows that the proportion of individuals employed to full capacity in Biharamulo exceeds the rural regional average by 4 percentage points. The starkest contrast is with Bukoba Rural, where only 56 percent of the reference population works to full capacity; this proportion is 10 percentage points lower than that in Biharamulo.

**Figure 88: Percentage of population employed to full capacity[1]**



* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

## 12.8 Household Welfare

Biharamulo has the lowest percentage of households reporting to have faced problems satisfying their food needs in the year preceding the interview. Figure 89 shows that one fourth of the households in Biharamulo report to have never faced problems satisfying their food needs in the previous year. This places Biharamulo at the same level as Karagwe and 5 percentage points above the rural regional average. Muleba scores worst in this respect with 87 percent of its households reporting to have faced a food shortage during the past year.

The level of access to drinking water facilities in Biharamulo is highest in the area. Roughly 76 percent of households in Biharamulo are located within 30 minutes of travel from the nearest source of drinking water. This proportion is 16 percentage points higher than the rural regional average. Figure 90 further highlights this high score through comparison with the other districts. For instance, the proportion of households who have access to drinking water facilities in Karagwe is over 30 percentage points smaller than that in Biharamulo.

**Figure 89: Percentage of household reporting never to face food shortages (Biharamulo)**
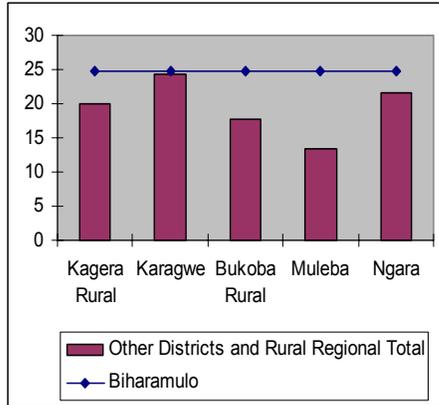


* This figure does not present a formal statistical test of differences in means

**Figure 90: Percentage of households with access to drinking water facilities (Biharamulo)**
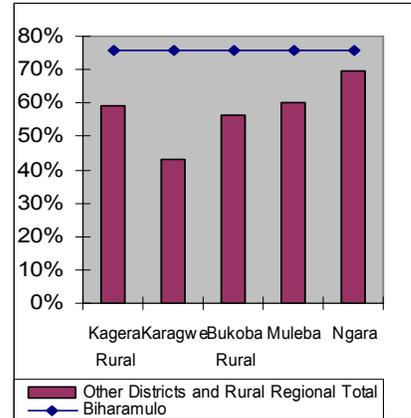


* This figure does not present a formal statistical test of differences in means

Figure 91 informs on the proportion of households who had reported a worsening of the economic situation in the community. The lowest proportion of households assessing the situation in the community as worse or much worse is found in Biharamulo. Nearly 30 percent of the households in the district had assessed the situation as the same or improving compared to the previous year; in Kagera Rural as a whole this proportion was 23 percent.

Similarly, Figure 92 indicates that the assessment of the economic situation in the households of Biharamulo compared to the previous year was also more positive than in the majority of the other rural districts in the region. Variation in proportions of households citing deterioration in the economic situation of the household is smaller than in the previous instance. Nevertheless, this proportion in Biharamulo is 2 percentage points lower than average at 7 percent.

**Figure 91: Percentage of households who feel that the economic situation in the community has deteriorated in the year preceding the survey**
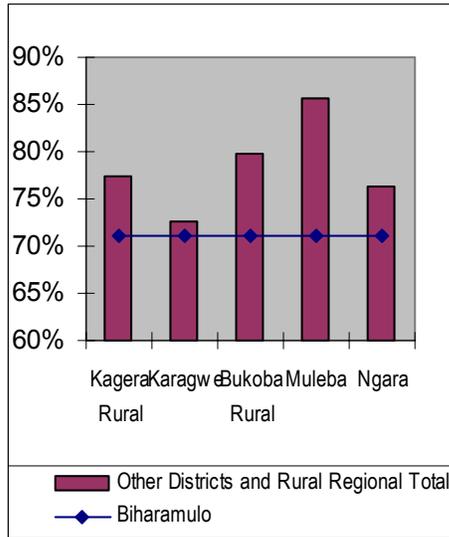


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 92: Percentage of households who feel that the economic situation in the household has deteriorated in the year preceding the survey**
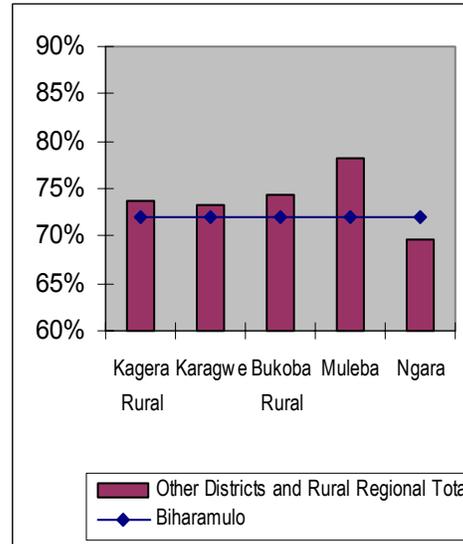


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

# 13 SPOTLIGHT ON NGARA

## 13.1 Key Findings of Rural Kagera CWIQ for Ngara

1. 13 percent of all households in Kagera Rural are located in Ngara.

2. Poverty rate in Ngara is the third highest in rural Kagera after Biharamulo and Muleba. It is home to 15 percent of the poor households in the area under study.

3. Ngara's household have an average of 5.3 members. This is nearly equal to the rural regional average of 5.2 members and substantially below Biharamulo's average of 5.8.

4. The level of household livestock and land possession are comparable to the rest of the rural region.

5. Although Ngara has the lowest literacy rate in the rural part of Kagera, primary school access rate is only slightly lower than the rural regional average.

6. About 28 percent of primary school students complain about their school. Compared to other rural districts, a larger proportion of students mention bad condition of facilities and a smaller proportion of students mention poor teaching as a complaint.

7. The primary and secondary Gross Enrolment Ratios in Ngara are close to the rural regional average. About 22 percent of its 7 to 13 year old population is not attending school; this is only marginally different from the regional average of 23 percent.

8. Ngara has the second highest rate of access to health facilities in Kagera Rural. Over 30 percent of its households are located within 30 minutes of travel from a health facility; only Biharamulo has a higher access rate than this. Need and use of health facilities, as well as the satisfaction rate among the users all lie around the rural regional average.

9. Compared with the Kagera Rural average, a smaller proportion of people reported shortages of trained professionals as a reason for dissatisfaction with health facilities. Seemingly contradictory to this, nowhere else in rural Kagera do people complain so much about unsuccessful treatment received at the health facilities.

10. About 40 percent of the births in Ngara were delivered in a hospital or maternity ward, while the remainder were delivered at home; this is the second lowest percentage of hospital births in Kagera Rural after Karagwe.

11. It is found that 43 percent of the children under five in Ngara are too short for their age and 8 percent are too light for their height. These rates of, respectively, chronic and acute malnutrition are the same as the rural regional average.

12. At 67 percent, Ngara has the highest share of its population over the age of 14 employed in full capacity.

13. Only just over one fifth of the households in Ngara report to have faced food shortages in the year preceding the survey; this is not very different from other rural districts.

14. After Biharamulo, Ngara has the best access rate to drinking water facilities.

15. At 70 percent, Ngara has the lowest proportion of people reporting deterioration in the economic situation of the household in the year preceding the survey. 75 percent felt that the economic situation of their community at large had worsened.

## 13.2 Poverty

Figure 93 shows the basic needs poverty rates for Kagera Rural and for all of its different rural districts, as imputed by the poverty predictors in the Kagera Rural CWIQ survey. The top line represents the poverty rate in Ngara. The results show that 33 percent of the households in Ngara live under the basic needs poverty line. The poverty rate thus defined is higher than the rural regional average of 31 percent. Overall, poverty rates across the districts do not vary substantially with the exception of Karagwe.

Even though Ngara is thus a district with a high poverty rate compared to the rest of the region, Figure 94 gives a different picture. In absolute numbers Ngara has 16,700 poor households – the smallest number in Kagera Rural – and contains only 15 percent of poor households in Kagera Rural.

**Figure 93: Basic needs poverty rates (Ngara)**
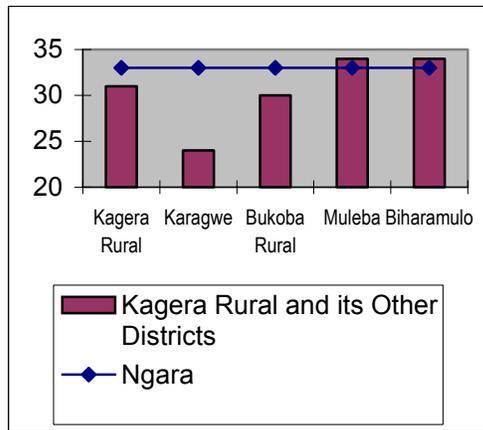


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

**Figure 94: Ngara's share of the poor households in Kagera Rural**
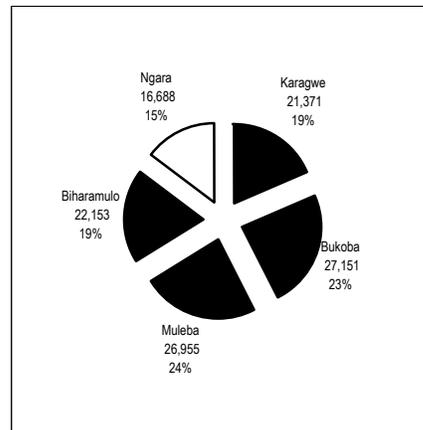


\* This figure does not present a formal statistical test of differences in means

## 13.3 Population

Figure 95 shows that there is an average of 5.3 people living in each household in Ngara. On average, therefore, households here are slightly larger than the rural regional average of 5.2 people per household.

Figure 96 shows that the proportion of female headed households in Ngara is slightly below the rural regional average at roughly 17 percent.

**Figure 95: Average household size (Ngara)**
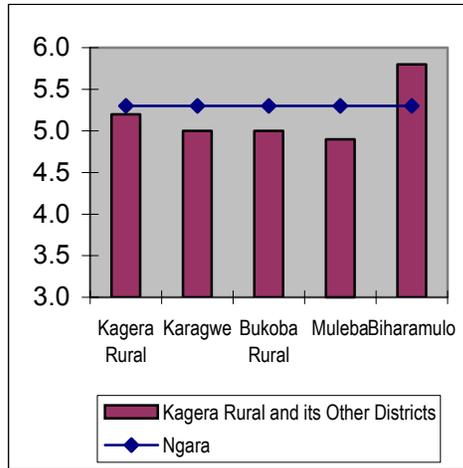


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

**Figure 96: Percentage of female household heads (Ngara)**
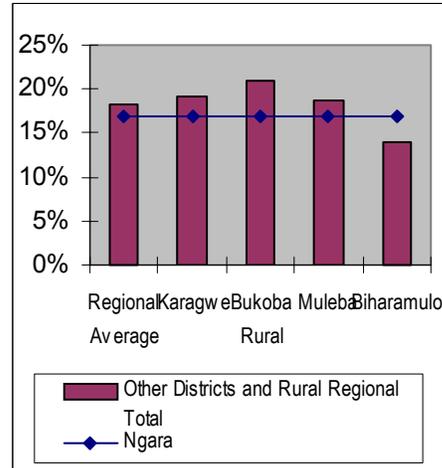


\*This figure does not present a formal statistical test of differences in means

As can be seen in Figure 97 and Table 65, Ngara households do not differ much from the rural regional average in terms of livestock holdings. Possession of small livestock only, as well as both small and large livestock is slightly more prevalent here than average; possession of large livestock only or no livestock, on the other hand, is slightly less common.

**Figure 97: Percentage of households owning no livestock (Ngara)**
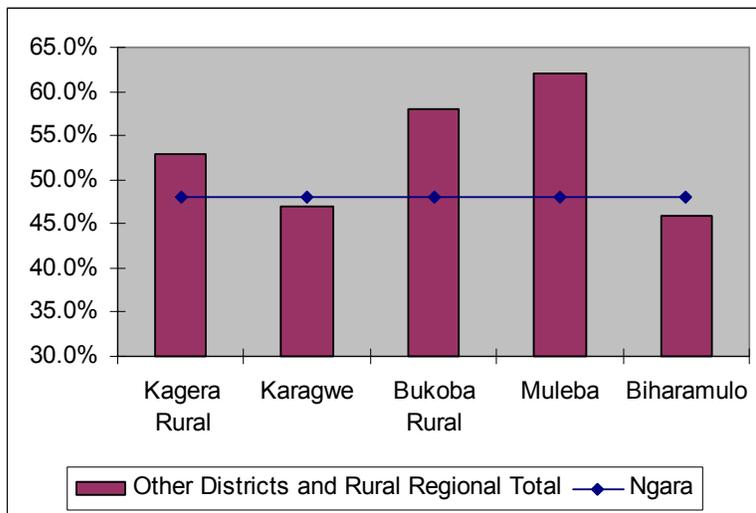


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

**Table 65: Type of livestock owned (Ngara)**

| | None | Large only | Small only | Both | Share of population |
|---|---|---|---|---|---|
| | *Livestock owned[1]* | | | | |
| **Kagera Rural** | 53 | 4 | 35 | 8 | 100 |
| Karagwe | 47 | 3 | 41 | 10 | 24 |
| Bukoba Rural | 58 | 4 | 31 | 7 | 24 |
| Muleba | 62 | 5 | 27 | 6 | 21 |
| Biharamulo | 46 | 6 | 38 | 10 | 18 |
| Ngara | 48 | 3 | 38 | 10 | 13 |

1. Livestock does not include poultry

Figure 98 and Table 66 show that land holdings in Ngara are large compared to Bukoba Rural and Muleba, but small compared to Karagwe and Biharamulo. 7 percent of households are landless, which is the second highest rate in the rural part of the region after Biharamulo.

**Figure 98: Percentage of households owning at least 6 acres of land (Ngara)**
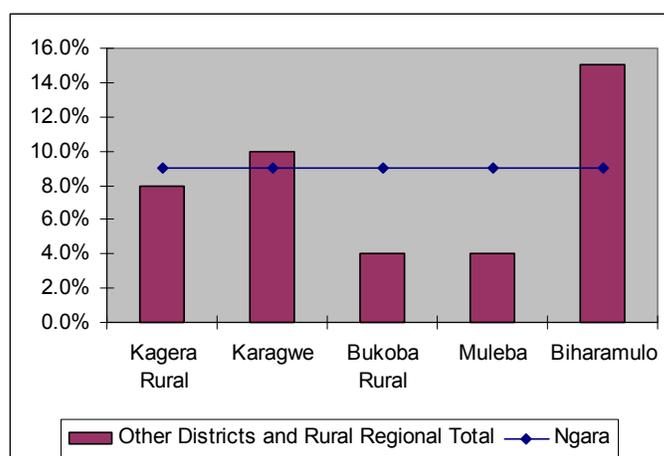


\* This figure does not present a formal statistical test of differences in means

**Table 66: Amount of land owned (Ngara)**

| | None | <1 acre | 1-1,99 acres | 2-3,99 acres | 4-5,99 acres | 6+ acres | Share of population |
|---|---|---|---|---|---|---|---|
| | *Land Ownership* | | | | | | |
| **Kagera Rural** | 6 | 6 | 27 | 34 | 19 | 8 | 100 |
| Karagwe | 3 | 5 | 23 | 40 | 20 | 10 | 24 |
| Bukoba Rural | 3 | 4 | 35 | 36 | 18 | 4 | 24 |
| Muleba | 4 | 12 | 38 | 29 | 13 | 4 | 21 |
| Biharamulo | 17 | 3 | 13 | 27 | 25 | 15 | 18 |
| Ngara | 7 | 8 | 20 | 35 | 20 | 9 | 13 |

## 13.4 Education

Literacy rate in Ngara among individuals over the age of 14 is the lowest in Kagera Rural. Table 67 shows that only 64 percent of its population aged 15 years and above is able to read and write. This proportion is 6 percentage points below the rural regional average.

Ngara is characterised by the second poorest access rates after Karagwe to both primary and secondary schools. Only 47 percent of households here are located within 30 minutes of travel from a primary school, and 9 percent are located within 30 minutes of travel from a secondary school.

Primary school students in Ngara are relatively satisfied with the schools they attend. 72 percent of these students report no problems with their school; this is the highest satisfaction rate after Muleba. The satisfaction rate at secondary schools is even high. 87 percent of the secondary school pupils in Ngara are satisfied with their school; this is the highest satisfaction rate after Biharamulo.

**Table 67: Literacy rates, access to and satisfaction with primary and secondary schools (Ngara)**

|  | Adult Literacy rate[1] | Primary School | | Secondary School | |
|---|---|---|---|---|---|
|  |  | Access[2] | Satisfaction[3] | Access[2] | Satisfaction[3] |
| **Kagera Rural** | 70 | 49 | 67 | 15 | 81 |
| Karagwe | 71 | 35 | 59 | 7 | 85 |
| Bukoba Rural | 77 | 51 | 59 | 14 | 72 |
| Muleba | 68 | 50 | 77 | 13 | 80 |
| Biharamulo | 65 | 61 | 72 | 34 | 89 |
| Ngara | 64 | 47 | 72 | 9 | 87 |

1. Individuals aged 15 years and older
2. Reporting to live within 30 minutes travel to the nearest school
3. Proportion of children at school who cited no problem with the school

The main reasons for dissatisfaction are reported in Table 68. Compared to other rural districts, a higher proportion of students complain about bad condition of facilities, and smaller proportion of students mention poor teaching.

**Table 68: Children currently at school and dissatisfied with it and reasons for dissatisfaction (Ngara)**

| | Dissatis-faction | Reasons for dissatisfaction [1] | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | | Books/ Supplies | Poor teaching | Lack of teachers | Bad condition of facilities | Other |
| **Kagera Rural** | 32 | 57 | 11 | 59 | 45 | 1 |
| Karagwe | 39 | 52 | 7 | 74 | 55 | 1 |
| Bukoba Rural | 40 | 63 | 8 | 48 | 33 | 0 |
| Muleba | 22 | 59 | 17 | 53 | 43 | 0 |
| Biharamulo | 27 | 54 | 20 | 63 | 42 | 4 |
| Ngara | 27 | 52 | 6 | 48 | 57 | 3 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

Ngara performs well in terms of primary school enrolment, but just below average on secondary school enrolment. Figure 99 and Figure 100 give more details.

**Figure 99: Primary school Gross Enrolment Ratios (Ngara)**
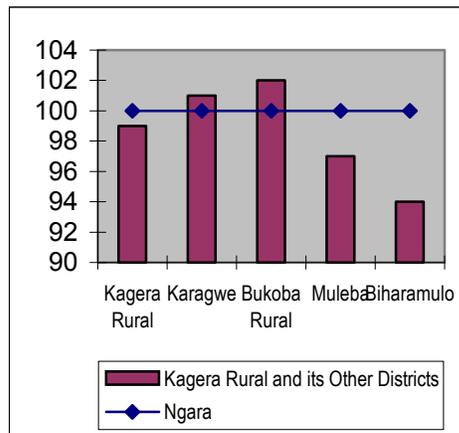


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 100: Secondary school Gross Enrolment Ratios (Ngara)**
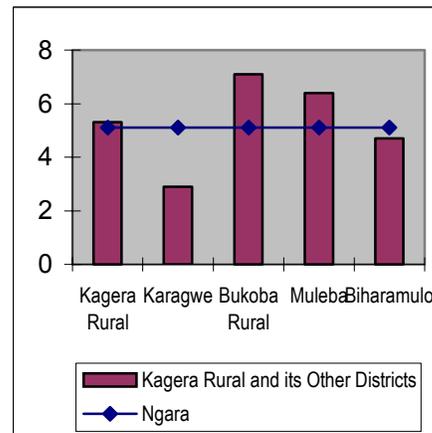


* This figure does not present a formal statistical test of differences in means

Around 22 percent of the 7 to 13 year olds living in Ngara were not attending school at the time of the survey. Figure 101 shows that this places Ngara somewhere in the middle of the distribution.

Figure 102 shows that Ngara's 7 to 19 year olds lag at school by the lowest average number of years, but the difference with other districts is very small.

**Figure 101: Percentage of children age 7-13, who are not attending school (Ngara)**
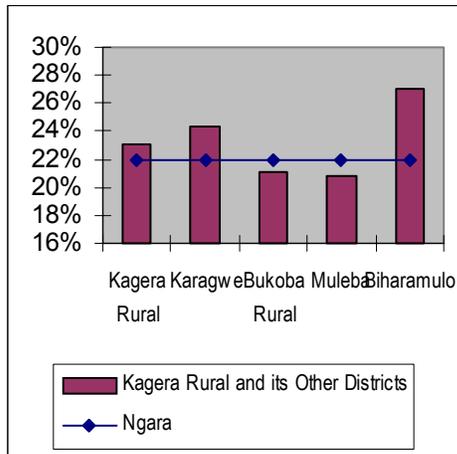


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 102: Years of lag at school by school-going children aged 7-19 (Ngara)**
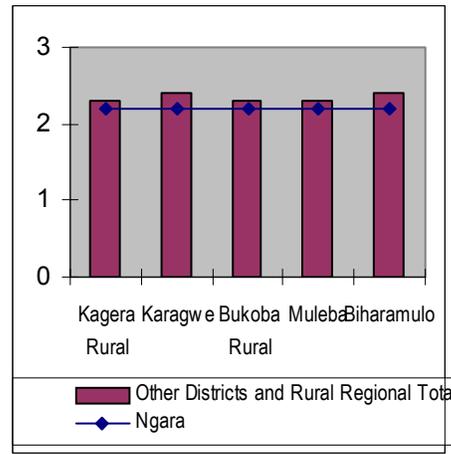


* This figure does not present a formal statistical test of differences in means

## 13.5 Health

Ngara has the second highest rate of access to health facilities among the rural districts of Kagera Region after Biharamulo. 31 percent of households are located within 30 minutes travel from a health facility. This is higher than the rural regional average of 26 percent. Comparisons with other Kagera districts are given in Figure 103.

Need of health facilities – defined as the percentage of households reporting an illness in the past 4 weeks – is equal to the rural regional mean of 15 percent, as can be seen from Figure 104.

**Figure 103: Access to Health Facilities: % of households living within 30 minutes of travel (Ngara)**
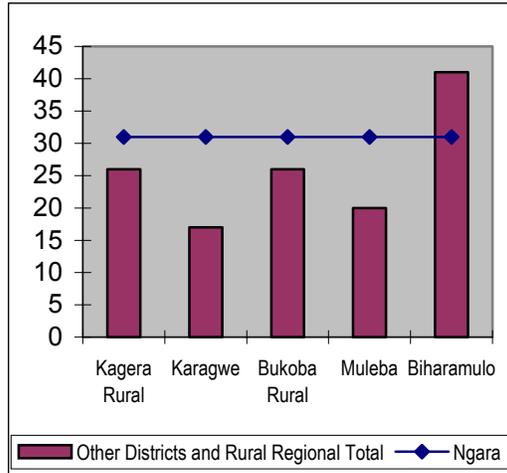


* This figure does not present a formal statistical test of differences in means

**Figure 104: Need for Health Facilities: % of people reporting an illness in past 4 weeks (Ngara)**
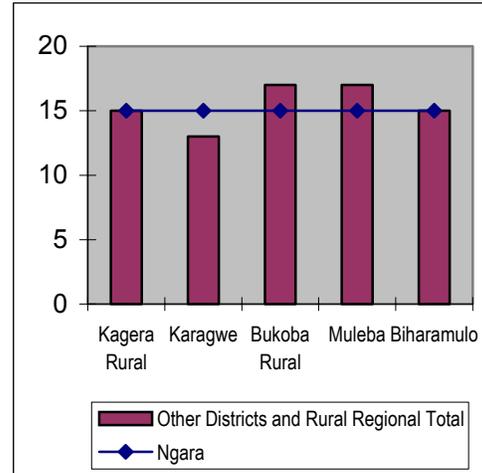


* This figure does not present a formal statistical test of differences in means

The rate of health facility use in Ngara does not differ substantially from that in the other rural districts in Kagera, as can be seen in Figure 105. Around 15 percent of its population visited a health facility in the 4 weeks preceding the interview.

Figure 106 show that patients are relatively satisfied with health facilities in Ngara. Out of all people who visited a health facility in the 4 weeks preceding the interview, 78 percent were satisfied; this is equal to the rural regional satisfaction rate. Health facility users in Karagwe and Muleba are least satisfied with the service, but the differences in proportions are not substantial.

**Figure 105: Use of Health Facilities: % of people reported to have visited one in the past 4 weeks**
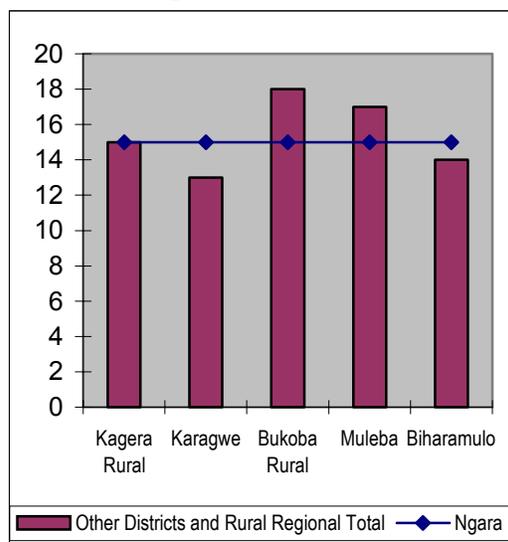
**Figure 106: Satisfaction with Health Facilities: % of users in past 4 weeks that reported to be satisfied**
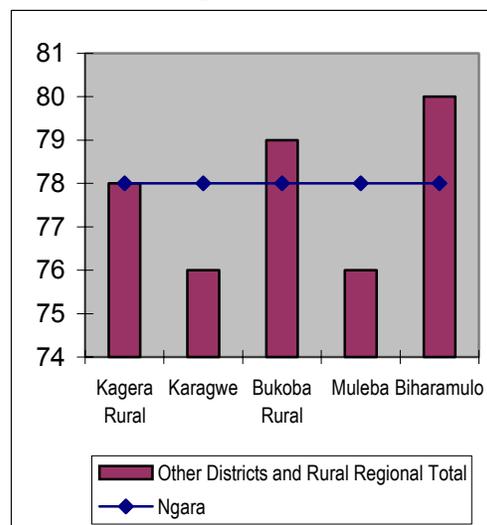


\* This figure does not present a formal statistical test of differences in means



This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0

Table 69 shows the reasons given for dissatisfaction with health services. Compared to other rural districts, health facility users in Ngara report unsuccessful treatment most frequently as a reason for dissatisfaction. At the same time, no other rural district has so few complaints regarding shortage of trained professionals.

**Table 69: Reasons for dissatisfaction with health services (Ngara)**

| | Dissatis-faction | *Reasons for dissatisfaction[1]* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Hygiene | Long wait | Shortage of trained professionals | Cost | No drugs available | Unsuccessful treatment | Lack of supplies | Other |
| **Kagera Rural** | 22 | 15 | 28 | 16 | 34 | 28 | 34 | 4 | 0 |
| Karagwe | 24 | 18 | 32 | 21 | 27 | 38 | 41 | 5 | 0 |
| Bukoba Rural | 21 | 8 | 42 | 28 | 29 | 27 | 18 | 2 | 0 |
| Muleba | 24 | 17 | 17 | 7 | 30 | 24 | 38 | 8 | 1 |
| Biharamulo | 20 | 14 | 15 | 9 | 56 | 26 | 38 | 0 | 0 |
| Ngara | 22 | 15 | 25 | 6 | 34 | 24 | 42 | 4 | 0 |

1. An individual can cite more than one reason for dissatisfaction, hence the proportions in this part of the table add up to more than 100%.

## 13.6 Child Delivery and Nutrition

Figure 107 shows that roughly 40 percent of women in Ngara had given birth in a hospital or maternity ward in the 12 months preceding the survey. Although this is the lowest proportion after Karagwe, it does not differ substantially from the rural regional average of 43 percent.

**Figure 107: Percentage of mothers delivering in a hospital or maternity ward (Ngara)**
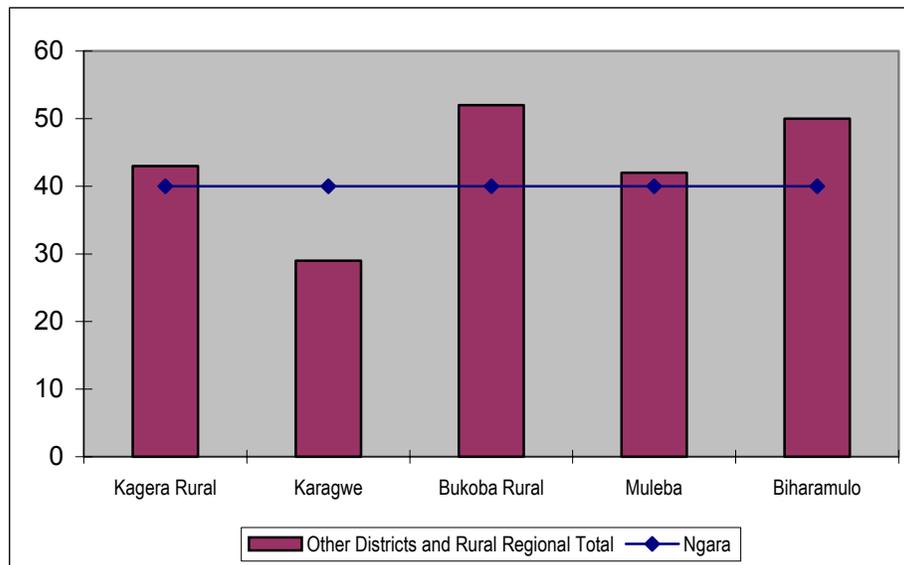


\* This figure does not present a formal statistical test of differences in means

Figure 108 and Figure 109 show anthropometric measurements of children under five in Ngara compared to other rural districts in Kagera. Ngara has a high percentage of chronically malnourished (stunted) children under the age of five. 43 percent of the children from this age group in Ngara are too short for their age; this is equal to the rural regional average.

With 8 percent of children suffering from acute malnourishment (wasting), Ngara lies in the middle of the distribution. In line with the rural regional average, a relatively small proportion of children are too light for their height.

**Figure 108: Percentage of chronically malnourished children (stunting at -2sd): Ngara**
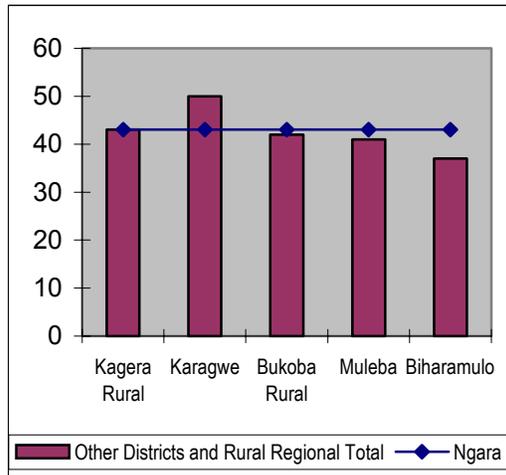


\* This figure does not present a formal statistical test of differences in means

**Figure 109: Percentage of acutely malnourished children (wasting at -2sd): Ngara**
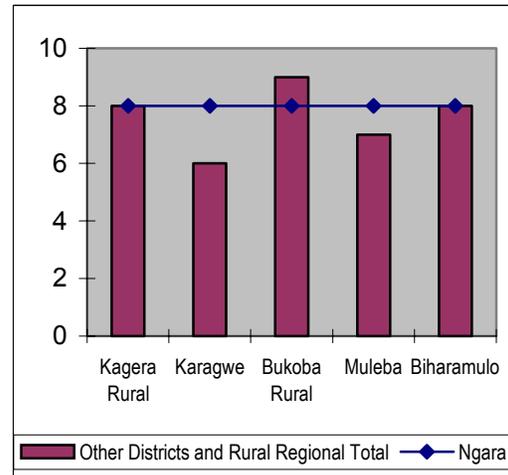


\* This figure does not present a formal statistical test of differences in means

## 13.7 Employment

Out of all the districts in Kagera Rural, Ngara has the largest share of individuals over the age of 14 employed to full capacity. Two thirds of this population are fully employed, while the rest are either unemployed or underemployed. Figure 110 shows that compared to the rural regional average, Ngara has 11 percentage points more people in the age group employed to full capacity. The starkest contrast is with Bukoba Rural, where only 57 percent of the people aged 15 years and over work to full capacity; this is 10 percentage points below Ngara.

**Figure 110: Percentage of population employed to full capacity (Ngara)[1]**
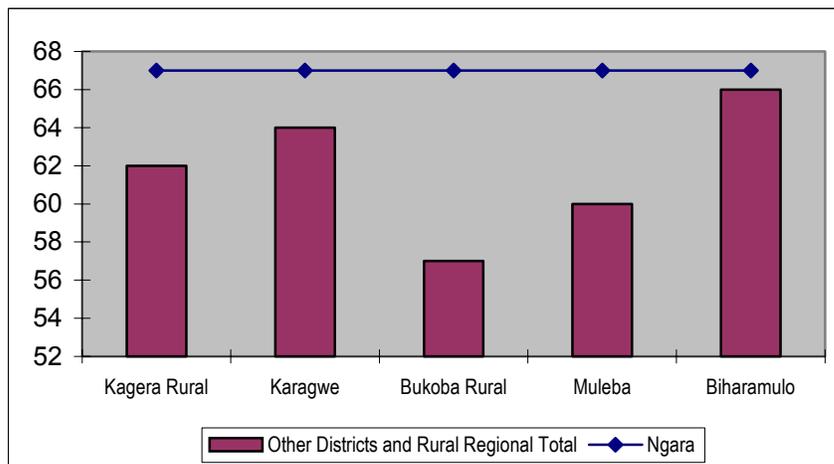


\* This figure does not present a formal statistical test of differences in means
\*\* The y-axis does not start at 0
1  Population includes individuals over the age of 14

## 13.8 Household Welfare

Figure 111 shows that 22 percent of the households in Ngara report to have not faced any problems satisfying their food needs in the previous year. This is only 2 percentage points above the rural regional average of 20 percent.

Ngara scores well in terms of its rate of access to drinking water facilities, as shown in Figure 112. 70 percent of the households in Ngara are located within 30 minutes of travel from the nearest source of drinking water. This proportion exceeds the rural regional average by over 10 percentage points and is the highest access rate after that in Biharamulo.

**Figure 111: Percentage of household reporting never to face food shortages (Ngara)**
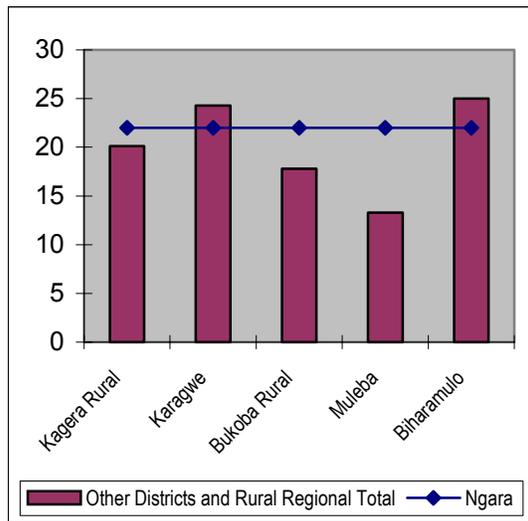


* This figure does not present a formal statistical test of differences in means

**Figure 112: Percentage of households with access to drinking water facilities (Ngara)**
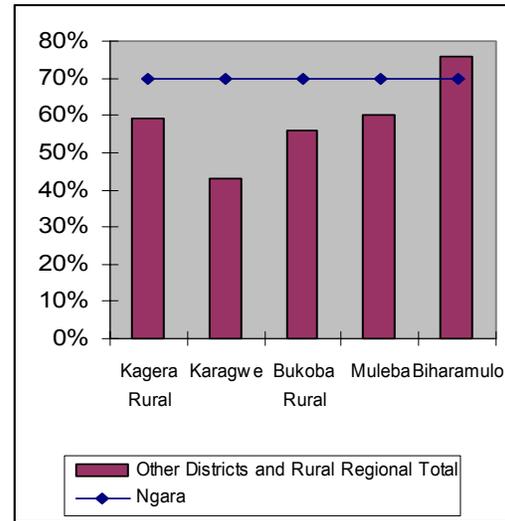


* This figure does not present a formal statistical test of differences in means

Figure 113 and Figure 114 show that 76 percent of households in Ngara feel that the economic situation of their community has deteriorated and 70 percent feel that the economic situation of their household has deteriorated. In both instances the outlook in Ngara appears to be more optimistic than in Kagera Rural as a whole. In fact, the assessment of the economic situation in the household in Ngara is more positive than in any other rural district in the region.

**Figure 113: Percentage of households who feel that the economic situation in their community has deteriorated in the year preceding the survey (Ngara)**
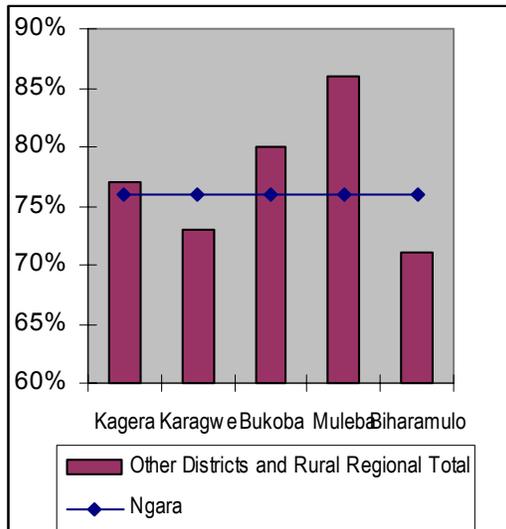


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

**Figure 114: Percentage of households who feel that the economic situation in the household has deteriorated in the year preceding the survey (Ngara)**
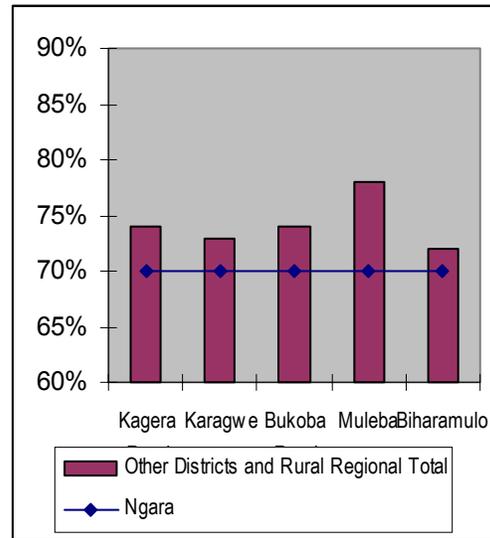


* This figure does not present a formal statistical test of differences in means
** The y-axis does not start at 0

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National Bureau of Statistics, 2002, *2000/2001 Tanzania Household Budget Survey*

National Bureau of Statistics, 1999, *Tanzania Reproductive and Child Health Survey*

National Bureau of Statistics and Kagera Regional Commissioner's Office, 2003, *Kagera Region Socio-economic Profile*

# ANNEX I

*Core Welfare Indicators Questionnaire*

Kumbukumbu Na

# Core Welfare Indicators Questionnaire

## A - TAARIFA YA MAHOJIANO

Q.1 JINA LA MDADISI

Q.2 JINA LA MKUU WA KAYA

Q.3 JINA LA WILAYA

Q.4 JINA LA KIJIJI/ENEO

| A.1 KIJIJI/ENEO | A.2 KAYA | A.3 NAMBA YA MDADISI | A.4 TAREHE | | | A.5 MUDA WA KUANZA | | | A.6 MHOJIWA | A.7 NAMBA |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Tarehe | Mwezi | Mwaka | Saa | Dakika | 1=Asubuhi 2=Jioni | Namba ya Mwanakaya | Na. Dodoso |

### !!! MUHIMU !!!

**Unganisha namba ya Kijiji/Eneo, namba ya kaya pamoja na namba ya dodoso ili kupata namba ya kumbukumbu**
**Iandike namba hiyo sasa juu ya kila ukurasa ukianzia huu**

**Maoni**

**A.8 MATOKEO YA MAHOJIANO**

1=Mahojiano yamekamilika kwa nyumba zote
2=Yalikamilika kwa kutumia kaya ya ziada-mhojiwa alikataa
3=Yalikamilika kwa kutumia kaya ya ziada -kaya imehama
4=Mahojiano hayakukamilika

**A.9 MWISHO WA MAHOJIANO**

Saa     Dakika

1=Asubuhi
2=Jioni

## B - ORODHA YA WANAKAYA

Kumbukumbu Na ☐☐☐☐☐☐☐

| Na. ya Mwanakaya | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mkuu wa Kaya | | | | | | | | | | **ANDIKA MAJINA YA WANAKAYA WOTE AMBAYO KWA KAWAIDA WANAISHI NA KULA PAMOJA KATIKA KAYA HII UKIANZIA NA MKUU WA KAYA** |

**B.1 Je,[JINA] ni mwanaume au mwanamke ?**

1= mwanaume 2= mwanamke

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**B.2 Ni muda [JINA] amekuwa haishi hapa katika kipindi cha miezi 12 iliyopita?**

1= Hajawahi 2= Chini ya miezi 6  3= Miezi sita na kuendelea

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**B.3 Je, [JINA] anachangia kwenye pato la kaya?**

1=Ndiyo 2=Hapana

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**B.4 Nini uhusiano wa [JINA] na mkuu wa kaya?**

1= Mkuu wa Kaya 2= Mke/Mume 3= Mtoto 4= Mzazi 5= Ndugu wengine
6= Hakuna Uhusiano

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**B.5 Je, [JINA] ana umri wa miaka mingapi?** *(JAZA UMRIKATIKA MIAKA ILIYO KAMILI)*

☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐

**B.6 Nini hali ya ndoa ya [JINA]?**

1= Hajaoa/Hajaolewa 2= Hali ya ndoa(Mke mmoja)
3= Ameoa(Mke zaidi ya mmoja) 4= Wemeachana 5= Wametengana 6= Mjane

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

## C - ELIMU

**C.1 Je,[JINA] anaweza kusoma na kuandika?** *(KAMA MHUSIKA ANA UMRI CHINI YA MIAKA 15 NENDA C.2)*

1=Ndiyo 2=Hapana

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**C.2 Je,[JINA] amewahi kwenda shule?**

1=Ndiyo 2=Hapana

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**GERESHO LA C.3 NA C.6**

00= Chekechea/Hakuna
01=Darasa la 1
02=Darasa la 2
03=Darasa la 3
04=Darasa la 4
05=Darasa la 5
06=Darasa la 6
07=Darasa la 7
08=Kidato cha 1
09=Kidato cha 2
10=Kidato cha 3
11=Kidato cha 4
12=Kidato cha 5
13=Kidato cha 6
14=Chuo Kikuu
15=Elimu baada ya S/Msingi
16=Elimu baada ya Sekondari
17=Chuo cha Ufundi
18=Elimu ya Watu Wazima

**C.3 Je, ni kiwango gani cha juu kabisa cha elimu[JINA] alichomaliza?**

☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐

**C.4 Je,[JINA] alikwenda shule mwaka gani?**

1=Ndiyo 2=Hapana

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**C.5 Je,[JINA] bado yupo shule?** *(KAMA HAPANA NENDA C.9)*

1=Ndiyo 2=Hapana

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**C.6 Je,[JINA] yuko kiwango gani cha elimu kwa sasa?**

☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐

**C.7 Je, shule anayosoma [JINA] inaendeshwa na nani?**

1=Serikali 2=Kanisa 3=Binafsi 4=Jumuiya 5=Nyingine

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**C.8 Je,[JINA] alikuwa na matatizo yoyote shuleni ?** *(UNAWEZA KUONYESHA JIBU ZAIDI YA MOJA)*

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**GERESHO LA C.8**

a=Hakuna matatizo(Ridhisha)
b=Uhaba wa vitabu/vifaa
c=Ufundishaji mbaya
d=Ukosefu wa walimu
e=Ukosefu wa nafasi za wanafunzi
f=Hali mbaya ya vifaa
g=Matatizo mengine

**C.9 Je, ni kwa nini [JINA] hasomi shule kwa sasa?** *(UNAWEZA KUONYESHA JIBU ZAIDI YA MOJA)*

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**GERESHO LA C.9**

# D - AFYA

Kumbukumbu Na ☐☐☐☐☐☐

| Na. ya Mwanakaya | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|

**D.1 Je,[JINA] alijifungua mtoto hai katika kipindi cha miezi 12 iliyopita?**
1= Ndiyo 2= Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**D.2 Je, [JINA] alipata huduma ya kliniki alipokuwa mjamzito**
1=Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

MHUSISHE MWANAKAYA IKIWA ULEMAVU ALIONAO UNAMZUIA KUFANYA SHUGHULI AU KWENDA SHULE

**D.3 Je, [JINA] ana ulemavu wowote wa viungo au akili?**
1=Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**D.4 Je, [JINA] amepata ugonjwa/kujeruhiwa katika wiki 4 zilizopita?** *( KAMA HAPANA NENDA D.7)*
1=Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**GERESHO LA D.5**
a= Homa/Malaria
b= Kuhara
c= Ajali
d= Meno
e= Ugonjwa wa ngozi
f=Macho
g= Masikio,Pua au koo
h=Ugonjwa wa muda mrefu/sugu
i=Mengineyo

**D.5 Je, [JINA] amewahi kupata ajali/kuugua ugonjwa gani?** *(UNAWEZA KUWA NA JIBU ZAIDI YA MOJA)*
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**D.6 Je, ni siku ngapi [JINA] hakuhudhuria kazini/shuleni kutokana na ugonjwa/ajali katika wiki 4 zilizopita?**
1=Hakuna 2=Juma 1 au chini ya hapo 3=Juma 1 au 2 4=Zaidi ya majuma 2
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**D.7 Je, [JINA] alipata alipata ushauri wowote toka kwa mhudumu wa afya au mganga wa tiba za jadi kwa sababu yoyote ile katika wiki 4 zilizopita***? (KAMA HAPANA NENDA D.11)*
1=Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**GERESHO LA D.8**
a= Zahanati/hospitali ya binafsi
b=Zahanati/hospitali ya umma
c=Kituo cha afya cha jamii
d=Daktari binafsi/wa meno
e=Mganga wa jadi
f=Hospitali ya Mkoa
g=Zahanati/hospitali ya misheni
h=Duka la dawa
i=Nyingine

**D.8 Je, ni mhudumu wa afya wa namna gani [JINA] alimuona?**
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**D.9 Je,ni mara ngapi [JINA] alitumia huduma hii katika kipindi cha wiki nne(4) zilizopita?**
1=1 hadi 3    2=4 hadi 6    3= Zaidi ya mara 6
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**GERESHO LA D.10**
a= Hakuna tatizo(inaridhisha)
b=Vifaa/huduma hazikuwa safi
c=Kusubiri kwa muda mrefu
d= Ukosefu wa wataalamu waliosomea
e=Ghali sana f=Hakuna/ Kutopatikana madawa
g=Kushindwa /kutofanikiwa kwa tiba
h=Hakuna vifaa/vifaa havitoshi
i=Nyingine

**D.10 Je, [JINA] alikuwa na matatizo yoyote wakati alipoenda kupata ushauri kwa mhudumu wa afya?***(UNAWEZA KUWA NA MAJIBU ZAIDI YA MOJA)*
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**GERESHO LA D.11**
a=Hakuna haja
b=Ni ghali mno
c=Ni mbali sana
d=Nyingine

**D.11 Je, ni kwa nini [JINA] hakutumia huduma za afya katika kipindi cha wiki nne(4) zilizopita?** *(UNAWEZA KUWA NA MAJIBU ZAIDI YA MOJA)*
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

# E - AJIRA

**E.1 Je, [JINA] alijishughulisha na kazi yoyote katika siku 7 zilizopita?**
1=Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.2 Je, [JINA] hakuhudhuria kazini siku 7 zilizopita?** *(KAMA NDIYO NENDA E.7)*
1=Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.3 Je, [JINA] amekuwa akitafuta kazi na amekuwa tayari kwa kazi katika majuma 4 yaliyopita?**
1=Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Na. ya Mwanakaya  1    2    3    4    5    6    7    8    9    10

**E.4 Je, ni sababu gani kubwa iliyomfanya [JINA] asifanye kazi siku 7 zilizopita?**
1= Hakuna kazi iliyopatikana 2=Ni majira yasiyo na kazi za kuajiriwa 3=Mwanafunzi
4= Kazi za nyumbani/kifamilia 5=Mzee sana/mtoto sana 6=Mdhasifu 7=Nyingine
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.5 Je, [JINA] alifanya kazi gani ngapi za kuajiriwa katika juma moja(siku 7) lililopita?**
1=Moja 2=Mbili 3=Zaidi ya mbili
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.6 Je,[JINA] alikuwa analipwaje kwa kazi yake kuu/muhimu?**
1= Ujira/mshahara/malipo kwa vitu 2= Kibarua (kwa saa/siku)
3=Mfanyakazi wa kujitolea bila malipo 4=Aliyeajiriwa
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.7 Je, hiyo kazi/muhimu [JINA] alikuwa anamfanyia nani?**
1=Serikali 2=Shirika la umma 3=Biashara binafsi 4=Mtu binafsi au kaya
5=Kujiajiri mwenyewe
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.8 Je, ni shughuli gani kuu inayofanyika mahali ambapo [JINA] anafanyia kazi?**
1=Kilimo 2=Uchimbaji madini 3=Kiwandani/viwanda vidogo vidogo 4=Ujenzi
5=Usafirishaji 6=Biashara 7=Huduma 8=Elimu/afya 9=Utawala 10=Nyingine
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.9 Je, [JINA] alikuwa anatafuta njia za kuongeza mapato yake juma moja lilopita?**
1= Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.10 Je, ni kwa vipi [JINA] alitafuta kuongeza pato juma(siku 7) lilopita?**
1=Masaa zaidi katika shughuli ya sasa 2=Masaa zaidi katika shughuli ya ziada
3=Kubadili shughuli 4=Nyingine
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**E.11 Je, [JINA] atakuwa tayari kufanya shughuli ya ziada katika majuma 4 yajayo?**
1= Ndiyo 2=Hapana
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

# F - MALI ZA KAYA

**F.1 Je, mwanakaya au kaya inamiliki makazi?**
1= Ina/anamiliki makazi/nyumba
2=Ina/anapanga makazi/nyumba
3=Ina/anatumia bila kulipa
4=Makazi ya muda ☐

**F.2 Je,makazi yenu yana vyumba vingapi?** ☐☐

**F.3 Je,ni ekari ngapi za ardhi zinamilikiwa na kaya?(na kiwango cha desimali , k.m . 24.7)** ☐☐.☐

**F.4 Je,kiasi hiki cha ardhi kinalinganishwaje na cha mwaka mmoja uliopita?**
1=Ni pungufu kwa sasa
2=Kiasi kile kile
3=Ni zaidi kwa sasa
4=Sijui ☐

**F.5 Je, kaya hutumia ardhi isiyoimiliki?**
1=Hapana
2=Ya kukodi
3=Ya kushirikiana
4=Ardhi binafsi ya bure
5=Sehemu ya wazi ☐

**F.6 Je,ni ekari ngapi za ardhi nyingine ambayo hutumiwa na kaya hii?** ☐☐.☐

**F.7 Je, kiasi hicho cha ardhi nyingine kinalinganishwaje na cha mwaka mmoja uliopita?**
1=Ni pungufu kwa sasa
2=Kiasi kilekile
3=Ni zaidi kwa sasa
4=Sijui ☐

**F.8 Je,ni ng'ombe na mifugo mingine mikubwa mingapi inayomilikiwa na kaya kwa sasa?** ☐☐☐

**F.9 Je, idadi hii ya mifugo inalinganishwaje na mwaka mmoja uliopita?**
1=Ni pungufu kwa sasa
2=Kiasi kile kile
3=Ni zaidi kwa sasa
4=Sijui ☐

**F.10 Je,ni kondoo,mbuzi pamoja na mifugo mingine mingapi amabayo inamilikiwa na kaya kwa sasa?** ☐☐☐

**F.11 Je, idadi hii ya mifugo inalinganishwaje na mwaka mmoja uliopita?**
1=Ni pungufu kwa sasa
2=Kiasi kile kile
3=Ni zaidi kwa sasa
4=Sijui ☐

**F.12 Je, kaya inamiliki chochote kati ya hivi vifaa vifuatavyo?**
a=Gari au lori
b=Pikipiki
c=Televisheni
d=Baiskeli
e=Redio ☐☐☐☐☐☐☐
f=Kitanda
g=Simu
h=Saa
i=Choo
j=Vitabu
k= Pasi ya umeme au mkaa

**F.13 Je, nyumba hii ina umeme?**
1=Ndiyo
2=Hapana ☐

**F.14 Je, mara ngapi katika mwaka mmoja uliopita umekuwa na matatizo ya kutosheleza mahitaji ya chakula kwa kaya hii?**
1=Hata mara moja
2=Mara chache
3=Wakati mwingine
4=Mara Nyingi
5=Nyakati zote ☐

**F.15 Je, kwa ujumla unalinganishaje hali ya uchumi wa kaya kwa mwaka huu na ile ya mwaka (1) uliopita?**
1=Mbaya zaidi
2=Mbaya kidogo
3=Ni ile ile
4=Kiasi ni nzuri sasa
5=Nzuri sana sasa
6=Sijui ☐

**F.16 Je, kwa ujumla unalinganishaje hali ya uchumi wa jamii na mwaka mmoja (1) uliopita?**
1=Mbaya zaidi
2=Mbaya kidogo
3=Ni ile ile
4=Kiasi ni nzuri sasa
5=Nzuri sana sasa
6=Sijui ☐

**F.17 Je,ni nani anayechangia zaidi katika pato la kaya (andika namba ya mwanakaya kutoka sehemu B)?** ☐

## G - HUDUMA ZA KAYA

Kumbukumbu Na ☐☐☐☐☐☐

**G.1 Je, nyumba hii imeezekwa kwa kutumia nini?** ☐
1= Matope
2=Makuti/nyasi
3=Mbao
4=Mabati
5=Saruji/Zege
6=Vigae
7=Mabati ya saruji (asbestos)
8=Nyingine_____

**G.4 Je, ni aina gani ya choo hutumiwa na kaya hii?** ☐
1= Hakuna choo
2=Choo cha kuflshi kwenye mifereji ya maji machafu
3=Choo cha kuflashi kwenye tangi/shimo
4=Ndoo
5=Choo cha shimo kilichofunikiwa
6=Choo cha shimo kisichofunikwa
7=Choo cha shimo chenye bomba la kutolea hewa chafu
8=Nyingine _____

**G.6 Je, ni nishati gani kuu itumikayo kwa mwanga?** ☐
1= Mafuta taa
2=Gesi
3=Umeme
4=Genereta
5=Mishumaa
6=BATTERY
7=Kuni
8=Nyingine _____

**G.2 Je, kuta za nyumba hii zimejengwa kwa kutumia nini?** ☐
1= Matope/matofali ya udongo
2=Mawe
3=Matofali ya kuchoma
4=Saruji/zege
5=Mbao/mianzi
6=Mabati
7=Mbaolaini(cardboard)
8=Nyingine _____

**G.5 Je, ni nishati gani kuu itumikayo kwa ajili ya kupikia?** ☐
1=Kuni
2=Mkaa
3=Mafuta taa
4=Gesi
5=Umeme
6=Mabaki ya mimea/unga wa mbao
7=Kinyesi cha wanyama
8=Nyingine _____

**G.7 Je, sakafu ya nyumba hii ni ya aina gani?** ☐
1= Saruji
2=Tope
3=Nyinginezo _____

**G.3 Je, ni nini chanzo kikuu cha maji ya kunywa?** ☐
1= Bomba kwenye makazi
2=Bomba la jirani
3=Bomba la nje la jumuiya
4=Kisima kisichojengewa,maji ya mvua
5=Mto, ziwa, bwawa
6=Mbebaji anayepitisha, gari
7=Nyingine _____

**G.8 Je, ni muda gani kwa dakika unatumika kutoka hapa hadi kufika kwenye huduma iliyo karibu?**
1=0 - 14, 2= 15 - 29, 3= 30 - 44, 4= 45 - 59, 5= 60+
A= Chanzo cha maji ya kunywa ☐
B= Soko la vyakula ☐
C=Usafiri wa umma ☐
D=Shule ya msingi ☐
E=Shule ya serkondari ☐
F=Zahanati,hospitali ☐

## H - MASWALI MENGINEYO

**H.1 Je, kaya hii ina vyumba 3 au chini ya hapo?** ☐
1= Ndiyo 2=Hapana

**H.6 Je, kwa kawaida kaya yako inapata milo mingapi kwa siku?** ☐

**H.2 Je, kuna watu 7 au zaidi katika nyumba yako?** ☐
1= Ndiyo 2=Hapana

**H.7 Je, katika siku saba zilizopita (wiki moja) kaya hii ilikula mlo wenye nyama kwa siku ngapi?** ☐

**H.3 Kiwango cha kuridhika cha diwani wa kata** ☐
1= Vizuri sana 2=Vizuri 3=Wastani
4=Vibaya 5=Vibaya sana 6=Sifahamu

**H.8 Je, katika kaya hii kuna mwanakaya anayemiliki akaunti katika benki?** ☐
1= Ndiyo 2=Hapana

**H.4 Unaonaje watumishi wa Halmashauri wanavyo tekeleza shughuli zao kwa sasa?** ☐
1= Vizuri sana 2=Vizuri 3=Wastani
4=Vibaya 5=Vibaya sana 6=Sifahamu

**H.9 Kiashirio 9** ☐☐☐☐☐

**H.5 Je, kaya hii ina vyumba vingapi vya kulala?** ☐☐

**H.10 Kiashirio 10** ☐☐☐☐☐

## I - WATOTO CHINI YA MIAKA 5

**1.1 KWA KILA MTOTO MWENYE UMRI CHINI YA MIAKA 5 INGIZA NAMBA YA MTOTO NA MAMA KUTOKA KWENYE ORODHA YA WANAKAYA. INGIZA 00 KAMA MAMA WA MTOTO AMEFARIKI AU SIYO MWANAKAUA WA KAYA HII**

Mtoto ☐☐ Mama ☐☐    Mtoto ☐☐ Mama ☐☐    Mtoto ☐☐ Mama ☐☐    Mtoto ☐☐ Mama ☐☐

**1.2 INGIZA TAREHE YA KUZALIWA YA MTOTO**

Tarehe Mwezi Mwaka    Tarehe Mwezi Mwaka    Tarehe Mwezi Mwaka    Tarehe Mwezi Mwaka
☐☐☐☐☐☐    ☐☐☐☐☐☐    ☐☐☐☐☐☐    ☐☐☐☐☐☐

**1.3 Mtoto huyu amezaliwa wapi?**
1=Hospitali 2= Nyumbani 3=Kwingineko
☐    ☐    ☐

**1.4 Je, ni nani aliyemhudumia wakati wa kuzaliwa kwa mtoto huyu?**
1=Daktari 2= Nesi 3=Mkunga 4=Mkunga wa jadi 5=Mwingine
☐

**1.5 ANDIKA UZITO WA KILA MTOTO (KWA KILO KWA KUTUMIA DESIMALI MOJA (1) KWA MFANO 4.6KG.) NA UREFU(KWA SM KWA KUTUMIA DESIMALI MOJA KWA MFANO 51.3SM)**

UZITO UREFU    UZITO UREFU    UZITO UREFU    UZITO UREFU
☐☐.☐ ☐☐☐.☐    ☐☐.☐ ☐☐☐.☐    ☐☐.☐ ☐☐☐.☐    ☐☐.☐ ☐☐☐.☐

**1.6 Je, mtoto alishiriki katika mpango wa lishe au upimaji uzito?**
1=Ndiyo
2=Hapana
☐    ☐    ☐